



EDUCATIONAL TRANSFORMATION STRATEGIES FOR  
UNIVERSITY PERFORMANCE EXCELLENCE



By  
MISS Jerapa SATAVETIN

A Thesis Submitted in Partial Fulfillment of the Requirements  
for Doctor of Business Administration DOCTOR OF BUSINESS  
ADMINISTRATION PROGRAMME (INTERNATIONAL PROGRAMME)

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(INTERNATIONAL PROGRAMME)  
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This study investigated how educational transformation strategies could drive performance excellence in Thai universities, particularly within the rapidly changing higher education landscape. The main objectives of this study were to develop and validate a conceptual framework that explained the relationships among external factors, internal factors, educational transformation strategies, and university performance excellence, and to explore the mediating role of transformation strategies in these relationships.

A mixed-methods approach was employed. Quantitative data were collected through structured questionnaires from 217 respondents representing various universities in Thailand. To validate the structure of the proposed model, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted. Structural Equation Modeling (SEM) was employed to test the relationships and validate the conceptual framework. This quantitative phase focused on how external factors (such as future skills, lifelong learning, personalization of academic learning, AUN-QA, university holding companies, and multi-institutional cooperation) and internal factors (such as leadership and governance, faculty and staff engagement, financial management, academic programs and curriculum design, infrastructure and facilities, and technology integration) influenced transformation strategies and performance outcomes. The quantitative findings indicated that both external and internal factors had a significant positive influence on educational transformation strategies. These strategies, in turn, had a strong positive impact on university performance excellence. Additionally, the results confirmed the mediating role of educational transformation strategies in linking external and internal drivers to performance outcomes. Five key hypotheses were tested and supported, emphasizing the central role of transformation strategies in aligning institutional strengths with external demands to foster performance excellence. The qualitative phase complemented these findings by providing deeper insights into the practical realities of transformation. In-depth interviews with university leaders and experts highlighted additional critical elements which are stakeholder engagement, effective internal communication, organizational culture, digital transformation, agility and responsiveness, and talent development. Informants stressed that these factors are vital to achieving meaningful and sustainable change. These qualitative insights informed a refined model, adding layers that better reflect the needs and realities of Thai universities.

The final revised model presented in this study illustrates how universities can respond to external challenges and strengthen internal capacities through transformation strategies.

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Jerapa SATAVETIN

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# Chapter 1

## Introduction

### 1.1 Background

Universities are playing a role of preparing a right skillful workforce for the right markets and industries. In today's fast-changing world, needs in labor market have been changed because of changes in technology, innovation, laws and regulations and customer expectations. In order to produce graduates equipped with knowledge and skills serving the market, the roles of universities cannot be the same. Universities have to start thinking how to adapt themselves to survive and re-invent their strategic management models, tools and frameworks. This means, it is time for universities to transform.

According to Eckel et al. (1998), transformation changes the culture of the institution. These changes include assumptions, behaviors, processes and products. Eckel and Kezar (2003) asserted that the changes need distinctive strategies and activities. For a modern educational change, especially the change affected by technologies and education for the information society, the word 'transformation' has been employed to use (Fisher, 2006). According to Menéndez (2021), educational transformation means systemic changes in the existing educational model. Educational transformation deals with the curriculum, learning delivery, student support and research, the operating model, the technology and the capabilities of organization (Parker, 2020). It is significant that universities need to reform the whole structure and system that can respond effectively to changes in global market context.

As the global context continues to evolve rapidly, universities are now facing great challenges. Digital disruption is one thing that is certain to happen and it is impossible for higher education sector to avoid. All university stakeholders consisting of students, parents, alumni, employers, faculty and staff are affected by this digital disruption. It is very challenging for universities to survive in this changing world in order to attract, retain and engage students and alumni; operate efficiently and effectively; drive quality and innovation in teaching and learning; foster research collaboration; or partner with employers (Lundy et al., 2020). This change of digital technology can generate new types of job. World Economic Forum estimates that by 2025, 85 million jobs may be displaced by a shift in the division of labor between humans and machines, while 97 million new roles may emerge that are more adapted to the new division of labor between humans, machines and algorithms (Zahidi et al., 2020). Consequently, higher educational institutions need to rethink and redesign curriculums to serve the changing needs. As digital is integrated into a success of higher educational institutions, it is necessary for the universities to think about university strategy in a digital disruption world. Some traditional operating strategies cannot be deployed in order to make satisfactory productivity. Nevertheless,

technology offers unprecedented opportunities to reimagine purpose, operating models and service quality (Stéger & Merényi, 2021).

Amid this digital disruption and the revolution of Industry 4.0, the job market is being transformed and is demanding professionals with new skills and competencies (Benešová and Tupa, 2017; Lee et al., 2015; Xu et al., 2018 as cited in Costa et al., 2022). Three factors which are a changing economy, the future of work, and the need for new skills give a chance for universities to rethink their core educational missions: teaching and learning style, with an emphasis on in-demand skills development and a renewed focus on the lifelong learner market (Deloitte, 2021). Universities should identify sets of skills to serve the labor force and design programs to meet the needs in the future (Weligamage, 2009). Universities need to provide an opportunity for students to upskill, reskill and master new skills for Industry 4.0 and design the curriculum or courses to ensure that the students can graduate with the knowledge, abilities and sufficient skills to meet the requirements of the future of work in the digital era. In addition, universities have to play a role in creating a lifelong learning culture. The World Economic Forum has stated a call to action for all education providers to embrace the future of work as a source of reinvention to normalize lifelong learning for all and highlights key areas such as scaling up the provision of self-directed learning and building bridges between national qualification systems and lifelong learning so that skills are recognized globally (World Economic Forum, 2021). All universities are involved in a range of partnerships with different kinds of stakeholders for reasons related to lifelong learning development, such as the analysis and forecasting of training needs, the identification of target groups, and the marketing, promotion, delivery and evaluation of courses (de Viron & Davies, 2014). Universities must reinvent themselves to meet the changing needs of the labor market today.

Apart from digital disruption and the revolution of Industry 4.0, demographic transition in Thailand is a driving force for universities to transform. Demographic changes are happening now and influencing everything. Thailand is put into “demographic disruptions” period which means there is a decline in infant population, the birth rates are below replacement and aging population has been increased (Prasartkul et al., 2019). Within 20 years, the elderly are expected to comprise 20% of Thailand’s total population (SCB EIC, 2018). By this, student numbers entering the universities are shrinking and it can inevitably affect an educational service demand. According to Sae-Lim (2021), in order for universities to confront this demographic phenomenon, an online educational platform and a mixed method of teaching (online and offline) can be applied. Besides, universities can attract non-aged group of prospect students with a non-degree or certificate program. Similarly, as aging society is approaching, Office of National Higher Education Science Research and Innovation Policy Council (NXPO) provided a paradigm shift needed for Thailand’s higher education system (2021c) which consists of 1) from content-based to competency-

based education, 2) from supply-driven to co-creation in which both educational institutions and employers work together to develop platform and curriculum, 3) from degree-oriented to employability-oriented education, 4) from catering to 3-stage life to meeting the needs of multi-stage life, 5) from institution-based to credit bank system, 6) from limited access to open access, 7) from local perspective to global perspective, 8) more accessible and affordable, 9) from supply side financing to demand directed financing, and 10) towards creative ecosystem. This can be seen that universities cannot remain at the same route.

As mentioned earlier, it is time for universities to execute new strategies for strategic management in order to respond to changing global context. Ecker et al. (2001) stated 4 factors shaping the successful transformation: (1) external environments and internal conditions; (2) change leaders with attitudes and approaches that facilitated change; (3) leaders helping people develop new ways of thinking and (4) leaders paying attention to the change process and listening to the stakeholders. According to Eckel and Kezar (2003), there are 5 core strategies for transforming institutions which are (1) senior administrative support, focusing on actions that people in top positions pay attention to transformation (2) collaborative leadership, pinpointing people from formal leadership positions who can implement the concept (3) flexible vision, meaning the leaders develop clear goals and objectives for future's implementation (4) staff development, relating to people who learn skills and knowledge for change and (5) visible action, focusing on progress in process of change. However, Hayward (2020) identified differently that in terms of strategies, it cannot be identified the right ways for success because various factors are concerns such as context, culture, climate, external support, and other issues. In a context of Thailand, a new policy of Thailand 4.0 adopted by Thai Government, stating the goals of creativity, innovation, inclusivity, and sustainability expects universities to transform paradigms, model and mechanism to the innovation's education (Sungton, 2018). A development of learning networks, public-private-community engagement, new mind-set and skill-set of lecturers and students and new technology can bring about a successful implementation of Thailand 4.0 (Buasuwan, 2018). In order to transform universities in Thailand, it is required for the universities to transform education system to prepare Thais for Thailand 4.0, transform teaching and learning, develop university industrial partnership, promote a concept of entrepreneurial university, and promote a concept of internationalization (Sungton, 2018). In addition, there is a study of education transformation for local development (Thanachawengsakul & Thanyavinichakul, 2020) showing 4 elements of strategy which consist of local development, process of professional teacher production and development, educational quality development and development of management system for producing high quality graduates. As innovation is stated in Thailand 4.0 policy, strategic implementation suggested by Ruchiwit et al. (2019) consists of curriculum structure and content focusing on innovation and defining the program

objective which is producing “innovators”. In term of sustainability, the study of strategies for developing a sustainable learning society was presented by an aspect of lifelong learning in Thailand (Charungkattikul & Henschke, 2014). Wudhiprasertkul and Trirat (2021) also suggested 3 university management strategies for sustainable development: reforming the integrated curriculum design, enhancing the quality of educational measurement and evaluation and transforming, integrating teaching and learning management into skills and concepts of education management for sustainable development. However, these previous reviews do not present recent model of transformation in a context of Thailand. In addition, there are a few studies that focuses on the relationship among factors for future higher education, educational transformation strategies and university performance excellence. This comes into an area of interest of a researcher to look into the relationships and develop a model of educational transformation strategies of higher educational institutions in Thailand.

The growing discourse on educational transformation highlights the urgent need for universities to adapt to dynamic global challenges, including digital disruption, labor market realignment, demographic shifts, and policy reforms such as Thailand 4.0. Numerous studies have explored individual dimensions of transformation such as the implementation of future skills into curricula, the promotion of lifelong learning, and the application of quality assurance systems like AUN-QA. However, these investigations are often fragmented, lacking a unified model that systematically connects external environmental forces, internal institutional capacities, and strategic transformation efforts to measurable outcomes of university performance excellence. The existing literature tends to focus on either external or internal factors in isolation, without analyzing the interaction between these dimensions. For example, studies addressing external pressures (e.g., Industry 4.0, digital integration, and regional accreditation mechanisms) rarely account for the readiness or constraints of internal systems such as governance, faculty development, or infrastructure capacity. Conversely, research that explores internal restructuring efforts often overlooks how such initiatives are shaped or constrained by external forces like global competitiveness, national education reforms, or demographic changes.

Moreover, while global frameworks have emphasized the importance of transformation such as the shift toward competency-based education, flexible learning models, and innovation ecosystems, there remains a scarcity of empirical evidence from the Thai higher education context that tests how these strategies influence actual institutional performance. Despite Thailand’s national push under policies like Thailand 4.0 to position universities as engines of innovation, few studies have developed models that operationalize transformation in relation to performance outcomes. There is also a notable gap in quantitative, theory-driven models that use structural equation modeling (SEM) to validate the relationships among transformation variables. Most prior research has relied on descriptive approaches or

case studies, providing limited generalizability and offering little guidance for strategic planning or policy formulation.

This study addresses these critical gaps by first synthesizing existing theoretical and empirical insights to propose a comprehensive, multilevel model that connects external drivers, internal capabilities, and educational transformation strategies. Second, it empirically tests the model within the context of Thai higher education institutions, which remain under-researched in the global transformation literature despite undergoing rapid systemic reform. Lastly, it employs Structural Equation Modeling (SEM) to validate the relationships between constructs, thereby supporting both theoretical advancement and practical application. By integrating fragmented streams of literature and grounding the analysis in the specific cultural, policy, and organizational context of Thailand, this study contributes a novel perspective and a validated model for understanding and guiding university transformation toward performance excellence.

## **1.2 Research Questions**

- 1) What is the relationship between external factors for future higher education and educational transformation strategies?
- 2) What is the relationship between internal factors for future higher education and educational transformation strategies?
- 3) What is the relationship between educational transformation strategies and university performance excellence?
- 4) What is an educational transformation strategy model for higher educational institutions?

## **1.3 Objectives**

- 1 ) To study the relationship between external factors for future higher education and educational transformation strategies
- 2 ) To study the relationship between internal factors for future higher education and educational transformation strategies
- 3) To study the relationship between educational transformation strategies and university performance excellence
- 4 ) To develop an educational transformation strategy model for higher educational institutions

## **1.4 Expected Benefits and Application**

### **1.4.1 Theoretical Contributions**

- 1) Contribution to Strategic Management Theories in Higher Education  
The educational transformation strategies proposed in this study advance the theoretical understanding of strategic management in higher education

by offering a holistic, systems-based model that integrates multiple strategic dimensions. Unlike existing frameworks that often present fragmented approaches, this study emphasizes the interconnectivity between leadership, governance, curriculum design, faculty and staff development, quality assurance, and student support services. By positioning these elements as interdependent rather than isolated, the model enhances theoretical discourse around institutional transformation as a dynamic and systemic process. The study also addresses a critical gap in the literature regarding the contextualization of transformation strategies within emerging economies such as Thailand, where higher education institutions face distinct challenges related to demographic shifts, economic pressures, and national innovation policies like Thailand 4.0. This contribution expands strategic management theories by offering insights into how universities in transitional and resource-constrained environments can adopt adaptable, future-oriented strategies to enhance resilience, competitiveness, and societal relevance.

#### 2) Foundation for Future Academic Research and Strategic Variables Development

The model developed in this study provides a foundation for future academic inquiry by offering a structured yet flexible analytical framework suitable for diverse research methodologies. Researchers can utilize the model to examine causal relationships between transformation strategies and various institutional performance outcomes through quantitative techniques such as structural equation modeling. Additionally, the model's flexibility allows for qualitative and mixed-methods research to explore the lived experiences of faculty, administrators, and students engaged in transformation processes. The model also supports predictive research, enabling strategic scenario planning and forecasting under different environmental and organizational conditions. This is particularly valuable for decision-makers facing budgetary and resource constraints, as it allows them to prioritize interventions with the highest potential impact. Moreover, the model's open-ended structure encourages the integration of emerging strategic variables, such as digital transformation readiness, institutional agility, and sustainability, thus ensuring its continued relevance amidst global educational disruptions and societal imperatives.

### 1.4.2 Managerial Contributions

#### 1) Strategic Management Guidelines for Higher Education Stakeholders

The strategic management guidelines developed in this study provide actionable recommendations for higher education stakeholders seeking to navigate an increasingly volatile and uncertain educational environment. University leaders and administrators are urged to shift from traditional, reactive management approaches to proactive, future-focused strategies that prioritize agility, inclusiveness, and innovation. Central to these recommendations is the role of visionary leadership that goes beyond administrative tasks to drive cultural change and institutional renewal.

The guidelines also emphasize the importance of continuous faculty and staff development as a key driver of institutional excellence, particularly in enhancing digital competencies, interdisciplinary collaboration, and pedagogical innovation. Additionally, the proposed strategies advocate for curriculum transformation toward flexible, modular, and competency-based models that respond directly to the evolving needs of learners and labor markets. These managerial guidelines are particularly relevant in the Thai context, where higher education institutions must reposition themselves as engines of national innovation and economic development in alignment with Thailand 4.0 and the Sustainable Development Goals (SDGs).

### 2) Scalable Adaptation Across Educational Levels in Thailand

Although the focus of this study is on higher education institutions, the transformation strategies presented possess a level of abstraction and flexibility that make them applicable across multiple tiers of Thailand's education system. The strategies' emphasis on student-centered learning, competency-based assessment, industry collaboration, and lifelong learning mindsets are principles that can be effectively recalibrated for primary, secondary, vocational, and non-formal education settings. This scalability supports the development of a cohesive, system-wide transformation framework that aligns educational pathways from early childhood to adult learning under a unified vision of future-readiness. For policymakers, this suggests the importance of creating integrated policy environments that foster coherence between ministries and institutions, minimizing duplication and ensuring smooth learner transitions across educational stages. In vocational and technical education, the strategies can enhance curriculum alignment with labor market demands, while in non-formal education, they can drive the creation of flexible learning platforms for mid-career reskilling, thus ensuring inclusiveness and responsiveness across all life stages.

### 3) Practical Tools for Policy and Institutional Planning

The transformation model proposed in this study offers practical tools for policymakers, accreditation bodies, funding agencies, and institutional leaders to diagnose organizational gaps, benchmark performance, and plan strategically. The model's structured strategic categories provide a common language and framework that supports the alignment of institutional plans with national policies, funding mechanisms, and quality assurance processes. It enables institutions to assess their current transformation readiness, identify priority areas for improvement, and allocate resources efficiently. Moreover, by fostering alignment between top-down policy directives and bottom-up institutional innovations, the model enhances policy coherence and institutional agility. This dual focus ensures that transformation efforts are not only strategically guided but also practically grounded in institutional realities. By bridging the academic-practitioner divide, the model empowers educational leaders with a coherent, evidence-based framework for navigating complex change

while providing academics with a researchable tool that supports ongoing inquiry into strategic educational transformation.

## **1.5 Scope of the Study**

### **1.5.1 Geographical Scope**

This study was conducted within the context of higher education institutions in Thailand. The geographical scope covered universities across the country, categorized into six types based on their governance structures and admission systems. These included: (1) public universities with restricted admission quotas; (2) public universities with open admission; (3) autonomous public universities; (4) Rajabhat universities; (5) Rajamangala University of Technology; and (6) private universities. This classification ensured that the study captured the diversity and complexity of Thailand's higher education landscape.

### **1.5.2 Temporal Scope**

The study was conducted during the period from June 2024 to March 2025. This period was selected to align with the academic cycle and to ensure that the data collected reflected the most current institutional practices, experiences, and perceptions related to educational transformation strategies and university performance excellence.

### **1.5.3 Population Scope**

The population comprised academic and support staff from the selected universities specified in the unit of analysis section. These individuals held responsibilities directly related to educational quality assurance, strategic planning, policy implementation, and organizational development. They were identified as key informants due to their knowledge and experience in institutional quality systems and transformation processes.

### **1.5.4 Data Scope**

The study utilized quantitative data collected through structured questionnaires designed to assess the relationships between external factors, internal factors, educational transformation strategies, and university performance excellence. The study focused exclusively on the perceptions and experiences of staff members involved in educational quality assurance and strategic management, excluding students, alumni, and external stakeholders.

## **1.6 Key Terms**

1) Educational transformation is an act of change in educational system or an act of being supported and motivated to make change in educational institution.

2) University performance excellence refers to the achievement of high-quality results in teaching, research, and service delivery through systematic, sustainable, and continuous improvement practices.

3) Higher educational institutions (HEIs) mean universities providing academic programs with aim of a degree.

4) External factors are external conditions and trends such as technological disruption, labor market needs, national education policies, and regional quality frameworks that influence how universities must adapt and transform to stay relevant.

5) Internal factors are institutional elements such as leadership, staff, curriculum, infrastructure, and digital capacity that determine a university's ability to implement transformation effectively.

6) Educational transformation strategies are planned initiatives and frameworks used by universities to redesign leadership, teaching, curriculum, and support systems in response to internal capacities and external demands.

7) Future skills are abilities such as critical thinking, problem-solving, digital literacy, and adaptability needed to succeed in a rapidly changing, technology-driven workforce.

8) Lifelong learning is a continuous, self-motivated process of acquiring knowledge and skills throughout an individual's life to adapt to social, economic, and technological changes.

9) Personalization of academic learning is an educational approach that tailors learning experiences to the individual needs, preferences, and pace of students through adaptive strategies and technologies.

10) ASEAN University Network-Quality Assurance (AUN-QA) is a regional framework for assessing and improving the quality of higher education institutions based on standardized criteria and continuous improvement processes.

11) University holding companies (UHCs) are organizational structures established by universities to manage and commercialize research outputs, promote innovation, and support university-industry partnerships.

12) Multi-institutional cooperation is strategic collaboration between multiple universities or academic entities to share resources, develop joint programs, and enhance educational and research outcomes.

13) Leaders and governance refer to the structures, processes, and individuals responsible for strategic decision-making, institutional vision, and accountability within a university.

14) Faculty and staff engagement is the active involvement and commitment of academic and administrative personnel in institutional development, teaching innovation, and transformation initiatives.

15) Financial management is the planning, allocation, and monitoring of institutional budgets and resources to support sustainable operations and strategic educational goals.

16) Academic programs and curriculum design is the process of developing, structuring, and evaluating academic content and learning outcomes to meet student and industry needs.

17) Infrastructure and facilities are the physical and digital environments, including classrooms, laboratories, and online platforms, that support teaching, research, and student services.

18) Technology integration is the use of digital tools, platforms, and systems to enhance teaching, learning, administration, and research within higher education institutions.

19) Leadership and vision refer to the strategic direction and foresight provided by university leadership to guide institutional transformation and respond to emerging challenges.

20) Faculty and staff development is composed of programs and initiatives aimed at improving the professional competencies, digital skills, and pedagogical practices of university personnel.

21) New curriculum design and pedagogy refers to innovative, flexible, and competency-based teaching approaches that align with future workforce needs and promote active learning.

22) Assessment and quality assurance are mechanisms for evaluating student learning, program effectiveness, and institutional performance to ensure continuous improvement.

23) Student support services are a range of academic, emotional, and career-related services designed to enhance student success, retention, and well-being.

24) Systematic operation is the coordinated implementation of policies, processes, and resources to ensure efficient and effective institutional functioning.

25) Deployment and implementation is the execution of strategic plans, programs, and initiatives across university units to achieve targeted goals.

26) Monitoring and evaluation is the regular assessment of institutional activities and outcomes to inform decision-making and ensure accountability.

27) Results-oriented improvement is a focus on using performance data and feedback to drive continuous improvement in all areas of institutional performance.

## **Chapter 2**

### **Literature Review**

#### **2.1 Introduction**

Educational transformation in higher education institutions is essential to adapting to the rapidly changing demands of the global economy, technological advancements, and evolving societal needs. Universities must reinvent their strategies and frameworks to remain relevant, efficient, and effective in preparing students for future challenges. This literature review aims to explore the various strategies implemented by universities to achieve performance excellence through educational transformation. It examines both external and internal factors that drive transformation, including the integration of future skills, the demand for lifelong learning, personalization of academic learning, and the evolving role of technology. The review is particularly focused on the context of Thai higher education institutions, which face unique challenges such as demographic shifts, economic disruptions, and the rise of Industry 4.0. As universities work to meet the future demands of the labor market, educational transformation strategies must be closely aligned with these external factors, while also addressing internal factors such as leadership, governance, faculty engagement, and infrastructure.

This review is structured as follows: first, it discusses the external factors influencing educational transformation; second, it examines the internal factors within higher education institutions that contribute to successful transformation; third, it outlines the educational transformation strategies adopted by universities and explores the relationship between these strategies and university performance excellence; and finally, it discusses University Performance Excellence through EdPEX-Aligned Strategies.

#### **2.2 External factors for future higher education**

The transformation of higher education is increasingly shaped by external forces that originate beyond institutional boundaries yet exert substantial influence on policy formation, strategic direction, and operational practices. In recent years, the global knowledge economy, regional integration mechanisms, and rapid technological advancement have redefined the context in which universities operate. These forces demand not only incremental improvements but also structural and strategic shifts capable of addressing complex, multifaceted challenges. In the Thai context and broader ASEAN region, higher education institutions must demonstrate responsiveness to a spectrum of external factors that are accelerating the need for transformation. These include the growing emphasis on future skills and workforce readiness, the proliferation of multi-institutional educational pathways, the rise of lifelong learning as a norm rather than an exception, the increasing demand for personalization in learning experiences, regional quality assurance systems such as

AUN-QA, and emerging governance models exemplified by university holding companies. Each of these factors represents more than a passing trend; they reflect a deeper restructuring of the relationship between higher education, society, and the economy. As such, they should not be treated as isolated variables but as interdependent drivers of change that must be systematically understood and strategically addressed. Their presence necessitates a re-evaluation of the traditional functions of universities from knowledge transmission and credentialing to innovation, collaboration, and societal impact.

The following section critically examines these six key external factors in order to situate the proposed educational transformation strategies within a broader strategic environment. Understanding the implications of these forces is essential for institutions aiming to achieve long-term relevance, competitiveness, and excellence in a dynamic regional and global landscape.

### **2.2.1 Future Skills**

In the context of an ever-evolving global job market and rapid technological advancements, higher education institutions must increasingly prioritize the development of “future skills” in their curricula. These skills are essential for students to thrive in an increasingly complex, digitally-driven world. The importance of these skills, often referred to as “21<sup>st</sup>-century skills,” has been reinforced by global educational bodies and policymakers, as well as by industry leaders who are increasingly focused on the competencies required in the workforce of tomorrow. The major future skills include critical thinking, creativity, problem-solving, communication, collaboration, digital literacy, adaptability, and lifelong learning. Together, these skills are reshaping the strategies employed by universities worldwide to deliver education and prepare students for success in the rapidly changing workplace. The development of critical thinking and problem-solving abilities has long been recognized as central to higher education. These skills are essential for navigating the complex and unpredictable challenges faced by individuals and organizations in the modern world. As industries evolve and new problems emerge, employers increasingly seek individuals who can think analytically, assess situations critically, and devise creative solutions to complex issues. To address this growing need, educational institutions are adapting their teaching strategies to emphasize inquiry-based learning, where students engage deeply with subject matter and are encouraged to think critically and independently. Problem-solving tasks are designed to reflect real-world challenges, helping students develop skills they can apply outside the classroom. Business simulations, for example, have been found to significantly enhance students’ entrepreneurial and employability skills. By immersing students in simulated real-world business environments, these exercises promote critical thinking and decision-making in a safe yet realistic context (Sheikh et al., 2023). Research also shows that engaging students in case studies and scenario-based learning encourages them to analyze complex problems from multiple perspectives, fostering a deep

understanding of how various factors influence outcomes. These kinds of pedagogical approaches help students acquire problem-solving skills that are essential for professional success in fields ranging from business to healthcare to technology (Bonfield et al., 2020). Through such initiatives, universities aim to produce graduates who are not only knowledgeable but also capable of thinking critically and responding to unforeseen challenges.

As the digital age continues to disrupt traditional industries and job roles, digital literacy has become one of the most vital competencies for students to acquire. With technologies such as artificial intelligence (AI), machine learning, and big data analytics transforming the way industries operate, higher education institutions must integrate digital technologies into their curricula to ensure that students are prepared for the workforce of the future. Digital literacy encompasses the ability to use technology effectively, navigate digital environments, and critically evaluate digital content, a crucial set of skills in a world where digital tools are widespread in both personal and professional life. Moreover, technology integration in education is no longer optional, it is a necessity. The COVID-19 pandemic has highlighted this urgency, as educational institutions were forced to pivot to online learning environments almost overnight. The need for digital competency is clear, and universities are increasingly leveraging digital platforms to enhance learning experiences. For example, many institutions have adopted learning management systems (LMS) and collaborative tools such as Google Classroom, Zoom, and Microsoft Teams to facilitate remote and hybrid learning models. These tools enable students to engage with the course material and collaborate with peers and instructors effectively in digital spaces (McCarthy et al., 2023). The integration of digital tools is not just about accessing content but also about teaching students how to use these tools to enhance their problem-solving and collaboration skills. For instance, the use of business simulation software like AnyLogic, which allows students to engage in interactive simulations that mimic real-world business scenarios, is a prime example of how technology can be used to develop 21<sup>st</sup>-century skills. These types of simulations not only teach students technical skills but also foster communication, critical thinking, and teamwork, which are essential for success in today's workplace (Sheikh et al., 2023).

The world of work is increasingly collaborative, and this shift has significant implications for the skills students need to succeed. Communication and collaboration are essential in virtually all professional environments, whether they involve working in teams, presenting ideas, or engaging in discussions with colleagues or clients. Higher education institutions are therefore placing a strong emphasis on teaching these interpersonal skills. One effective approach to fostering collaboration is through project-based learning (PBL) and group assignments. In these formats, students work together to tackle complex problems, pooling their collective knowledge and skills. PBL encourages collaboration and communication while also

enabling students to apply theoretical knowledge to practical situations. It allows students to develop not only their technical knowledge but also their ability to interact with others, navigate group dynamics, and manage conflicts constructively. Research indicates that group work and collaborative learning experiences are particularly effective in enhancing students' ability to communicate and collaborate in real-world settings. Through collaboration, students also develop leadership and decision-making abilities, as they are often required to manage tasks, delegate responsibilities, and make group decisions (Griffin & Care, 2015). By integrating these opportunities into curricula, universities are preparing students to thrive in the collaborative work environments that are increasingly prevalent in the global job market.

One of the most profound shifts in the workforce is the demand for adaptability. As industries continue to evolve and technologies rapidly advance, workers are expected to continually learn and adapt to new situations. To prepare students for this uncertainty, higher education institutions are increasingly focusing on fostering lifelong learning and adaptability as core competencies. Lifelong learning is defined as the ability and willingness to continually acquire new skills and knowledge throughout one's career. As many professions undergo radical transformations due to automation and technological advancements, workers must remain agile, capable of reskilling and upskilling as needed. Higher education institutions are responding by offering flexible learning pathways, such as online courses, microcredentials, and certificate programs, that allow individuals to continue learning throughout their careers (Akour & Alenezi, 2022). This model of continuous education enables students to acquire new skills in response to changing job market demands and ensures that they remain competitive in their fields. In addition, universities are adopting curricula that encourage students to view learning as a lifelong process. In many disciplines, this approach is being integrated into programs through experiential learning, internships, and co-op programs, where students apply what they learn in real-world settings and gain practical experience. These experiences foster the adaptability necessary for success in a rapidly changing world and enable students to remain engaged in their professional development long after graduation (Redecker et al., 2011).

The skills needed for success in the 21<sup>st</sup> century are multifaceted and interconnected. Future skills like critical thinking, problem-solving, digital literacy, collaboration, and adaptability are all essential for students to thrive in an increasingly digital and interconnected world. Universities play a crucial role in developing these skills by rethinking their teaching methods, curricula, and learning environments. By incorporating innovative pedagogies such as business simulations, project-based learning, and digital tools into their programs, higher education institutions can ensure that students are prepared for the challenges of tomorrow's workforce. As the world continues to evolve, so too must the strategies used by higher education institutions to prepare students. The future workforce will demand individuals who are not only

technically proficient but also capable of thinking critically, collaborating effectively, and adapting to new circumstances. By focusing on the development of these essential skills, universities can contribute to creating a workforce that is capable of addressing the complex challenges of the future.

### **2.2.2 Multi-Institutional Cooperation**

In the modern landscape of higher education, multi-institutional cooperation has become an essential strategy for educational transformation. This model, which involves collaborations between multiple academic institutions, facilitates the pooling of resources, sharing of expertise, and the creation of synergies that enhance the overall educational experience. Multi-institutional partnerships have proven to be vital in addressing the growing challenges faced by universities globally, including the need for innovation, internationalization, and curriculum reform. Through such collaborations, institutions can adapt to changing educational demands, ensure sustainability, and foster a more inclusive and effective learning environment. One of the key drivers of educational transformation through multi-institutional cooperation is the fostering of innovation and knowledge exchange. By collaborating across institutional boundaries, universities gain access to a broader range of resources and expertise, which can lead to the development of new teaching methods, curricula, and research initiatives. This exchange of knowledge is particularly important in an increasingly globalized and interconnected world, where universities must adapt to rapidly evolving technological and societal demands. As highlighted by Frank (2019), the integration of cross-institutional collaborations can enhance the development of innovative curricula, particularly when institutions from different countries and cultural contexts come together. Such collaborations provide an opportunity to diversify teaching methods, enrich student learning experiences, and introduce new perspectives that would otherwise be unavailable within a single institution (Frank, 2019). For instance, joint research initiatives or cross-border degree programs enable institutions to share best practices, integrate new technologies into the curriculum, and create educational content that is both relevant and forward-thinking. The benefits of multi-institutional cooperation in innovation are also evident in the context of global partnerships. In Africa, for example, universities have increasingly sought collaborations with institutions from the global North to enhance their research capabilities and academic offerings. However, challenges related to power imbalances, differing institutional priorities, and cultural dynamics have sometimes hindered the success of these collaborations (Semali et al., 2013). Nevertheless, when managed effectively, such partnerships offer significant opportunities for academic institutions in the global South to enhance their academic and research capacity by leveraging the resources and expertise of their northern counterparts.

Multi-institutional collaborations also contribute to educational transformation by optimizing resources and improving cost efficiency. In the face of tightening budgets and increased competition for funding, universities are increasingly seeking ways to maximize their resources. By joining forces, institutions can pool their financial, technological, and human resources to achieve common goals without duplicating efforts or incurring excessive costs. For example, in the context of internationalization, multi-institutional partnerships allow universities to share the financial burden of developing and delivering joint degree programs or international research initiatives. These partnerships enable institutions to access funding from multiple sources, including government grants, industry partnerships, and international donors, which can significantly reduce the financial strain on individual institutions (Bidandi et al., 2022). Furthermore, such collaborations often result in shared infrastructure, such as research facilities, libraries, and online learning platforms, which can enhance the quality of education while reducing the costs associated with maintaining these resources independently. In the case of the University of the Western Cape (UWC) in South Africa, multi-stakeholder partnerships have been critical in driving infrastructure development and improving the institution's research output. Through collaborations with industry partners and government entities, UWC has been able to secure funding for academic projects, enhance its facilities, and offer more comprehensive educational services to its students. These collaborations have not only improved the institution's academic standing but have also contributed to its sustainability in a competitive higher education market (Bidandi et al., 2022).

Another significant impact of multi-institutional cooperation is its role in fostering global engagement and supporting the internationalization of higher education. In a globalized world, universities must prepare students to thrive in diverse and interconnected environments. Multi-institutional collaborations help institutions meet this challenge by providing students and faculty with opportunities for international exposure, cross-cultural learning, and collaboration on global issues. The concept of internationalization has been a driving force behind many multi-institutional partnerships, particularly in the development of joint degree programs, student and staff exchanges, and collaborative research initiatives. These partnerships enable students to gain a broader understanding of global issues, learn in diverse educational environments, and build networks that will benefit them throughout their careers. As Frank (2019) points out, international collaborations can also provide institutions with the opportunity to enhance their reputation and academic standing on the global stage, thereby attracting top talent and increasing their competitiveness (Frank, 2019). In Africa, the internationalization of higher education has been significantly advanced through multi-institutional collaborations with universities in the global North. These partnerships have helped African universities to improve their research capabilities, develop new academic programs,

and enhance their global visibility. However, as Semali et al. (2013) note, the success of these partnerships depends on the ability of institutions to navigate the complexities of cross-cultural collaboration and ensure that the benefits are mutually shared between partners (Semali et al., 2013).

Multi-institutional collaborations can also play a vital role in addressing educational inequality and expanding access to higher education. By collaborating with other institutions, universities can create more inclusive learning environments, develop programs that cater to diverse student populations, and ensure that educational opportunities are available to students from different socio-economic backgrounds. In many parts of the world, especially in developing countries, access to higher education is limited by factors such as geographical location, financial constraints, and the availability of resources. Multi-institutional collaborations provide an effective way to overcome these barriers by enabling institutions to share resources and create flexible learning opportunities, such as online courses and distance learning programs. These initiatives can help bridge the gap between urban and rural institutions, ensuring that students from underserved areas have access to quality education (Bidandi et al., 2022). In the U.S., for example, the Northwest Engineering Talent Expansion Partnership (NW-EETEP) is a multi-institutional collaboration designed to increase the number of underrepresented minority and female students in engineering programs. By pooling resources and expertise from several institutions, the partnership has successfully improved recruitment and retention rates for these student groups, demonstrating the potential of multi-institutional collaboration in promoting educational equity (Loveless-Morris et al., 2008).

Multi-institutional cooperation has a profound impact on educational transformation strategies by fostering innovation, optimizing resources, supporting global engagement, and addressing educational inequality. As higher education institutions continue to face challenges related to funding, globalization, and the evolving needs of students, multi-institutional collaborations provide a valuable model for creating sustainable and effective educational environments. Through partnerships that span geographical, cultural, and institutional boundaries, universities can leverage their collective strengths to enhance the quality of education, improve student outcomes, and contribute to the development of a more inclusive and interconnected global educational community.

### **2.2.3 Lifelong Learning**

Lifelong learning (LLL) has become a cornerstone of modern educational reform as nations and educational institutions aim to adapt to the rapidly changing global landscape. The increasing pace of technological advancements, the demands for a more adaptable workforce, and the evolving nature of global economies necessitate continuous learning opportunities beyond formal education. Lifelong learning (LLL) refers to the ongoing, voluntary, and self-motivated pursuit

of knowledge for personal or professional development. In response to these challenges, higher education institutions have integrated lifelong learning into their strategic priorities to ensure that both students and faculty members remain competitive, skilled, and adaptable throughout their careers. The educational transformation strategies driven by the incorporation of lifelong learning emphasize not only the academic curriculum but also organizational structures, policies, and practices that foster continuous learning.

Higher education institutions globally are increasingly recognizing the importance of lifelong learning to develop human capital and promote sustainable development. As knowledge continues to evolve and the workplace demands more versatile skills, universities are shifting from a traditional, static educational model to one that supports the continuous development of skills across a lifetime (Dhirathiti, 2014). In Thailand, for instance, the government has embraced policies that encourage lifelong learning to address both the economic and social demands for an adaptable and skilled workforce. The Thai government has recognized the importance of lifelong learning in contributing to national development and has begun to integrate these principles into higher education reforms (Charungkaitikul, 2020). The implementation of lifelong learning policies in higher education serves as a pathway to build a more inclusive, flexible, and resilient educational system. These policies ensure that learning opportunities are accessible to a wide demographic, promoting social inclusion and equity. For example, lifelong learning opportunities in Thailand are targeted not only at traditional students but also at adult learners and marginalized groups, including the elderly, to provide them with the skills necessary to thrive in a knowledge-based economy (Dhirathiti, 2014). In this context, universities are expanding their role from being providers of formal education to lifelong learning hubs that offer a wide range of learning opportunities, including short courses, certifications, and online learning platforms. For universities to effectively support lifelong learning, they must also focus on the development of their faculty members. Faculty members are not only responsible for imparting knowledge to students but also for engaging in their own continuous professional development. The management of university factors that support faculty members' lifelong learning is essential for improving their professional effectiveness and ensuring the quality of education delivered (Zhou, 2018). The study on university factors influencing lifelong learning of faculty members highlights that organizational learning culture, managerial effectiveness, collaborative learning opportunities, and psychological empowerment are critical factors that foster faculty participation in lifelong learning. Universities need to create an environment that encourages and facilitates faculty members' engagement in continuous professional development. An effective organizational culture that values learning at all levels of the institution plays a significant role in encouraging faculty members to pursue lifelong learning opportunities. A culture that promotes knowledge sharing, collaboration, and

continuous learning can positively influence faculty's engagement with professional development activities (Zhou, 2018). Additionally, the managerial effectiveness of university leaders, who are responsible for supporting and facilitating lifelong learning opportunities, is also crucial. Leaders who actively encourage and provide resources for lifelong learning can create a culture of sustained professional growth among faculty members (Zhou, 2018). Besides, Psychological empowerment also plays a significant role in motivating faculty members to engage in lifelong learning. When faculty members feel that they have the autonomy and support to develop professionally, they are more likely to take advantage of lifelong learning opportunities. Universities that provide clear pathways for career progression and professional development are better positioned to retain high-quality faculty who are engaged in continuous learning (Zhou, 2018).

Lifelong learning policies are also directly linked to workforce adaptability. In today's rapidly changing work environments, employees are required to constantly update their skills to remain relevant in their fields. In Thailand, the promotion of lifelong learning has been integrated into the national policy framework, with an emphasis on developing a highly adaptable and competitive workforce (Phusavat et al., 2012). Universities, in turn, have been tasked with not only preparing students for entry into the workforce but also ensuring that they are equipped with the tools to continue learning throughout their careers. The integration of lifelong learning into educational strategies ensures that universities can produce graduates who possess the skills necessary to adapt to changing job market demands. This shift toward a more adaptable workforce requires universities to offer programs that are not only academically rigorous but also aligned with industry needs. For example, universities are increasingly incorporating skills development courses and digital literacy into their curricula to ensure that students can thrive in a highly dynamic and technology-driven work environment (Mohd Meerah et al., 2011). Additionally, universities must offer flexible learning pathways that enable working professionals to pursue further education while balancing their career responsibilities. This flexibility is key to promoting lifelong learning across all stages of an individual's career (Charungkaittikul, 2020).

Thailand 4.0 is a national policy framework designed to transform Thailand into a high-income, innovation-driven economy. The policy emphasizes the need for creativity, innovation, and technological advancement, all of which require a highly skilled and adaptable workforce. In the context of Thailand 4.0, lifelong learning is seen as a crucial strategy for enabling individuals to acquire the skills needed to participate in the new digital economy (Buasuwan, 2018). Universities are central to this transformation, as they are tasked with fostering the skills necessary for the workforce to meet the demands of a rapidly evolving economy. As part of the Thailand 4.0 agenda, universities are being encouraged to develop programs that focus on emerging technologies such as artificial intelligence, robotics, and data

analytics. These programs are designed to ensure that graduates are not only prepared for existing job markets but also equipped to adapt to the future demands of the workforce. In addition, universities are encouraged to form partnerships with industry to ensure that educational offerings are closely aligned with the needs of the economy (Buasuwan, 2018). The adoption of lifelong learning policies within Thailand's higher education sector is a significant role in achieving the objectives of Thailand 4.0. By equipping individuals with the ability to learn continuously throughout their lives, the country can develop a workforce that is not only innovative and adaptable but also capable of driving economic growth in the digital age (Charungkaittikul, 2020).

It can be seen that lifelong learning is an essential component of educational transformation, particularly in the context of preparing students and faculty for the rapidly changing demands of the global workforce. By integrating lifelong learning policies into their strategic frameworks, universities can contribute to the development of a highly skilled, adaptable, and innovative workforce. In countries like Thailand, where economic and technological transformations are central to national development, lifelong learning policies play a crucial role in ensuring that individuals are equipped with the skills needed to thrive in the digital economy. As higher education institutions continue to evolve and adapt to these challenges, the promotion of lifelong learning will remain a central pillar of educational transformation strategies.

#### **2.2.4 Personalization of Academic Learning**

In recent years, the trend of personalizing academic learning has emerged as a transformative strategy in higher education. This shift toward personalized learning is primarily driven by the growing recognition that students have diverse learning styles, strengths, and needs. Personalization in education refers to tailoring the learning experience to meet the individual needs of each student, allowing for a more customized approach to teaching that adapts to each learner's pace, interests, and learning methods. The integration of personalized learning into higher education is central to creating more flexible, engaging, and effective educational environments. As such, it significantly influences educational transformation strategies, impacting how curricula are designed, how teaching is delivered, and how students engage with their learning. Personalized learning can be conceptualized as an approach where the curriculum and learning experiences are adapted to the unique needs, abilities, and interests of each student. According to Waldeck (2007), personalized education involves creating an evolving, dynamic relationship between the teacher and student, where learning is customized to optimize student engagement and outcomes. Personalization allows students to take ownership of their education by offering them choices in their learning paths, whether through flexible course design, adaptive technologies, or collaborative learning environments. The trend toward personalized learning has become more prevalent in response to the growing diversity in student populations. With the increasing

emphasis on student-centered learning, institutions are increasingly adopting technologies and pedagogies that provide students with more control over their educational experiences. This shift has profound implications for educational transformation, as universities are rethinking traditional teaching methods to accommodate a broader range of learners.

The introduction of personalized learning requires significant changes to how curricula are designed and delivered. In traditional models, education tends to follow a one-size-fits-all approach, where all students progress through the same content at the same pace. However, personalized learning moves away from this model by incorporating flexibility into the learning process, enabling students to work at their own pace, select learning paths, and receive customized support. One significant way in which personalized learning affects educational transformation strategies is through the integration of technology. Intelligent tutoring systems, learning management systems, and adaptive learning platforms are increasingly being used to provide tailored feedback and assessments to students based on their performance and needs. AI-powered tools can analyze students' interactions with learning materials, adapt the difficulty of tasks to suit their abilities, and provide personalized recommendations for further study (Ren & Wu, 2025). These technological tools make it possible for institutions to cater to individual learning preferences and create a more engaging and effective learning environment. In Thailand, for example, the integration of digital learning tools has been a critical component of educational transformation. As Lipipun and Angasinha (2023) highlight, the incorporation of digital technologies has revolutionized the way courses are delivered, allowing for more flexible learning environments. Personalized learning technologies allow instructors to design courses that can accommodate various learning styles and give students more opportunities to learn independently, thereby enhancing their engagement and overall learning outcomes.

Personalized learning strategies have a profound impact on student engagement and learning outcomes. By tailoring the learning experience to students' needs, personalized learning fosters a deeper connection between students and the material. This increased engagement is associated with improved academic achievement, higher retention rates, and greater student satisfaction. Waldeck (2007) emphasizes that students who perceive their education as personalized are more likely to experience higher levels of cognitive and affective learning. When students feel that their learning experiences are designed to suit their individual needs and interests, they are more likely to engage with the material and develop a strong sense of academic efficacy. The ability to engage with content in a way that aligns with their strengths and interests also contributes to their overall well-being, as students are more motivated and less likely to experience frustration or disengagement. Moreover, research by Waldrip et al. (2014) suggests that personalized learning environments positively impact students' academic achievement by offering more targeted and

meaningful learning experiences. Their study found that students in personalized learning environments showed increased motivation, better problem-solving skills, and higher academic achievement compared to those in traditional settings. This reinforces the notion that personalization is not just about student satisfaction but also about tangible improvements in learning outcomes.

While the benefits of personalized learning are evident, the implementation of such strategies presents several challenges for faculty. One of the primary challenges is the increased workload for instructors, who are required to design and manage more individualized learning experiences. This often involves greater use of technology, more frequent assessments, and more tailored feedback for students. Additionally, instructors must be trained in the use of personalized learning tools and must develop the skills to manage a diverse range of student needs effectively. Furthermore, personalized learning requires faculty to adopt a more flexible teaching approach, one that emphasizes collaboration, mentorship, and continuous feedback. As Waldeck (2007) notes, creating a personalized learning environment involves ongoing communication between teachers and students, which can be difficult to maintain in large, lecture-based settings. Faculty members may struggle with balancing the demands of personalized instruction while also fulfilling research obligations and other institutional responsibilities. However, despite these challenges, personalized learning presents significant opportunities for faculty development. By leveraging technology and adopting student-centered pedagogies, instructors can transform their teaching practices and create more dynamic and effective learning environments. Additionally, the use of AI-driven learning analytics and personalized feedback systems allows faculty to monitor students' progress in real-time and intervene when necessary, helping to ensure that all students are supported throughout their educational journey.

At the institutional level, the adoption of personalized learning strategies represents a shift toward a more learner-centric model of education. Educational institutions must embrace flexibility in their structures, policies, and resources to accommodate personalized learning. This requires changes not only in teaching practices but also in administrative processes, assessment strategies, and curriculum design. In Thailand, as discussed by Lipipun and Angasinha (2023), universities are increasingly adopting personalized learning strategies to foster student engagement and improve learning outcomes. The move toward personalized education aligns with national educational reforms aimed at promoting lifelong learning and ensuring that students are equipped with the skills necessary for success in the rapidly changing workforce. Institutions that embrace personalized learning can create more inclusive, flexible, and adaptive learning environments that cater to the diverse needs of their students.

In conclusion, the personalization of academic learning is a critical component of educational transformation in the 21<sup>st</sup> century. By tailoring the learning experience to meet the individual needs of students, personalized learning fosters greater engagement, improves learning outcomes, and enhances overall student satisfaction. The integration of technology, such as adaptive learning platforms and AI-driven tools, is important in supporting personalized education, allowing institutions to cater to diverse student populations and offer more flexible learning paths. However, the successful implementation of personalized learning requires significant changes in teaching practices, faculty development, and institutional policies. As higher education continues to evolve, personalized learning will remain a key strategy for transforming educational experiences and ensuring that students are equipped with the skills needed for success in the digital age.

### **2.2.5 The ASEAN University Network-Quality Assurance (AUN-QA)**

The ASEAN University Network-Quality Assurance (AUN-QA) framework is a vital tool in enhancing the quality of higher education institutions (HEIs) within the ASEAN region. The framework provides a systematic approach to quality assurance (QA) through comprehensive criteria and benchmarks that focus on continuous improvement in educational quality. As higher education institutions across ASEAN countries face increasing pressures to meet both regional and international standards, AUN-QA is a key in transforming educational strategies, ensuring that universities remain competitive in a globalized environment. AUN-QA's primary objective is to enhance the quality of education in ASEAN member universities by setting standards for accreditation and assessment. It facilitates quality assurance at both the program and institutional levels, providing a rigorous framework for evaluating educational outcomes, teaching methodologies, and student learning experiences. The AUN-QA criteria include specific guidelines related to curriculum design, student outcomes, faculty qualifications, and the integration of quality enhancement processes (Bui, 2021). The AUN-QA framework was initially introduced to foster the internationalization of higher education in ASEAN and to enhance the overall quality of educational programs offered by universities. As part of the continuous improvement cycle, universities must engage in self-assessment and submit detailed reports to AUN-QA for evaluation. This external validation supports universities in identifying strengths, weaknesses, and areas for improvement. Moreover, it encourages them to align their educational goals with the evolving demands of both the local and global labor markets (Huynh et al., 2024).

AUN-QA has a direct impact on curriculum development and teaching methodologies. The process of obtaining AUN-QA certification encourages universities to review and revise their curricula to ensure they meet the needs of students, employers, and other stakeholders. The key elements of the AUN-QA criteria such as curriculum specification, structure, and content require universities to prioritize outcome-based education. This alignment helps ensure that students are

equipped with relevant skills and knowledge that meet industry demands. For instance, studies have shown that universities with AUN-QA certification report significant improvements in their curriculum design, particularly in incorporating competency-based learning outcomes and real-world applications (Fitriyana et al., 2024). The process of accreditation encourages institutions to focus on student performance metrics and to implement more effective assessment tools. Furthermore, the self-assessment process promotes a culture of continuous feedback and improvement, which is essential for adapting educational practices to meet the rapidly changing needs of the job market (Chansamut, 2021).

One of the core objectives of AUN-QA is to improve the alignment of educational outcomes with the needs of the industry. In an increasingly competitive global economy, it is crucial for universities to produce graduates who possess the skills and competencies that employers demand. AUN-QA supports this by emphasizing stakeholder engagement and the need for universities to collaborate with industry partners when designing and evaluating curricula (Bui, 2021). Research on AUN-QA's impact on Indonesian universities demonstrates that programs accredited by AUN-QA tend to have a closer alignment with industry expectations. The study found that universities with AUN-QA certification have made significant strides in incorporating industry feedback into their curriculum development processes. This alignment not only enhances the employability of graduates but also ensures that the education provided is relevant to the current and future needs of the labor market (Fitriyana et al., 2024). This alignment is particularly evident in technical fields such as engineering, where strong industry ties and practical training components are necessary for students to gain the skills required by employers. In addition, AUN-QA encourages universities to engage with international partners and foster global collaborations. This internationalization process enhances the competitiveness of ASEAN universities by ensuring that they meet global educational standards while maintaining regional relevance (Huynh et al., 2024).

The implementation of AUN-QA also strengthens institutional sustainability by promoting internal quality assurance systems within universities. AUN-QA certification does not only focus on the accreditation of programs but also requires institutions to build internal quality assurance systems that support long-term educational excellence. The process of continuous self-assessment and external evaluation encourages universities to improve their management practices, enhance faculty development, and strengthen administrative systems (Chansamut, 2021). A key aspect of the AUN-QA process is its focus on leadership and strategic planning. The framework encourages universities to establish clear quality policies and action plans that are aligned with both institutional goals and regional standards. Effective leadership is crucial for the successful implementation of AUN-QA, as it ensures that quality assurance measures are integrated into the university's operations and culture (Jarupoom, 2017). Furthermore, the adoption of AUN-QA fosters a culture of

accountability, transparency, and continuous improvement. By participating in AUN-QA assessments, universities are not only improving the quality of their educational programs but also demonstrating their commitment to meeting the evolving needs of students and the broader society. This commitment to quality enhances the reputation and credibility of the institution, both regionally and internationally (Bui, 2021).

Despite its many benefits, the implementation of AUN-QA standards presents several challenges for higher education institutions. One of the primary challenges is the significant administrative burden that comes with the certification process. Institutions are required to conduct thorough self-assessments, gather extensive data, and implement changes based on external evaluations. This can be time-consuming and resource-intensive, particularly for smaller universities with limited capacity (Huynh et al., 2024). Some universities struggle with aligning their internal processes with international standards. The complexity of aligning national regulations, institutional goals, and AUN-QA standards can be daunting, especially for institutions in developing countries. Furthermore, the lack of skilled personnel and the need for extensive staff training in quality assurance practices can hinder the successful implementation of AUN-QA (Chansamut, 2021).

The AUN-QA framework plays a crucial role in the educational transformation strategies of universities within the ASEAN region. By providing a structured approach to quality assurance, AUN-QA encourages continuous improvement in curriculum design, teaching methods, and institutional management. The framework promotes alignment between educational outcomes and industry needs, enhancing the employability of graduates and ensuring that institutions remain competitive on the global stage. Although implementing AUN-QA standards presents challenges, such as administrative burdens and alignment with international benchmarks, the benefits of improved program quality, stakeholder engagement, and institutional sustainability far outweigh these challenges. As universities continue to embrace AUN-QA, the region's higher education landscape will become increasingly aligned with global standards, ensuring that students are equipped with the skills and knowledge necessary to succeed in a rapidly evolving world.

#### **2.2.6 University Holding Companies (UHCs)**

University Holding Companies (UHCs) represent a strategic model within higher education that seeks to bridge the gap between academic research and the commercialization of that knowledge. By acting as intermediaries between universities and the business sector, UHCs facilitate the commercialization of university-developed intellectual property, promoting innovation and economic growth. These organizations play an increasingly critical role in fostering educational transformation, particularly in the context of innovation-driven enterprise and entrepreneurial ecosystems. UHCs are essentially entities created by universities to manage and invest in spin-offs or startups derived from research innovations within the academic institution. Their purpose is to provide a mechanism for translating

research into commercially viable products and services, thereby enhancing the economic impact of universities. In many countries, including Thailand, UHCs serve as vital players in strengthening the link between academia and industry, making them central to educational transformation strategies (Jirachai & Thawesaengskulthai, 2024).

The role of UHCs in supporting the commercialization of research is particularly important in driving innovation within universities. Universities are often rich in intellectual capital but may lack the commercial expertise and resources to transform their research into successful market products. UHCs provide the necessary infrastructure, funding, and connections with industry to facilitate this transformation. This process contributes to the development of university spin-offs and startups, which, in turn, contribute to the national economy through job creation, increased innovation, and the commercialization of research (Thawesaengskulthai et al., 2024). UHCs are a key component of the knowledge economy, where universities are not just centers of education but also drivers of economic growth and technological development. By creating university spin-offs and fostering an entrepreneurial culture, UHCs contribute to the broader innovation ecosystem. This shift towards a more entrepreneurial university model is an essential aspect of educational transformation, as it aligns academic objectives with real-world needs, improving the relevance of education and enhancing students' employability (Mongkhonvanit, 2008).

One of the most significant impacts of UHCs on educational transformation is the promotion of university-industry collaboration. In the traditional university model, there is often a divide between academic research and industry application. UHCs help to bridge this gap by facilitating partnerships between universities and industries, ensuring that research is aligned with market needs and technological advancements. This collaboration is vital for producing graduates with skills relevant to the industry, thus ensuring that educational outcomes are in sync with the evolving demands of the labor market (Jirachai & Thawesaengskulthai, 2024). Through UHCs, universities can create a dynamic ecosystem where academic research is directly linked to practical industry applications. This collaboration provides students with opportunities to work on real-world problems, gain industry experience, and develop entrepreneurial skills. It also allows for a feedback loop where industry players can influence curriculum design and academic programs, ensuring that graduates are equipped with the skills needed by the market (Mongkhonvanit, 2008). The Thai automotive industry, for example, benefits from this model through the collaboration between universities and industry. Thai UHCs help to foster innovation in the automotive sector by facilitating the development of new technologies and research-based solutions. This synergy between academia and industry not only strengthens the country's competitiveness in the global market but

also enhances the practical relevance of university education (Thawesaengskulthai et al., 2024).

UHCs play an essential role in supporting Innovation-Driven Enterprises (IDEs), which are critical for economic development in both developed and developing economies. IDEs are characterized by their focus on high-growth sectors and the commercialization of new technologies and innovations. UHCs provide these enterprises with crucial support, including seed funding, mentorship, and access to networks of investors and industry partners. By supporting the growth of IDEs, UHCs contribute to the overall innovation ecosystem and create a sustainable model for knowledge-based economic development. In Thailand, the government has placed significant emphasis on supporting IDEs as part of its broader economic development strategy, particularly under the Thailand 4.0 initiative. The establishment of UHCs aligns with this national strategy by providing the necessary infrastructure to support the commercialization of research and the growth of innovation-driven businesses. UHCs facilitate the development of products and services that meet the needs of the market, while also contributing to job creation and economic growth (Jirachai & Thawesaengskulthai, 2024). UHCs help universities to establish a sustainable model for funding and supporting research-based ventures. By creating partnerships with private and public stakeholders, UHCs ensure that universities can sustain their innovation efforts without relying solely on government funding. This entrepreneurial approach enhances the financial sustainability of universities and helps them to remain competitive in the global knowledge economy (Thawesaengskulthai et al., 2024).

A key aspect of the successful implementation of UHCs in higher education is the establishment of effective performance management frameworks. These frameworks are designed to monitor and evaluate the success of UHCs in achieving their objectives, including the commercialization of research, the creation of spin-off companies, and the enhancement of university-industry partnerships. A performance management framework enables UHCs to track their progress, identify challenges, and make necessary adjustments to improve their effectiveness (Jirachai & Thawesaengskulthai, 2024). The UHC performance management model (UHC-PM) developed in Thailand emphasizes governance structures, acceleration services, and investment policies. It incorporates financial, non-financial, and Environmental, Social, and Governance (ESG) indicators to measure the impact of UHCs. By aligning their operations with clear performance metrics, UHCs can better manage their activities and ensure that they contribute to both educational and economic objectives (Ekholm & Salomonsson, 2022).

It can be seen that university Holding Companies (UHCs) are playing an increasingly vital role in the educational transformation strategies of universities, particularly in the context of innovation and commercialization. By bridging the gap between academic research and the marketplace, UHCs enable universities to contribute more directly to economic growth and technological development. They also promote university-industry collaboration, ensuring that academic programs are aligned with industry needs and enhancing the employability of graduates. As universities continue to evolve into more entrepreneurial institutions, UHCs will be central to the development of innovation-driven enterprises and the commercialization of research, fostering a more dynamic and sustainable higher education ecosystem.

From the review about external factors, it can be summarized the key external factors identified in the literature that influence educational transformation strategies in higher education institutions in this table.

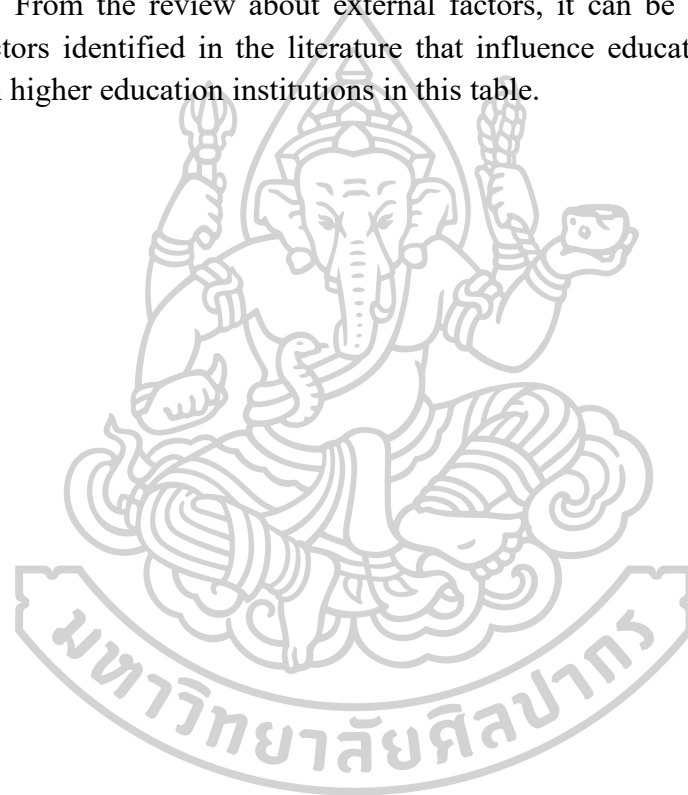


Table 1 Key External Factors Influencing Educational Transformation Strategies in Higher Education

Authors and Year	Future Skills	Multi-institutional Pathways	Lifelong Learning	Personalization of Academic Learning	AUN-QA	University Holding Company
Sheikh et al., 2023	/			/		
Bonfield et al., 2020	/		/			
McCarthy et al., 2023	/			/		
Griffin & Care, 2015	/			/		
Akour & Alenezi, 2022	/		/			
Redecker et al., 2011	/					
Frank, 2019		/	/			/
Semali et al., 2013		/			/	
Bidandi et al., 2022		/				/
Loveless-Morris et al., 2008		/		/		
Dhirathiti, 2014			/		/	
Charungkaittikul, 2020			/			/
Zhou, 2018			/	/		
Phusavat et al., 2012			/			
Mohd Meerah et al., 2011			/			
Buasawan, 2018			/			
Waldeck, 2007				/		
Ren & Wu, 2025				/		
Lipipun & Angasinha, 2023				/		
Waldrip et al., 2014				/		
Bui, 2021					/	
Huynh et al., 2024					/	/
Fitriyana et al., 2024					/	
Chansamut, 2021					/	
Jirachai & Thawesaengkulthai, 2024						/
Thawesaengkulthai et al., 2024						/
Mongkhonvanit, 2008						/
Ekholm & Salomonsson, 2022						/

### **2.3 Internal factors for future higher education**

While external forces play a significant role in shaping the future direction of higher education, the ability of institutions to respond effectively is ultimately determined by a set of internal factors that lie within their strategic and operational control. These internal dimensions form the foundation upon which transformation efforts are built and sustained. Without coherent internal structures, even the most progressive external-facing policies risk fragmentation and failure in implementation. In the context of institutional transformation, internal factors such as leadership and governance systems, faculty and staff engagement, financial resource management, curriculum and program design, physical infrastructure, and the integration of educational technologies are not merely operational elements. They are strategic levers that determine an institution's capacity for adaptation, innovation, and long-term sustainability. Each factor contributes both independently and interactively to institutional performance, shaping how well a university can align with future demands in teaching, research, and service. These internal factors also influence the institution's readiness to engage with external change drivers. For instance, leadership vision and governance structures affect the agility of policy response; faculty engagement conditions the success of curriculum innovation; and digital infrastructure directly shapes the feasibility of personalized and flexible learning models. Therefore, understanding and strengthening internal capacity is essential not only for managing internal complexity but also for leveraging external opportunities.

This section provides a detailed and analytical discussion of six core internal factors relevant to the transformation of higher education institutions. By examining each dimension, this study offers insights into the institutional conditions necessary to support sustainable and strategic educational reform in the face of growing uncertainty and change.

#### **2.3.1 Leaders and Governance**

Leaders and governance are fundamental to guiding educational institutions through the complexities of transformation. In higher education institutions (HEIs), governance structures and the involvement of institutional leaders directly influence the success of educational reforms and strategic initiatives. Effective governance ensures that an institution's mission, vision, and goals align with the rapidly changing demands of the education sector, the economy, and society at large. Governance structures are essential for shaping the strategic direction of universities. Effective governance provides clear leadership for implementing educational transformation strategies, ensuring that the institution's objectives are aligned with the broader educational goals of national and international stakeholders. As an essential component of higher education governance, governing bodies, such as boards of trustees, university councils, and committees, have the responsibility of overseeing strategic planning, allocating resources, and ensuring accountability at all levels of the institution (Tawonpan, 2013). The role of governance in higher education

has become even more significant as universities face increased pressure to demonstrate accountability, transparency, and responsiveness to external challenges such as technological advancements, shifting labor market demands, and societal expectations. Strong governance provides the mechanisms to guide universities through these challenges by making decisions that prioritize long-term sustainability, while also ensuring that day-to-day operations align with the university's mission and values (Mader et al., 2013). As a result, the governance structures within an institution not only help in implementing educational reforms but also in supporting a continuous cycle of self-assessment and improvement.

Governance structures also influence the decision-making processes that shape educational transformation. A key aspect of governance is ensuring that decisions are made based on a thorough understanding of the institution's internal and external environments. In this regard, governance structures must facilitate decision-making that is both inclusive and evidence-based. By engaging various stakeholders including faculty, staff, students, industry partners, and policymakers, governance systems can create decisions that reflect the diverse needs and perspectives of the institution's community. The involvement of academic staff and administrators in decision-making is particularly important for ensuring that transformation strategies are relevant and effective. Involving faculty members in governance allows for greater alignment between academic programs and institutional goals. It also encourages a sense of ownership among staff, which is crucial for fostering the collaborative spirit necessary for effective change management (Hawas Al-Aamri et al., 2024). When governance structures facilitate shared decision-making, the resulting transformation strategies are more likely to be sustainable, as they reflect the collective input of various campus stakeholders.

One of the central functions of governance in educational transformation is balancing institutional autonomy with accountability. While universities must have the flexibility to innovate and adapt to changing educational needs, they must also be held accountable to stakeholders, including governments, accrediting bodies, and the broader society. Effective governance ensures that universities are autonomous enough to make bold decisions about their educational practices, research agendas, and strategic direction, while also holding them accountable for meeting performance standards and delivering value to students, faculty, and the wider community (Taboonmee, 2023). Accountability in governance systems also encompasses financial stewardship. Universities must demonstrate that they are using resources efficiently, whether through direct financial management or through the allocation of funds to various educational initiatives, research programs, and infrastructure projects. Governance structures must be able to ensure that financial decision-making supports the university's transformation efforts and aligns with its long-term goals. Strong governance systems can create transparent processes for financial management,

ensuring that educational transformation strategies are not undermined by financial mismanagement or lack of resources.

Governance that is inclusive and responsive to the needs of diverse stakeholders plays a critical role in ensuring the success of educational transformation strategies. Engaging stakeholders such as students, faculty, administrative staff, alumni, industry representatives, and governmental bodies helps ensure that university reforms reflect a broad range of interests and align with the evolving needs of society. In the case of Thai universities, stakeholder engagement is particularly important in driving national educational reforms. As the Thai government emphasizes the importance of aligning higher education with the labor market and economic development goals, universities must be agile and responsive to industry demands. Involving industry partners in the governance process can ensure that university programs are designed to produce graduates with the skills required by employers. This collaboration not only enhances the employability of graduates but also strengthens the university's position in the national and global knowledge economy (Bidandi et al., 2022). Stakeholder engagement is equally important for faculty and staff. By fostering a culture of transparency and communication, governance structures can help reduce resistance to change and promote a more collaborative approach to educational reform. When faculty members and staff are actively involved in the governance process, they are more likely to feel a sense of ownership over the transformation strategies, resulting in greater engagement and improved outcomes.

In an increasingly globalized educational environment, governance structures also need to account for the challenges and opportunities associated with internationalization. As universities seek to expand their global reach through partnerships, research collaborations, and international student recruitment, governance systems must ensure that these activities align with the institution's educational goals and capacity. Strong governance ensures that international partnerships are strategically managed, with clear agreements on academic exchange, research collaboration, and the sharing of resources (Mader et al., 2013). Governance plays a critical role in setting the framework for internationalization, ensuring that the university's international objectives do not conflict with its core mission. It is essential for governance bodies to provide guidance on how to balance global engagement with local relevance, creating opportunities for international collaboration while maintaining the integrity and focus of the institution's academic programs.

In conclusion, effective leaders and governance structures are integral to the successful implementation of educational transformation strategies within higher education institutions. Governance provides the framework for decision-making, accountability, and stakeholder engagement, while also ensuring that institutional autonomy is maintained. The ability of university governance to navigate the

complexities of educational reform, manage resources effectively, and respond to both internal and external pressures is crucial for achieving long-term success in a rapidly changing educational landscape. As higher education institutions continue to face global challenges, the role of governance in guiding educational transformation will remain essential for fostering innovation, sustainability, and institutional growth.

### **2.3.2 Faculty and Staff Engagement**

Faculty and staff engagement is a critical internal factor that influences the success of educational transformation strategies in higher education institutions (HEIs). Engagement refers to the level of commitment, enthusiasm, and emotional investment that faculty and staff demonstrate in their work. The degree of engagement directly affects their performance, collaboration, and overall contribution to the institution's strategic goals. Engaged faculty and staff are more likely to actively support and drive educational change, which is essential for adapting to new teaching methodologies, curricula, and technological advancements. Faculty and staff engagement refers to the cognitive, emotional, and physical investment that individuals make in their work roles. Engaged employees are not only committed to their tasks but are also motivated to go beyond their core responsibilities, contributing to the overall success of the institution. According to Pongpipat and Suntrayuth (2019), faculty engagement is strongly linked to job satisfaction, which in turn positively influences job performance. Faculty members who are engaged tend to adopt new teaching strategies more readily, participate in curriculum development, and contribute to research and innovation within the institution (Pongpipat & Suntrayuth, 2019). Research by Shuck and Reio (2014) further emphasizes that engaged employees are more likely to align with the institution's goals and demonstrate proactive behaviors that enhance organizational outcomes. In the context of educational transformation, this means that faculty who are emotionally invested in their work are more likely to support and contribute to institutional change, whether it be through adopting new technologies, revising curricula, or enhancing the overall educational experience (Shuck & Reio, 2014). Several factors influence faculty and staff engagement, including communication satisfaction, leadership support, and professional development opportunities. One of the key elements highlighted by Pongpipat and Suntrayuth (2019) is the role of communication satisfaction in fostering engagement. Faculty members who are satisfied with the communication from their leadership and peers are more likely to feel valued and engaged. Transparent and effective communication helps to align faculty and staff with institutional goals and ensures that they feel informed and included in decision-making processes. As a result, communication satisfaction contributes significantly to increased job satisfaction and engagement, ultimately driving positive change within the institution.

In addition to communication, Shuck and Reio (2014) identify leadership support as a crucial factor in enhancing engagement. Faculty members are more likely to feel engaged when they perceive that their leadership is supportive and invested in their success. This includes providing opportunities for professional development, offering constructive feedback, and fostering a culture of inclusivity and recognition. When faculty feel supported by their leaders, they are more likely to be engaged and motivated to contribute to the success of educational transformation strategies (Shuck & Reio, 2014). Professional development is another key factor in enhancing faculty engagement. Faculty members who have access to opportunities for continuous learning and skill development are more likely to be engaged and motivated in their roles. Pongpipat and Suntrayuth (2019) point out that providing faculty with access to professional development programs not only enhances their teaching practices but also aligns them with the institution's transformation strategies. Engaged faculty who participate in professional development are better equipped to implement new teaching methods, adopt technological tools, and contribute to the overall transformation process. Shuck and Reio (2014) add that when professional development opportunities are aligned with both faculty members' personal growth goals and the institution's strategic objectives, engagement levels increase. Professional development that is relevant and well-supported leads to higher levels of engagement, as faculty members feel more competent and confident in their roles, which enhances their contributions to the institution's transformation.

Job satisfaction plays a central role in fostering faculty and staff engagement. Pongpipat and Suntrayuth (2019) found that job satisfaction is a key determinant of faculty engagement. When faculty members are satisfied with their work environment, leadership, and support systems, they are more likely to be engaged and productive. High levels of engagement lead to improved job performance, which directly supports the institution's educational transformation goals. Faculty who are satisfied with their roles are more likely to embrace change, contribute to new initiatives, and actively engage with students in meaningful ways. The research by Shuck and Reio (2014) also supports the idea that faculty engagement is closely tied to job satisfaction. Satisfied faculty members are more likely to feel emotionally and intellectually invested in their work, leading to greater overall engagement. This, in turn, influences their willingness to support and engage in the institution's educational transformation efforts. Institutions that prioritize job satisfaction and engagement are more likely to foster a culture of continuous improvement and innovation.

Faculty engagement is a key driver of educational transformation. When faculty members are engaged, they are more likely to contribute to the development and implementation of new curricula, adopt innovative teaching methods, and engage in interdisciplinary research. Shams and Niazi (2018) emphasize that engaged faculty are not only more productive but also more open to adopting new technologies and

teaching strategies, which are essential for driving educational transformation (Shams & Niazi, 2018). Engaged faculty members also serve as role models for students, creating a positive learning environment that supports the overall transformation of the institution. Moreover, faculty engagement is critical for ensuring that educational reforms are sustainable. Engaged faculty are more likely to stay with the institution, reducing turnover and ensuring that institutional knowledge is preserved. High levels of engagement also lead to greater faculty retention, which is essential for maintaining consistency in educational programs and ensuring the continuity of transformation efforts over time (Shams & Niazi, 2018).

Faculty and staff engagement is a critical internal factor that impacts the success of educational transformation strategies in higher education institutions. Engaged faculty are more likely to embrace new teaching methodologies, contribute to curriculum development, and participate in institutional decision-making processes. Effective communication, professional development opportunities, leadership support, and job satisfaction are key drivers of engagement. Institutions that prioritize faculty and staff engagement are better positioned to successfully implement educational reforms that improve student outcomes, enhance institutional performance, and create a culture of continuous improvement.

### **2.3.3 Financial Management**

Financial management is a critical internal factor that influences the successful implementation of educational transformation strategies in higher education institutions (HEIs). In an era of financial constraints and growing demands for high-quality education, effective financial management ensures that resources are allocated efficiently and that institutions can maintain financial sustainability while implementing strategic initiatives. Effective financial management is central to achieving the educational transformation goals of higher education institutions. According to Holloway (2006), proper financial management practices are essential for ensuring that an institution's resources are used effectively to meet its strategic objectives. These objectives include enhancing the quality of education, supporting research activities, and improving institutional infrastructure. Holloway (2006) also highlights that financial management is a key component of long-term institutional planning and sustainability. Universities that effectively manage their finances are better positioned to implement educational reforms that require substantial investment in resources such as faculty development, curriculum modernization, and technology integration. Financial management in higher education also plays a crucial role in facilitating innovation. As Xuan (2022) points out, financial management supports innovation in educational practices by ensuring that resources are allocated to new projects, teaching methods, and technological initiatives. The availability of financial resources enables universities to experiment with new teaching methodologies, develop innovative curricula, and invest in cutting-edge technology, all of which are key to educational transformation (Xuan, 2022).

One of the most important aspects of financial management is resource allocation. Institutions that adopt a strategic approach to budgeting and resource distribution are better equipped to achieve their long-term educational goals. Holloway (2006) discusses the importance of aligning resource allocation with institutional priorities. He argues that the traditional model of resource allocation, which often relies on student numbers alone, fails to consider the strategic goals of the institution, such as enhancing research capabilities or improving student outcomes. A more nuanced approach to resource allocation, which considers the institution's strategic objectives, is essential for driving educational transformation. Gandhi (2015) also emphasizes the importance of aligning financial resources with the institution's long-term vision. He advocates for a shift from simplistic models of resource allocation to more sophisticated systems that prioritize key areas of institutional development. By ensuring that financial resources are directed toward priority areas, institutions can drive the necessary changes that will lead to improved educational outcomes (Gandhi, 2015).

Financial management is not only about managing day-to-day expenses but also about creating a financial environment that supports innovation and enhances efficiency. Xuan (2022) highlights that universities that manage their finances effectively are better equipped to innovate and adapt to changing educational needs. Financial management supports innovation by enabling universities to invest in new technologies, adopt new teaching strategies, and expand research initiatives. When universities are financially stable and can diversify their revenue streams, they are more likely to explore new areas of educational development, such as online learning, interdisciplinary research, and international collaborations. Effective financial management also leads to operational efficiency, which is crucial for ensuring that educational resources are used effectively. Xuan notes that universities that adopt sound financial practices are able to improve their operational efficiency, reducing waste and reallocating savings to areas that directly impact educational transformation. For example, universities that manage their finances well can reinvest savings into faculty development programs, student services, and technology upgrades, key elements of successful educational transformation.

Financial autonomy is another crucial aspect of financial management in higher education. Institutions that have greater control over their finances are better positioned to implement educational reforms and adapt to changing educational needs. Xuan (2022) points out that in countries where universities have greater financial autonomy, such as in Vietnam, institutions are more likely to adopt innovative financial management practices that support educational transformation. Financial autonomy allows universities to generate additional revenue through sources such as research grants, tuition fees, and partnerships with private enterprises. This revenue can then be reinvested into key areas such as research and development, faculty training, and infrastructure improvements. Increased financial autonomy also

enables universities to make quicker decisions about how to allocate resources for transformational initiatives. Gandhi (2015) discusses how universities with financial autonomy can be more responsive to changes in the educational landscape. By having control over their finances, universities can invest in new technologies and pedagogical strategies without waiting for government funding. This flexibility is particularly important in a rapidly changing global educational environment, where institutions must constantly innovate to stay competitive.

While financial management is critical for educational transformation, it also presents significant challenges. Munge et al. (2016) note that poor financial management practices, such as inadequate budgeting, lack of financial transparency, and misallocation of funds, can derail an institution's ability to implement educational reforms. For example, in Kenya, public schools faced challenges due to mismanagement of funds, including overspending and underspending on critical areas such as instructional materials and staff development (Munge et al., 2016). Similarly, Xuan (2022) highlights that many universities in developing countries still face financial difficulties due to a heavy reliance on government funding and inadequate financial management practices. These challenges can hinder innovation and delay the implementation of educational transformation strategies. To address these challenges, Xuan (2022) advocates for improved financial literacy and stronger financial controls within higher education institutions. Ensuring that staff members are well-trained in financial management can improve decision-making and reduce the risk of financial mismanagement. Additionally, implementing stricter financial controls can help universities track expenditures and ensure that funds are allocated to areas that will have the greatest impact on educational quality and transformation.

Financial management plays a crucial role in the success of educational transformation strategies in higher education institutions. Effective financial management ensures that resources are allocated efficiently, supports innovation, and provides the flexibility needed to respond to changing educational demands. Financial autonomy allows universities to make decisions that are aligned with their strategic goals, enabling them to implement reforms that enhance educational quality and institutional performance. However, challenges such as financial mismanagement and limited funding must be addressed to ensure that financial resources are used effectively. By improving financial management practices, universities can better position themselves to meet the demands of the future and achieve their educational transformation objectives.

#### **2.3.4 Academic Programs and Curriculum Design**

The design and structure of academic programs and curricula play a crucial role in driving the educational transformation strategies of higher education institutions (HEIs). These programs are integral to adapting educational offerings to meet the demands of the modern world, particularly in the context of rapidly changing global, economic, and technological landscapes. Effective curriculum design

addresses the learning needs of diverse student populations, while also aligning with societal expectations and industry requirements. Curriculum design serves as the foundation of teaching and learning within higher education. It defines the scope of what is taught, the methods of delivery, and the assessment strategies that guide student learning. As the educational landscape evolves, curriculum design must undergo continuous transformation to keep pace with emerging needs. According to Karimi, Nasr, and Sharif (2012), a curriculum based on the principles of the learning society approach is essential for universities striving to remain relevant in a rapidly changing world. The curriculum must not only provide academic knowledge but also foster skills required in the workplace, such as problem-solving, critical thinking, and adaptability. The transformation of the curriculum also involves moving away from traditional, rigid structures to more flexible, student-centered designs. This shift requires a focus on interdisciplinary learning, technological integration, and real-world problem-solving. Ramdass and Mokgohloa (2023) argue that curriculum design must consider both national and international influences, including globalization, marketization, and the integration of digital technologies. These factors necessitate a redesign of academic programs to better prepare students for the complexities of the 21<sup>st</sup> century.

One of the major transformations in curriculum design is the shift towards student-centered learning. Traditional, teacher-centered methods have been criticized for limiting student engagement and hindering the development of critical thinking skills. Yang and Isa (2024) highlight the importance of fostering innovative thinking by encouraging active student participation through modern teaching strategies. Methods such as problem-based learning (PBL), flipped classrooms, and project-based learning (PjBL) create more interactive and engaging learning environments, enabling students to take ownership of their learning. Interdisciplinary approaches in curriculum design also are a focal point in educational transformation. In response to complex global challenges such as climate change, healthcare, and social inequality, higher education institutions are increasingly incorporating interdisciplinary learning into their programs. As Wang (2024) suggests, interdisciplinary curriculum designs encourage students to bridge knowledge gaps between different academic fields, fostering critical thinking, collaboration, and problem-solving skills. This approach not only enhances student learning outcomes but also prepares students to tackle real-world problems that require diverse perspectives and expertise.

Another essential aspect of curriculum design is its alignment with the future needs of the workforce. Manzano Vela, Zurita Polo, and Rivera Castillo (2024) argue that higher education curricula must evolve to meet the demands of industries that are undergoing rapid digital transformation. Programs that integrate digital literacy, technology-enhanced learning, and industry-relevant skills are more likely to produce graduates who are adaptable and capable of succeeding in the global job

market. This transformation requires constant evaluation and adaptation of academic programs to ensure that they remain aligned with the skills and competencies needed in the workforce. The integration of emerging fields such as artificial intelligence, biotechnology, and renewable energy into academic programs is an example of how curriculum design can prepare students for future challenges. According to Wang (2024), the inclusion of cutting-edge knowledge areas in curricula allows students to acquire the necessary competencies for success in these high-demand fields. This proactive approach to curriculum design enables universities to produce graduates who are equipped with the skills needed to address contemporary societal issues.

The role of technology in transforming curriculum design cannot be overstated. As Karimi et al. (2012) emphasize, universities must adapt to the changing digital landscape by incorporating technology into their teaching methods and course delivery. The use of learning management systems (LMS), online courses, and digital collaboration tools has the potential to enhance learning experiences, making education more accessible and flexible for a diverse student population. Moreover, technology can support personalized learning pathways, enabling students to learn at their own pace and according to their individual needs. Ramdass and Mokgohloa (2023) note that the digitalization of education has led to the development of blended learning models that combine in-person and online instruction. These models allow for more flexible learning experiences and facilitate the integration of technology into everyday teaching practices. By incorporating digital tools into the curriculum, universities can enhance student engagement, improve learning outcomes, and increase the accessibility of higher education.

Despite the potential benefits of transformative curriculum design, several challenges must be addressed for successful implementation. One of the main obstacles is the resistance to change within academic institutions. Yang and Isa (2024) discuss how traditional teaching methods and curriculum structures can create barriers to innovation. Faculty members who are accustomed to conventional methods may be reluctant to adopt new approaches, particularly those that require the integration of technology or interdisciplinary learning. Additionally, Karimi et al. (2012) highlight the issue of curriculum centralization, where decision-making about course content and delivery is concentrated at higher levels of administration. This centralization can limit the flexibility needed to respond to the changing needs of students and society. To overcome these challenges, Ramdass and Mokgohloa (2023) recommend a more decentralized approach to curriculum planning, which allows faculty members and students to have a more significant role in shaping the curriculum. This approach fosters a greater sense of ownership and engagement, leading to more effective implementation of educational transformation strategies.

Academic programs and curriculum design are central to the educational transformation strategies of higher education institutions. By adopting student-centered, interdisciplinary, and technology-enhanced curriculum models, universities

can better prepare students for the challenges of the 21<sup>st</sup> century. These curriculum designs not only enhance student engagement and learning outcomes but also ensure that graduates possess the skills needed to thrive in a rapidly changing global environment. However, challenges such as resistance to change and centralized curriculum planning must be addressed to ensure the successful implementation of these transformation strategies.

### **2.3.5 Infrastructure and Facilities**

In higher education institutions (HEIs), infrastructure and facilities are one of the central parts in the educational transformation strategies. The quality and availability of physical, digital, and innovative academic infrastructures significantly affect the learning and teaching environment, thus influencing the effectiveness and efficiency of educational outcomes. Physical infrastructure, encompassing buildings, classrooms, laboratories, libraries, and recreational facilities, is fundamental in shaping the teaching and learning environment. Musa and Baharum (2012) emphasize that well-designed physical assets and facilities, such as lecture halls, laboratories, and research spaces, directly influence the educational processes and outcomes. These facilities provide the essential environment for both students and faculty to achieve their academic and research goals. The quality of these infrastructures significantly contributes to creating a conducive learning atmosphere, which is crucial for fostering engagement and productivity. A study by Krishnaiah et al. (2024) highlights the critical role of well-maintained infrastructure in shaping students' and staff's satisfaction with their educational experience. The study indicates that factors such as the availability of adequate classrooms, laboratories, and well-equipped libraries directly impact student performance and staff productivity. Moreover, the aesthetic appeal of campus facilities and their accessibility to students and staff play vital roles in attracting potential students and retaining faculty, which ultimately supports the institution's overall performance and reputation.

In the age of digital transformation, the role of technology in the curriculum is indispensable. Aithal and Aithal (2019) point out that universities striving to be world-class must develop not only physical infrastructure but also digital infrastructures. Digital infrastructure, including e-learning platforms, Wi-Fi access, digital libraries, and online course materials, is essential for providing various access to educational resources. It enables flexibility in learning and ensures that students and faculty can engage with educational content anytime and from anywhere, which is especially important in distance learning scenarios. The development of digital infrastructure helps institutions meet the expectations of a global student body. Krishnaiah et al. (2024) also emphasize that the digitalization of education has become a key factor in maintaining the competitiveness of HEIs. Institutions that provide state-of-the-art digital resources, such as online libraries and learning management systems (LMS), are better equipped to handle the demands of modern education. This infrastructure not only enhances the learning experience but also

supports research and collaboration across borders, contributing to the internationalization of education.

To remain relevant and competitive, universities must also invest in innovative academic infrastructures that enable cutting-edge research and foster academic collaborations. Aithal and Aithal (2019) describe innovative academic infrastructure as the framework that supports the development of interdisciplinary programs, research centers, and specialized laboratories. For instance, the creation of modern research facilities and interdisciplinary learning spaces encourages innovation and attracts top-tier researchers and students. The availability of specialized spaces for research in emerging fields such as artificial intelligence, biotechnology, and renewable energy ensures that the institution is at the forefront of academic and technological advancements. Providing adequate facilities for research, such as well-equipped laboratories and access to digital databases, allows students and faculty to explore innovative solutions to real-world challenges. As noted by Musa and Baharum (2012), the capacity to support high-level research and foster academic innovation is directly linked to the infrastructure available at the university. Institutions that prioritize investment in these areas are more likely to produce graduates who can address global challenges and contribute to economic and technological advancements. The ongoing maintenance and upgrade of infrastructure are crucial to ensuring that facilities remain relevant and effective in supporting educational goals. Aithal and Aithal (2019) argue that the continual improvement of infrastructure, through regular maintenance, renovation, and the integration of new technologies, is essential for maintaining the quality of education. Universities must adapt to changing needs by upgrading classrooms, laboratories, and digital resources in line with technological advancements and pedagogical trends. The management of infrastructure also involves ensuring that facilities are adaptable to the evolving needs of students and faculty. For example, classrooms should be flexible to accommodate different teaching methods, such as collaborative and interactive learning. Similarly, research labs should be designed with the flexibility to support various scientific disciplines. Musa and Baharum (2012) highlight that the ability of institutions to evolve their infrastructure to meet changing educational needs is a key factor in maintaining their competitiveness and effectiveness.

The social aspect of infrastructure plays a vital role in shaping the campus experience. Krishnaiah et al. (2024) discuss the importance of creating environments that foster student collaboration and social interaction. Facilities such as social lounges, cafeterias, and recreational areas provide spaces where students can engage in informal learning and build networks. These social spaces not only contribute to the holistic development of students but also improve their overall satisfaction with the institution. The environmental sustainability of infrastructure is increasingly becoming a priority for universities. As Aithal and Aithal (2019) suggest, institutions must consider the environmental impact of their buildings and facilities.

Green buildings, energy-efficient designs, and sustainable waste management systems contribute to reducing the environmental footprint of universities while providing a healthier and more sustainable environment for students and staff. This commitment to sustainability also enhances the university's reputation and attractiveness to eco-conscious students and faculty.

Despite the importance of infrastructure in transforming higher education, several challenges exist in developing and maintaining effective facilities. Musa and Baharum (2012) highlight the high costs associated with infrastructure development, especially in developing countries. Limited funding, coupled with the complexity of maintaining large campuses and diverse facilities, makes it difficult for universities to keep up with the increasing demand for high-quality facilities. Moreover, as Krishnaiah et al. (2024) point out, there is often resistance to change within institutions, especially when it involves significant investment in upgrading or replacing old infrastructure. Addressing these challenges requires strategic planning, collaboration between academic and administrative staff, and effective resource allocation. Universities must also prioritize the areas that will have the greatest impact on student and faculty satisfaction, such as teaching and research facilities. By focusing on these areas, universities can ensure that their infrastructure supports their mission and goals effectively.

Infrastructure and facilities are critical factors in the educational transformation strategies of higher education institutions. The development of physical, digital, and academic infrastructures directly influences the quality of education, student satisfaction, and the overall competitiveness of universities. Institutions that invest in modern, flexible, and sustainable facilities are better positioned to meet the demands of the globalized educational landscape. However, challenges such as funding constraints and resistance to change must be addressed to ensure the successful implementation of infrastructure improvements. Ultimately, universities that prioritize infrastructure development are more likely to achieve their educational and research goals, enhance their reputation, and provide a high-quality learning experience for students and faculty alike.

### **2.3.6 Technology Integration**

In the modern educational landscape, the integration of technology is a pivotal element that shapes how institutions deliver quality education and enhance overall student and faculty performance. As universities around the world aim to transform and adapt to new educational models, technology integration becomes a critical factor in shaping these changes. Technology integration in higher education is not simply about providing access to digital tools or e-learning platforms but involves aligning technological tools with the core educational practices. As Al-Alwani (2019) notes, the purpose of integrating technology into higher education is to optimize learning outcomes and make the learning experience more efficient and engaging. Institutions must not only adopt technology but integrate it thoughtfully into

curriculum design, pedagogy, and administrative functions to create an environment conducive to modern learning needs.

Information and Communication Technology (ICT), when implemented effectively, enhances both teaching and learning processes. The use of multimedia tools, e-learning platforms, and digital classrooms can foster interactive and collaborative learning, enabling students to engage with content in a way that was previously impossible. According to Basarmak and Hamutoglu (2020), the integration of ICT allows for a more dynamic and adaptable educational environment, where students can access information anytime, collaborate with peers globally, and receive personalized learning experiences. This shift towards technology-driven learning aligns with the broader goals of educational transformation, which include improving access to education, increasing learner engagement, and facilitating lifelong learning. In spite of the recognized potential of technology in higher education, there are numerous challenges associated with its integration. Basarmak and Hamutoglu (2020) point out that barriers such as inadequate access to resources, insufficient teacher training, and the lack of institutional support often hinder the effective adoption of ICT in classrooms. These barriers can create significant challenges for institutions attempting to implement technological changes. Also, Laabidi and Laabidi (2016) suggest that external and internal factors, including resistance to change from faculty and staff, contribute to the slow pace of technology adoption in many higher education settings. External barriers, such as limited access to technology and financial constraints, can impede the integration of ICT, particularly in developing countries or less financially stable institutions. On the other hand, internal barriers such as teachers' attitudes towards technology, their comfort level with new tools, and the lack of professional development in digital pedagogy further exacerbate these issues. Ertmer (1999) differentiates between first-order barriers, such as the lack of infrastructure or training, and second-order barriers, such as the beliefs and attitudes of educators towards technology. These barriers, particularly the second-order ones, require cultural and institutional shifts to overcome, making technology integration more complex than simply providing the tools.

While challenges exist, the integration of technology in higher education has substantial benefits. As Al-Alwani (2019) highlights, when effectively implemented, technology enhances teaching and learning by creating more interactive, personalized, and engaging environments. Tools such as virtual classrooms, collaborative platforms, and data-driven analytics enable educators to tailor instruction to meet the needs of individual students, fostering a learner-centered approach. This move towards personalized learning aligns with the broader goal of educational transformation, where institutions aim to deliver more flexible and responsive educational experiences. The integration of technology provides opportunities for innovation in teaching and learning methods. Johnston and Toms (2002) argue that technology offers the potential to transform traditional pedagogical

approaches, enabling educators to adopt more interactive, student-centered methods. The ability to use multimedia presentations, real-time collaboration tools, and online resources allows for more creative and diverse learning experiences, which in turn enhance student engagement and improve learning outcomes. In terms of faculty development, technology integration also plays a role in enhancing the skills and expertise of educators. As Johnston and Toms (2002) note, teachers who are equipped with the right tools and training can improve their pedagogical practices, making their teaching more effective and engaging. The adoption of technology supports professional development, as it encourages educators to continuously adapt and incorporate new tools and methods into their teaching practices.

For technology integration to be successful, higher education institutions must have strong administrative support. Al-Alwani (2019) suggests that institutional leaders must be proactive in providing the necessary resources, training, and infrastructure to support technology integration. This includes investing in digital tools, providing ongoing professional development for faculty, and creating an institutional culture that values technology as an essential component of the educational process. Administrators play a critical role in addressing both external and internal barriers to technology integration. By ensuring that faculty members have the support they need, including access to professional development opportunities and resources, they can facilitate the integration process. Basarmak and Hamutoglu (2020) argue that without proper institutional support, technology integration is unlikely to succeed, as faculty may not have the necessary skills or motivation to adopt new tools. Additionally, Basarmak and Hamutoglu (2020) emphasize the importance of institutional policies that prioritize technology integration. By setting clear goals and strategies for digital transformation, institutions can create a roadmap that guides faculty and staff in effectively using technology. This proactive approach helps to mitigate resistance to change and ensures that technology integration becomes a core aspect of the institution's educational strategy.

For technology integration to have a lasting impact on educational transformation, it is essential to foster an environment that encourages continuous innovation and adaptation. Laabidi and Laabidi (2016) suggest that institutions must continually assess the effectiveness of their technology tools and strategies, using feedback from faculty, staff, and students to refine and improve their approach. Regular evaluations of technology integration efforts ensure that institutions can respond to changing educational needs and technological advancements, ensuring that their educational strategies remain relevant and effective. The integration of technology should not be viewed as a one-time event but as an ongoing process. Al-Alwani (2019) argues that for technology to be truly integrated into the fabric of educational institutions, it must become a regular part of the educational experience, with faculty and students continuously adapting to new tools and methods. This

requires a commitment to ongoing professional development, investment in infrastructure, and a willingness to embrace change at all levels of the institution.

Technology integration is a critical component of educational transformation strategies in higher education. While there are significant barriers to overcome, the benefits of integrating technology into the educational process are substantial. By improving access to learning, fostering personalized education, and enabling more innovative teaching methods, technology enhances the quality and effectiveness of higher education. Successful integration requires strong institutional support, continuous professional development, and a commitment to addressing the challenges that arise. As higher education institutions continue to embrace technology, they will be better equipped to meet the demands of modern learners and ensure that their educational strategies remain relevant and effective.

From the discussion on internal factors, it can be summarized the key internal factors identified in the literature that influence educational transformation strategies in higher education institutions as presented in this table.

Table 2 Key Internal Factors Influencing Educational Transformation Strategies in Higher Education

<b>Authors and Year</b>	<b>Leaders and Governance</b>	<b>Faculty and Staff Engagement</b>	<b>Financial Management</b>	<b>Academic Programs and Curriculum Design</b>	<b>Infrastructure and Facilities</b>	<b>Technology Integration</b>
Tawonpan, 2013	/					
Mader et al., 2013	/					
Hawas Al-Aamri et al., 2024	/					
Taboonmee, 2023	/					
Bidandi et al., 2022	/					
Pongpipat & Suntrayuth, 2019		/				
Shuck & Reio, 2014		/				
Shams & Niazi, 2018		/				
Holloway, 2006			/			
Gandhi, 2015			/			
Xuan, 2022			/			/
Munge et al., 2016			/			
Karimi et al., 2012				/		
Ramdass & Mokgohloa, 2023				/		
Yang & Isa, 2024				/		

Table 2 (continued)

<b>Authors and Year</b>	<b>Leaders and Governance</b>	<b>Faculty and Staff Engagement</b>	<b>Financial Management</b>	<b>Academic Programs and Curriculum Design</b>	<b>Infrastructure and Facilities</b>	<b>Technology Integration</b>
Manzano Vela et al., 2024				/		
Wang, 2024				/		
Aithal & Aithal, 2019					/	/
Musa & Baharum, 2012					/	
Krishnaiah et al., 2024					/	
Basarmak & Hamutoglu, 2020						/
Laabidi & Laabidi, 2016						/
Ertmer, 1999						/
Johnston & Toms, 2002						/
Al-Alwani, 2019						/

#### **2.4 Educational Transformation Strategies**

Achieving performance excellence in higher education requires more than administrative efficiency or policy compliance, it demands a deep, strategic transformation of core educational functions. In order to intensify global competition, shifting learner expectations, and the imperative for institutions to contribute to national innovation and development, universities must adopt proactive strategies that target long-term impact. These strategies should be systematically aligned with institutional missions, external trends, and internal capabilities to ensure meaningful and sustainable transformation. Educational transformation strategies represent deliberate and integrated interventions designed to enhance institutional adaptability, relevance, and academic quality. Rather than focusing on isolated improvements, such strategies promote a holistic approach that reconfigures the foundational dimensions of teaching, learning, and academic support. In this study, five key strategic areas are identified as critical contributors to university performance excellence which are leadership and vision, faculty and staff development, curriculum design and pedagogy, assessment and quality assurance, and student support services. Each of these strategic areas plays an important role in shaping the institutional capacity to innovate, maintain academic standards, and meet the diverse needs of students and stakeholders. When implemented coherently, these strategies reinforce one another, producing synergistic effects that elevate both operational effectiveness and educational outcomes. Importantly, their success depends not only on technical execution but also on cultural alignment and long-term strategic commitment.

This section presents a critical and analytical discussion of these five core transformation strategies. The aim is to illustrate how each strategy contributes to institutional excellence and how they support the broader objective of sustainable and future-oriented higher education reform.

#### **2.4.1 Leadership and Vision**

Leadership and vision are central to educational transformation and performance excellence in higher education institutions (HEIs). As universities face intensifying challenges brought on by globalization, digital disruption, shifting labor demands, and societal expectations, strong and future-oriented leadership becomes essential in shaping direction, aligning goals, and inspiring organizational commitment. In the Thai higher education context, where institutions are navigating demographic changes and transitioning toward a knowledge-based economy under Thailand 4.0, visionary leadership plays an indispensable role in guiding transformation and achieving performance excellence. Transformational leaders articulate compelling visions of the future, inspire shared commitment, stimulate innovation, and elevate the performance of individuals and organizations. In higher education, this type of leadership drives institutional reform, nurtures academic excellence, and supports the alignment of educational goals with broader societal needs. Vision, in particular, is the guiding star of transformational leadership. A clear, future-oriented institutional vision enables universities to mobilize resources, engage stakeholders, and navigate complex changes. A well-communicated vision sets priorities, fosters purpose, and provides a long-term roadmap for transformation and excellence.

Empirical studies demonstrate that visionary leadership significantly contributes to institutional performance outcomes. For example, Eka (2021) found that transformational leadership directly and indirectly enhances university performance through systems of performance control, alignment of goals, and motivational strategies (Eka, 2021). Leaders with a clear and strategic vision are better equipped to align faculty and staff around institutional goals, thereby improving both operational efficiency and academic quality. Similarly, Abubakar and Ahmed (2017) conducted a study in Nigerian universities and found that a transformational leadership style, particularly one grounded in a shared vision for institutional development was a key driver of improved academic standards, student outcomes, and international competitiveness (Abubakar & Ahmed, 2017). These findings are highly relevant to Thai HEIs, which must compete in global education markets while maintaining cultural relevance and meeting domestic policy goals. Visionary leadership provides a framework for responding to national strategies such as the Thailand Qualification Framework (TQF), lifelong learning policies, and international quality standards like AUN-QA.

Vision-driven leadership is most effective when integrated into institutional strategic planning. A compelling vision must be translated into actionable strategies, measurable goals, and performance indicators. Sziegat (2022) illustrates this in her study of German universities participating in the Excellence Strategy. In these institutions, top-level leaders crafted strategic visions that emphasized research leadership, innovation, and global engagement. These visions were embedded in all aspects of institutional life including teaching, internationalization, infrastructure, and administration which lead to measurable improvements in performance and prestige (Sziegat, 2022). Similarly, Mozin and Nggilu (2023) highlight the role of vision in strengthening institutional capacity. Their study found that visionary leadership was essential to mobilizing internal resources, improving academic structures, and enhancing organizational culture in Indonesian universities. The vision was not merely aspirational, it guided strategic priorities in areas such as infrastructure development, human capital, and program management, all of which contributed to institutional performance excellence (Mozin & Nggilu, 2023).

One critical way in which vision impacts institutional performance is through the implementation of performance-based management systems. Tavbulatova (2020) emphasizes that visionary leaders must establish clear expectations, performance metrics, and feedback systems that align with institutional missions. Her study on performance-based contracts in universities revealed that visionary leadership improves institutional performance by fostering accountability and goal clarity (Tavbulatova, 2020). In the Thai context, where universities are increasingly required to demonstrate outcomes linked to quality assurance mechanisms like EdPEX and global rankings, strategic vision is crucial for setting institutional benchmarks and driving continuous improvement. Vision allows universities to position themselves uniquely, respond to stakeholder needs, and adapt to shifting policy and funding landscapes.

An often-overlooked function of strategic leadership is shaping institutional culture through a shared vision. Visionary leaders cultivate values, attitudes, and norms that support innovation, collaboration, and excellence. This cultural alignment is key to sustaining performance gains and embedding transformation at every level of the organization. Leadership vision must also be inclusive, reflecting the aspirations of faculty, students, staff, and external stakeholders. When diverse groups are engaged in shaping and realizing the institutional vision, there is greater buy-in, commitment, and resilience to change. Vision thus becomes both a unifying narrative and a strategic compass. In Thailand, the need for strategic leadership and vision is particularly acute. Universities face pressure to respond to Industry 4.0, reduce graduate skill gaps, internationalize programs, and address demographic shifts. Visionary leadership offers Thai universities a pathway to transformation by aligning internal capacities with external demands. For instance, a clear institutional vision can guide curriculum reform to

include future skills, support lifelong learning models, and integrate digital technology into pedagogy. It can also strengthen partnerships with industry and government, enhance research innovation, and improve student experience, each contributing to performance excellence under frameworks like EdPEX.

Strategic leadership and vision are foundational to university performance excellence. Vision provides direction, inspires action, and shapes institutional identity. When embedded into strategic planning, performance management, and institutional culture, vision transforms leadership from a top-down directive into a shared organizational purpose. In Thailand's rapidly evolving higher education landscape, universities that cultivate visionary leadership will be best positioned to meet national priorities, respond to global trends, and achieve long-term excellence.

#### **2.4.2 Faculty and Staff Development**

In the pursuit of performance excellence in higher education institutions (HEIs), faculty and staff development serve as a strategic cornerstone. Faculty and staff are the driving force behind academic innovation, quality education, and effective institutional operations. Sustainable transformation, particularly in a rapidly evolving educational landscape like Thailand's, requires continuous investment in developing academic and administrative personnel. Universities that proactively empower their human resources are more agile, resilient, and capable of achieving excellence in teaching, research, and service. Faculty development aligns with the Human Capital Theory, which suggests that investments in education and training improve individual productivity and, in turn, institutional outcomes. Higher education relies heavily on skilled, motivated faculty to deliver on its mission of producing knowledgeable, competent graduates and impactful research. Thus, structured development programs directly contribute to both academic quality and institutional competitiveness. Empirical research shows a strong positive association between faculty development and university performance. Tavbulatova (2020) argues that performance-based employment contracts can be used to motivate faculty, align performance with institutional goals, and increase accountability ultimately improving organizational effectiveness (Tavbulatova, 2020). This aligns with the Total Quality Human Resource Management (TQHRM) approach, where faculty are not only assessed but continuously supported through targeted training, mentorship, and performance feedback (Kusnendi et al., 2018). In a case study of Rivers State universities in Nigeria, faculty who underwent training in ICT, induction, and coaching demonstrated greater job effectiveness, suggesting that training investment translates into enhanced teaching and service delivery (Eyina & Orlu, 2021). This finding is echoed in the experience of Centro Escolar University in the Philippines, where structured faculty development aligned with institutional goals contributed to quality assurance and led to national awards and recognition for excellence (Yabut, 2014).

Effective faculty development involves a range of strategies, including workshops, fellowships, short-term courses, and performance observation. These approaches help educators acquire new pedagogical methods, integrate technology, and develop research competencies. Majidi et al. (2018) found that workshops and fellowships were among the most effective tools for enhancing the educational potential of medical faculty (Majidi et al., 2018). Similarly, a faculty development framework implemented at the University of Bristol provided structured support during curriculum reform, significantly improving teaching quality and faculty engagement (Warman et al., 2015). In Thailand, where HEIs are expected to modernize curricula, integrate digital technologies, and meet global quality standards, strategic development plans for academic staff are critical. These plans should be aligned with institutional missions, such as those outlined in EdPEX, to ensure that faculty capacity directly supports excellence in results, operations, and strategy. Talent management is another vital component. Salau et al. (2018) emphasize that talent development and retention practices such as mentoring, career planning, and recognition enhance innovation and faculty performance in technology-driven universities (Salau et al., 2018). Similarly, Damarjati et al. (2024) show that training and career development significantly affect faculty motivation and teaching quality, especially in private institutions that must compete for talent and student enrollment (Damarjati et al., 2024).

Performance excellence also requires creating an environment where staff are empowered and recognized. Empowerment strategies such as participatory decision-making, performance appraisals, and peer coaching can build commitment and increase institutional loyalty (Aithal, 2015). Faculty empowerment has a cascading effect on teaching quality, research productivity, and student satisfaction, all metrics tied to performance excellence in models like EdPEX. Motivation also plays a critical role. Zhao (2024) highlights that combining professional recognition, career advancement, and a supportive environment significantly boosts academic staff motivation and effectiveness (Zhao, 2024). All these practices which are training, empowerment, talent management, and motivation contribute directly to performance excellence when aligned with institutional strategic frameworks. For example, the EdPEX framework emphasizes workforce engagement, leadership, and results. Faculty development initiatives that are mission-driven and performance-linked not only enhance faculty effectiveness but also strengthen institutional quality assurance, innovation, and outcomes.

To sum up, faculty and staff development is a powerful enabler of university performance excellence. From performance-based contracts to continuous professional development and talent retention, universities that invest in their people are better positioned to meet the demands of a changing academic landscape. In Thailand and beyond, empowering faculty through training, motivation, and strategic

alignment leads to improved teaching quality, institutional agility, and competitive positioning.

### **2.4.3 New Curriculum Design and Pedagogy**

The evolving demands of the 21<sup>st</sup>-century workforce, technological disruption, and shifting learner expectations have made curriculum design and pedagogical innovation essential components of university transformation. Institutions that successfully realign their academic programs with future skills, interdisciplinary knowledge, and inclusive pedagogies are better positioned to achieve performance excellence. Universities worldwide are revisiting their curricula to address global challenges such as digital transformation, employability, sustainability, and lifelong learning. Modern curriculum models emphasize flexibility, student-centered learning, and interdisciplinary integration. For instance, Cao and Jiang (2017) propose that entrepreneurial curriculum design, supported by leadership, market responsiveness, and resource alignment, significantly improves both cognitive and behavioral learning outcomes among students (Cao & Jiang, 2017). In a similar way, Gamaliia et al. (2024) emphasize the synergy between design, culture, and innovation in pedagogy. Their study finds that when universities embed design-thinking and interdisciplinary frameworks into their curricula, students develop stronger problem-solving, collaboration, and critical thinking skills, all critical indicators of academic excellence (Gamaliia et al., 2024). Pedagogical strategies such as team-based learning, flipped classrooms, and project-based approaches have been found to significantly improve student engagement and performance. A study by Atwa et al. (2018) on a hybrid pedagogy model found that team-based and case-based learning enhanced academic performance, personalized feedback, and student satisfaction, particularly in first-year university settings (Atwa et al., 2018). This innovation in pedagogy supports performance categories in frameworks like EdPEX, where institutions are evaluated not only on inputs and processes but also on outcomes such as learning achievement, satisfaction, and workforce readiness. By embedding active learning and collaborative teaching methods, universities can foster high-impact learning environments that drive measurable performance improvements.

New pedagogical models also focus on personalized and inclusive learning to improve student experience and retention. Cohen and Viola (2022) found that curriculum design and pedagogy play a significant role in students' sense of belonging, a known predictor of academic success and institutional loyalty (Cohen & Viola, 2022). These approaches also resonate with Learning by Design pedagogy, which activates various modes of knowledge which are experiential, conceptual, analytical, and applied, to support diverse student needs and improve learning outcomes (Healy, 2008). By incorporating such frameworks, universities move beyond rote learning toward transformative education, which aligns with performance excellence goals in EdPEX such as customer focus and workforce development. Technology integration in curriculum design is another hallmark of pedagogical

innovation. Moreover, project-based pedagogy implemented at the Rochester Institute of Technology showed that students who participated in real-world, team-based technical challenges developed better communication, creativity, and problem-solving skills, which translated into improved academic and professional outcomes (Helguera & Pow, 2011).

Curriculum reform is also seen as a strategic institutional response to societal change. In Scottish universities, teachers adapting to the national “Curriculum for Excellence” were required to reconceptualize their roles and integrate 21<sup>st</sup>-century competencies into lesson design, significantly altering the academic landscape (Wallace & Priestley, 2017). In another case, Khlaisang (2017) demonstrated how the development of a pedagogy-based online platform in Thailand enhanced lifelong learning and accessibility, key criteria for universities aiming for operational excellence (Khlaisang, 2017). These reforms highlight the power of curriculum innovation in transforming institutional practices, increasing reach, and aligning with national education priorities.

It is apparent that new curriculum design and pedagogical innovation are powerful levers for achieving university performance excellence. Through flexible, interdisciplinary, inclusive, and technology-integrated learning models, universities not only meet evolving student needs but also enhance teaching quality, academic outcomes, and institutional competitiveness. These strategies align directly with key categories in performance frameworks like EdPEX particularly strategy, operations, and results, and empower institutions to thrive in a dynamic global education environment.

#### **2.4.4 Assessment and Quality Assurance**

In an era of growing global competition and stakeholder accountability, assessment and quality assurance (QA) have emerged as vital mechanisms for driving performance excellence in higher education institutions (HEIs). These practices ensure that universities meet defined standards of teaching, research, governance, and student support, while also facilitating continuous improvement. When strategically implemented, quality assurance systems contribute not only to compliance but also to transformation, efficiency, and institutional excellence. Quality assurance is defined as a set of planned and systematic processes implemented to ensure that educational services meet acceptable thresholds of quality and are continually improved. It is closely aligned with strategic performance frameworks such as EdPEX (Education Criteria for Performance Excellence) and EFQM (European Foundation for Quality Management), which focus on leadership, strategy, workforce, processes, and results (El Hamiou, 2024; Sziegat, 2022). According to Wang (2024), systematic assessment practices such as Balanced Scorecard (BSC) and Self-Assessment of Educational Quality (SAEQ) enable institutions to evaluate learning outcomes and management quality multidimensionally. These tools create structured feedback loops that enhance planning, decision-making, and academic performance (Wang, 2024).

Internal QA processes serve as the backbone of university performance by instilling a culture of evidence-based improvement. In a longitudinal case study, O'Sullivan (2017) demonstrated how one university's shift from reactive quality review to enhancement-driven QA, rooted in stakeholder engagement and data analytics, led to significant improvements in rankings and institutional credibility (O'Sullivan, 2017). Internal QA also links strategic planning with operational excellence by aligning quality goals with teaching outcomes, administrative efficiency, and research impact.

External quality assurance, through accreditation, audits, and government evaluations, acts as both a compliance tool and a driver for systemic reform. Yonezawa (2008) examined the Japanese QA system where seven-year certified evaluations and project-based funding schemes like "Good Practices" have incentivized institutional accountability, particularly in the social sciences (Yonezawa, 2008). These processes have enabled universities to align academic programs with national education goals, secure funding, and enhance global competitiveness. In the Philippines, Dotong and Laguador (2015) noted that local and international QA certifications are critical to HEIs aiming for internationalization. Accreditation not only validates educational quality but also enhances student recruitment, industry partnerships, and global rankings (Dotong & Laguador, 2015).

Emerging technologies have modernized the QA landscape by enabling real-time monitoring and data-informed decision-making. Wisubhadra (2013) designed a web-based Business Intelligence system aligned with the Malcolm Baldrige Criteria. This system allowed Indonesian university administrators to track academic performance and strategic outcomes, thereby enhancing agility and strategic alignment (Wisubhadra, 2013). Digital dashboards, analytics platforms, and automated assessment tools are now being deployed in QA departments worldwide to facilitate predictive analysis, risk identification, and institutional benchmarking, each a crucial element for performance excellence. Quality assurance does more than verify standards, it shapes institutional culture. Eaton (2021) emphasizes that QA sustains the core values of higher education, including academic freedom, autonomy, and social responsibility. These values are critical for universities navigating rapid changes while maintaining public trust and academic integrity (Eaton, 2021). Participatory QA processes encourage faculty and staff engagement, making quality improvement a shared responsibility. Haapakorpi et al. (2013) found that universities in Finland and Iceland that involved faculty in self-evaluation and audit preparation achieved better utilization of assessment results and stronger institutional buy-in (Haapakorpi et al., 2013).

Despite its benefits, QA is not without challenges. Some studies suggest that when QA is perceived as top-down or overly bureaucratic, it can lead to disengagement or token compliance. Blackmore (2004) critiques the UK's quality assurance regime as overly focused on regulation and performance indicators, which

can stifle innovation and erode academic autonomy (Blackmore, 2004). These concerns underscore the need for QA systems that balance accountability with empowerment and improvement.

Assessment and quality assurance are indispensable tools for achieving university performance excellence. When well-designed and integrated with institutional strategy, QA systems drive innovation, enhance credibility, and improve outcomes across teaching, research, and administration. As Thai and global universities face increasing scrutiny and competition, QA practices grounded in both internal culture and external standards offer a clear pathway to sustainable excellence.

#### **2.4.5 Student Support Services**

As higher education institutions (HEIs) seek to adapt to changing student demographics, global competitiveness, and increasing accountability, student support services have become essential drivers of institutional transformation and performance excellence. Modern universities are aligning student services with the principles of inclusive excellence, ensuring that every student, regardless of background, has equitable access to the resources and guidance necessary to succeed academically, socially, and personally. Student support services encompass a wide range of institutional functions, including academic advising, counseling, mentorship, career guidance, health services, learning assistance, and digital learning support. These services are foundational to student retention, persistence, engagement, and ultimately, academic performance. For instance, a large-scale study conducted at Qatar University found that help-seeking behavior and active use of student support services were significantly associated with higher academic performance and persistence rates. The study emphasized that such services are particularly crucial for at-risk students and those in STEM majors, where academic demands are higher (Johnson et al., 2022). Likewise, Borden et al. (1997) evaluated five academic support programs, including student mentoring, learning communities, and remediation systems. The mentoring program alone was found to raise student performance by as much as half a grade point and increased student retention by 15%, highlighting the tangible academic benefits of proactive support services (Borden et al., 1997).

Mentoring plays a particularly impactful role in academic excellence. Research by Ariffin (2014) showed that career and psychosocial mentoring support, more than basic communication, had a statistically significant relationship with improved student grades and self-efficacy. Students partnered with caring, supportive mentors reported better academic outcomes and higher motivation (Ariffin, 2014). In parallel, Zhao et al. (2024) confirmed that faculty support, when combined with academic self-efficacy and emotional well-being, enhances students' online learning performance and academic engagement. This multidimensional model of support is particularly important in the digital age where learners face challenges such as isolation and technology barriers (Zhao et al., 2024).

University support services also contribute significantly to emotional adjustment, a key factor linked to academic resilience. A study by Shanti et al. (2016) found that motivation to learn and emotional adaptation mediated the relationship between student support and academic performance. Students who perceived higher institutional support demonstrated greater motivation and emotional stability, which in turn led to better grades (Shanti et al., 2016). These findings align with the EdPEX framework, which recognizes student outcomes and stakeholder satisfaction as critical metrics of university excellence. When universities invest in student-centered support mechanisms, they improve not only learning outcomes but also student loyalty and institutional reputation.

Technology has also revolutionized student support. Performance support systems, originally from corporate training, have been adapted for higher education to provide on-demand academic help. Stoyanov and Bastiaens (2005) demonstrated that such systems, when embedded in university teaching, improved learning outcomes and helped students navigate complex tasks and coursework effectively (Stoyanov & Bastiaens, 2005). Barker et al. (2007) provided further evidence through their “Epsilon” system, an electronic performance support system designed to guide students through academic library use. Students who engaged with the platform showed better resource utilization, which translated into improved academic success (Barker et al., 2007). Student satisfaction is not just a soft metric, it directly correlates with retention and institutional performance. A survey-based study at Diponegoro University in Indonesia revealed that campus support services had the highest performance gap between importance and satisfaction, indicating a need for improvement. Student-centered services like advising, counseling, and accessibility were crucial to perceived academic quality (ZainalFanani et al., 2007). Blacer-Bacolod and Bacolod (2021) emphasized similar findings in the Philippines, where students rated examination and curriculum delivery services favorably, but expressed dissatisfaction with internet and lab support. Their recommendation for annual assessments underscores the need to continuously evaluate and optimize student services as part of a broader quality assurance strategy (Blacer-Bacolod & Bacolod, 2021).

Ultimately, student support services are a fundamental component of university performance excellence. Through mentoring, emotional and academic support, digital tools, and inclusive service models, universities empower students to succeed academically and persist through challenges. These services contribute directly to institutional goals such as retention, satisfaction, academic achievement, and reputation making them essential levers in the transformation of higher education.

## **2.5 Driving University Performance Excellence through EdPEX-Aligned Strategies**

In the dynamic and increasingly competitive landscape of global higher education, universities are expected not only to deliver high-quality academic programs but also to demonstrate institutional effectiveness, stakeholder satisfaction, and operational excellence. These growing demands have led to the adoption of performance excellence models in many countries, including Thailand, where the Education Criteria for Performance Excellence (EdPEX) has become a key strategic tool to support institutional development and transformation. EdPEX, adapted from the Malcolm Baldrige Performance Excellence Framework, provides a structured approach for evaluating and enhancing university performance across seven categories: Leadership, Strategy, Customers, Measurement, Analysis and Knowledge Management, Workforce, Operations, and Results. The model encourages a holistic view of institutional performance, with a focus on strategic alignment, evidence-based management, and continuous improvement (Calingo, 2017).

This review explores four EdPEX-aligned strategic factors consisting of 1) Systematic Operation, 2) Deployment and Implementation, 3) Monitoring and Evaluation, and 4) Results-Oriented Improvement and discusses how these elements contribute to university performance excellence in the context of Thai higher education.

### **2.5.1 Systematic Operation**

Systematic operation refers to the structured design, execution, and continual refinement of an institution's key academic and administrative processes. Within the EdPEX framework, this aligns closely with the Operations and Knowledge Management categories, which emphasize consistency, efficiency, and data-informed decision-making. A university's ability to manage operations systematically is central to achieving excellence. This includes ensuring that academic delivery, research support, student services, and resource management processes are well-defined, documented, and regularly reviewed for improvement. According to Wangna, Phantha, and Piyakul (2023), successful implementation of internal quality assurance mechanisms in Thai universities depends heavily on operational clarity and staff participation. Their study found that systematic participation in quality reviews led to improved process standardization and better educational service delivery (Wangna et al., 2023). Moreover, the use of structured methodologies and key performance indicators (KPIs) ensures that day-to-day operations support strategic goals. This consistency helps minimize redundancies, reduce costs, and improve responsiveness to student and stakeholder needs.

### **2.5.2 Deployment and Implementation**

Effective deployment involves translating strategic goals into tangible actions and outcomes. This factor corresponds with the Leadership, Strategy, and Workforce categories of EdPEX. Strong leadership provides vision and direction,

while effective deployment ensures that this vision is implemented consistently across departments and functions. In Thailand, higher education institutions that successfully implement EdPEX tend to exhibit strong strategic alignment between leadership priorities and workforce execution. Sanyanunthana (2016) found that leveraging EdPEX-aligned IT governance models such as COBIT 5 significantly improved the performance of deployment mechanisms in higher education institutions. Key factors included policy alignment, leadership engagement, and workforce training (Sanyanunthana, 2016). Calingo (2017) also emphasized that successful implementation of EdPEX criteria in Thai pilot universities required active leadership and continuous internal communication. Institutions with clear strategy deployment plans, faculty involvement, and role clarity were more effective in transforming their educational quality systems and achieving performance improvements. Deployment is not simply a matter of issuing policies, it requires full organizational engagement, capacity-building, and alignment of people, processes, and purpose.

### **2.5.3 Monitoring and Evaluation**

Monitoring and evaluation are critical for ensuring that strategies and operations remain effective over time. This factor aligns with the Measurement, Analysis, and Knowledge Management category of EdPEX and is foundational for continuous improvement and strategic learning. Effective monitoring and evaluation involves the systematic collection, analysis, and use of data to evaluate performance and inform decision-making. Universities need systems to track student achievement, teaching quality, faculty productivity, financial sustainability, and stakeholder feedback. These insights can be used to adjust course delivery, refine strategic plans, and reallocate resources for better impact. Asif, Raouf, and Searcy (2012) argue that performance excellence models must include meaningful and context-specific indicators that reflect institutional priorities. Their research emphasized the need for metrics that go beyond compliance, focusing on strategic outcomes and organizational learning (Asif et al., 2012). In the Thai context, Calingo (2017) found that higher education institutions that effectively used self-assessment tools, annual performance reports, and stakeholder surveys were able to make faster adjustments to operations and strategy. These practices helped universities build a feedback-driven culture and reinforced accountability at all levels. Monitoring and evaluation are not only mechanisms for improvement, they are tools for empowerment, ensuring that every decision is informed and aligned with institutional goals.

### **2.5.4 Results-Oriented Improvement**

The final EdPEX-aligned strategy focuses on measurable results. The Results and Customers categories highlight the importance of achieving outcomes that demonstrate institutional effectiveness and satisfy stakeholder expectations. Results-oriented improvement ensures that every strategic effort leads to real-world impact whether in the form of enhanced student learning, increased research outputs, improved operational efficiency, or higher levels of student and staff satisfaction.

According to Wangna et al. (2023), institutions that focused on outcome-based metrics and stakeholder feedback experienced more sustainable quality gains and were better positioned for accreditation and national benchmarking (Wangna et al., 2023). Calingo (2017) reported similar findings, noting that universities participating in Thailand's EdPEX-based fast-track improvement programs achieved noticeable gains in teaching quality, research visibility, and graduate employability. These outcomes were attributed to a strong emphasis on continuous measurement, stakeholder involvement, and results-driven planning. The shift toward results-oriented management also fosters transparency. When universities openly share performance outcomes with internal and external stakeholders, they build credibility and trust, which in turn supports long-term partnerships, student enrollment, and funding opportunities.

While the four strategic areas discussed above provide a functional view of performance excellence, true transformation occurs when EdPEX principles are embedded into the university's organizational culture. Institutions that fully integrate excellence criteria into their strategic planning cycles, leadership development, faculty training, and annual assessments are more likely to sustain their gains. Embedding EdPEX into culture means that excellence is no longer seen as a separate project or external requirement, it becomes part of how the university thinks, acts, and grows. This cultural transformation is key to enduring quality, innovation, and performance. Calingo (2017) emphasized that Thai universities that developed internal champions, invested in EdPEX training, and involved multiple layers of staff in quality dialogues were more likely to internalize the framework. These institutions moved beyond compliance and began using EdPEX as a roadmap for innovation and future-readiness.

In sum, the application of EdPEX-aligned strategies provides a comprehensive pathway for Thai universities to achieve institutional performance excellence. Through systematic operations, effective deployment, monitoring, and results-focused improvement, higher education institutions can align their practices with national standards and global expectations. The literature underscores that such transformation is most effective when driven by data, supported by leadership, and embedded in institutional culture. As Thai universities continue to adapt to 21<sup>st</sup>-century challenges, ranging from technological change to demographic shifts adopting and institutionalizing EdPEX provides a sustainable, strategic model for excellence and long-term impact.

## 2.6 Conceptual Framework

The conceptual framework presented in the study as shown in Figure 1, developed after an extensive review of literature, illustrates the interconnected relationships between external and internal factors, educational transformation strategies, and university performance excellence. External factors refer to macro-level influences that shape the direction and expectations of higher education institutions, including the focus on future skills, the emergence of multi-institutional pathways, the increasing trend of lifelong learning, the personalization of academic learning experiences, the implementation of regional quality assurance frameworks such as AUN-QA, and the evolving role of university holding companies. Simultaneously, internal factors represent the organizational conditions and capacities that exist within the university, such as leadership and governance structures, the level of faculty and staff engagement, the robustness of financial management, the design and relevance of academic programs and curricula, the quality and availability of infrastructure and facilities, and the integration of technology into the educational ecosystem. These external and internal factors serve as critical inputs that influence the design and implementation of educational transformation strategies. These strategies, positioned at the center of the framework, include leadership and vision, faculty and staff development, curriculum redesign and pedagogy enhancement, assessment and quality assurance systems, and the provision of comprehensive student support services. The effectiveness of these transformation strategies directly impacts the university's ability to achieve performance excellence. University performance excellence is defined in terms of systematic operations, effective deployment and implementation of initiatives, continuous monitoring and evaluation, and a strong commitment to results-oriented improvement. Altogether, this conceptual framework captures the dynamic and multidimensional nature of transforming higher education institutions in pursuit of sustained excellence, guided by both contextual realities and strategic internal development.

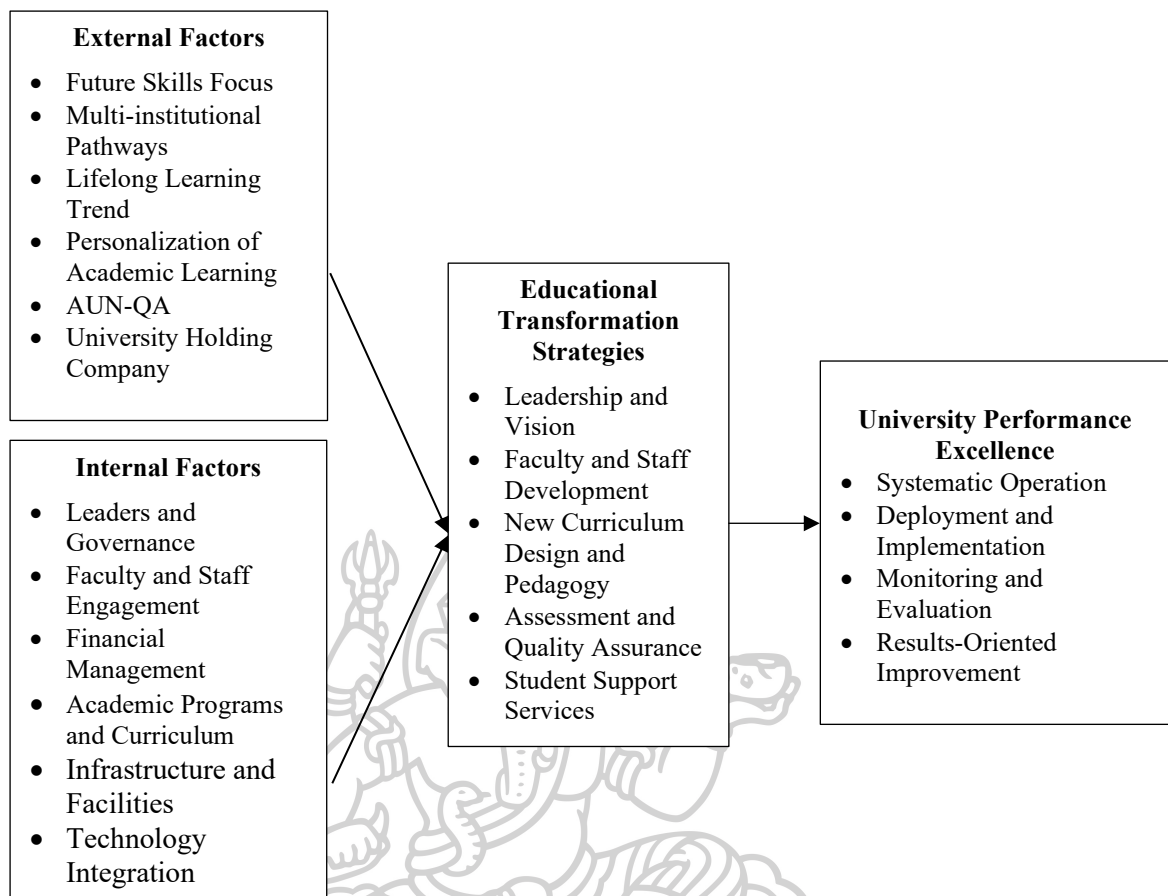


Figure 1 Conceptual Framework

## 2.7 Hypothesis Development

The hypothesis development for this study is based on the assumption that educational transformation in higher education institutions is driven by both external and internal factors, which exert significant influences on the formulation and implementation of transformation strategies, subsequently impacting university performance excellence. This study proposes a conceptual framework that integrates these factors to explain how higher education institutions can achieve sustainable transformation and improve institutional performance.

External factors such as demographic transitions, labor market shifts, technological disruptions, and national policy initiatives (e.g., Thailand 4.0) create both pressures and opportunities, compelling universities to adjust their strategies to maintain competitiveness and societal relevance in an increasingly dynamic educational landscape (Huisman et al., 2015; Bui, 2021). These external influences challenge universities to rethink their strategic directions and operational models. Specifically, factors like future skills, lifelong learning, personalization of academic learning, AUN-QA accreditation, university holding companies, and multi-institutional cooperation, play an important role in shaping educational transformation

strategies. Each of these external forces has demonstrated a profound influence on how universities adapt to the evolving needs of the labor market, technological advancements, and global educational trends. By addressing the diverse needs of students, fostering industry collaboration, and promoting innovation, universities are better equipped to create environments that support learning and prepare students for success in an increasingly complex world. Thus, the above discussion has suggested the hypothesis:

**H1: External factors for future higher education positively associate with educational transformation strategies.**

These external forces not only drive universities to innovate and improve their offerings but also align their goals with the broader societal and economic needs, ensuring that higher education institutions remain relevant, competitive, and responsive to the challenges of the future.

At the same time, internal factors including leadership and governance, faculty and staff engagement, financial management, academic program and curriculum design, infrastructure, and technology integration are fundamental in shaping the institutional capacity to respond effectively to such external challenges (Arnold et al., 2000; Munge et al., 2016). Strong internal management capabilities serve as the foundation that enables the transformation process by aligning institutional resources, culture, and systems with strategic objectives. These internal elements work synergistically to foster an environment conducive to innovation, adaptability, and continuous improvement. Effective leadership, an engaged faculty, sound financial management, responsive curriculum design, state-of-the-art infrastructure, and the seamless integration of technology all contribute significantly to shaping the educational landscape. As higher education institutions strive for transformation, these internal factors ensure that the strategies implemented align with both current demands and future challenges. Thus, the above discussion has suggested the hypothesis:

**H2: Internal factors for future higher education positively associate with educational transformation strategies.**

The exploration of educational transformation strategies including strategic leadership and vision, faculty and staff development, curriculum design and pedagogical innovation, assessment and quality assurance, and student support services reveals a comprehensive framework through which universities can drive sustainable performance improvement. Each strategy aligns with the principles of inclusive excellence and is supported by empirical evidence linking these practices to measurable improvements in academic outcomes, institutional efficiency, and stakeholder satisfaction. These strategies highlight the multifaceted nature of educational transformation and its essential role in navigating the complex, competitive landscape of higher education, particularly within the Thai context. The above discussion has suggested the hypothesis:

**H3: Educational transformation strategies positively associate with university performance excellence.**

Moreover, educational transformation strategies also act as critical mediating mechanisms that channel both external pressures and internal capacities into actual institutional change (Gouédard et al., 2020; Juikumjorn, 2018). These strategies encompass key dimensions such as visionary leadership, faculty and staff development, curriculum innovation, quality assurance enhancement, and comprehensive student support services. By implementing such strategies, universities can enhance their adaptability, inclusiveness, and long-term competitiveness, ultimately contributing to performance excellence (Delbari et al., 2021; Lee et al., 2021). Therefore, educational transformation strategies may mediate in additional two following ways:

**H4: Educational Transformation Strategies mediate the relationship between external factors and university performance excellence.**

**H5: Educational Transformation Strategies mediate the relationship between internal factors and university performance excellence.**

The following figure illustrates the conceptual framework and the hypothesized relationships proposed in this study.

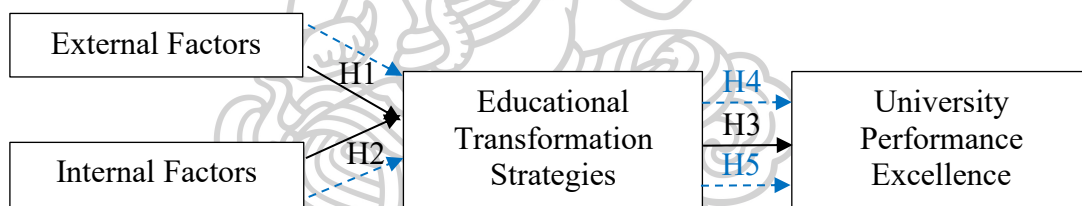


Figure 2 Hypothesis Framework

## **Chapter 3**

### **Research Methodology**

#### **3.1 Introduction**

The research on “Educational Transformation Strategies for University Performance Excellence” has the following objectives 1) to study the relationship between external factors for future higher education and educational transformation strategies 2) To study the relationship between internal factors for future higher education and educational transformation strategies 3) To study the relationship between educational transformation strategies and university performance excellence and 4) To develop an educational transformation strategy model for higher educational institutions. This study employed a mixed-methods approach, integrating both quantitative and qualitative methods to develop and validate the Educational Transformation Strategy Model for University Performance Excellence.

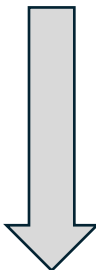
#### **3.2 Research Procedures**

To systematically achieve the research objectives, this study was conducted in two sequential phases, each with clearly defined procedures. The first phase involved quantitative data collection and analysis to develop and empirically test the causal relationships within the proposed model. The second phase employed qualitative inquiry to validate and refine the model through expert feedback from practitioners involved in higher education quality assurance.

##### **3.2.1 Quantitative Phrase**

To achieve the specified objectives, the research began with the construction of an initial conceptual framework through a systematic literature review, which included synthesizing definitions, identifying components, and analyzing the relationships among them. Following this, Exploratory Factor Analysis (EFA) was conducted to explore the underlying factor structure and identify the key components of educational transformation strategies. The next step involved Confirmatory Factor Analysis (CFA) to validate the factor structure and assess the goodness of fit of the proposed causal model. The empirical data were collected from university executives, presidents, vice presidents, assistant presidents, and strategic management personnel, across public and private universities in Thailand. Finally, Structural Equation Modeling (SEM) was employed to examine the causal relationships among components of educational transformation strategies in relation to university performance excellence.

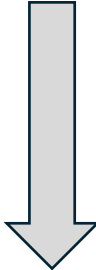
### Quantitative Research Steps

STEPS	DETAILS	OUTCOMES
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;">Data Collection</div> <div style="text-align: center; margin: 10px 0;">  </div>	<ul style="list-style-type: none"> <li>- Develop questionnaire</li> <li>- Purposive sampling of individuals with experience in quality assurance from public and private universities in Thailand</li> </ul>	<ul style="list-style-type: none"> <li>- Survey responses from individuals with experience in quality assurance of public and private universities in Thailand via online questionnaire</li> </ul>
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;">Data Analysis</div>	<ul style="list-style-type: none"> <li>- Analyze data using descriptive statistics</li> <li>- Conduct Exploratory Factor Analysis (EFA)</li> <li>- Conduct Confirmatory Factor Analysis (CFA)</li> <li>- Analyze Structural Equation Modeling (SEM)</li> </ul>	<ul style="list-style-type: none"> <li>- Frequency, percentage, means, and standard deviations</li> <li>- Findings on relationships of educational transformation strategies for performance excellence</li> </ul>

#### 3.2.2 Qualitative Phase

To confirm and enrich the findings from the quantitative phase, the study incorporated a qualitative component through in-depth interviews. The purpose was to assess the relevance, feasibility, and comprehensiveness of the proposed model from the perspective of practitioners in higher education quality assurance. The key informants were selected using purposive sampling. The selection criteria required participants to have at least three years of experience in university-level quality assurance work. The interviews aimed to elicit expert opinions regarding the appropriateness of the model's components, its practical applicability within Thai higher education institutions, and recommendations for improvement or prioritization of the model's elements. In-depth interviews were conducted using a semi-structured format and audio recorded with participant consent. Each session lasted approximately 20–30 minutes. The data obtained were then analyzed using content analysis, focusing on recurring themes, patterns, and strategic insights.

### Qualitative Research Steps

STEPS	DETAILS	OUTCOMES
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;">Data Collection</div> <div style="text-align: center; margin: 10px 0;">  </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;">Data Analysis</div>	<ul style="list-style-type: none"> <li>- Develop semi-structured interview questions</li> <li>- Purposive sampling of individuals with at least 3 years' experience in quality assurance from public and private universities in Thailand</li> </ul>	<ul style="list-style-type: none"> <li>- Interview data from 6 informants in educational quality assurance</li> <li>- Insights into appropriateness and applicability of the proposed transformation model</li> </ul>
	<ul style="list-style-type: none"> <li>- Transcribe interview recordings</li> <li>- Conduct content analysis to identify themes</li> <li>- Categorize data into sub-themes and key concepts</li> </ul>	<ul style="list-style-type: none"> <li>- Thematic findings validating or suggesting adjustments to the model</li> <li>- Strategic suggestions to enhance the model's relevance and feasibility</li> </ul>

### 3.3 Quantitative Research

#### 3.3.1 Population and Sample

##### 3.3.1.1 Population

The unit of analysis in this study was higher education institutions in Thailand, which were classified into six types based on their governance structures and admission systems. These included: (1) public universities with restricted admission quotas, totaling 8 universities; (2) public universities with open admission, totaling 2 universities; (3) autonomous public universities, with 26 universities; (4) Rajabhat universities, with 38 universities; (5) Rajamangala University of Technology, with 9 universities; and (6) private universities, totaling 43 universities. By focusing on these six types, the study aimed to capture the diversity and complexity of Thailand's higher education landscape, providing a clearer understanding of how universities with different structures and missions managed and responded to strategic educational transformation.

The unit of measurement in this study was academic and support staff from universities in Thailand as specified in the unit of analysis section. They were directly involved and experienced in educational quality assurance activities. These staff members were responsible for essential functions related to institutional planning, policy implementation, and quality improvement, and played a central role in ensuring and sustaining the quality of education within their institutions. By focusing on these groups of staff who were actively engaged in quality assurance

processes, the study sought to obtain comprehensive and practical insights into institutional quality management practices across different university contexts.

To ensure the relevance and richness of the data collected, a purposive sampling technique was employed. The sample group consisted of academic and support staff from the selected universities who possess substantial knowledge and experience in educational quality assurance and hold responsibilities directly related to institutional quality systems. This sampling approach was chosen to ensure that the participants were well-qualified to provide informed perspectives aligned with the objectives of the study.

#### 3.3.1.2 Sample size

In accordance with the guidelines suggested by Loehlin (1992) and Hoyle (1995), the sample size used in this study was considered appropriate for structural equation modeling (SEM). Hoyle (1995) recommends that to have confidence in the goodness-of-fit test, a sample size of 100 to 200 cases is generally acceptable, particularly for models of moderate complexity. Similarly, Loehlin (1992) emphasizes that SEM is a large-sample technique that requires at least 100 cases, with 200 cases being preferable to ensure the stability of parameter estimates and the accuracy of model fit indices. Based on these recommendations, the sample size of 217 respondents in this study exceeded the commonly suggested minimum thresholds and was therefore considered sufficient to provide reliable SEM results.

#### 3.3.2 Data Collection

The data collection process for this study was conducted using an online questionnaire distributed to academic and support staff who were directly involved and experienced in quality assurance activities, within both public and private universities in Thailand. The questionnaire was designed based on the relevant literatures and validated through expert review and a pretest, as detailed in the subsequent sections.

Respondents were selected through purposive sampling, ensuring that participants had relevant experience in educational quality assurance. Prior to full-scale data collection, a pretest with 30 respondents was conducted to refine the questionnaire. The final version was then distributed via digital channels, including email and online survey platforms.

Participants were informed about the confidentiality and voluntary nature of the study. Responses were automatically recorded in a secure database, and only valid, completed responses were used for analysis. A total of 217 responses were collected.

#### 3.3.3 Research Instruments and Quality Testing

The instrument used for data collection in quantitative research was a questionnaire. This questionnaire was developed to align with the research conceptual framework and variables, and was constructed based on the study of relevant

concepts, theories, and research findings to address the research objectives established by the researcher.

To develop the measurement instrument used in this study, validated scales from prior research were carefully adapted and modified to suit the context of strategic educational change and performance excellence in higher education institutions. The measurement of external factors drew upon studies on future skills (Sheikh et al., 2023), lifelong learning (Zhou, 2018), personalization of academic learning (Cox et al., 2014), AUN-QA quality assurance standards (Bui, 2021), university holding companies (UHCs) (Ekholm & Salomonsson, 2022), and multi-institutional cooperation (Huisman et al., 2015). These dimensions capture the key environmental drivers influencing universities' strategic directions, particularly in areas of workforce preparation, continuous learning cultures, curriculum responsiveness, industry collaboration, and inter-institutional partnerships.

For internal factors, the scales were adapted from Arnold et al. (2000) and Osiyemi (2006) for leaders and governance, Oladejo et al. (2019) for faculty and staff engagement, Munge et al. (2016) for financial management, Karimi et al. (2012) for academic programs and curriculum design, Musa and Ahmad (2012) for infrastructure and facilities, and Basarmak and Hamutoglu (2020) for technology integration. These constructs assess critical internal capabilities such as leadership practices, employee involvement, resource management, academic program design, digital infrastructure, and technology readiness that enable universities to implement and sustain strategic changes.

Additionally, to measure the outcomes of strategic educational change in driving organizational excellence, scales were adapted following Kanji and Moura (2001) for leadership and vision, Delbari et al. (2021) for faculty and staff development, Gouédard et al. (2020) for new curriculum design and pedagogy, Juikumjorn (2018) for assessment and quality assurance, and Lee et al. (2022) for student support services. These items were developed to reflect how strategic educational transformation contributes to institutional advancement toward excellence in leadership, teaching, learning, quality assurance, and student services.

Furthermore, these dimensions of university performance excellence were operationalized across four key management processes. Systematic Operation was addressed through Delbari et al. (2021), focusing on the university's comprehensive programs for developing faculty and staff across teaching, research, and overall work performance. Deployment and Implementation were captured by Gouédard et al. (2020), emphasizing the flexibility and contextual adaptability of curriculum design to support effective strategy execution. Monitoring and Evaluation were reflected in the adaptation from Juikumjorn (2018), focusing on the adequacy of resource allocation and support systems for driving quality assurance processes. Lastly, Results-Oriented Improvement was informed by Lee et al. (2022), highlighting the university's ongoing assessment and enhancement of student support

services to promote student success and satisfaction. Together, these constructs provide a comprehensive framework for evaluating how strategic educational transformation is managed, deployed, monitored, and continuously improved to drive sustainable institutional excellence.

The researcher proceeded to develop the questionnaire for data collection. The questionnaire was specifically designed to ensure consistency with the theoretical foundations identified through the literature review process. Each section and item in the questionnaire corresponded to the key variables under investigation, including external factors, internal factors, educational transformation strategies, and performance excellence indicators. This methodical approach to instrument development helped ensure that the data collected would provide valid and reliable information to address all research objectives.

The instrument used for collecting quantitative research data was a questionnaire, and the researcher validated the quality of the research instrument according to the following steps:

1. Study the relevant literatures to determine the questions in the research instrument.
2. Develop research instruments covering the studied issues.
3. Submit the questionnaire to three experts for content validity review.

The experts examined whether the instrument could truly measure the variables the researcher intended to study by considering variable definitions, scope, and content aspects to be measured. Content validity was determined by selecting question items with an Index of Item-Objective Congruence (IOC) using an evaluation form for experts to consider each question item as follows:

○ Give +1 for question items that are consistent with the content according to the intended measurement objective.

○ Give 0 if uncertain whether that question item is consistent with the content according to the intended measurement objective.

○ Give -1 for question items that are not consistent with the content according to the intended measurement objective.

The content validity of the measurement instrument was determined by considering the Index of Item-Objective Congruence (Rovinelli and Hambleton, 1977)

$$IOC = \frac{\sum R}{N}$$

Where:

- IOC represents the Index of Item-Objective Congruence
- $\sum R$  represents the sum of expert opinion scores
- N represents the number of experts

The criteria for selecting question items were 1) Question items with an IOC value from 0.51 to 1.00 indicate that the question item measures according to the objective and can be used, and 2) Question items with an IOC value below 0.50 indicate that the question item does not measure according to the objective and should be considered for improvement or removal.

1. Take the questionnaire for a pretest with 30 individuals from the population who are not part of the sample group.

2. Analyze the reliability of the instrument, which is a measure of internal consistency using Cronbach's alpha coefficient (Cronbach, 1951). The criterion for consideration is a reliability coefficient of 0.7 or higher, indicating that the measurement instrument is reliable.

Table 3 Reliability Values from a Pretest of the Questionnaire on Educational Transformation Strategy Components for Performance Excellence

Items	Cronbach's Alpha
<b>1. External Factors</b>	<b>0.949</b>
1.1 Future Skills	0.863
1.2 Lifelong Learning	0.810
1.3 Personalization of Academic Learning	0.898
1.4 AUN-QA	0.814
1.5 University Holding Companies (UHCs)	0.914
1.6 Multi-institutional Cooperation	0.859
<b>2. Internal Factors</b>	<b>0.965</b>
2.1 Leaders and Governance	0.850
2.2 Faculty and Staff Engagement	0.859
2.3 Financial Management	0.910
2.4 Academic Programs and Curriculum Design	0.804
2.5 Infrastructure and Facilities	0.849
2.6 Technology Integration	0.936
<b>3. Educational Transformation Strategies</b>	<b>0.968</b>
3.1 Leadership and Vision	0.908
3.2 Faculty and Staff Development	0.819
3.3 New Curriculum Design and Pedagogy	0.937
3.4 Assessment and Quality Assurance	0.898
3.5 Student Support Services	0.869
<b>4. University Performance Excellence</b>	<b>0.853</b>
4.1 Systematic Operation	0.823
4.2 Deployment and Implementation	0.847
4.3 Monitoring and Evaluation	0.823
4.4 Results-Oriented Improvement	0.820
<b>Total</b>	<b>0.984</b>

From the literature review, the researcher created a research conceptual framework to develop various scales by constructing variable measurements based on those used by academics and researchers in studying variables. In creating these scales, the researcher considered content validity, construct validity, reliability, and applicability to the target population. The content validity was compiled from the substance of the questions and question items used in previous research on the variables.

### 3.3.4 Data Analysis and Statistical Methods

1. Descriptive analytical statistics were used to analyze frequency, percentage, mean, and standard deviation (S.D.) to describe the characteristics of respondents and to explain the model of educational transformation strategies for operational excellence. The questionnaire used a 5-level rating scale, with results interpreted according to Best and Kahn's criteria (Best and Kahn, 2006), with the following score ranges

Score 1.00 - 1.50 means the lowest level

Score 1.51 - 2.50 means low level

Score 2.51 - 3.50 means moderate level

Score 3.51 - 4.50 means high level

Score 4.51 - 5.00 means the highest level

2. Analysis of standardized score correlation coefficients.

3. Verification of the construct validity of latent variables was conducted in two stages. Firstly, Exploratory Factor Analysis (EFA) was performed to explore the underlying structure of the observed variables and to identify the appropriate factor groupings. Prior to the EFA, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity were employed to ensure the suitability of the data for factor analysis. Following the EFA, Confirmatory Factor Analysis (CFA) was subsequently conducted to verify the construct validity.

4. Structural Equation Modeling, assessed by the following goodness-of-fit statistics (Hair et al., 2010):

1) Comparative Fit Index (CFI): Values range between 0 and 1.00. Values greater than 0.92 indicate that the model is consistent with empirical data.

2) Relative Fit Index (RFI): Values range between 0 and 1.00. Values greater than 0.92 indicate that the model is consistent with empirical data.

3) Standardized Root Mean Square Residual (Standardized RMR): Values range between 0 and 1. Values not exceeding 0.08, with CFI not less than 0.92, indicate that the model is consistent with empirical data.

4) Root Mean Square Error of Approximation (RMSEA): Values range between 0 and 1.00. Values less than 0.07, with CFI not less than 0.92, indicate that the model is consistent with empirical data.

In cases where observed variables in the model do not exceed 12 variables, the following criteria are used (Hair et al., 2010, p.672):

1) Comparative Fit Index (CFI): Values range between 0 and 1.00. Values greater than 0.95 indicate that the model is consistent with empirical data.

2) Relative Fit Index (RFI): Values range between 0 and 1.00. Values greater than 0.95 indicate that the model is consistent with empirical data.

3) Root Mean Square Error of Approximation (RMSEA): Values range between 0 and 1.00. Values less than 0.07, with CFI not less than 0.97, indicate that the model is consistent with empirical data.

Additional criteria from Seree Chadcham (Chadcham, 2004) explain that in cases where the Chi-square value is significant ( $p < .05$ ) as follows:

1) Goodness of Fit Index (GFI): Values range between 0 and 1. GFI values greater than 0.90 indicate that the model is consistent with empirical data.

2) Adjusted Goodness of Fit Index (AGFI): The AGFI is a value derived from adjusting the GFI, considering the sample size, number of variables, and degrees of freedom. AGFI has the same properties as GFI. Index values greater than 0.90 indicate that the model is consistent with empirical data.

3) Relative Chi-Square ( $\chi^2/df$ ): A statistical value used to compare the level of fit between models with unequal degrees of freedom. A relative Chi-square value less than 2.00 is desirable.

### **3.4 Qualitative Research**

The qualitative phase of this research was conducted to provide a deeper understanding of the feasibility, relevance, and practical challenges of implementing the proposed educational transformation strategy model. It also aimed to validate the findings obtained from the quantitative phase by incorporating practitioner perspectives from those directly involved in educational quality assurance and strategic management in Thai higher education institutions.

#### **3.4.1 Research Design**

This study employed a qualitative design using semi-structured in-depth interviews. This approach was deemed appropriate for generating rich, nuanced, and context-sensitive data, while also allowing flexibility in exploring emerging themes and practitioner insights. The interview guide was designed to align with the main components of the proposed model, while also encouraging participants to reflect on their practical experiences and provide recommendations.

#### **3.4.2 Participant Selection**

Participants were selected using purposive sampling, ensuring that the individuals chosen were well-positioned to provide relevant and insightful feedback on the model. A total of six key informants were selected, all of whom had held senior-level positions in both public and private universities in Thailand. Each informant had at least three years of experience working in areas such as academic administration, curriculum development, institutional planning, and internal or external quality assurance. The diversity of their roles and institutional affiliations

enabled the collection of multi-dimensional perspectives on how the proposed model might be applied in varied higher education settings.

#### **3.4.3 Data Collection**

The interviews were conducted online via the Zoom platform to accommodate participants from different regions. Each session lasted approximately 20 to 30 minutes. Before the interviews commenced, participants were fully informed about the study's objectives and ethical procedures. Each session was audio-recorded with the participant's permission. The recorded interviews were subsequently transcribed verbatim to ensure accuracy and completeness in the data analysis process.

#### **3.4.4 Data Analysis**

The data were analyzed using thematic analysis, based on the six-phase process proposed by Braun and Clarke (2006). The researcher began by familiarizing with the data through repeated reading of the transcripts. This was followed by the generation of initial codes that captured recurring ideas, challenges, or recommendations expressed by the informants. These codes were then clustered into potential themes, which were subsequently reviewed for internal coherence and validity across the dataset. After refining and defining the final themes, the researcher constructed a narrative that captured the underlying meanings and implications of the data in relation to the research objectives.

### **3.5 Human Research Ethics Approval and Data Confidentiality**

This study had been reviewed and approved by the Human Research Ethics Committee of Silpakorn University, Certificate No. REC 67.1111-173-8892. The research was conducted in compliance with international ethical standards, emphasizing respect for participants' dignity and rights, the principle of non-maleficence, and fairness throughout the research process.

The target participants which were academic and support staff involved in educational quality assurance were fully informed of the study's objectives, procedures, and their rights before giving consent. Participation was entirely voluntary, and all personal data have been handled with strict confidentiality. No identifying information has been or will be disclosed, ensuring the protection of participants from any physical, psychological, or reputational harm.

## Chapter 4 Research Results

### 4.1 Introduction

The research findings on Educational Transformation Strategies for University Performance Excellence are derived from analyses consistent with the research objectives and methodology presented in prior chapter. The quantitative research results are presented as follows: Respondent Characteristics, Mean and Standard Deviation of Factors Influencing Educational Transformation in Higher Education, Confirmatory Factor Analysis and Assessment of the Goodness-of-Fit of the Causal Relationship Structural Model.

### 4.2 Quantitative Research

#### 4.2.1 Respondent Characteristics

Based on the collected information, this can be indicated the several key characteristics of the respondents. The demographic profile of 217 respondents classified by gender, age, educational level, professional status, and working experience in educational quality assurance according to EdPEX criteria is demonstrated in Table 4.

Table 4 Demographic Profile of Respondents

Variables	Frequency	Percentage
<b>1. Gender</b>		
Female	140	64.52
Male	75	34.56
Other	2	0.92
Total	217	100
<b>2. Age</b>		
Under 30 years	9	4.15
30 - 39 years	59	27.19
40 - 49 years	112	51.61
50 years and above	37	17.05
Total	217	100
Variables	Frequency	Percentage
<b>3. Highest Educational Level</b>		
Bachelor's Degree	16	7.37
Master's Degree	106	48.85
Doctoral Degree	95	43.78
Total	217	100

Table 4 (continued)

Variables	Frequency	Percentage
4. Employment Status		
Academic Staff	129	59.45
Support Staff	88	40.55
Total	217	100
5. Working Experience in Educational Quality Assurance		
Less than 5 years	53	24.42
5 - 10 years	68	31.34
11 - 15 years	76	35.02
16 - 20 years	11	5.07
More than 20 years	9	4.15
Total	217	100

The survey respondents were predominantly female, with 140 participants, representing 64.52% of the total sample. Male respondents comprised 75 participants, or 34.56%, while 2 respondents, accounting for 0.92%, identified as other genders. In terms of age, the largest group of respondents was within the 40–49 years age range, with 112 respondents, representing 51.61% of the sample. This was followed by the 30–39 years age group, consisting of 59 respondents, or 27.19%. Respondents aged 50 years and above numbered 37, accounting for 17.05% of the total sample. Regarding the educational level, the majority of respondents held a Master's degree, with 106 participants (48.85%). The next largest group consisted of 95 respondents (43.78%) with a Doctorate degree, while 16 respondents (7.37%) held a Bachelor's degree. In addition, a majority of the respondents were employed as academic staff, comprising 129 respondents, or 59.45% of the sample. The remaining 88 respondents (40.55%) were support staff. With respect to professional experience in educational quality assurance based on the EdPEX criteria or involvement in EdPEX-related activities at their respective universities, the largest group had between 11 and 15 years of experience, with 76 respondents, representing 35.02%. The second-largest group had 5 to 10 years of experience, comprising 68 respondents (31.34%), while 53 respondents (24.42%) reported having less than 5 years of experience in the field.

#### 4.2.2 Mean and Standard Deviation of Factors Influencing Educational Transformation in Higher Education

This study presents a comprehensive statistical analysis of respondents' opinions regarding key factors affecting educational transformation and university performance excellence. The data reveals consistently high mean scores across all measured dimensions, with standard deviations indicating strong consensus among

respondents on the critical importance of these factors in achieving institutional excellence.

Table 5 Mean and Standard Deviation of Respondents' Opinions on External Factors Affecting Educational Transformation Strategies

External Factors	Mean	SD	Level
Future Skills	4.47	0.63	Highest
Lifelong Learning	4.54	0.58	Highest
Personalization of Academic Learning	4.38	0.73	Highest
AUN-QA	4.49	0.63	Highest
University Holding Companies (UHCs)	4.49	0.66	Highest
Multi-institutional Cooperation	4.55	0.59	Highest
<b>Overall Average</b>	4.49	0.64	Highest

From Table 5, it was found that the overall opinions regarding External Factors were at the highest level. When ranking the mean scores from highest to lowest, the top three factors were: Multi-institutional Cooperation ( $\bar{x} = 4.55$ ), Lifelong Learning ( $\bar{x} = 4.54$ ), and both AUN-QA and University Holding Companies (UHCs) ( $\bar{x} = 4.49$ ), respectively.

Table 6 Mean and Standard Deviation of Respondents' Opinions on Internal Factors Affecting Educational Transformation Strategies

Internal Factors	Mean	SD	Level
Leaders and Governance	4.46	0.68	Highest
Faculty and Staff Engagement	4.48	0.65	Highest
Financial Management	4.32	0.79	Highest
Academic Programs and Curriculum Design	4.49	0.63	Highest
Infrastructure and Facilities	4.42	0.66	Highest
Technology Integration	4.44	0.63	Highest
<b>Overall Average</b>	4.44	0.67	Highest

From Table 6, it was found that the overall opinions regarding Internal Factors were at the highest level. When ranking the mean scores from highest to lowest, the top three factors were: Academic Programs and Curriculum Design ( $\bar{x} = 4.49$ ), followed by Faculty and Staff Engagement ( $\bar{x} = 4.48$ ), and Leaders and Governance ( $\bar{x} = 4.46$ ), respectively.

Table 7 Mean and Standard Deviation of Respondents' Opinions on Educational Transformation Strategies Affecting University Performance Excellence

<b>Educational Transformation Strategies</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Leadership and Vision	4.45	0.67	Highest
Faculty and Staff Development	4.44	0.66	Highest
New Curriculum Design and Pedagogy	4.49	0.61	Highest
Assessment and Quality Assurance	4.44	0.64	Highest
Student Support Services	4.45	0.65	Highest
<b>Overall Average</b>	4.45	0.65	Highest

From this table, it was found that the overall opinions regarding Educational Transformation Strategies were at the highest level. When ranking the mean scores from highest to lowest, the top three factors were: New Curriculum Design and Pedagogy ( $\bar{x} = 4.49$ ), followed by Leadership and Vision and Student Support Services (both with  $\bar{x} = 4.44$ ), and Faculty and Staff Development, and Assessment and Quality Assurance ( $\bar{x} = 4.44$ ), respectively.

Table 8 Mean and Standard Deviation of Respondents' Opinions on University Performance Excellence

<b>University Performance Excellence</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Systematic Operation	4.55	0.64	Highest
Deployment and Implementation	4.51	0.60	Highest
Monitoring and Evaluation	4.41	0.68	Highest
Results-Oriented Improvement	4.51	0.62	Highest
<b>Overall Average</b>	4.49	0.63	Highest

This table showed that opinions regarding University Performance Excellence were overall at the highest level. Ranking the mean scores from the highest to the lowest: Systematic Operation ( $\bar{x} = 4.55$ ), followed by Deployment and Implementation, Results-Oriented Improvement ( $\bar{x} = 4.51$ ), and Monitoring and Evaluation ( $\bar{x} = 4.41$ ), respectively.

Following the analysis of the mean and standard deviation of the factors influencing educational transformation in higher education, this study presents a comprehensive statistical overview of respondents' perceptions regarding key elements that contribute to transformation and institutional performance excellence. The results show consistently high mean scores across all dimensions, with low standard deviations, indicating strong consensus among respondents on the importance of these factors.

To ensure the internal consistency and reliability of the measurement instrument, Cronbach's alpha coefficients were calculated using data from all 217 completed questionnaires. The results of this reliability analysis, which confirm the strength of the instrument used in this study, are presented in Table 9 below.

Table 9 Reliability Values of the Questionnaire from 217 Respondents on Educational Transformation Strategy Components for Performance Excellence

Items	Cronbach's Alpha if Item Deleted
<b>1. External Factors</b>	<b>0.944</b>
1.1 Future Skills	0.776
1.2 Lifelong Learning	0.761
1.3 Personalization of Academic Learning	0.839
1.4 AUN-QA	0.794
1.5 University Holding Companies (UHCs)	0.862
1.6 Multi-institutional Cooperation	0.842
<b>2. Internal Factors</b>	<b>0.967</b>
2.1 Leaders and Governance	0.827
2.2 Faculty and Staff Engagement	0.802
2.3 Financial Management	0.893
2.4 Academic Programs and Curriculum Design	0.822
2.5 Infrastructure and Facilities	0.865
2.6 Technology Integration	0.897
<b>3. Educational Transformation Strategies</b>	<b>0.964</b>
3.1 Leadership and Vision	0.889
3.2 Faculty and Staff Development	0.841
3.3 New Curriculum Design and Pedagogy	0.831
3.4 Assessment and Quality Assurance	0.842
3.5 Student Support Services	0.849

Table 9 (continued)

Items	Cronbach's Alpha if Item Deleted
<b>4. University Performance Excellence</b>	<b>0.840</b>
4.1 Systematic Operation	0.879
4.2 Deployment and Implementation	0.892
4.3 Monitoring and Evaluation	0.860
4.4 Results-Oriented Improvement	0.888
<b>Total</b>	<b>0.984</b>

### 4.2.3 Exploratory Factor Analysis

#### 4.2.3.1 Exploratory Factor Analysis of External Factors

To assess the suitability of the dataset for exploratory factor analysis, preliminary statistical assumptions were tested. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was found to be 0.918, indicating that the sample was highly appropriate for factor analysis. In addition, Bartlett's Test of Sphericity produced a Chi-Square value of 3409.713 with a significance level of  $p < .000$ , which is less than the threshold of .05. Therefore, the null hypothesis was rejected, suggesting that there were sufficient correlations among the 35 observed variables included in the questionnaire. This result confirms the appropriateness of conducting factor analysis, as shown in Table 10.

Table 10 Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test of Sphericity of External Factors

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.918
Bartlett's Test of Sphericity	Approx. Chi-Square	3409.713
	df	595
	Sig.	0.000

The results of the exploratory factor analysis (EFA) revealed that the observed variables could be grouped into six components, each with an eigenvalue greater than 1.0. The cumulative variance explained by these six components was 55.556%, indicating a satisfactory level of explained variance for social science research. To enhance interpretability, the factors were subjected to orthogonal rotation using the Varimax method. After rotation, the factor loadings of several items changed in comparison to their pre-rotation values, indicating a clearer and more distinct factor structure. The rotated factor loadings and related statistics are presented in Table 11.

Table 11 Number of Components, Eigenvalues, Percentage of Variance, and Cumulative Percentage of Variance Explained by Each Component of External Factors

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.905	34.015	34.015	11.905	34.015	34.015	4.741	13.546	13.546
2	2.442	6.978	40.993	2.442	6.978	40.993	4.096	11.703	25.250
3	1.552	4.434	45.428	1.552	4.434	45.428	3.105	8.873	34.123
4	1.345	3.842	49.270	1.345	3.842	49.270	2.896	8.275	42.397
5	1.162	3.320	52.590	1.162	3.320	52.590	2.679	7.654	50.052
6	1.038	2.966	55.556	1.038	2.966	55.556	1.926	5.504	55.556
7	1.010	2.885	58.440						
8	.972	2.777	61.217						
9	.924	2.641	63.858						
10	.846	2.418	66.276						
11	.821	2.345	68.621						
12	.781	2.232	70.853						
13	.724	2.068	72.921						
14	.692	1.977	74.898						
15	.684	1.955	76.853						
16	.653	1.865	78.718						
17	.623	1.780	80.498						
18	.592	1.691	82.190						
19	.569	1.627	83.817						
20	.541	1.544	85.361						
21	.485	1.387	86.748						
22	.473	1.352	88.100						
23	.444	1.270	89.370						
24	.431	1.230	90.600						
25	.404	1.155	91.755						
26	.376	1.074	92.829						
27	.355	1.014	93.843						
28	.341	.974	94.817						
29	.317	.907	95.724						
30	.289	.827	96.551						
31	.282	.805	97.356						
32	.268	.765	98.121						
33	.242	.692	98.813						
34	.231	.661	99.474						
35	.184	.526	100.000						

The results presented in Table 11 show the statistical values for each component, both before and after factor extraction, based on the criterion of factor loadings greater than 0.40. The analysis successfully extracted six components, comprising a total of 35 observed variables. The initial eigenvalues, which represent the total variance explained by each component before rotation, indicate that Component 1 accounts for the highest variance at 11.905, followed by Component 2 at 2.442, Component 3 at 1.552, Component 4 at 1.345, Component 5 at 1.162, and Component 6 at 1.038. The cumulative variance explained, based on the rotation sums of squared loadings, ranges from 13.546% to 55.556%. The six extracted components explain 55.556% of the total variance in the original variables, which is considered acceptable for social science research. These components represent the construct of External Factors related to educational transformation. To enhance interpretability, orthogonal rotation using the Varimax method was applied. After rotation, the factor loadings of several items shifted, resulting in a clearer and more interpretable factor structure when compared to the unrotated solution. The rotated factor loadings are presented in Table 12.

Table 12 Rotated Factor Loadings of the External Factors Components

<b>Rotated Component Matrix<sup>a</sup></b>						
	Component					
	1	2	3	4	5	6
University teaching promotes the development of critical thinking and problem-solving skills	.802					
The university promotes business simulation learning to develop students' future skills	.751					
The university promotes entrepreneurship skills development	.743					
University teaching emphasizes the development of sustainability and ethical skills	.714					
The university uses diverse assessment methods to measure students' future skills	.653					
Promoting continuous learning helps universities make improvements and changes		.735				
Leaders who support lifelong learning for personnel help develop the university		.723				

Table 12 (continued)

Rotated Component Matrix <sup>a</sup>						
	Component					
	1	2	3	4	5	6
Up-to-date learning content that meets social needs helps improve educational curricula and promotes lifelong learning		.717				
Working with colleagues to create new teaching methods helps organizations change for the better and promotes lifelong learning		.689				
Creating motivation helps people desire lifelong learning and helps raise the quality of educational institutions		.680				
Continuous and systematic learning helps personnel adapt better to quality development in educational institutions		.652				
Those who enjoy learning continuously help organizations progress toward educational excellence better than others		.616				
Universities encourage students to understand personalized learning			.717			
Universities develop environments conducive to personalized learning			.662			
Universities promote student participation in personalized learning			.639			
Universities assess students individually to lead toward personalized learning			.633			
Universities have easily accessible counseling services for students with learning issues or mental health concerns			.549			
Outcome-based education helps develop educational quality according to AUN-QA criteria				.660		
Improving curricula to meet stakeholder needs helps raise educational standards				.635		
Teaching methods that emphasize hands-on/practical work stimulate learning according to AUN-QA standards				.564		

Table 12 (continued)

<b>Rotated Component Matrix<sup>a</sup></b>						
	Component					
	1	2	3	4	5	6
Adequate allocation of physical, social, and environmental resources supports AUN-QA standards				.492		
Faculty and staff training helps make the implementation of AUN-QA criteria more effective				.466		
Improving the quality assurance system according to AUN-QA helps raise overall educational standards				.429		
Promoting the commercial use of research helps add value to academic work or routine-to-research development (R2R)					.604	
Collaboration with industry helps better address labor market needs					.552	
Having students do real work and start businesses helps increase practical skills and gain real experience					.495	
Encouraging staff to work with industry increases expertise and experience					.493	
Finding diverse research funding sources increases opportunities for quality research					.483	
Instilling innovation and entrepreneurship concepts helps create graduates with creativity and initiative					.463	
Collaboration with other institutions in developing multi-disciplinary curricula helps create educational change						.696
Joint research with multiple institutions helps elevate research quality and leads to educational transformation						.654
Student exchange and joint curriculum development with other institutions helps increase educational opportunities and learning experiences						.621

Table 12 (continued)

Rotated Component Matrix <sup>a</sup>						
	Component					
	1	2	3	4	5	6
Collaboration with international institutions helps increase cultural understanding and global perspectives for students						.567
Using the strengths of each partner institution helps enhance educational management efficiency						.479
Exchanging best practices in administration between institutions helps improve operational efficiency						.426

Based on the results presented in Table 12, the factor loadings of observed variables were analyzed using a cut-off value of 0.40 to determine their association with specific components. The analysis successfully extracted six components, encompassing a total of 35 variables. Each component was subsequently named to reflect the conceptual meaning and coherence of the grouped items, as follows:

Component 1, comprising five variables, exhibited factor loadings ranging from .802 to .653. This component was labeled "Future Skills", reflecting the emphasis on competencies required for the future labor market.

Component 2 included seven variables, with factor loadings ranging from .735 to .616. It was named "Lifelong Learning", highlighting the importance of continuous education throughout an individual's life.

Component 3 consisted of five variables, with factor loadings ranging from .717 to .549, and was labeled "Personalization of Academic Learning", representing the tailoring of learning experiences to individual needs.

Component 4 comprised six variables, with factor loadings between .660 and .429, and was designated as "AUN-QA", referring to quality assurance practices aligned with ASEAN University Network standards.

Component 5, also with six variables, had factor loadings ranging from .604 to .463. This component was labeled "University Holding Companies (UHCs)", indicating administrative and financial structures supporting university governance.

Component 6 included six variables, with factor loadings between .696 and .426, and was named "Multi-institutional Cooperation", reflecting collaborative efforts across educational institutions.

Table 13 Descriptions of External Factors

Component	Indicator
External Factors	<ul style="list-style-type: none"> <li>• University teaching promotes the development of critical thinking and problem-solving skills</li> <li>• The university promotes business simulation learning to develop students' future skills</li> <li>• The university promotes entrepreneurship skills development</li> <li>• University teaching emphasizes the development of sustainability and ethical skills</li> <li>• The university uses diverse assessment methods to measure students' future skills</li> </ul>
Lifelong Learning	<ul style="list-style-type: none"> <li>• Promoting continuous learning helps universities make improvements and changes</li> <li>• Leaders who support lifelong learning for personnel help develop the university</li> <li>• Up-to-date learning content that meets social needs helps improve educational curricula and promotes lifelong learning</li> <li>• Working with colleagues to create new teaching methods helps organizations change for the better and promotes lifelong learning</li> <li>• Creating motivation helps people desire lifelong learning and helps raise the quality of educational institutions</li> <li>• Continuous and systematic learning helps personnel adapt better to quality development in educational institutions</li> <li>• Those who enjoy learning continuously help organizations progress toward educational excellence better than others</li> </ul>
Personalization of Academic Learning	<ul style="list-style-type: none"> <li>• Universities encourage students to understand personalized learning</li> <li>• Universities develop environments conducive to personalized learning</li> <li>• Universities promote student participation in personalized learning</li> <li>• Universities assess students individually to lead toward personalized learning</li> <li>• Universities have easily accessible counseling services for students with learning issues or mental health concerns</li> </ul>

Table 13 (continued)

Component	Indicator
AUN-QA	<ul style="list-style-type: none"> <li>• Outcome-based education helps develop educational quality according to AUN-QA criteria</li> <li>• Improving curricula to meet stakeholder needs helps raise educational standards</li> <li>• Teaching methods that emphasize hands-on/practical work stimulate learning according to AUN-QA standards</li> <li>• Adequate allocation of physical, social, and environmental resources supports AUN-QA standards</li> <li>• Faculty and staff training helps make the implementation of AUN-QA criteria more effective</li> <li>• Improving the quality assurance system according to AUN-QA helps raise overall educational standards</li> </ul>
University Holding Companies (UHCs)	<ul style="list-style-type: none"> <li>• Promoting the commercial use of research helps add value to academic work or routine-to-research development (R2R)</li> <li>• Collaboration with industry helps better address labor market needs</li> <li>• Having students do real work and start businesses helps increase practical skills and gain real experience</li> <li>• Encouraging staff to work with industry increases expertise and experience</li> <li>• Finding diverse research funding sources increases opportunities for quality research</li> <li>• Instilling innovation and entrepreneurship concepts helps create graduates with creativity and initiative</li> </ul>

Table 13 (continued)

Component		Indicator
	Multi-institutional Cooperation	<ul style="list-style-type: none"> <li>• Collaboration with other institutions in developing multi-disciplinary curricula helps create educational change</li> <li>• Joint research with multiple institutions helps elevate research quality and leads to educational transformation</li> <li>• Student exchange and joint curriculum development with other institutions helps increase educational opportunities and learning experiences</li> <li>• Creating collaborative networks between universities, industry, and government helps develop educational innovations</li> <li>• Collaboration with international institutions helps increase cultural understanding and global perspectives for students</li> <li>• Using the strengths of each partner institution helps enhance educational management efficiency</li> <li>• Exchanging best practices in administration between institutions helps improve operational efficiency</li> </ul>

#### 4.2.3.2 Exploratory Factor Analysis of Internal Factors

To assess the appropriateness of the dataset for exploratory factor analysis (EFA), the researcher conducted preliminary tests to examine the assumptions required for factor analysis. The results indicated that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.950, suggesting that the sample size was highly suitable for factor analysis. In addition, Bartlett's Test of Sphericity produced a Chi-Square value of 5643.760 with a significance level of .000, which is less than the threshold of .05. Therefore, the null hypothesis ( $H_0$ ), which assumes that the correlation matrix is an identity matrix, was rejected. These results confirm that the 43 observed variables in the questionnaire were sufficiently correlated and thus appropriate for factor extraction. The summary of the results is presented in Table 14.

Table 14 Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test of Sphericity of Internal Factors

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.950
Bartlett's Test of Sphericity	Approx. Chi-Square	5643.760
	df	903
	Sig.	0.000

The results of the exploratory factor analysis revealed that the variables could be grouped into six distinct components, each with eigenvalues greater than 1.0, which met the standard criterion for factor retention. The cumulative variance explained by these six components was 59.371%, indicating an acceptable level of total variance accounted for in the dataset. To improve the interpretability of the factor structure, the components were subjected to orthogonal rotation using the Varimax method. After rotation, the factor loadings of several items shifted compared to their pre-rotation values, resulting in a clearer and more meaningful factor solution. These results are summarized in Table 15.

Table 15 Number of Components, Eigenvalues, Percentage of Variance, and Cumulative Percentage of Variance Explained by Each Component Sphericity of Internal Factors

<b>Total Variance Explained</b>									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.366	42.713	42.713	18.366	42.713	42.713	5.264	12.242	12.242
2	2.248	5.229	47.941	2.248	5.229	47.941	4.631	10.770	23.012
3	1.602	3.726	51.668	1.602	3.726	51.668	4.403	10.240	33.252
4	1.195	2.779	54.446	1.195	2.779	54.446	4.193	9.751	43.003
5	1.101	2.560	57.006	1.101	2.560	57.006	3.704	8.614	51.618
6	1.017	2.365	59.371	1.017	2.365	59.371	3.334	7.753	59.371
7	.964	2.242	61.613						
8	.860	2.001	63.614						
9	.845	1.964	65.578						
10	.826	1.922	67.500						
11	.800	1.860	69.360						
12	.787	1.830	71.189						
13	.743	1.727	72.917						
14	.719	1.672	74.588						
15	.684	1.591	76.179						
16	.652	1.517	77.696						
17	.620	1.442	79.138						

Table 15 (continued)

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
18	.577	1.343	80.481						
19	.564	1.312	81.793						
20	.545	1.267	83.059						
21	.529	1.230	84.289						
22	.510	1.185	85.475						
23	.480	1.116	86.591						
24	.451	1.048	87.639						
25	.420	.976	88.615						
26	.402	.934	89.549						
27	.383	.891	90.441						
28	.380	.883	91.323						
29	.338	.786	92.110						
30	.337	.783	92.893						
31	.313	.728	93.621						
32	.305	.708	94.330						
33	.295	.686	95.016						
34	.289	.672	95.687						
35	.270	.628	96.316						
36	.252	.585	96.901						
37	.225	.524	97.425						
38	.219	.509	97.934						
39	.210	.488	98.422						
40	.206	.479	98.901						
41	.176	.410	99.311						
42	.157	.366	99.677						
43	.139	.323	100.000						

Based on the results presented in Table 15, the factor loadings were analyzed using a threshold value of 0.40, both before and after factor extraction. The analysis identified six components, encompassing a total of 43 observed variables. Each of these components had an eigenvalue greater than 1.0, satisfying the standard criterion for factor retention. The initial eigenvalues indicated the proportion of variance explained by each component prior to rotation: Component 1 accounted for the largest amount of variance at 18.366, followed by Component 2 at 2.248, Component 3 at 1.602, Component 4 at 1.195, Component 5 at 1.101, and Component 6 at 1.017. After applying orthogonal rotation using the Varimax method, the rotation sums of squared loadings showed that the cumulative variance explained ranged from

12.242% to 59.371%. These six components together explained 59.371% of the total variance in the dataset, providing substantial support for the construct of External Factors influencing educational transformation. Notably, the factor loadings of several items shifted after rotation, resulting in a more interpretable and conceptually distinct factor structure. The rotated factor loadings are detailed in Table 16.

Table 16 Rotated Factor Loadings of the Internal Factors Components

	Component					
	1	2	3	4	5	6
Leaders in the organization have clear guidelines regarding good governance principles to facilitate educational change	.710					
There are direct responsible persons to ensure that educational changes comply with laws and standards	.678					
Leaders have clear practices for avoiding conflicts of interest	.641					
Leaders can oversee educational changes with transparency	.630					
Ethical guidelines regarding changes are communicated to all personnel thoroughly	.583					
All personnel have equal opportunities to express opinions on educational changes	.574					
The university's governance structure is flexible and responsive to changes quickly	.548					
Encouraging faculty and staff participation in decision-making helps drive educational change		.701				
Adjusting institutional policies to align with faculty and staff needs helps promote educational change		.628				
Supporting faculty and staff to propose new ideas helps create educational innovations		.610				
Creating understanding and acceptance among faculty and staff helps make educational changes sustainable		.604				
Faculty and staff engagement is a key driver in educational change		.550				
Budget expenditure aligns with educational strategic plans			.690			

Table 16 (continued)

	Component					
	1	2	3	4	5	6
Resources are appropriately allocated to support educational system development			.654			
The budget is flexible and can be adjusted according to the needs of each project			.630			
Revenue sources are diverse to continuously support educational system development			.613			
There is adequate investment in technology and teaching innovations			.538			
Financial planning takes into account long-term development goals			.502			
There is financial readiness to handle unexpected situations			.456			
All stakeholders, including faculty, staff, and students, participate in the budget decision-making process			.429			
Curricula are updated to respond to changing societal needs				.648		
There is integration of knowledge from multiple disciplines in curricula				.643		
Digital technology is appropriately used in teaching and learning				.601		
Curricula promote global perspectives and cross-cultural work skills				.542		
Curriculum design begins with clearly defined learning outcomes				.505		
Curricula emphasize the development of skills and specific knowledge according to required competency levels				.485		
Curricula are flexible and adaptable to various teaching and learning approaches				.411		
Physical environments and classrooms align with modern teaching methods and support diverse teaching formats					.711	
Technology is efficiently integrated into infrastructure to enhance learning experiences and support digital transformation					.585	

Table 16 (continued)

	Component					
	1	2	3	4	5	6
Facilities are designed to be flexible and easily adaptable to different needs and teaching methods					.578	
Classrooms and learning spaces have sufficient, ready-to-use, modern equipment for hands-on student practice					.567	
The university is designed as a learning landscape with diverse spaces for both formal and informal learning					.488	
Digital infrastructure is robust and can support learning needs both on and off campus					.480	
There are adequate spaces and facilities for collaborative work that promote interaction and group work among students, faculty, and staff					.463	
Appropriate use of technology to develop necessary current skills						.721
Sufficient technological equipment and systems ready for teaching and learning						.709
Personnel receive training to use technology efficiently in their work						.690
Personnel can effectively integrate technology into their work						.686
Students develop both technical and analytical thinking technology skills						.680
Appropriate integration of classroom and online learning						.580
Use of data to analyze and improve student learning						.546
Security measures to protect personal data in educational technology						.516
All students have equal access to learning technology						.419

Based on the results presented in Table 16, the factor loadings of the observed variables related to Internal Factors were analyzed using a threshold of 0.40. The analysis yielded six components, encompassing a total of 43 observed

variables. Each component was named to reflect the conceptual meaning and thematic coherence of its constituent variables, as follows:

Component 1, labeled "Leaders and Governance", comprised seven variables with factor loadings ranging from .710 to .550. This component reflects institutional leadership, governance structures, and strategic direction.

Component 2, titled "Faculty and Staff Engagement", consisted of five variables with factor loadings between .701 and .550, representing the active involvement and commitment of academic personnel.

Component 3, named "Financial Management", included eight variables with loadings ranging from .690 to .429, addressing budgeting, resource allocation, and financial sustainability.

Component 4, identified as "Academic Programs and Curriculum Design", comprised seven variables with factor loadings from .648 to .411, reflecting curriculum structure, academic planning, and instructional design.

Component 5, labeled "Infrastructure and Facilities", included seven variables with factor loadings ranging from .711 to .463, indicating the availability and quality of physical and technological infrastructure.

Component 6, titled "Technology Integration", was composed of nine variables, with factor loadings between .721 and .419, highlighting the use of digital tools and systems in teaching, learning, and administration.

Table 17 Descriptions of Internal Factors

<b>Component</b>		<b>Indicator</b>
Internal Factors	Leaders and Governance	<ul style="list-style-type: none"> <li>• Leaders in the organization have clear guidelines regarding good governance principles to facilitate educational change</li> <li>• There are direct responsible persons to ensure that educational changes comply with laws and standards</li> <li>• Leaders have clear practices for avoiding conflicts of interest</li> <li>• Leaders can oversee educational changes with transparency</li> <li>• Ethical guidelines regarding changes are communicated to all personnel thoroughly</li> <li>• All personnel have equal opportunities to express opinions on educational changes</li> <li>• The university's governance structure is flexible and responsive to changes quickly</li> </ul>

Table 17 (continued)

Component	Indicator
Faculty and Staff Engagement	<ul style="list-style-type: none"> <li>• Encouraging faculty and staff participation in decision-making helps drive educational change</li> <li>• Adjusting institutional policies to align with faculty and staff needs helps promote educational change</li> <li>• Supporting faculty and staff to propose new ideas helps create educational innovations</li> <li>• Creating understanding and acceptance among faculty and staff helps make educational changes sustainable</li> <li>• Faculty and staff engagement is a key driver in educational change</li> </ul>
Financial Management	<ul style="list-style-type: none"> <li>• Budget expenditure aligns with educational strategic plans</li> <li>• Resources are appropriately allocated to support educational system development</li> <li>• The budget is flexible and can be adjusted according to the needs of each project</li> <li>• Revenue sources are diverse to continuously support educational system development</li> <li>• There is adequate investment in technology and teaching innovations</li> <li>• Financial planning takes into account long-term development goals</li> <li>• There is financial readiness to handle unexpected situations</li> <li>• All stakeholders, including faculty, staff, and students, participate in the budget decision-making process</li> </ul>
Academic Programs and Curriculum Design	<ul style="list-style-type: none"> <li>• Curricula are updated to respond to changing societal needs</li> <li>• There is integration of knowledge from multiple disciplines in curricula</li> <li>• Digital technology is appropriately used in teaching and learning</li> <li>• Curricula promote global perspectives and cross-cultural work skills</li> </ul>

Table 17 (continued)

Component	Indicator
	<ul style="list-style-type: none"> <li>• Curriculum design begins with clearly defined learning outcomes</li> <li>• Curricula emphasize the development of skills and specific knowledge according to required competency levels</li> <li>• Curricula are flexible and adaptable to various teaching and learning approaches</li> </ul>
Infrastructure and Facilities	<ul style="list-style-type: none"> <li>• Physical environments and classrooms align with modern teaching methods and support diverse teaching formats</li> <li>• Technology is efficiently integrated into infrastructure to enhance learning experiences and support digital transformation</li> <li>• Facilities are designed to be flexible and easily adaptable to different needs and teaching methods</li> <li>• Classrooms and learning spaces have sufficient, ready-to-use, modern equipment for hands-on student practice</li> <li>• The university is designed as a learning landscape with diverse spaces for both formal and informal learning</li> <li>• Digital infrastructure is robust and can support learning needs both on and off campus</li> <li>• There are adequate spaces and facilities for collaborative work that promote interaction and group work among students, faculty, and staff</li> </ul>
Technology Integration	<ul style="list-style-type: none"> <li>• Appropriate use of technology to develop necessary current skills</li> <li>• Sufficient technological equipment and systems ready for teaching and learning</li> <li>• Personnel receive training to use technology efficiently in their work</li> <li>• Personnel can effectively integrate technology into their work</li> <li>• Students develop both technical and analytical thinking technology skills</li> </ul>

Table 17 (continued)

Component		Indicator
		<ul style="list-style-type: none"> <li>• Appropriate integration of classroom and online learning</li> <li>• Use of data to analyze and improve student learning</li> <li>• Security measures to protect personal data in educational technology</li> <li>• All students have equal access to learning technology</li> </ul>

#### 4.2.3.3 Exploratory Factor Analysis of Educational Transformation Strategies

To verify the suitability of the dataset for exploratory factor analysis (EFA), preliminary statistical tests were conducted. The results showed that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.949, indicating that the sample was highly appropriate for factor analysis. Furthermore, Bartlett's Test of Sphericity yielded a Chi-Square value of 4453.680 with a significance level (Sig.) of .000, which is less than the threshold of .05. As a result, the null hypothesis ( $H_0$ ), which assumes that the correlation matrix is an identity matrix, was rejected. This indicates that the 35 observed variables included in the questionnaire are sufficiently interrelated and appropriate for factor extraction. The detailed results are presented in Table 18.

Table 18 Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test of Sphericity of Educational Transformation Strategies

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.949
Bartlett's Test of Sphericity	Approx. Chi-Square	4453.680
	df	595
	Sig.	0.000

The results of the exploratory factor analysis revealed that the observed variables could be grouped into five distinct components, each with an eigenvalue greater than 1.0, which meets the commonly accepted criterion for factor retention. The cumulative variance explained by these five components was 59.150%, indicating an acceptable level of total variance accounted for in the dataset. To enhance the interpretability of the factor structure, the extracted components were subjected to orthogonal rotation using the Varimax method. Following the rotation, several items exhibited changes in their factor loadings compared to the unrotated solution, resulting in a clearer and more distinct component structure. These results are presented in Table 19.

Table 19 Number of Components, Eigenvalues, Percentage of Variance, and Cumulative Percentage of Variance Explained by Each Component of Educational Transformation Strategies

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.581	44.517	44.517	15.581	44.517	44.517	6.202	17.719	17.719
2	1.769	5.054	49.572	1.769	5.054	49.572	4.140	11.828	29.547
3	1.245	3.558	53.130	1.245	3.558	53.130	4.046	11.559	41.106
4	1.103	3.151	56.281	1.103	3.151	56.281	3.842	10.977	52.083
5	1.004	2.869	59.150	1.004	2.869	59.150	2.473	7.067	59.150
6	.962	2.748	61.899						
7	.885	2.529	64.427						
8	.795	2.270	66.698						
9	.760	2.171	68.869						
10	.740	2.115	70.984						
11	.701	2.002	72.985						
12	.656	1.875	74.860						
13	.637	1.819	76.679						
14	.602	1.720	78.399						
15	.582	1.663	80.063						
16	.572	1.633	81.696						
17	.513	1.467	83.163						
18	.490	1.401	84.564						
19	.476	1.359	85.923						
20	.455	1.301	87.225						
21	.443	1.267	88.492						
22	.408	1.165	89.657						
23	.387	1.107	90.763						
24	.364	1.040	91.803						
25	.359	1.027	92.830						
26	.334	.954	93.784						
27	.325	.928	94.712						
28	.310	.887	95.599						
29	.277	.792	96.391						
30	.266	.760	97.150						
31	.248	.708	97.859						
32	.221	.631	98.490						
33	.192	.550	99.040						
34	.173	.494	99.534						
35	.163	.466	100.000						

Based on the results presented in Table 19, the factor loadings of the observed variables were analyzed using a cut-off threshold of 0.40, both before and after factor extraction. The analysis identified five components, encompassing a total of 35 observed variables. Each component had an eigenvalue greater than 1.0, satisfying the standard criterion for factor retention. The initial eigenvalues indicated the proportion of variance explained by each component prior to rotation: Component 1 accounted for the highest variance at 15.581, followed by Component 2 at 1.769, Component 3 at 1.245, Component 4 at 1.103, and Component 5 at 1.004. After applying orthogonal rotation using the Varimax method, the rotation sums of squared loadings showed that the cumulative variance explained ranged from 17.719% to 59.150%. Together, these five components explained 59.150% of the total variance in the dataset, representing the structure of External Factors related to educational transformation. Notably, the factor loadings of several items shifted after rotation, indicating clearer alignment of variables with conceptually meaningful components. The detailed rotated factor loadings are presented in Table 20.

Table 20 Rotated Factor Loadings of the Educational Transformation Strategies

<b>Rotated Component Matrix<sup>a</sup></b>					
	Component				
	1	2	3	4	5
Leaders in your organization clearly communicate vision and organizational values	.734				
Leaders promote organizational culture focused on quality and continuous improvement	.718				
Leaders demonstrate commitment to long-term organizational sustainability	.713				
Leaders can adapt strategies to the context aimed at international excellence standards	.695				
Leaders promote stakeholder participation in organizational development	.669				
Leaders demonstrate ethical values and integrity in administration	.604				
Leaders can inspire and motivate personnel toward excellence goals	.576				
Leaders promote leadership development at all organizational levels	.557				
University promotes career development opportunities for all levels of personnel		.692			
Personnel development programs enhance job competencies, including knowledge, skills, and work attitudes		.640			

Table 20 (continued)

Rotated Component Matrix <sup>a</sup>					
	Component				
	1	2	3	4	5
Administrators give importance to and continuously support personnel competency development		.589			
University systematically evaluates personnel competency development and continuously uses results for improvement		.569			
Personnel development programs increase job satisfaction and university engagement		.556			
Personnel development directly impacts organizational development toward excellence		.483			
University provides opportunities for faculty, current students, alumni, and stakeholders to participate in curriculum design			.666		
University curricula develop skills and abilities necessary for future work			.647		
University promotes new student-centered teaching methods such as Active Learning and Experiential Learning			.579		
Alignment exists between learning outcomes, teaching methods, and assessment methods in university curricula			.500		
University continuously evaluates and improves curricula using student learning outcome data			.487		
University curricula are flexible for adapting to various teaching formats such as classroom, online, and blended learning			.461		
New curriculum design and pedagogy directly impacts the development of academic excellence			.421		
University administrators demonstrate clear commitment and support for quality assurance processes				.660	
Personnel at all levels participate in quality assurance processes				.648	
University clearly communicates quality assurance processes and goals				.588	

Table 20 (continued)

Rotated Component Matrix <sup>a</sup>					
	Component				
	1	2	3	4	5
Quality assurance processes are integrated into daily university operations				.574	
Student learning assessment helps in university strategic decision-making				.553	
University uses quality assessment results to improve teaching quality and student learning outcomes				.510	
University quality assurance aligns with Education Criteria for Performance Excellence (EdPEX)				.419	
University provides comprehensive and effective academic support services					.749
University has professional skill development programs that enhance graduate employability					.733
University provides adequate mental health counseling and support services					.690
University has comprehensive financial support programs for students with needs					.659
University student support services are systematically integrated and connected					.562
University student support services positively impact student retention and graduation rates					.468
University student support services align with Education Criteria for Performance Excellence (EdPEX)					.454

Based on the results presented in Table 20, the factor loadings of the observed variables related to Educational Transformation Strategies were analyzed using a threshold of 0.40. The analysis resulted in the extraction of five components, comprising a total of 35 observed variables. Each component was named to reflect the conceptual meaning and thematic coherence of the grouped items, as follows:

Component 1, labeled "Leadership and Vision", consisted of eight variables, with factor loadings ranging from .557 to .734. This component represents the strategic direction, foresight, and leadership capacity essential for driving institutional transformation.

Component 2, titled "Faculty and Staff Development", included six variables, with loadings ranging from .483 to .692, reflecting the continuous professional growth and competency enhancement of university personnel.

Component 3, named "New Curriculum Design and Pedagogy", was composed of seven variables, with factor loadings between .421 and .666, representing innovative approaches to curriculum development and teaching methods tailored for the needs of modern learners.

Component 4, labeled "Assessment and Quality Assurance", also included seven variables, with factor loadings ranging from .419 to .660, focusing on evaluation mechanisms and quality assurance practices that ensure academic excellence and accountability.

Component 5, titled "Student Support Services", consisted of seven variables, with loadings between .454 and .749, emphasizing the range of institutional services designed to support student well-being, engagement, and academic success.

Table 21 Descriptions of Educational Transformation Strategies

<b>Component</b>		<b>Indicator</b>
Educational Transformation Strategies	Leadership and Vision	<ul style="list-style-type: none"> <li>• Leaders in your organization clearly communicate vision and organizational values</li> <li>• Leaders promote organizational culture focused on quality and continuous improvement</li> <li>• Leaders demonstrate commitment to long-term organizational sustainability</li> <li>• Leaders can adapt strategies to the context aimed at international excellence standards</li> <li>• Leaders promote stakeholder participation in organizational development</li> <li>• Leaders demonstrate ethical values and integrity in administration</li> <li>• Leaders can inspire and motivate personnel toward excellence goals</li> <li>• Leaders promote leadership development at all organizational levels</li> </ul>
	Faculty and Staff Development	<ul style="list-style-type: none"> <li>• University promotes career development opportunities for all levels of personnel</li> <li>• Personnel development programs enhance job competencies, including knowledge, skills, and work attitudes</li> </ul>

Table 21 (continued)

Component		Indicator
		<ul style="list-style-type: none"> <li>• Administrators give importance to and continuously support personnel competency development</li> <li>• University systematically evaluates personnel competency development and continuously uses results for improvement</li> <li>• Personnel development programs increase job satisfaction and university engagement</li> <li>• Personnel development directly impacts organizational development toward excellence</li> </ul>
	New Curriculum Design and Pedagogy	<ul style="list-style-type: none"> <li>• University provides opportunities for faculty, current students, alumni, and stakeholders to participate in curriculum design</li> <li>• University curricula develop skills and abilities necessary for future work</li> <li>• University promotes new student-centered teaching methods such as Active Learning and Experiential Learning</li> <li>• Alignment exists between learning outcomes, teaching methods, and assessment methods in university curricula</li> <li>• University continuously evaluates and improves curricula using student learning outcome data</li> <li>• University curricula are flexible for adapting to various teaching formats such as classroom, online, and blended learning</li> <li>• New curriculum design and pedagogy directly impacts the development of academic excellence</li> </ul>
	Assessment and Quality Assurance	<ul style="list-style-type: none"> <li>• University administrators demonstrate clear commitment and support for quality assurance processes</li> <li>• Personnel at all levels participate in quality assurance processes</li> <li>• University clearly communicates quality assurance processes and goals</li> </ul>

Table 21 (continued)

Component		Indicator
		<ul style="list-style-type: none"> <li>• Quality assurance processes are integrated into daily university operations</li> <li>• Student learning assessment helps in university strategic decision-making</li> <li>• University uses quality assessment results to improve teaching quality and student learning outcomes</li> <li>• University quality assurance aligns with Education Criteria for Performance Excellence (EdPEX)</li> </ul>
	Student Support Services	<ul style="list-style-type: none"> <li>• University provides comprehensive and effective academic support services</li> <li>• University has professional skill development programs that enhance graduate employability</li> <li>• University provides adequate mental health counseling and support services</li> <li>• University has comprehensive financial support programs for students with needs</li> <li>• University student support services are systematically integrated and connected</li> <li>• University student support services positively impact student retention and graduation rates</li> <li>• University student support services align with Education Criteria for Performance Excellence (EdPEX)</li> </ul>

#### 4.2.3.4 Exploratory Factor Analysis of University Performance Excellence

To determine the appropriateness of the dataset for exploratory factor analysis (EFA), preliminary tests were conducted. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy yielded a value of 0.766, indicating a moderate level of sampling adequacy suitable for factor analysis. Additionally, Bartlett's Test of Sphericity produced a Chi-Square value of 173.170 with a significance level (Sig.) of .000, which is below the threshold of .05. As a result, the null hypothesis which assumes that the correlation matrix is an identity matrix was rejected. This confirms that the four observed variables in the questionnaire were sufficiently correlated and appropriate for factor extraction. The results of the test are presented in Table 22.

Table 22 Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test of Sphericity of University Performance Excellence

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.766
Bartlett's Test of Sphericity	Approx. Chi-Square	173.170
	df	6
	Sig.	0.000

The results of the exploratory factor analysis indicated that the observed variables could be grouped into a single component, with an eigenvalue greater than 1.0. This component accounted for a total variance of 56.165%, which is considered acceptable for factor extraction in the context of social science research. To improve the interpretability of the factor structure, orthogonal rotation using the Varimax method was applied. The analysis revealed that the factor loadings of individual items shifted compared to their values prior to rotation, resulting in a more coherent representation of the single extracted component. The rotated factor loadings are presented in Table 23.

Table 23 Number of Components, Eigenvalues, Percentage of Variance, and Cumulative Percentage of Variance Explained by Each Component of University Performance Excellence

<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.247	56.165	56.165	2.247	56.165	56.165
2	.639	15.976	72.141			
3	.580	14.507	86.649			
4	.534	13.351	100.000			

Based on the results presented in Table 23, the factor loadings of the observed variables were analyzed using a minimum cut-off value of 0.40. The analysis extracted one component, consisting of a total of four observed variables. The initial eigenvalue of this component was 2.247, indicating that it accounted for the largest proportion of variance among the variables. The cumulative variance explained, as shown by the rotation sums of squared loadings, was 56.165%, which reflects an acceptable level of variance explained by a single factor in social science research. This component represents the construct of University Performance Excellence. To enhance clarity and interpretability, orthogonal rotation using the Varimax method was applied. Following rotation, the factor loadings of the variables shifted compared to their initial unrotated values. The detailed rotated factor loadings are presented in Table 24.

Table 24 Rotated Factor Loadings of the University Performance Excellence

<b>Rotated Component Matrix<sup>a</sup></b>	
	Component
Systematic Operation	.778
Deployment and Implementation	.751
Monitoring and Evaluation	.737
Results-Oriented Improvement	.731

Based on the results presented in Table 24, the factor loadings of the observed variables related to University Performance Excellence were analyzed using a threshold value of 0.40. The analysis revealed that a single component could be extracted, comprising a total of four observed variables. The factor loadings for these variables ranged from .731 to .778, indicating strong associations between the items and the extracted component.

Table 25 Descriptions of University Performance Excellence

<b>Component</b>	<b>Indicator</b>
<b>University Performance Excellence</b>	<ul style="list-style-type: none"> <li>• Systematic Operation</li> <li>• Deployment and Implementation</li> <li>• Monitoring and Evaluation</li> <li>• Results-Oriented Improvement</li> </ul>

#### 4.2.4 Confirmatory Factor Analysis

From the exploratory factor analysis results of educational transformation strategies for operational excellence components, the researcher used 4 components that passed the exploratory factor analysis to conduct a confirmatory factor analysis of the educational transformation strategies for operational excellence model. This was done by collecting questionnaires from the sample group. For the structural equation modeling analysis criteria, the researcher considered the analysis results of the model's consistency with empirical data. Confirmatory factor analysis of educational transformation strategies for operational excellence components includes Chi-square statistics, Goodness of Fit Index, Comparative Fit Index, Adjusted Goodness of Fit Index, and Root Mean Square Error of Approximation, as shown in Table 26.

Table 26 Consistency Check Indices and Consideration Criteria

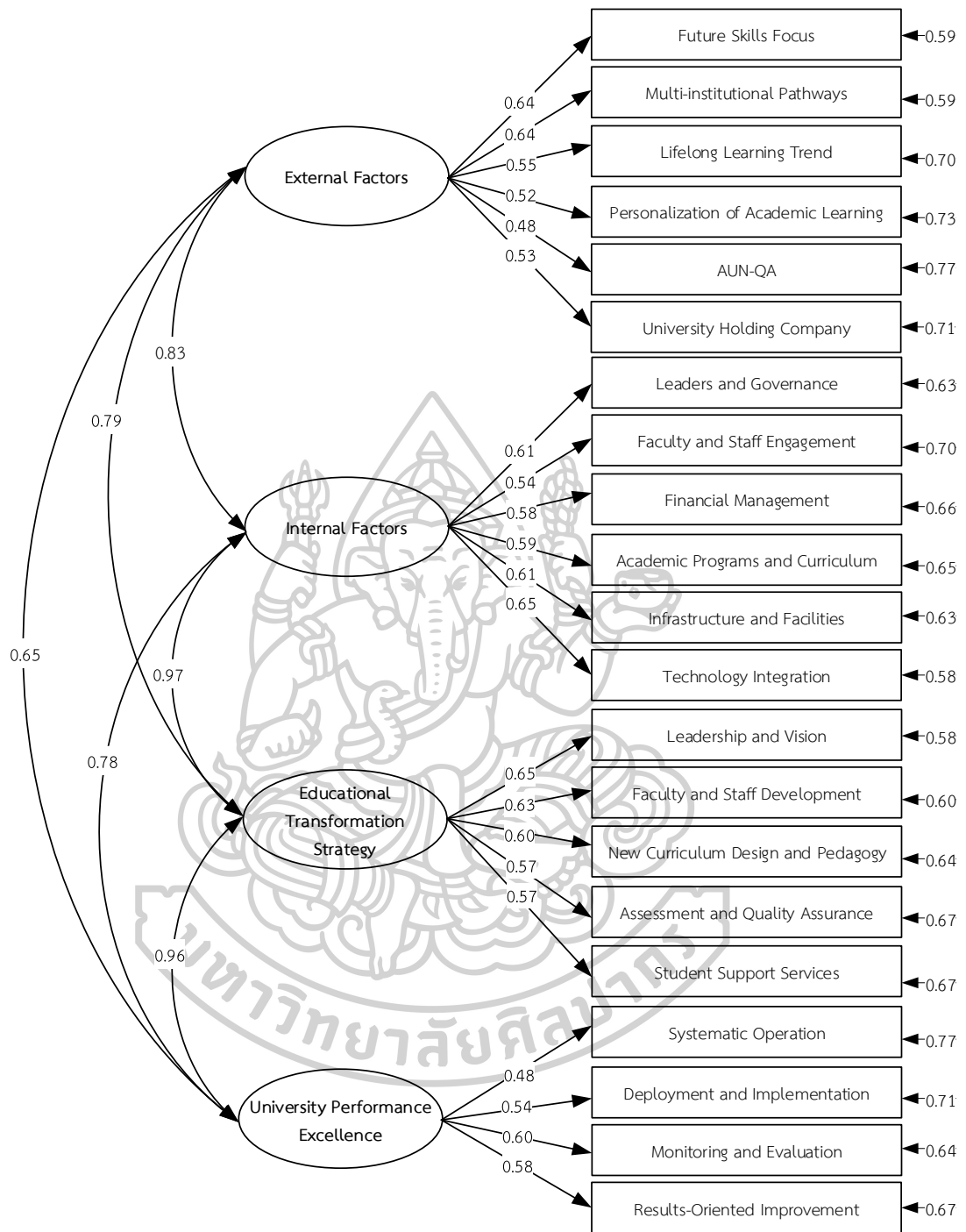
Item	Criteria
$X^2$	Not statistically significant at .05 level
df	-
p-value	$P > 0.05$
$X^2/df$	$X^2/df < 2$
CFI	Value of 0.90 or higher
GFI	Value greater than 0.95
AGFI	Value greater than 0.95
RMSEA	Value close to 0.0

#### 4.2.4.1 Results of Confirmatory Factor Analysis of Educational Transformation Strategies for Operational Excellence Components

##### 1 . First-Order Confirmatory Factor Analysis Results of Educational Transformation Strategies for Operational Excellence

For the first-order confirmatory factor analysis, the researcher conducted a confirmatory factor analysis (CFA) to analyze the goodness of fit of the variable model related to educational transformation strategies for operational excellence using statistical software with the sample group.

1) First-order confirmatory factor analysis of the initial model of educational transformation strategies for operational excellence before model adjustment consisted of 4 components which are 1 ) External Factors, 2 ) Internal Factors, 3 ) Educational Transformation Strategy, and 4 ) University Performance Excellence, as shown in Table 27 and Figure 3.



Chi-Square=110.18, df=183, P-value=1.00000, RMSEA=0.000

Figure 3 Results of first-order confirmatory factor analysis of the initial model before adjustment

Table 27 Goodness of Fit Indices of First-Order Confirmatory Factor Analysis of the Initial Model Before Adjustment

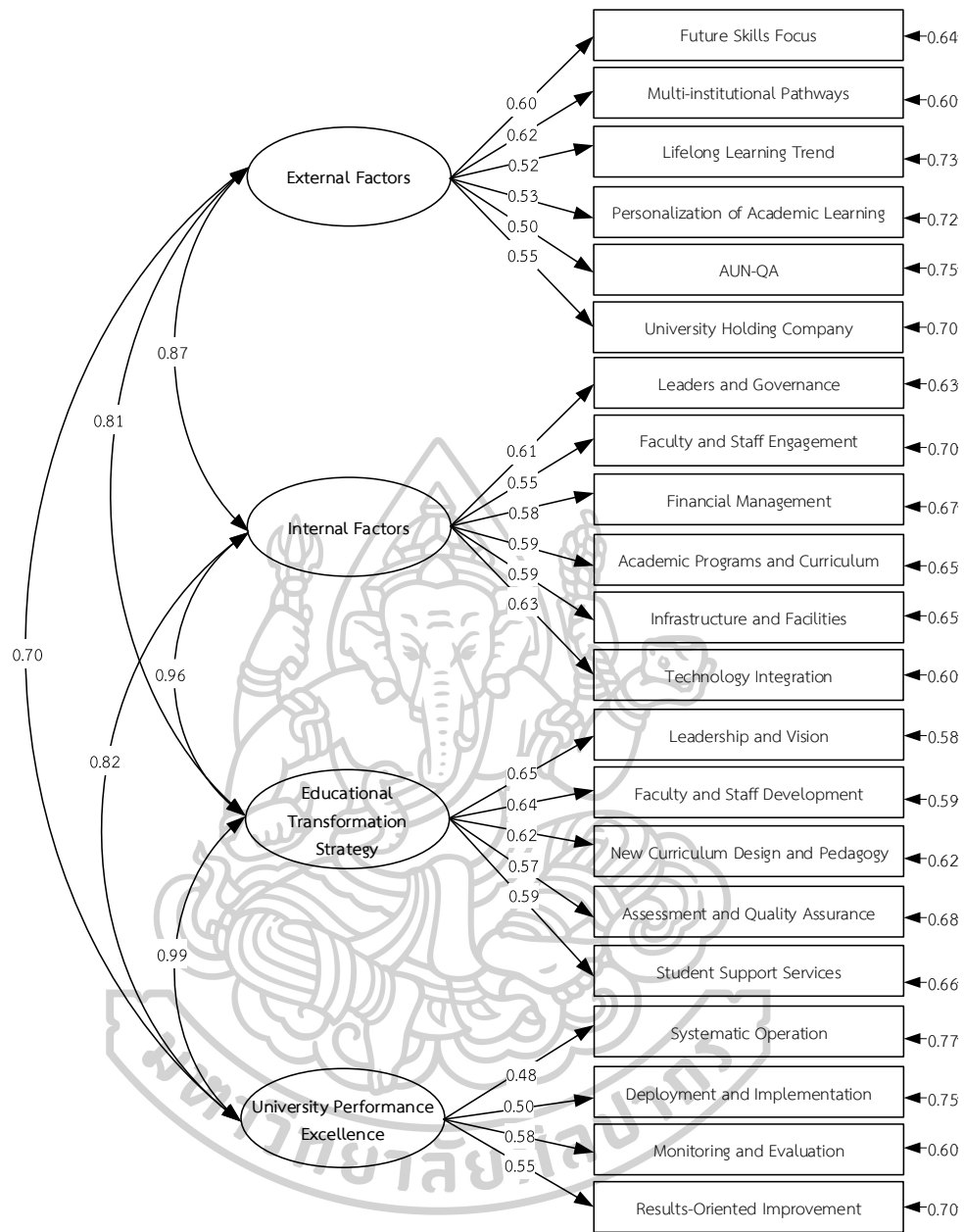
Item	Criteria	Calculated Value	Consideration Result
$X^2$	Not statistically significant at .05 level	110.18	-
df	-	183	-
p-value	$P > 0.05$	1.00	-
$X^2/df$	$X^2/df < 2$	0.60	Passed
CFI	Value of 0.90 or higher	1.00	Passed
GFI	Value greater than 0.95	0.95	Passed
AGFI	Value greater than 0.95	0.94	Failed
RMSEA	Value close to 0.0	0.000	Passed

When considering Table 27 and Figure 3, it was found that the first-order confirmatory factor analysis model of educational transformation strategies for operational excellence had the following statistical values used for verification:

Chi-square ( $X^2$ ) value of 110.18 with statistical significance at p-value = 1.00, relative Chi-square ( $X^2/df$ ) = 0.60 Comparative Fit Index (CFI) = 1.00, Goodness of Fit Index (GFI) = 0.95, Adjusted Goodness of Fit Index (AGFI) = 0.94, and Root Mean Square Error of Approximation (RMSEA) = 0.000. These values passed almost all criteria, but did not fully align with the empirical data. Therefore, the analysis results did not meet the consideration criteria, requiring value adjustments for appropriateness.

When considering the factor loadings in each component, it was found that the External Factors component had 6 sub-components with factor loadings ranging from 0.520 to 0.640; the Internal Factors component had 6 sub-components with factor loadings ranging from 0.540 to 0.650; the Educational Transformation Strategy component had 5 sub-components with factor loadings ranging from 0.570 to 0.650; and the University Performance Excellence component had 4 sub-components with factor loadings ranging from 0.480 to 0.600.

2) First-order confirmatory factor analysis of educational transformation strategies for operational excellence after model adjustment for appropriateness and clearer component structure, consisting of 4 components: 1) External Factors, 2) Internal Factors, 3) Educational Transformation Strategy, and 4) University Performance Excellence, as shown in Table 28 and Figure 4.



Chi-Square=89.82, df=178, P-value=1.00000, RMSEA=0.000

Figure 4 Results of first-order confirmatory factor analysis after model adjustment

Table 28 Goodness of Fit Indices of First-Order Confirmatory Factor Analysis After Adjustment

Item	Criteria	Calculated Value	Consideration Result
$X^2$	Not statistically significant at .05 level	89.82	-
df	-	178	-
p-value	$P > 0.05$	1.00	-
$X^2/df$	$X^2/df < 2$	0.50	Passed
CFI	Value of 0.90 or higher	1.00	Passed
GFI	Value greater than 0.95	0.96	Passed
AGFI	Value greater than 0.95	0.95	Passed
RMSEA	Value close to 0.0	0.000	Passed

From Table 28, it was found that the first-order confirmatory factor analysis model of educational transformation strategies for operational excellence had the following statistical values used for verification: Chi-square ( $X^2$ ) value of 89.82 with statistical significance at p-value = 1.00, relative Chi-square ( $X^2/df$ ) = 0.50, Comparative Fit Index (CFI) = 1.00, Goodness of Fit Index (GFI) = 0.96, Adjusted Goodness of Fit Index (AGFI) = 0.95, and Root Mean Square Error of Approximation (RMSEA) = 0.000. These values passed all criteria, indicating the model's consistency with empirical data.

When considering the factor loadings in each component, it was found that the External Factors component had 6 sub-components with factor loadings ranging from .520 to .620; the Internal Factors component had 6 sub-components with factor loadings ranging from .550 to .630; the Educational Transformation Strategy component had 5 sub-components with factor loadings ranging from .570 to .650; and the University Performance Excellence component had 4 sub-components with factor loadings ranging from .480 to .580.

## 2. Second-Order Confirmatory Factor Analysis Results of Educational Transformation Strategies for Operational Excellence

For the second-order confirmatory factor analysis, the researcher conducted a confirmatory factor analysis (CFA) to analyze the goodness of fit of the variable model related to educational transformation strategies for operational excellence using statistical analysis software.

1) Second-order confirmatory factor analysis of the initial model of educational transformation strategies for operational excellence before model adjustment consisted of 4 components: 1) External Factors, 2) Internal Factors, 3) Educational Transformation Strategy, and 4) University Performance Excellence, as shown in Table 29 and Figure 5.

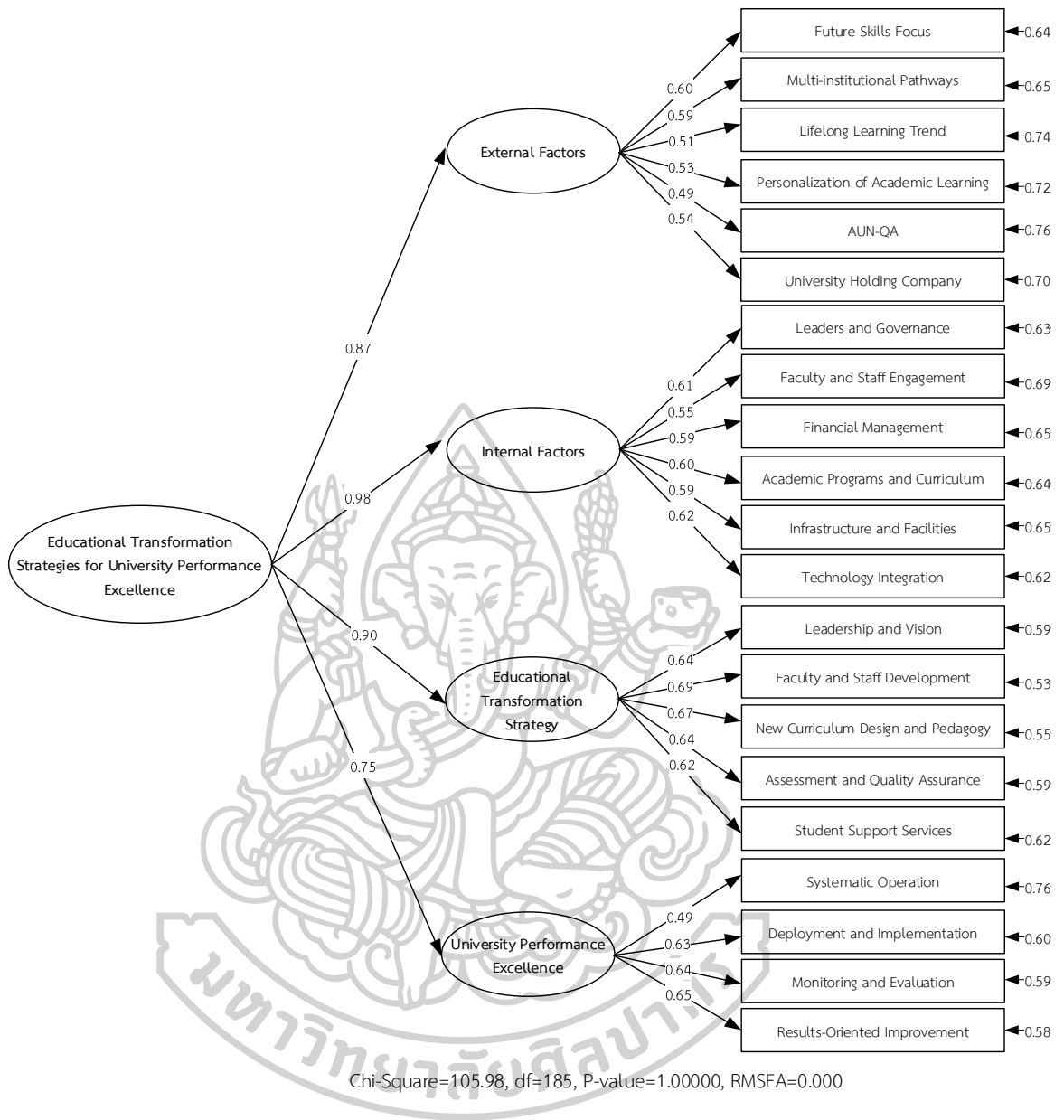


Figure 5 Results of second-order confirmatory factor analysis of the initial model before adjustment

Table 29 Goodness of Fit Indices of Second-Order Confirmatory Factor Analysis of the Initial Model Before Adjustment

Item	Criteria	Calculated Value	Consideration Result
$X^2$	Not statistically significant at .05 level	105.98	-
df	-	185	-
p-value	$P > 0.05$	1.00	-
$X^2/df$	$X^2/df < 2$	0.57	Passed
CFI	Value of 0.90 or higher	1.00	Passed
GFI	Value greater than 0.95	0.96	Passed
AGFI	Value greater than 0.95	0.94	Failed
RMSEA	Value close to 0.0	0.000	Passed

When considering Table 29 and Figure 5, it was found that the confirmatory factor analysis model of educational transformation strategies for operational excellence had the following statistical values used for verification: Chi-square ( $X^2$ ) value of 105.98 with statistical significance at p-value = 1.00, relative Chi-square ( $X^2/df$ ) = 0.57, Comparative Fit Index (CFI) = 1.00, Goodness of Fit Index (GFI) = 0.96, Adjusted Goodness of Fit Index (AGFI) = 0.94, and Root Mean Square Error of Approximation (RMSEA) = 0.000. These values passed almost all criteria, but did not fully align with the empirical data. Therefore, the analysis results did not meet the consideration criteria, requiring value adjustments for appropriateness.

When considering the factor loadings in each component, it was found that the External Factors component had 6 sub-components with factor loadings ranging from .490 to .600; the Internal Factors component had 6 sub-components with factor loadings ranging from .550 to .620; the Educational Transformation Strategy component had 5 sub-components with factor loadings ranging from .620 to .690; and the University Performance Excellence component had 4 sub-components with factor loadings ranging from .490 to .650.

2) Second-order confirmatory factor analysis of educational transformation strategies for operational excellence after model adjustment for appropriateness and clearer component structure, consisting of 4 components: 1) External Factors, 2) Internal Factors, 3) Educational Transformation Strategy, and 4) University Performance Excellence, as shown in Table 30 and Figure 6.

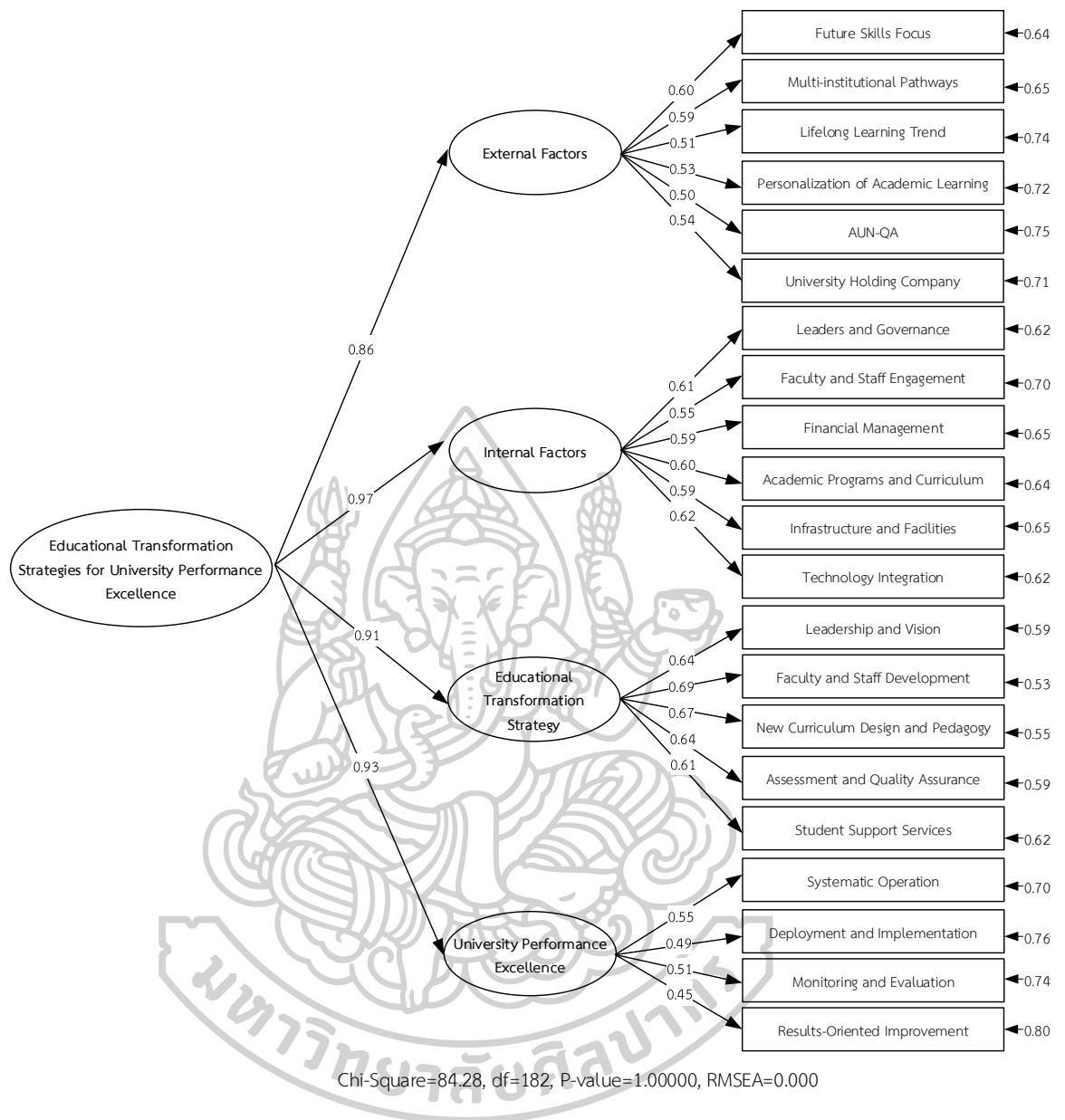


Figure 6 Results of second-order confirmatory factor analysis after model adjustment

Table 30 Goodness of Fit Indices of Second-Order Confirmatory Factor Analysis After Adjustment

Item	Criteria	Calculated Value	Consideration Result
$X^2$	Not statistically significant at .05 level	84.28	-
df	-	182	-
p-value	$P > 0.05$	1.00	-
$X^2/df$	$X^2/df < 2$	0.46	Passed
CFI	Value of 0.90 or higher	1.00	Passed
GFI	Value greater than 0.95	0.96	Passed
AGFI	Value greater than 0.95	0.95	Passed
RMSEA	Value close to 0.0	0.000	Passed

When considering Table 30 and Figure 6, it was found that the confirmatory factor analysis model of educational transformation strategies for operational excellence had the following statistical values used for verification: Chi-square ( $X^2$ ) value of 105.98 with statistical significance at p-value = 1.00, relative Chi-square ( $X^2/df$ ) = 0.46, Comparative Fit Index (CFI) = 1.00, Goodness of Fit Index (GFI) = 0.96, Adjusted Goodness of Fit Index (AGFI) = 0.95, and Root Mean Square Error of Approximation (RMSEA) = 0.000. These values passed all criteria, indicating that the model is consistent with empirical data.

When considering the factor loadings in each component, it was found that the External Factors component had 6 sub-components with factor loadings ranging from .500 to .600; the Internal Factors component had 6 sub-components with factor loadings ranging from .590 to .620; the Educational Transformation Strategy component had 5 sub-components with factor loadings ranging from .610 to .690; and the University Performance Excellence component had 4 sub-components with factor loadings ranging from .450 to .550.

#### 4.2.4.2 Validity and Reliability Assessment

##### Convergent and Discriminant Validity

After the Confirmatory Factor Analysis (CFA) was conducted to validate the measurement model, the next step involved assessing the model's construct validity, which includes convergent validity and discriminant validity. These validity checks ensure that the latent constructs are not only measured reliably, but also represent conceptually distinct phenomena within the model.

Convergent validity was assessed using the Average Variance Extracted (AVE) and Composite Reliability (CR) for each construct. Table 31 presents the AVE and CR values for the four constructs: External Factors (EF), Internal Factors (IF), Educational Transformation Strategies (ETS), and University Performance Excellence (UPE). Although the AVE values for all constructs were

below the conventional threshold of 0.50, the CR values of all constructs exceeded 0.70. According to the criterion proposed by Fornell and Larcker (1981), convergent validity is considered acceptable when the CR is above 0.60, even if the AVE is less than 0.50. Based on this guideline, the measurement model in this study demonstrates satisfactory convergent validity.

Table 31 AVE and CR and Inter-Construct Correlations

	<b>CR</b>	<b>AVE</b>	<b>EF</b>	<b>IF</b>	<b>ETS</b>	<b>UPE</b>
<b>EF</b>	0.726	0.308	1			
<b>IF</b>	0.763	0.351	0.807	1		
<b>ETS</b>	0.752	0.377	0.755	0.876	1	
<b>UPE</b>	0.707	0.279	0.681	0.807	0.865	1

As for discriminant validity, it was examined by comparing the inter-construct correlations. Table 31 also presents the inter-construct correlations among the latent variables. All correlations were found to be below 0.90, which indicates that the constructs are empirically distinct and do not overlap excessively (Kline, 2015). Although the AVE values are relatively low, the acceptable CR values combined with moderate inter-construct correlations provide evidence to support the model's discriminant validity.

The assessment of both convergent and discriminant validity confirms that the measurement model is sufficiently valid and reliable, and thus appropriate for further structural model analysis.

#### 4.2.5 Structural Equation Model

The researcher established the full structural equation model format for educational transformation strategies for operational excellence, as shown in Figure 7.

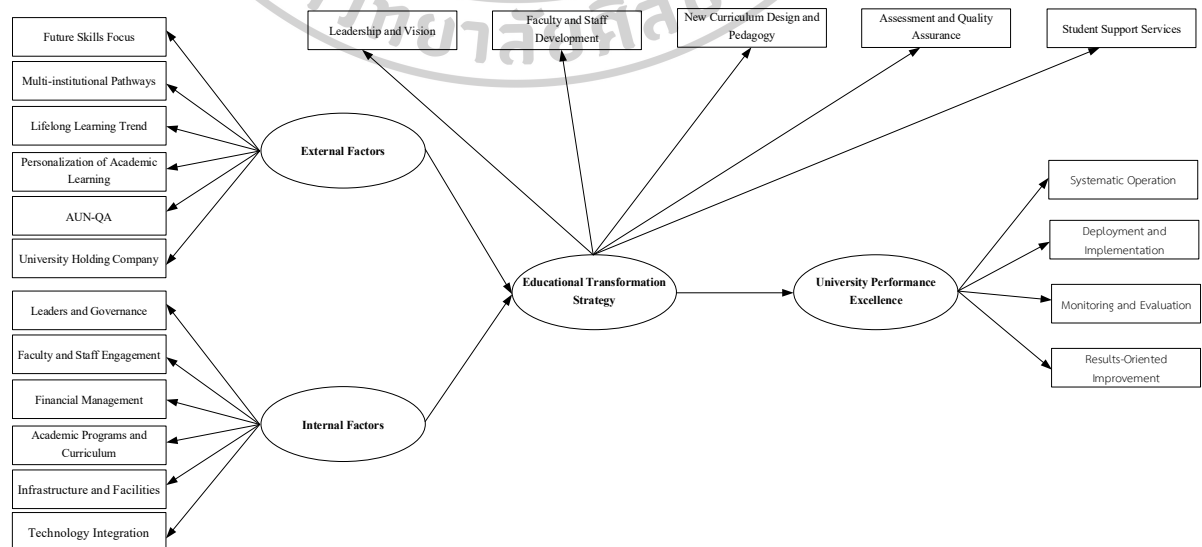


Figure 7 Path analysis model of relationships between studied variables

**Parameter Estimation Results of the Educational Transformation Strategies for University Performance Excellence Model**

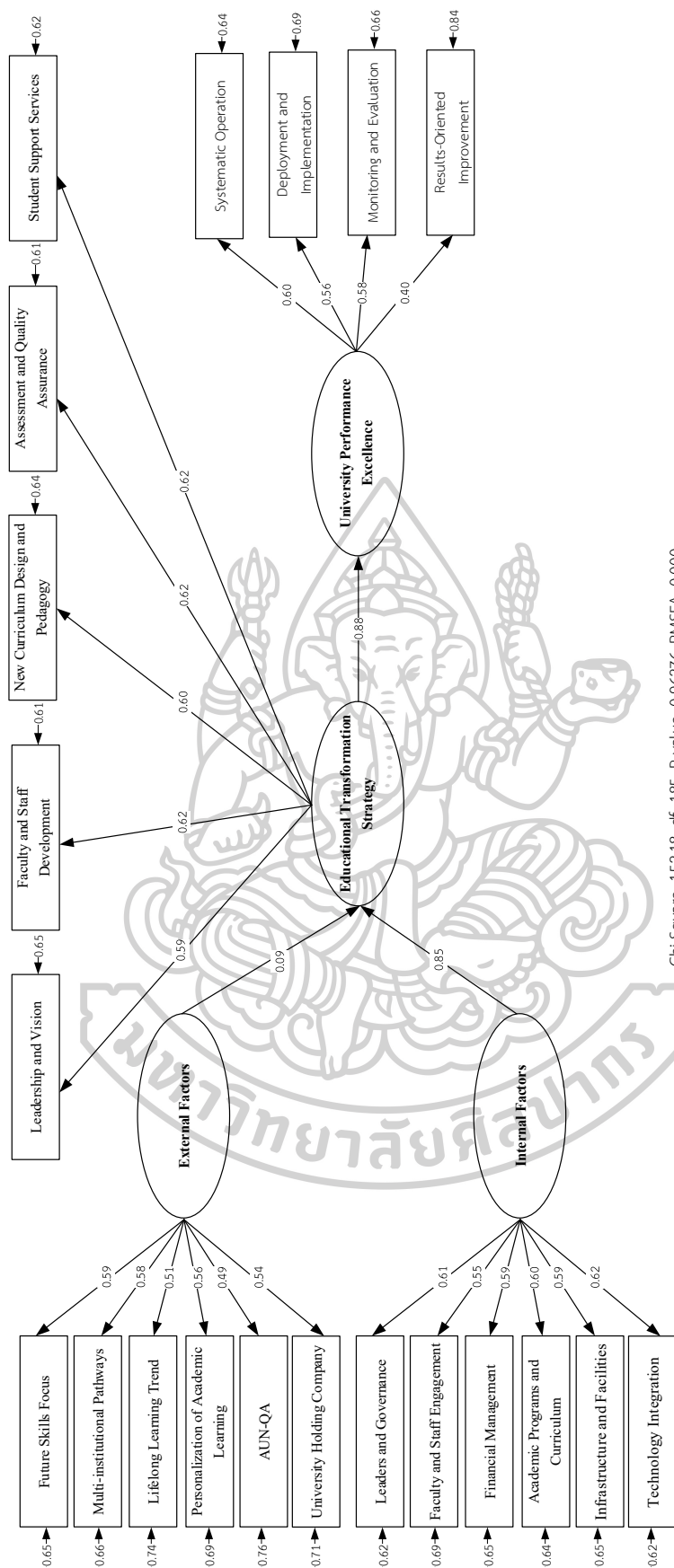


Figure 8 Parameter estimation results of the initial model before adjustment

### Model Consistency Check Results

The analysis results of the structural equation model for educational transformation strategies for operational excellence, initial model before adjustment, showed that the structural equation model of educational transformation strategies for operational excellence had the following statistical values used for verification: Chi-square ( $X^2$ ) value of 152.18 with statistical significance at p-value = 0.96, relative Chi-square ( $X^2/df$ ) = 0.82, Comparative Fit Index (CFI) = 1.00, Goodness of Fit Index (GFI) = 0.94, Adjusted Goodness of Fit Index (AGFI) = 0.92, and Root Mean Square Error of Approximation (RMSEA) = 0.000. These values did not pass almost all criteria, as shown in Table 32, indicating that the model is not consistent with empirical data. Therefore, the analysis results did not meet the consideration criteria, requiring value adjustments for appropriateness.

Table 32 Goodness of Fit Indices of Theoretical Model with Empirical Data Before Model Adjustment

Item	Criteria	Calculated Value	Consideration Result
$X^2$	Not statistically significant at .05 level	152.18	-
df	-	185	-
p-value	$P > 0.05$	0.96	-
$X^2/df$	$X^2/df < 2$	0.82	Passed
CFI	Value of 0.90 or higher	1.00	Passed
GFI	Value greater than 0.95	0.94	Failed
AGFI	Value greater than 0.95	0.92	Failed
RMSEA	Value close to 0.0	0.000	Passed

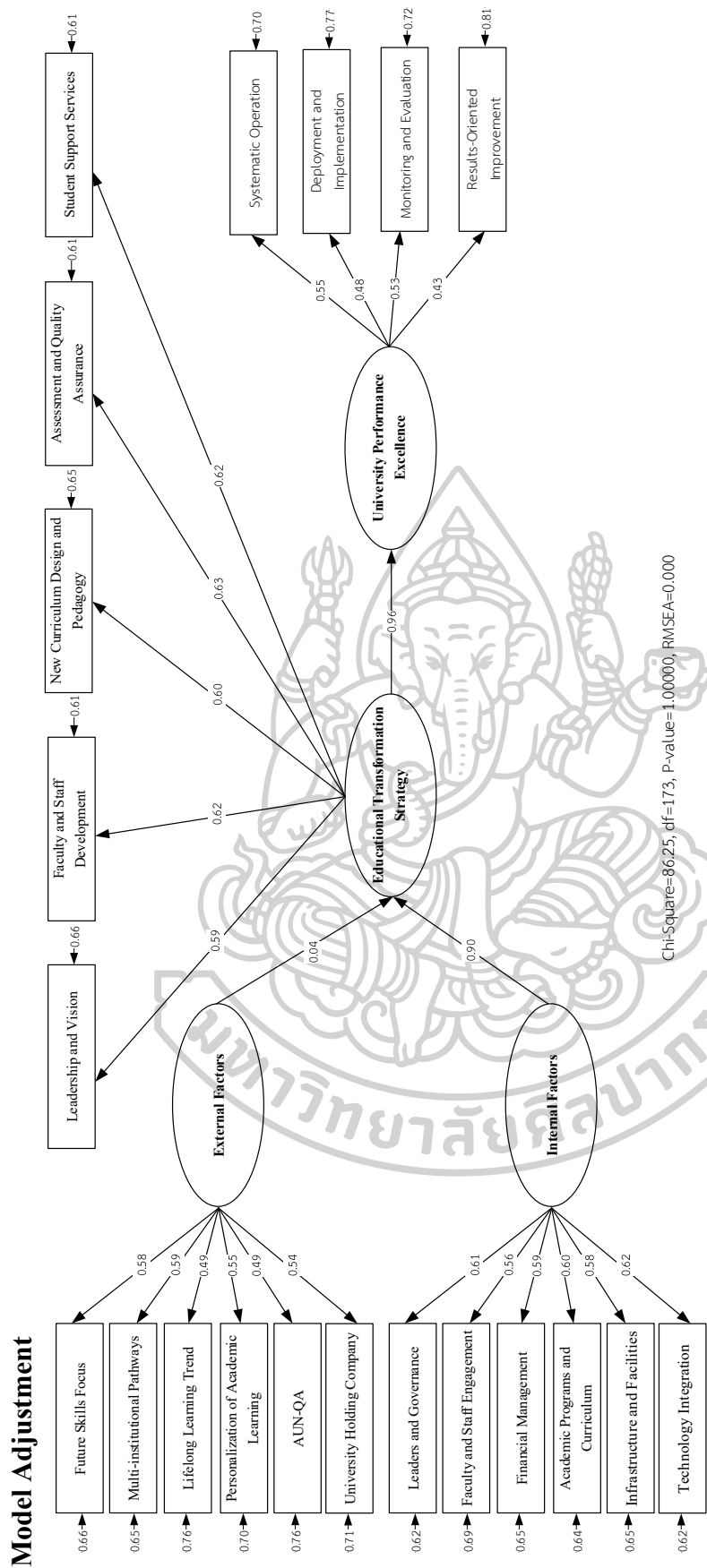


Figure 9 The Final Structural Model after Model Modification

### Model Consistency Check Results

The analysis results of the structural equation model for educational transformation strategies for operational excellence after appropriate model adjustment showed that the theoretical model is consistent with empirical data, passing all model evaluation criteria. The model had the following statistical values used for verification: Chi-square ( $X^2$ ) value of 86.25 with statistical significance at  $p$ -value = 1.00, relative Chi-square ( $X^2 / df$ ) = 0.49, Comparative Fit Index (CFI) = 1.00, Goodness of Fit Index (GFI) = 0.96, Adjusted Goodness of Fit Index (AGFI) = 0.95, and Root Mean Square Error of Approximation (RMSEA) = 0.000, as shown in Table 33.

Table 33 Goodness of Fit Indices of Theoretical Model with Empirical Data After Model Adjustment

Item	Criteria	Calculated Value	Consideration Result
$X^2$	Not statistically significant at .05 level	86.25	-
df	-	173	-
p-value	$P > 0.05$	1.00	-
$X^2/df$	$X^2/df < 2$	0.49	Passed
CFI	Value close to 1.0	1.00	Passed
GFI	Value close to 1.0	0.96	Passed
AGFI	Value close to 1.0	0.95	Passed
RMSEA	Value close to 0.0	0.000	Passed

#### 4.2.5.1 Hypothesis Testing

After confirming that the adjusted theoretical model demonstrated a good fit with the empirical data as in Figure 10, the next step involved hypothesis testing to evaluate the structural relationships among the constructs.

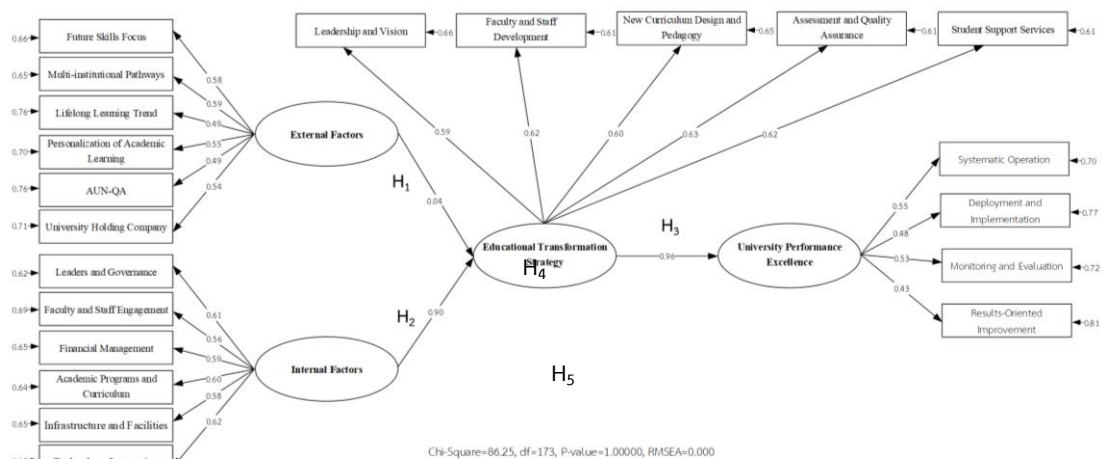


Figure 10 The Summary of Hypothesis Testing

Table 34 summarizes the results of the hypothesis testing based on the path coefficients, significance levels, and indirect effects analyzed through Structural Equation Modeling (SEM). All five hypotheses proposed in this study were statistically supported.

Table 34 The results of the hypothesis testing

Hypothesis	Results
Hypothesis 1: External Factors positively associate with Educational Transformation Strategies	Supported
Hypothesis 2: Internal Factors positively associate with Educational Transformation Strategies	Supported
Hypothesis 3: Educational Transformation Strategies positively associates with University Performance Excellence	Supported
Hypothesis 4: Educational Transformation Strategies mediate the relationship between external factors and university performance excellence	Supported
Hypothesis 5: Educational Transformation Strategies mediate the relationship between internal factors and university performance excellence	Supported

The results of hypothesis testing revealed strong empirical support for all five proposed hypotheses in the study, confirming the conceptual model. First, both external and internal factors were found to have a significant positive association with educational transformation strategies (Hypotheses 1 and 2). This indicates that universities' ability to formulate and implement transformation strategies is driven not only by internal resources such as leadership, infrastructure, and curriculum design, but also by external forces such as technological disruption, shifting labor market demands, and national education policies.

The findings affirmed that educational transformation strategies exert a strong direct influence on university performance excellence (Hypothesis 3), suggesting that institutions that actively engage in transformation efforts such as curriculum innovation, staff development, and student support are more likely to achieve high levels of performance across teaching, research, and management dimensions.

Moreover, the results also confirmed the mediating role of educational transformation strategies in the relationships between both external and internal factors and university performance excellence (Hypotheses 4 and 5). This underscores that external and internal drivers alone are not sufficient to enhance institutional outcomes; rather, their influence is most effectively realized when translated into coherent and strategic transformation initiatives. These findings validate the proposed theoretical framework and highlight the pivotal role of strategic

transformation as a mechanism through which universities respond to environmental challenges and enhance their overall performance.

#### 4.2.5.2 Results of Direct Effects, Indirect Effects, and Total Effects Calculation

Following the confirmation of the hypothesized relationships, the researcher further examined the magnitude and nature of the causal paths among variables using the final structural model. Specifically, the analysis focused on decomposing the direct effects, indirect effects, and total effects of each construct within the model. This calculation was essential to understanding not only the strength of the relationships but also the mediating roles played by key constructs, particularly educational transformation strategies.

By applying the structural equation modeling (SEM) technique, the standardized path coefficients were extracted and summarized. The results revealed that Educational Transformation Strategies served as a significant mediator, transmitting the influence of both External Factors and Internal Factors to University Performance Excellence. Additionally, the total effects demonstrated that while Internal Factors had strong indirect contributions to performance, External Factors relied even more heavily on their mediated paths through strategic transformation initiatives. These findings provide a deeper insight into the causal mechanisms underlying university performance improvement within the context of educational change, as shown in Table 35.

Table 35 Direct Effects, Indirect Effects, and Total Effects

Dependent Variable	Effects	Independent Variable		
		External Factors	Internal Factors	Educational Transformation Strategy
Educational Transformation Strategy	Direct Effect	0.04	0.90	-
	Indirect Effect	-	-	-
	Total Effect	0.04	0.90	-
University Performance Excellence	Direct Effect	-	-	0.96
	Indirect Effect	0.04	0.86	-
	Total Effect	0.04	0.86	0.96

From Table 35, when considering the total effects, it was found that the independent variables that influence University Performance Excellence include External Factors, Internal Factors, and Educational Transformation Strategy, with total effect values of 0.04, 0.86, and 0.96 respectively. Furthermore, the study results show that for University Performance Excellence, the variable with the greatest influence is Educational Transformation Strategy.

#### 4.2.5.4 Mediation Analysis Results

To further examine the role of Educational Transformation Strategies (ETS) as a mediating variable, mediation analysis was conducted using standardized indirect effects and significance testing through bootstrapping. As shown in the results, both external factors (EF) and internal factors (IF) demonstrated significant indirect effects on university performance excellence (UPE) through ETS.

Table 36 The mediation impacts

	IV-DV	IV-M-DV		Mediation type
	Direct	Direct	Indirect	
EF-ETS-UPE	0.487	0.139	0.487	Partial mediation
IF-ETS-UPE	0.737	0.764	0.737	Partial mediation

Table 37 Standardized indirect effects (two-tailed significance)

	EF	IF
ETS	0.012	0.004
UPE	0.000	0.000

Note:  $p < 0.001$ .

For the pathway from EF to UPE via ETS, the direct effect was 0.139, while the indirect effect was 0.487, indicating a case of partial mediation. Similarly, the pathway from IF to UPE through ETS showed a direct effect of 0.764 and an indirect effect of 0.737, also demonstrating partial mediation. These findings suggest that ETS plays a critical mediating role in transmitting the effects of both external and internal drivers toward improved institutional performance.

Significance testing confirmed these indirect effects. The indirect effect from EF to ETS was statistically significant at  $p = 0.012$ , while the indirect effect from IF to ETS was significant at  $p = 0.004$ . Furthermore, the effect of ETS on UPE was highly significant, with  $p = 0.000$ . Based on these findings, it can be concluded that educational transformation strategies significantly mediate the impact of both internal and external factors on university performance excellence.

The results from the structural equation modeling (SEM) analysis indicate that the model of educational transformation strategies for university performance excellence exhibits a good fit with the empirical data. The fit indices met the required thresholds, confirming the appropriateness of the proposed model. The

findings support all five hypotheses: both external and internal factors have a significant positive association with educational transformation strategies, which in turn significantly influence university performance excellence. Among the three direct predictors, educational transformation strategies emerged as the most influential factor in determining performance excellence. Moreover, the analysis confirms the mediating role of educational transformation strategies in the relationships between both external and internal factors and performance outcomes. This finding underscores the strategic function of educational transformation as a central mechanism through which universities can effectively respond to external pressures and internal organizational dynamics. These results are consistent with contemporary strategic management theories, which emphasize the necessity for higher education institutions to continuously adapt and transform in order to maintain relevance and achieve sustainable success. Therefore, universities should prioritize the systematic development and implementation of comprehensive educational transformation strategies.

In the context of Thailand, this study recommends that universities focus on strengthening key components of transformation strategies particularly in the areas of financial management, infrastructure and facilities investment, and faculty and staff engagement. These areas serve as critical enablers for driving efficient, responsive, and sustainable transformation, ultimately contributing to institutional performance excellence.

#### **4.2.6 A proposed educational transformation strategy model for higher educational institutions**

From the above discussion, the connections between the elements can be visualized as follows:

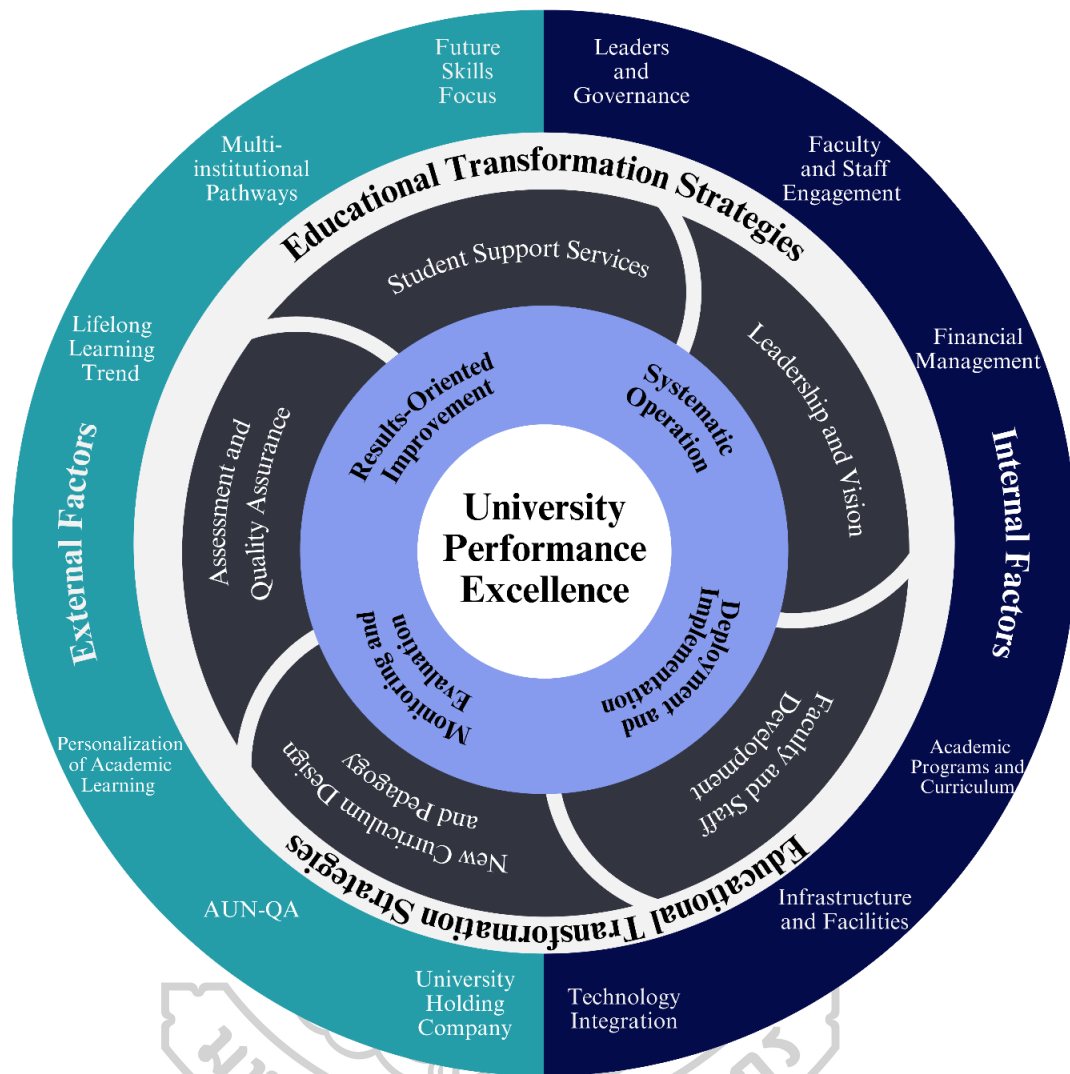


Figure 11 Educational Transformation Strategy Model

The Educational Transformation Strategy Model for higher education institutions offers a comprehensive framework that connects both external and internal factors, aiming to guide universities through transformation and enhance their overall performance. At the center of this model is University Performance Excellence, which is the ultimate goal of any transformation effort. Achieving this excellence requires a thoughtful integration of external influences, such as societal changes and global trends, alongside the internal structures and resources of the university. External factors like the increasing demand for future skills highlight the need for universities to equip students with essential competencies such as digital literacy, problem-solving, and critical thinking skills that are crucial for success in an evolving workforce. Additionally, multi-institutional pathways foster collaboration among universities, which provides students with diverse opportunities for growth and development. The lifelong learning trend is another driving force, emphasizing

the importance of continuous education throughout one's career. Universities need to provide flexible learning options that allow individuals to upskill or reskill as needed. Personalization of academic learning also plays a role, pushing institutions to tailor educational experiences to meet the unique needs of each student. Moreover, accreditation frameworks like AUN-QA ensure that universities maintain high standards of quality across Southeast Asia, guiding them to meet both local and international expectations. Finally, the concept of a University Holding Company offers universities a framework to develop innovative financial and educational strategies that promote long-term sustainability.

Internally, universities must focus on their own resources and structures to successfully implement transformation strategies. Leadership and governance are essential, as effective leadership provides direction and ensures that the entire institution is aligned with the vision for transformation. Engaged faculty and staff are also critical to the success of these strategies, as their involvement in curriculum development, teaching practices, and institutional initiatives directly impacts how effectively changes are carried out. Sound financial management is another crucial factor, ensuring that universities have the necessary resources to support transformation, such as investing in technology, faculty development, and updated curricula. Additionally, academic programs and curricula must be regularly updated to stay relevant to the needs of students and employers. Infrastructure and facilities, both physical and digital, must support modern teaching methods and the increasing reliance on technology. The integration of technology is fundamental to the transformation, enabling innovative teaching practices, improved student engagement, and greater operational efficiency.

The strategies universities adopt to drive educational transformation are key to improving their performance. These include developing strong leadership and vision that guide the institution through the transformation process while ensuring that all efforts align with the broader goals. Universities must also focus on curriculum innovation, creating programs that are responsive to societal trends and future workforce needs. The professional development of faculty and staff is crucial to ensure they are equipped with the skills necessary to implement new teaching methods and educational strategies. Systematic operations are needed to support the smooth deployment of transformation strategies across the institution. Assessment and quality assurance practices ensure that educational outcomes are continuously monitored and improved. The deployment and implementation of transformation strategies must be carefully managed to ensure success, while ongoing monitoring and evaluation help track progress and identify areas for improvement. Finally, a focus on results-oriented improvement ensures that these efforts lead to tangible benefits, such as better academic performance, student outcomes, and enhanced institutional reputation.

By effectively integrating these external and internal factors with targeted educational transformation strategies, universities can foster an environment of continuous innovation and growth. This approach not only helps universities stay competitive but also ensures they can meet the evolving needs of students, employers, and society. Ultimately, by focusing on performance excellence, universities can successfully navigate the challenges of modern education and remain relevant in an increasingly complex global landscape.

### 4.3 Qualitative Research

Based on the in-depth interviews conducted with six experienced academic leaders and quality assurance professionals, four major themes emerged that reflect expert insights on the feasibility, relevance, and application of the proposed educational transformation strategies model. Thematic analysis was employed to identify recurring patterns in the participants' responses. Each theme captures a dimension of transformation that institutions must consider when striving for performance excellence.

#### 4.3.1 Key Drivers of University Performance Excellence

This theme captures informants' identification of the most crucial elements for driving transformation in higher education institutions. Although all components in the model were acknowledged as important, informants consistently highlighted 'Systematic Operation' and 'Results-Oriented Improvement' as central to achieving sustainable excellence. Several informants stressed that universities often possess policies but fail to follow through with meaningful implementation. As one informant noted, *"Even with good policies in place, if there is no serious effort in systematic implementation, it becomes meaningless."* Another added, *"Half-hearted, inconsistent operations will always hinder progress."*

Informants shared that systematic operation must be embedded in routine practice, not handled as a one-time initiative. One informant explained, *"When implementation is not systematic when it's fragmented or depends on the individual rather than the system, it leads to breakdowns and inefficiency."*

In addition, 'Results-Oriented Improvement' was perceived as essential to ensure that every initiative leads to measurable outcomes. One informant emphasized, *"We need a loop that shows whether what we've implemented is actually improving performance. If there's no follow-up, it's just activity without impact."*

The theme of 'Visionary Leadership' also emerged strongly, particularly in terms of setting direction and inspiring collective effort. As one expert described, *"A leader with vision is not just a planner, but a communicator. The leader must translate complex strategy into something people believe in."* Informants noted that such leadership is crucial for navigating ambiguity, aligning internal efforts with external demands, and sustaining long-term initiatives.

While ‘Internal’ and ‘External Factors’ were regarded as contextual, informants emphasized their role in determining institutional readiness. One stated, *“External policies shape urgency. But internal culture determines capability.”* Thus, successful transformation requires alignment between institutional capacity and broader policy or societal expectations. Another informant said, *“No matter how good your model is, if the internal mindset and the external drivers aren’t aligned, progress will be slow.”*

These insights affirm that while multiple components are necessary for institutional transformation, a foundation built on systematic execution, measurable improvement, and strategic leadership is critical to sustainable excellence.

### 4.3.2 Practical Implementation Strategies

The second theme explores the practical mechanisms for applying the proposed model in real university contexts. Informants generally agreed that a phased implementation strategy starting with pilot projects in select faculties or units would allow institutions to test the model, gather feedback, and adjust accordingly. One informant explained, *“You cannot implement change across the entire institution overnight. Start small, learn from it, and then expand. That’s how you build momentum and credibility.”*

Informants emphasized the importance of not just piloting the model, but ensuring that there is a structured learning process from the pilot phase. As one expert elaborated, *“The pilot isn’t just to test feasibility, it’s to discover contextual nuances, what works where, and why.”*

Several informants discussed the significance of having concrete timelines, responsibilities, and measurable indicators tied to each stage of the model’s implementation. One informant shared, *“Without clear milestones and assigned responsibility, initiatives fade out over time. People lose focus.”*

Strategic alignment workshops were highlighted as essential tools for creating shared understanding among different levels of the institution. As one informant noted, *“If everyone from faculty to administrative staff understands the goals and their role, the likelihood of success increases.”* Another added, *“Workshops need to be two-way. Don’t just present a plan. Invite feedback and revise. That’s how we get ownership.”*

Embedding the model within existing institutional frameworks, such as quality assurance mechanisms, strategic plans, and budget allocation processes, was also stressed. One interviewee commented, *“It’s easier to get buy-in when people see the model not as an extra burden but as a way to enhance what they’re already doing.”* Others noted that the model should not be perceived as a ‘top-down directive’ but rather as a supportive framework that integrates with ongoing institutional improvement. *“Integration is key. People won’t resist something that clearly aligns with what they already value,”* said another informant.

The responses in this theme point to a clear pathway for implementation, start small but strategically, support with institutional structures, foster active participation, and ensure integration with existing systems and cultures.

#### 4.3.3 Recommended Additions to the Model

While informants generally agreed that the proposed model was comprehensive, many suggested enhancements to better reflect the realities and needs of modern higher education. A central recommendation was the inclusion of ‘Stakeholder Engagement’ as a formal component. According to one informant, *“Transformation should not be a top-down process. It must involve those who are impacted, students, lecturers, alumni, and employers.”* Another informant added, *“Engaging external stakeholders makes the change relevant beyond the classroom. It builds social legitimacy.”*

‘Effective Internal Communication’ was another commonly proposed addition. Informants described how poor communication can derail even well-planned initiatives. One expert remarked, *“People resist change when they don’t understand it. Good communication reduces uncertainty and builds trust.”* Another informant explained, *“Communication should be ongoing and multidirectional not just announcements from the top. Dialogue builds engagement.”*

Informants also highlighted the need for ‘Organizational Culture’ to be addressed explicitly within the model. This includes fostering shared values, collaboration, and openness to change. *“You can’t build excellence on a culture of resistance,”* one informant observed. Another elaborated, *“Culture isn’t built overnight. It requires rituals, reinforcement, and leadership modeling.”*

Furthermore, recommendations were made to integrate dimensions such as ‘Digital Transformation’, ‘Agility and Responsiveness’, and ‘Talent Development’. One informant stated, *“Universities today must be digital-first not just in teaching but in governance and operations.”* Another noted, *“Without agility, universities will always lag behind what society expects.”* Regarding talent development, one informant emphasized, *“Investing in people is not optional. It’s the most strategic thing a university can do.”*

These suggestions reflect a desire to strengthen the model by embedding adaptability, communication, and inclusivity into its foundation. They also point to the need for a dynamic model that evolves alongside societal and technological changes, rather than remaining static.

#### 4.3.4 Challenges and Coping Mechanisms

This theme presents the barriers faced by universities in adopting transformation strategies, as well as the solutions proposed by the informants. One of the most frequently cited obstacles was resistance to change, particularly among long-serving faculty or staff who are accustomed to established routines. As one informant said, *“Some people see change as a threat, especially if they’re unsure how it affects*

*their role.*” Another added, *“It’s not about rejecting the strategy, it’s fear of losing stability.”*

Another significant challenge was the issue of workload. Informants noted that many educators already face heavy teaching and administrative responsibilities, leaving little room for innovation. *“People are stretched thin. Without additional support, they won’t engage with new strategies,”* one informant pointed out. Another respondent said, *“If we expect innovation, we have to give people time to innovate.”*

In terms of structural challenges, informants mentioned a lack of incentive systems and leadership continuity. One respondent explained, *“If leaders change every two years, strategies are often abandoned before they mature. We need sustained vision.”* Another informant added, *“There’s no continuity in strategic intent when leadership is unstable, it resets every term.”*

Informants highlighted that the absence of clear links between performance evaluation and strategic goals reduces motivation to engage with transformation initiatives. As one informant mentioned, *“When performance appraisals reflect institutional strategy, staff are more likely to get involved.”* Others noted that innovation efforts are often considered extra rather than integral to one's core duties, which discourages participation.

To address these issues, informants recommended creating "change agents" within departments which mean individuals who are trained and empowered to facilitate implementation. One informant explained, *“You need early adopters who can show others it’s possible and worthwhile.”* Change agents could act as bridges between leadership and academic or administrative teams.

Fostering open communication and building feedback loops between leadership and operational levels were also emphasized to strengthen transparency and institutional trust. *“Leaders must listen continuously, not just when something fails,”* said one informant. Another added, *“Feedback mechanisms must be safe spaces, not punitive, so people feel encouraged to speak.”*

Finally, long-term strategic planning, supported by committed leadership and adequate resources, was seen as essential to overcoming barriers and ensuring continuity. *“Short-term wins are important, but we need a 5–10 year horizon to truly transform,”* one informant stressed.

These insights underscore that transformation requires more than strategic planning, it demands cultural shifts, long-term commitment, and the creation of supportive environments that recognize and reward change-focused contributions.

The findings from this qualitative phase reveal strong support for the conceptual foundation of the proposed educational transformation model. Informants affirmed the model’s alignment with institutional realities and offered constructive critiques to enhance its practicality. Their insights provide not only validation but also critical direction for refining the model to ensure it is adaptable, inclusive, and

sustainable within the diverse landscape of Thai higher education. These qualitative results complement the quantitative findings and contribute to a more holistic understanding of strategic transformation in universities. Building on these insights, Figure 12 presents the revised Educational Transformation Strategies Model incorporating key additions identified through qualitative analysis, including Stakeholder Engagement, Effective Internal Communication, Organizational Culture, Digital Transformation, Agility and Responsiveness, and Talent Development. These elements underscore the dynamic and inclusive nature of educational transformation, reflecting the insights and recommendations provided by key informants.

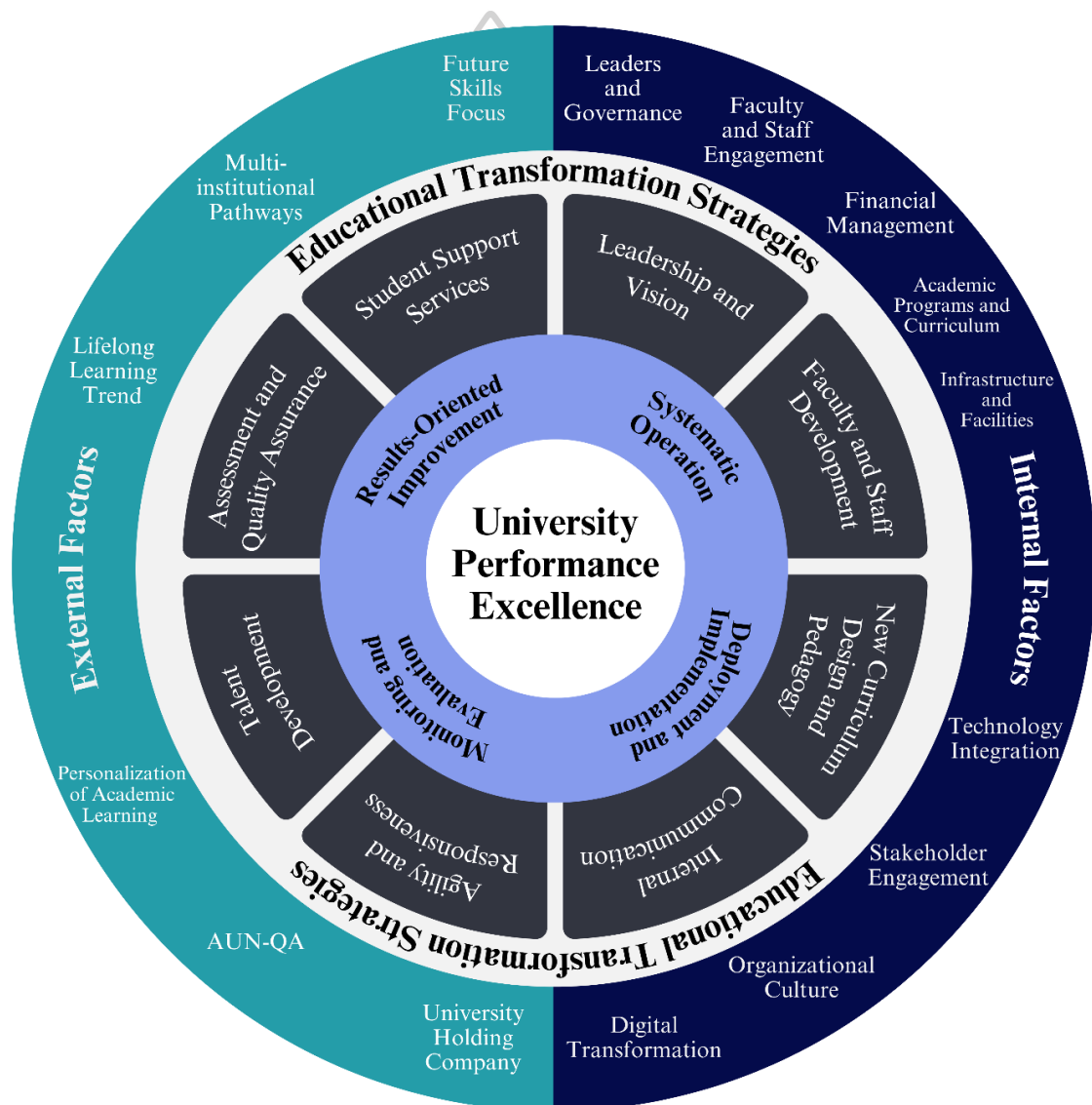


Figure 12 Revised Educational Transformation Strategy Model Integrating Key Qualitative Insights

## Chapter 5 Conclusion and Discussion

### 5.1 Introduction

This study employed a mixed methods research design integrating both quantitative and qualitative approaches to explore and validate an educational transformation strategies model aimed at enhancing university performance excellence in the context of Thai higher education. The integration of these two methodological strands provides a comprehensive understanding of both the causal relationships among key variables and the practical feasibility of implementing strategic transformation in higher education institutions.

#### 5.1.1 Quantitative Findings

The quantitative phase of this mixed methods study involved the use of structural equation modeling (SEM) to examine the relationships among external factors, internal factors, educational transformation strategies, and university performance excellence. Data were collected from 217 respondents, all of whom were professionals in higher education with experience in academic administration and quality assurance.

Descriptive Statistics provided a clear demographic profile of the sample. The majority of respondents were female (64.52%), followed by male (34.56%) and other genders (0.92%). In terms of age, the largest group was aged 40–49 years (51.61%), followed by 30–39 years (27.19%), and 50 years or older (17.05%). Regarding education level, most respondents held a Master's degree (48.85%), followed by Doctorates (43.78%), and Bachelor's degrees (7.37%). The roles of respondents were split between academic staff (59.45%) and support staff (40.55%). In terms of experience in educational quality assurance, the majority had 11–15 years (35.02%), followed by 5–10 years (31.34%), and less than 5 years (24.42%).

To validate the structure of the proposed model, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted. EFA confirmed the adequacy of the factor structures for each construct, with KMO values exceeding 0.90 in most cases, and Bartlett's Test of Sphericity being significant at  $p < 0.001$ . CFA demonstrated high levels of internal consistency (Cronbach's alpha  $> 0.84$ ) and composite reliability (CR  $> 0.70$ ), supporting the reliability of the measurement model. Although some AVE values were slightly below the conventional 0.50 threshold, convergent and discriminant validity were achieved according to Fornell and Larcker's (1981) criteria.

The Structural Model Fit indices further supported the strength of the model. The Chi-square value ( $\chi^2 = 86.25$ ,  $df = 173$ ,  $p = 1.00$ ) indicated an excellent model fit. Relative Chi-square ( $\chi^2/df = 0.49$ ), Comparative Fit Index (CFI = 1.00),

Goodness of Fit Index (GFI = 0.96), Adjusted GFI (AGFI = 0.95), and RMSEA (0.000) all met or exceeded recommended benchmarks.

All hypothesized relationships were statistically supported. Internal Factors showed a strong and significant direct effect on Educational Transformation Strategy ( $\beta = 0.90$ ), while External Factors had a weaker but still significant direct effect ( $\beta = 0.04$ ). Educational Transformation Strategy, in turn, demonstrated a substantial direct impact on University Performance Excellence ( $\beta = 0.96$ ).

The mediation analysis, using bootstrapping methods, revealed significant indirect effects. Both External Factors and Internal Factors influenced University Performance Excellence through the Educational Transformation Strategy, with indirect effects of  $\beta = 0.487$  and  $\beta = 0.737$ , respectively. The bootstrapped confidence intervals did not include zero, confirming statistical significance. These findings suggest partial mediation in both cases, indicating that transformation strategies serve as a critical mechanism through which institutional conditions translate into performance outcomes.

When considering total effects, Educational Transformation Strategy emerged as the most influential variable ( $\beta = 0.96$ ), followed by Internal Factors ( $\beta = 0.86$ ) and External Factors ( $\beta = 0.487$ ). These results reinforce the central role of strategic transformation as both a direct driver and a mediator of university performance excellence.

### 5.1.2 Qualitative Findings

The qualitative research design used semi-structured in-depth interviews with six purposively selected key informants from Thai public and private universities. The participants were senior professionals with extensive experience in academic administration, curriculum development, and quality assurance. Data were collected via Zoom, audio-recorded with consent, and transcribed verbatim. Thematic analysis was conducted based on the six-phase framework of Braun and Clarke (2006) to identify meaningful themes and patterns aligned with the study objectives. The qualitative findings derived from in-depth interviews revealed four major themes that contribute significantly to the validation and refinement of the proposed educational transformation strategies model. These themes include (1) Key Drivers of University Performance Excellence, (2) Practical Implementation Strategies, (3) Recommended Additions to the Model, and (4) Challenges and Coping Mechanisms reflect the depth of expert understanding and highlight practical considerations for institutional transformation.

First, informants emphasized that systematic operation and results-oriented improvement are fundamental for institutional excellence. Without consistent implementation and data-driven monitoring, even well-conceived strategies fail to translate into meaningful outcomes. Additionally, visionary leadership emerged as a transformative force, necessary for setting strategic direction, mobilizing collective effort, and sustaining change. Informants also acknowledged the significance of

internal and external contextual factors, such as organizational culture and national education policy, which shape readiness for change.

Second, the findings underscored the importance of phased and contextualized implementation. Informants advocated beginning with pilot projects, accompanied by clear milestones and mechanisms for institutional learning. Strategic alignment workshops and integration with existing institutional frameworks were identified as critical to fostering shared ownership and reducing resistance. A recurring insight was that stakeholders are more likely to support the model when it enhances, rather than disrupts, current practices.

Third, participants offered constructive recommendations to strengthen the model. These included incorporating stakeholder engagement, internal communication, and organizational culture as explicit components. The need to respond to technological disruption led to additional suggestions such as digital transformation, organizational agility, and talent development. These enhancements reflect the dynamic demands of contemporary higher education and the necessity of adaptive, future-oriented models.

Finally, the study highlighted several barriers to implementation, including resistance to change, workload pressures, misaligned incentive structures, and leadership discontinuity. Informants proposed actionable coping mechanisms such as the development of departmental change agents, performance-linked evaluation, and long-term leadership commitment. The role of open, bidirectional communication was repeatedly emphasized as a mechanism for building trust and institutional resilience.

In summary, the qualitative results strongly support the theoretical underpinnings of the proposed model while offering practical insights to refine and enhance its relevance. The informants' perspectives not only validate the model's structure but also reveal institutional realities that influence its implementation. These insights form a critical bridge between conceptual design and operationalization, reinforcing the importance of aligning strategic vision with contextual readiness, inclusive processes, and sustained leadership. The integration of these qualitative findings with the earlier quantitative results provides a guideline for developing transformative strategies in Thai higher education.

## **5.2 Discussion**

### **5.2.1 The relationship between external factors for future higher education and educational transformation strategies**

External factors for future higher education positively associate with educational transformation strategies (Hypothesis 1). As higher education institutions navigate the increasingly complex and rapidly changing global landscape, external factors such as technological advancements, economic shifts, and societal demands have become significant drivers of educational transformation. Universities,

traditionally seen as static bastions of knowledge delivery, now face the critical challenge of evolving to meet the needs of a new world order. Global forces such as the demand for future-ready skills, the integration of lifelong learning into educational paradigms, the trend toward multi-institutional collaborations, and the rise of accreditation frameworks like AUN-QA all play pivotal roles in pushing universities toward significant reform in their educational strategies. The future skills gap is a key external factor driving transformation in higher education. As industries evolve due to digital disruption, universities are increasingly required to embed 21st-century skills into their curricula. These skills, including digital literacy, critical thinking, creativity, problem-solving, communication, collaboration, and adaptability, are necessary for students to thrive in the future workforce. The World Economic Forum has emphasized that automation, artificial intelligence, and other technological advancements will reshape the job market in the coming years (Zahidi et al., 2020). In response, universities are being called upon to reframe their curricula to focus not only on technical expertise but also on the development of these transferable skills. Research has shown that students who acquire critical thinking, digital literacy, and problem-solving skills are more likely to succeed in an evolving labor market, where jobs increasingly demand innovation, collaboration, and the ability to adapt to technological changes (Bonfield et al., 2020; Sheikh et al., 2023). Universities, therefore, must reevaluate their teaching methods to integrate such skills and ensure that graduates are not only knowledgeable in their fields but also equipped to navigate the challenges of an unpredictable world.

Further supporting this argument, lifelong learning has emerged as an essential external factor influencing the transformation of higher education. In the context of rapid technological change and global economic uncertainty, the need for individuals to continuously update their skills throughout their careers has never been more critical. The World Economic Forum (2021) has highlighted the importance of lifelong learning in preparing individuals for the demands of future work, emphasizing that the division of labor between humans and machines is rapidly evolving. Higher education institutions are responding to this by integrating lifelong learning strategies into their frameworks, offering flexible, continuous learning opportunities for both traditional students and working professionals. Programs that offer micro-credentials, online courses, and certificate programs are becoming more common as universities seek to accommodate the needs of adult learners and professionals who must constantly upskill and reskill to remain competitive. Research by Akour and Alenezi (2022) notes that universities must ensure that their curricula reflect the growing importance of lifelong learning by fostering a culture of self-directed learning and creating accessible learning pathways for individuals at various stages of their careers. Institutions are also increasingly adopting online and hybrid learning models, which allow for more flexible and accessible education, particularly for working professionals and non-traditional students. These models align with the

demands of the modern workforce, which requires flexibility and adaptability to respond to evolving market needs.

The rise of multi-institutional cooperation is another crucial external factor reshaping the educational landscape. Universities are no longer isolated entities; rather, they are increasingly participating in collaborations that cross borders and institutional types. Multi-institutional collaborations enable universities to pool resources, share knowledge, and address global challenges through collective action. The literature indicates that such collaborations help universities to innovate in curriculum design, research, and teaching, providing a broader platform for knowledge exchange and the development of new solutions to societal problems (Frank, 2019). This type of cooperation not only strengthens the quality of education but also enhances the global competitiveness of participating universities. Multi-institutional collaborations are particularly important for facilitating international research partnerships, which allow universities to address complex global challenges that cannot be solved within the confines of a single institution or country. Additionally, these partnerships provide students with valuable international exposure, which is increasingly valued by employers in an interconnected global economy. Universities that engage in such collaborations not only enhance their academic offerings but also demonstrate their commitment to contributing to global knowledge creation and societal development.

Further enhancing this shift in higher education, accreditation frameworks like AUN-QA (ASEAN University Network-Quality Assurance) play a central role in shaping the educational transformation process. AUN-QA serves as a comprehensive tool for assessing the quality of academic programs within the ASEAN region, ensuring that universities meet international standards of education and are responsive to the needs of global labor markets (Bui, 2021). AUN-QA's focus on outcome-based education has prompted universities to reassess their teaching strategies, learning outcomes, and assessment methodologies, ensuring that they align with both regional and global expectations. Accreditation frameworks like AUN-QA also encourage universities to engage in continuous self-assessment and improvement, creating a culture of accountability and quality assurance within institutions. Research by Huynh et al. (2024) has demonstrated that universities accredited by AUN-QA tend to show greater alignment between their educational offerings and the needs of the labor market, as well as improved student satisfaction and employability outcomes. These frameworks provide universities with a structured approach to transformation, ensuring that educational practices are not only relevant to current needs but also capable of adapting to future demands.

Another external factor influencing the transformation of higher education is the increasing demand for personalized learning. As educational technologies continue to evolve, there is a growing recognition that students have diverse learning needs and preferences. Personalized learning, which tailors the

educational experience to the individual student's pace, interests, and learning style, is seen as an effective strategy for engaging students and improving learning outcomes (Ren & Wu, 2025). The integration of digital tools such as adaptive learning platforms, learning management systems, and artificial intelligence has made it easier for universities to implement personalized learning at scale. These technologies enable institutions to offer more flexible and customized learning experiences, which can improve student motivation, academic achievement, and overall satisfaction (Waldrip et al., 2014). Moreover, the trend toward personalized learning aligns with the growing demand for student-centered approaches in education, where students are encouraged to take ownership of their learning journey. This shift is also supported by the increasing recognition that students who are engaged in their learning process are more likely to persist and succeed, both academically and professionally.

External factors such as the demand for future skills, lifelong learning, multi-institutional cooperation, accreditation frameworks like AUN-QA, and personalized learning are playing a critical role in driving the transformation of higher education. These forces are compelling universities to rethink traditional models of teaching and learning, emphasizing the integration of innovative pedagogies, flexible learning pathways, and global collaborations. The literature supports the idea that these external factors positively influence the development and implementation of educational transformation strategies, which are essential for preparing students to meet the challenges of the future workforce and ensuring the continued relevance and competitiveness of higher education institutions (Sheikh et al., 2023; Bonfield et al., 2020; McCarthy et al., 2023). As universities respond to these external pressures and opportunities, they are increasingly adopting strategies that prioritize skills development, adaptability, and lifelong learning, positioning themselves to thrive in an ever-changing global landscape. Therefore, external factors are not just shaping educational transformation, they are catalyzing it, pushing universities to innovate, collaborate, and evolve in ways that will benefit both students and society at large.

### **5.2.2 The relationship between internal factors for future higher education and educational transformation strategies**

Hypothesis 2 suggests that internal factors within higher education institutions, such as leadership and governance, faculty and staff engagement, financial management, and the development of academic programs and curricula, have a positive impact on the implementation of educational transformation strategies. The support for this hypothesis reinforces the importance of internal conditions in driving educational reform. Educational transformation is not only influenced by external pressures, such as technological advancements and societal changes, but also by internal capabilities, resources, and institutional leadership. In the analysis of this hypothesis, it is crucial to examine how these internal factors contribute to shaping the transformation process within universities and how they work in tandem with external factors to create a dynamic, innovative, and responsive educational environment.

The first internal factor that significantly influences educational transformation is leaders and governance. Effective leader is crucial for guiding universities through the complexities of change, particularly when it comes to implementing educational transformation strategies. Leaders in higher education institutions set the vision, goals, and strategic direction, providing the necessary framework and resources for transformation. According to Tawonpan (2013), strong leader is essential for managing the shift in institutional culture that accompanies educational transformation, as this helps align faculty, staff, and students with new objectives and expectations. Leader also involves decision-making that ensures that the university's resources are effectively allocated to support transformation initiatives, such as curriculum innovation, faculty development, and technological integration. Leader plays a dual role in both providing direction and fostering a culture of collaboration and engagement among all stakeholders, including administrators, faculty, staff, and students (Mader et al., 2013). When leaders promote a shared vision for change and work to build trust and cooperation, educational transformation is more likely to succeed.

Additionally, faculty and staff engagement is another critical internal factor that affects educational transformation strategies. Engaged faculty and staff are essential for the successful implementation of new educational strategies. Faculty engagement is directly linked to job satisfaction, which, in turn, influences teaching performance, curriculum development, and participation in institutional reforms (Pongpipat & Suntrayuth, 2019). Engaged faculty members are more likely to adopt new teaching methods, engage in interdisciplinary collaboration, and contribute to the creation of a more innovative curriculum. The literature shows that when faculty members are engaged and motivated, they are more open to change and more likely to support the implementation of educational reforms (Shuck & Reio, 2014). Faculty engagement also fosters a sense of ownership over the transformation process, which can lead to better outcomes for students. Faculty development programs that provide opportunities for continuous learning and skill enhancement are crucial for increasing faculty engagement. As universities increasingly rely on technology to deliver education, it is important for faculty members to be trained in the use of digital tools and pedagogical methods that promote active learning, personalized instruction, and student collaboration (Xuan, 2022). Moreover, financial management plays a central role in supporting the infrastructure needed for educational transformation. Effective financial management ensures that universities can allocate resources efficiently and invest in the areas that are most critical for transformation, such as technology integration, faculty development, and curriculum redesign. Universities that manage their finances well are better positioned to implement innovative educational strategies that require substantial investment, such as the adoption of new learning management systems (LMS), digital platforms, and research facilities. As Holloway (2006) points out, sound financial planning and resource allocation are essential for

ensuring that long-term educational goals are met. Financial management also impacts universities' ability to diversify their funding sources, which is crucial for supporting sustainable transformation. By securing grants, forming partnerships with industries, and increasing revenue from tuition or alternative sources, universities can ensure that their transformation efforts are well-funded and sustained over time.

Another critical internal factor is the development of academic programs and curricula that align with the changing needs of students, industries, and society. As universities seek to enhance their educational offerings and remain competitive, they must continually adapt their curricula to reflect emerging trends in knowledge and technology. Curriculum development is the heart of educational transformation because it directly impacts what students learn and how they engage with course materials. In today's world, academic programs must not only equip students with discipline-specific knowledge but also prepare them with the skills required for the future workforce, including problem-solving, critical thinking, communication, and collaboration (Sheikh et al., 2023). To achieve this, universities are increasingly adopting interdisciplinary approaches that combine knowledge from different fields, enabling students to tackle real-world problems from multiple perspectives. According to Ramdass and Mokgohloa (2023), interdisciplinary learning encourages students to collaborate across fields, fostering creativity and innovation. Universities are also incorporating active learning and project-based learning into their curricula, which allow students to apply theoretical knowledge to practical problems, thereby enhancing their engagement and deepening their understanding of the subject matter.

Furthermore, universities are embracing technology integration as a key component of their educational transformation strategies. As digital technologies continue to evolve, universities must incorporate them into their teaching methods and learning environments to remain relevant and effective. Technology-enhanced learning tools, such as online learning platforms, digital assessment systems, and virtual classrooms, enable universities to provide flexible, personalized learning experiences that can be tailored to individual student needs. Research by Waldrip et al. (2014) has shown that integrating technology into the classroom can enhance student engagement, increase learning efficiency, and improve outcomes. In addition, digital tools enable universities to offer a wider variety of educational experiences, such as online courses, blended learning environments, and flipped classrooms. These innovations not only make education more accessible to a broader range of students but also support the development of the critical skills required in today's workforce.

The implementation of academic program reforms and the development of curricula that incorporate emerging technologies, interdisciplinary learning, and active learning methodologies require effective leadership and governance. Leaders in higher education must ensure that these changes are aligned with the university's strategic goals and that the necessary resources and support systems are in place. The role of governance is also critical in ensuring that these changes are sustainable.

According to Mader et al. (2013), governance structures within universities must be flexible enough to support innovation while also maintaining accountability and transparency in the decision-making process. Governance should facilitate the allocation of resources to priority areas and promote collaboration among departments, faculties, and other stakeholders to ensure that the educational transformation process is well-coordinated and effective.

It can be seen that internal factors such as leaders and governance, faculty and staff engagement, financial management, and academic program development are crucial for the success of educational transformation strategies. These factors provide the foundation for creating an environment that supports innovation, collaboration, and continuous improvement. Effective leadership sets the vision and direction for transformation, while engaged faculty and staff contribute their expertise and commitment to achieving the university's goals. Good financial management ensures that resources are allocated efficiently to support the transformation process, and the development of relevant and innovative academic programs ensures that students are prepared for the challenges of the future workforce. By aligning internal factors with external demands, universities can implement educational transformation strategies that improve student outcomes, enhance institutional performance, and contribute to the development of a more adaptable, innovative, and competitive higher education sector. Therefore, the support for this hypothesis emphasizes the importance of strong internal conditions in driving educational change, underscoring the need for universities to invest in leadership, faculty development, and curricular innovation to achieve successful and sustainable transformation.

### **5.2.3 The relationship between educational transformation strategies and university performance excellence**

Hypothesis 3 suggests that educational transformation strategies positively impact university performance excellence. The support for this hypothesis reinforces the notion that universities that adopt innovative and adaptive educational transformation strategies are better positioned to improve their performance and achieve greater success in key areas such as academic quality, research output, student outcomes, and institutional reputation. As higher education institutions face increasing pressure to demonstrate their value and impact, the need for strategic reforms that enhance university performance has never been more critical. This discussion explores how educational transformation strategies drive university performance excellence, focusing on key dimensions such as teaching and learning, research, student engagement, and institutional governance. One of the most significant contributions of educational transformation strategies to university performance is their influence on teaching and learning quality. Universities are constantly seeking ways to improve the quality of education they provide, ensuring that students are equipped with the skills and knowledge required for success in the

workforce. Educational transformation strategies that emphasize active learning, student-centered pedagogy, and technology integration have been shown to enhance student engagement, increase retention rates, and improve academic outcomes. For example, the adoption of blended learning, which combines face-to-face instruction with online learning, allows universities to offer more flexible and personalized learning experiences. Studies have shown that students who engage in blended learning environments demonstrate higher levels of satisfaction and academic achievement (McCarthy et al., 2023). The integration of digital tools, such as learning management systems (LMS), video lectures, and collaborative platforms, provides students with more opportunities to engage with course material, collaborate with peers, and receive timely feedback, all of which contribute to improved learning outcomes (Zahidi et al., 2020). By adopting these strategies, universities can enhance their teaching quality, which is a key indicator of performance excellence.

Moreover, curriculum innovation plays a central role in transforming the educational experience and improving university performance. As industries and technologies evolve, universities must update their curricula to reflect the changing needs of the workforce and society. Educational transformation strategies that focus on interdisciplinary learning, problem-based learning, and the integration of future skills into academic programs help ensure that graduates are not only knowledgeable but also adaptable and equipped with the skills necessary to succeed in an increasingly complex world. The integration of 21st-century skills, such as critical thinking, collaboration, and digital literacy, into curricula has been linked to improved student outcomes and better alignment with industry demands (Bonfield et al., 2020). Universities that invest in curriculum innovation and continuously update their programs to meet the needs of the labor market are more likely to produce graduates who are well-prepared for the challenges of the workforce, which ultimately leads to improved university performance in terms of graduate employability and industry collaboration.

Educational transformation strategies also have a significant impact on research performance. Universities that prioritize research excellence are better positioned to contribute to the advancement of knowledge and to maintain a competitive edge in the global academic arena. Transformation strategies that focus on interdisciplinary research, collaborations with industry, and the use of cutting-edge technologies in research have been shown to enhance research productivity, quality, and impact. For instance, multi-institutional collaborations and international research partnerships enable universities to pool resources, share knowledge, and work on large-scale projects that address complex global challenges, such as climate change, public health, and social inequality (Frank, 2019). These collaborations not only enhance the research output of universities but also raise their academic profile and increase their global visibility. Universities that successfully implement these research-oriented strategies tend to attract top talent, secure competitive research

funding, and produce high-quality publications, all of which contribute to research excellence, a critical component of university performance.

In addition to improving teaching quality and research output, educational transformation strategies positively influence student engagement and satisfaction, which are crucial indicators of university performance excellence. Universities that prioritize student-centered approaches, personalized learning, and comprehensive student support services create an environment that fosters higher levels of student engagement and satisfaction. For example, the implementation of student support services, such as academic advising, career counseling, and mental health support, helps students navigate their academic journey and enhances their overall university experience. Studies have shown that when students feel supported academically and emotionally, they are more likely to stay engaged in their studies, persist to graduation, and achieve academic success (Redecker et al., 2011). Furthermore, personalized learning, which allows students to progress at their own pace and receive tailored instruction based on their individual needs, leads to higher levels of engagement, motivation, and academic achievement (Waldrup et al., 2014). The positive association between student satisfaction and university performance has been well-documented, with universities that offer a supportive and engaging learning environment experiencing higher retention rates and better overall performance metrics.

Another important dimension of university performance excellence is institutional governance. Effective governance ensures that educational transformation strategies are implemented successfully and that the university's resources are used efficiently to achieve its strategic goals. Universities with strong leadership and governance structures are more likely to create a culture of continuous improvement, where educational quality, student outcomes, and institutional effectiveness are regularly assessed and enhanced. According to Tawonpan (2013), governance structures that foster collaborative leadership, transparency, and accountability contribute to better decision-making and more effective implementation of transformation strategies. Strong governance also ensures that there is alignment between the university's mission, vision, and the educational strategies it adopts. Institutions that maintain a clear strategic focus and engage all stakeholders which are faculty, staff, students, and external partners, in the decision-making process are more likely to succeed in their educational transformation efforts, leading to improved overall performance (Mader et al., 2013).

Accreditation frameworks, such as AUN-QA, also play a critical role in enhancing university performance. As universities pursue accreditation or quality assurance processes, they are required to evaluate and improve their academic programs, teaching methodologies, and institutional management practices to meet external standards. The adoption of quality assurance frameworks ensures that universities remain accountable to both national and international stakeholders,

including students, employers, and policymakers. Accreditation processes provide universities with a structured approach to continuously assess and improve their educational offerings, thereby contributing to the improvement of academic quality, teaching effectiveness, and student outcomes. Universities that undergo regular accreditation reviews and implement the recommendations provided by external reviewers are better equipped to enhance their institutional performance in a sustainable way (Bui, 2021).

Universities that implement educational transformation strategies that align with global trends in higher education are better positioned to improve their performance on international rankings and attract a diverse and talented student body. Internationalization, for example, is an important aspect of educational transformation that can enhance university performance. Universities that prioritize global engagement through international collaborations, student exchange programs, and research partnerships contribute to a more diverse and inclusive learning environment, which not only enhances the student experience but also improves the university's reputation and global competitiveness. As highlighted by Frank (2019), the internationalization of higher education has become a key strategy for universities seeking to strengthen their academic and research capabilities, increase their global visibility, and enhance their institutional performance.

The support for Hypothesis 3 emphasizes the critical role that educational transformation strategies play in driving university performance excellence. Universities that adopt innovative strategies in teaching and learning, research, student engagement, and governance are more likely to improve their academic quality, research productivity, and overall institutional effectiveness. By prioritizing educational transformation and aligning their strategies with global trends and workforce demands, universities can enhance their reputation, attract top talent, and ultimately achieve greater success in the competitive higher education landscape. The positive association between educational transformation and university performance underscores the importance of continuous innovation, collaboration, and improvement in achieving sustainable success in higher education.

#### **5.2.4 Educational Transformation Strategies Mediate the Relationship Between External Factors and University Performance Excellence**

Universities are under increasing pressure to respond to global trends such as digital disruption, internationalization, and demands for workforce-ready graduates. These external factors significantly shape institutional agendas. For example, the integration of future skills, demands for lifelong learning, and accreditation standards like AUN-QA push universities to reform traditional structures and operations (Jian-hua, 2011). Institutions that fail to respond strategically risk irrelevance in a competitive global education marketplace.

Educational transformation strategies serve as a structured response to these external demands by translating macro-level changes into institutional reforms.

These strategies often encompass digital integration, curriculum redesign, pedagogical innovation, and enhanced stakeholder engagement. In Thailand, such transformation strategies have been shown to play a central role in enabling universities to meet the objectives of national policies such as Thailand 4.0, which emphasizes innovation, inclusivity, and economic alignment. Empirical evidence supports the mediating role of transformation strategies. For example, a study on Jordanian private universities found that digital transformation positively influenced strategic performance, and this relationship was significantly mediated by innovation strategies, an analog to educational transformation in this context (Tahrawi & Shawabkeh, 2024). The mediating role of innovation showed that transformation efforts channeled external forces into improved outcomes. Similarly, research in Kenya's higher education sector found that transformational leadership, a component of internal strategy, impacts university performance through mediating variables such as employee outcomes and strategic alignment, reinforcing that transformation does not act in isolation but mediates external and internal dynamics to achieve performance goals (Mbithi et al., 2016).

Performance excellence in universities is typically measured by indicators such as teaching quality, research productivity, stakeholder satisfaction, and institutional governance. The effectiveness of reaching such excellence depends on how universities structure their response to external stimuli. Transformation strategies not only shape internal capabilities but also operationalize responses to external factors. For instance, in China, universities enhanced innovation performance by leveraging transformational leadership and an innovation-oriented culture suggesting that educational strategies, underpinned by leadership, mediate the journey from external innovation demands to institutional performance outcomes (Zhang & Mohammad, 2025).

Governance structures also play a mediating role in transformation. A qualitative study on German universities found that governance reform, prompted by national excellence initiatives, was filtered through internal transformation strategies such as institutional restructuring and internationalization, which ultimately improved organizational performance (Sziegat, 2022). This illustrates that without clear transformation frameworks, external pressures do not automatically lead to performance gains. Instead, structured and responsive strategies serve as essential mediators in realizing excellence.

In conclusion, educational transformation strategies mediate the relationship between external factors and university performance excellence by converting external pressures into actionable, institution-wide reforms. Evidence from international studies consistently demonstrates that without such mediating strategies, external changes do not automatically translate into internal excellence. For universities in Thailand and beyond, adopting adaptable transformation models is crucial for sustained competitiveness and relevance.

### **5.2.5 Educational Transformation Strategies mediate the relationship between internal factors and university performance excellence.**

Internal factors such as transformational leadership, internal communication, institutional culture, and staff engagement are foundational to institutional success. These factors are known to influence staff readiness for change and the development of a performance-oriented culture within universities. For example, a study by Saharudin et al. (2024) identified internal communication as a mediator between transformational leadership and staff readiness for change, emphasizing that communication quality is essential for ensuring successful strategic transformation within academic institutions (Saharudin et al., 2024). Similarly, the cultivation of a Culture of Excellence within public universities has been found to significantly impact internal service quality and institutional outcomes. A study published in *Advances in Business Research* concluded that internal coordination, staff attitudes, and consistent work performance are crucial internal enablers for institutional excellence, and these elements must be strategically integrated to achieve long-term quality performance (Rahman et al., 2021).

While internal factors are necessary, they are not always sufficient in isolation to drive performance excellence. Their impact is often actualized through transformation strategies that realign institutional practices, processes, and goals toward excellence. Educational transformation strategies operationalize internal capabilities such as leadership and internal culture into actionable plans that enhance teaching, research, and stakeholder satisfaction.

This mediating role is supported by Meepung et al. (2021), who proposed a framework for high-performance digital entrepreneurial universities, noting that internal strategic alignment including digital transformation strategies and organizational culture was necessary for translating internal strengths into performance metrics such as academic reputation, international collaboration, and research productivity (Meepung et al., 2021). Moreover, Tahrawi and Shawabkeh found that innovation strategies significantly mediated the relationship between digital transformation (an internal initiative) and institutional performance, suggesting that transformation serves as the bridge between internal change and performance outcomes (Tahrawi & Shawabkeh, 2024).

Educational transformation provides a structured pathway through which universities can leverage internal strengths, like committed leadership and well-established communication systems, to navigate changes in pedagogy, assessment, and academic services. In this regard, transformational leadership plays a key enabling role. For instance, a study from China demonstrated that transformational leadership and innovation culture significantly enhanced innovation performance through mediated pathways such as strategic innovation planning and cultural reform (Zhang & Mohammad, 2025). In addition, institutional studies in Kenya showed that employee outcomes mediated the relationship between transformational leadership

and institutional performance, affirming the idea that leadership impacts must be channeled through structured strategies to achieve organizational excellence (Mbithi et al., 2016).

Educational transformation strategies mediate the relationship between internal factors and university performance excellence by translating internal capabilities into systemic, scalable improvements across teaching, research, and institutional management. This mediation underscores the importance of not only possessing strong internal resources but also strategically leveraging them through transformation initiatives to achieve long-term academic excellence.

### **5.2.6 Discussion on Thematic Findings from the Qualitative Phase**

The qualitative phase of this study provided deep insights into the relevance, feasibility, and contextual applicability of the proposed Educational Transformation Strategy Model for higher education institutions in Thailand. Through thematic analysis of in-depth interviews with six senior academic and quality assurance experts, four major themes emerged. These themes do not merely reinforce the structural soundness of the model but also shed light on the practical realities of implementing strategic change in diverse university environments.

First, the theme of Key Drivers of University Performance Excellence confirmed that transformation must be grounded in systematic operations, measurable outcomes, and visionary leadership. Participants repeatedly emphasized that without a culture of execution and a results-oriented mindset, even well-conceived policies and models would fail. This is consistent with previous studies asserting that implementation quality and leadership vision are pivotal in determining institutional success (Fullan, 2007; Bryson et al., 2015). Informants also noted that contextual factors both internal (e.g., culture, readiness) and external (e.g., policy pressures) play a foundational role in shaping transformation capacity. This echoes the institutional theory perspective, which highlights the significance of both internal dynamics and external legitimacy (Scott, 2001).

Second, the theme of Practical Implementation Strategies highlighted the need for phased, localized deployment supported by institutional systems. Informants advocated for pilot-based implementation and integration of the model within existing structures such as quality assurance, strategic planning, and resource allocation. This reflects the principles of change management, particularly Kotter's (1996) emphasis on generating short-term wins, building coalitions, and institutionalizing new approaches. The recommendation for strategic alignment workshops also aligns with the concept of shared sense-making in organizational change, where stakeholders define the relevance and meaning of new strategies (Weick, 1995).

Third, the theme of Recommended Additions to the Model revealed that while the original model was well-received, it could be enhanced by explicitly including stakeholder engagement, communication mechanisms, and organizational culture. Informants saw these as essential enablers of change, not optional extras.

These perspectives align with prior research that emphasizes the role of inclusive governance, internal dialogue, and culture-building in successful transformation (Kezar & Eckel, 2002). The proposed additions such as digital transformation, talent development, and institutional agility reflect the contemporary demands of a rapidly evolving educational landscape and confirm the need for future-ready, adaptive systems.

Fourth, the theme of Challenges and Coping Mechanisms provided a realistic account of obstacles that may hinder implementation. These included resistance to change, lack of incentives, leadership instability, and communication breakdowns challenges well-documented in higher education literature (Buller, 2015; Tierney, 2008). However, informants also proposed viable strategies to mitigate these risks, including empowering change agents, aligning performance evaluations with transformation goals, and fostering transparent, non-punitive feedback mechanisms. These solutions reinforce the view that successful change requires not just technical planning, but also cultural readiness and sustained leadership commitment.

Taken together, the qualitative findings support the structural integrity of the proposed model while offering grounded, experience-based insights into its application. The perspectives shared by key informants highlight the interplay between strategic design and organizational culture, between leadership and collective ownership, and between innovation and continuity. These findings complement the quantitative results by illuminating how and why the relationships in the model may manifest in real-world settings.

The qualitative component affirms that educational transformation is not a one-size-fits-all process. It requires institutions to align strategic vision with internal realities, adapt global models to local contexts, and foster a culture that is both disciplined and open to change. In doing so, universities in Thailand can build transformation strategies that are not only structurally sound but also practically viable and contextually relevant.

## **5.3 Recommendations**

### **5.3.1 Theoretical Implications**

This study offers a perspective on how we can better understand and manage the transformation of higher education, especially in times when change is happening faster than ever. At the heart of this perspective is something called systems thinking, which is a way of seeing organizations not as a collection of separate departments or tasks, but as a living system made up of many connected parts. In the case of universities, these parts include everything from leadership and staff to curriculum design, technology, student services, and external pressures like national policy or global trends. Instead of looking at these elements in isolation, systems thinking encourages us to see the bigger picture, to ask how these pieces fit

together, and to explore how a change in one part of the system might ripple across the entire institution.

This research proposes a model that brings together both the internal and external forces that influence a university's ability to change. These include factors such as faculty development, digital readiness, and leadership vision, along with external influences such as labor market demands, demographic shifts, and national reform policies like Thailand 4.0. What makes this model unique is that it does not simply list these factors independently. Instead, it demonstrates how they interact and influence one another. For example, a university's ability to modernize its teaching methods depends not only on the availability of new technology but also on whether faculty are properly trained, whether leadership encourages innovation, and whether there is a shared understanding of what students actually need in today's world. By applying systems thinking, this study helps explain why transformation efforts often fall short when parts of the institutional system are disconnected or misaligned.

One of the key theoretical contributions of this research is its focus on how strategies are formed and implemented. Rather than treating strategy as a one-time plan or isolated decision, the study views it as part of a broader, continuous process shaped by a combination of environmental demands and internal capacities. The model presented here treats educational transformation strategies as a bridge that links the context in which a university operates to the outcomes it aims to achieve. This perspective invites us to think more deeply about the nature of strategic planning, not just as a technical task but as a reflective and adaptive process that must evolve in response to real-world challenges. This approach is particularly relevant for institutions in developing countries, where resources may be limited and external reforms can shift rapidly, creating a need for flexible yet coordinated responses.

The study also provides fresh insights into the role of leadership in educational transformation. In many traditional models, leadership is viewed primarily as a top-down function focused on decision-making and control. However, the findings of this research suggest a more collaborative and inclusive approach. Effective leadership in this context involves building a culture of participation, fostering shared understanding, and creating opportunities for faculty and staff to contribute to meaningful change. This vision of leadership aligns with the idea of distributed leadership and highlights the importance of relationships, trust, and open communication. It also reflects the reality that transformation cannot be imposed from the top but must be nurtured across all levels of the institution.

Another important contribution of this study is its attention to the local context. Much of the existing literature on educational transformation is based on experiences from Western countries, where universities often have more autonomy and resources. By contrast, this research is grounded in the specific context of Thai higher education, where institutions face unique challenges related to policy centralization, funding constraints, and demographic changes. By situating the model

within this environment, the study not only provides a more accurate and useful tool for local decision-makers but also expands the global conversation on higher education reform by showing how theory can be adapted to different cultural and institutional realities.

This study opens up several promising directions for future research. One of these is the potential to explore how transformation processes unfold over time. Because systems are dynamic, changes in one area often lead to feedback effects in others, sometimes in unexpected ways. Longitudinal research could help capture these dynamics and provide deeper insights into how change is sustained or disrupted. The model can also be extended to include new strategic variables that are becoming increasingly important, such as institutional agility, environmental sustainability, or the integration of student voices into governance and planning. Moreover, the systems thinking approach adopted in this study lends itself well to interdisciplinary research, offering opportunities to combine perspectives from fields such as organizational behavior, public administration, and digital innovation.

The most important theoretical contribution of this study is its promotion of systems thinking as a central approach to understanding and guiding university transformation. By highlighting the connections between internal capabilities, external pressures, and strategic initiatives, the research provides a comprehensive framework for analyzing change in complex institutions. It emphasizes that real and lasting transformation is not simply a matter of implementing new policies or technologies but requires a deep understanding of how all parts of the institution influence one another. Most importantly, it reminds us that education is ultimately a human endeavor. Behind every reform effort are people including leaders, faculty, students, and staff, working together to build institutions that can adapt, grow, and serve their communities in meaningful ways. This systems-based perspective not only enriches academic theory but also offers a practical guide for those who are leading change on the ground.

### **5.3.2 Managerial Implications**

#### **5.3.2.1 Establishing a Proactive Management Mechanism**

In today's rapidly evolving educational landscape, the role of university management must shift from reactive to proactive. As global trends reshape the nature of work, learning, and innovation, higher education institutions can no longer afford to operate with passive or delayed strategies. The traditional model of waiting to respond to external forces such as technological disruption, demographic changes, and national reform policies is increasingly inadequate. This study highlights the urgent need for university leaders and administrators to adopt a proactive management approach that emphasizes long-term strategic thinking, adaptability, and a forward-looking mindset.

A proactive management mechanism involves not only anticipating change but also preparing for it in a deliberate and strategic manner. For university administrators, this means developing policies and practices that are designed to position the institution ahead of emerging trends rather than struggling to catch up. It also means fostering a culture where innovation, flexibility, and continuous learning are core values embraced across all levels of the organization. In this study, it became evident that universities which proactively align their internal capabilities with external demands are more likely to achieve performance excellence and long-term sustainability.

The first step in establishing a proactive management framework is strategic foresight. University leaders must engage in systematic environmental scanning to identify potential risks and opportunities in the educational, economic, technological, and social spheres. For instance, anticipating the rise of artificial intelligence and automation in the labor market can inform curriculum reform and workforce development initiatives. Similarly, understanding demographic shifts such as declining student populations can help universities redesign enrollment strategies, expand lifelong learning offerings, and develop new models of engagement with non-traditional learners. Proactive management means planning not only for the next academic year but for the next decade. It involves scenario analysis, risk assessments, and the ability to make bold decisions based on projected trends rather than past data alone.

Another crucial element of proactive management is agility. Universities need to build internal systems that allow for rapid decision-making and flexible implementation. This includes revising bureaucratic structures that hinder innovation and replacing them with cross-functional teams that can respond quickly to emerging needs. For example, during the COVID-19 pandemic, institutions that already had agile structures were able to pivot to online learning much more effectively than those relying on rigid hierarchies. Agility also applies to resource allocation. Proactively managed institutions create financial buffers and flexible budgeting systems that allow them to invest in strategic initiatives without being constrained by traditional fiscal cycles. By building this kind of operational responsiveness, universities position themselves to act rather than react.

Closely related to agility is the emphasis on innovation, particularly digital innovation. In a digital-first world, universities must not only adopt new technologies but also use them to rethink how they deliver education, conduct research, and serve their communities. Proactive management involves investing in digital infrastructure, training faculty and staff in the use of emerging technologies, and embedding digital literacy across the curriculum. It also means embracing experimental models such as hybrid classrooms, virtual labs, and AI-powered learning platforms. Importantly, innovation should not be confined to the IT

department. Proactive leadership promotes a culture where everyone from senior administrators to entry-level staff is encouraged to think creatively, experiment with new ideas, and continuously improve processes. Innovation becomes not just an outcome but a way of working.

Lifelong learning is another pillar of proactive university management. As the shelf life of knowledge continues to shrink, universities must reimagine their role as providers of continuous education across the lifespan. This requires offering flexible, modular, and personalized learning options that cater to diverse learner needs. A proactive university does not focus solely on traditional full-time students; it also serves adult learners, working professionals, retirees, and others seeking to reskill or upskill. From a managerial perspective, this shift requires redesigning academic programs, restructuring support services, and building partnerships with industries and communities. It also demands a change in mindset from seeing education as a one-time experience to viewing it as a lifelong journey supported by the institution.

Equally important is leadership development. Proactive management begins with proactive leaders. University executives and department heads must be equipped not only with technical knowledge but also with the emotional intelligence, vision, and adaptability required to lead through uncertainty. Professional development programs, mentorship opportunities, and leadership succession planning should be integral parts of institutional strategy. In a proactive organization, leadership is not concentrated at the top; it is cultivated throughout the institution. Faculty members, middle managers, and even students are given opportunities to lead initiatives, participate in strategic planning, and contribute to institutional change. This distributed leadership model builds resilience and ensures that innovation and adaptability are embedded throughout the university.

In developing a proactive management system, communication also plays a vital role. Transparent, timely, and inclusive communication fosters trust, breaks down silos, and aligns stakeholders toward common goals. University leaders must communicate not only what is happening but also why it is happening and how stakeholders can be part of the change. Feedback loops should be established to ensure that decisions are informed by voices from across the institution. This inclusive approach builds shared ownership and reduces resistance to change, which is critical in complex institutions where buy-in is essential for successful implementation.

One of the major findings of this study is that proactive institutions tend to align their strategic goals with national and global development agendas. For example, the Thailand 4.0 policy provides a clear framework for innovation, digital transformation, and workforce readiness. Universities that embrace this vision proactively redesign their strategies, curricula, and partnerships to contribute meaningfully to national development. This kind of alignment requires

institutional awareness, strategic flexibility, and a willingness to move beyond traditional academic silos. By engaging with public and private sectors, participating in policy dialogues, and embedding social impact into their missions, proactive universities become active agents of national progress rather than passive recipients of change.

Finally, the successful implementation of a proactive management approach depends on the establishment of monitoring and evaluation systems. Universities must define clear indicators of success, track performance regularly, and use data to inform continuous improvement. These systems should go beyond compliance or reporting functions; they should be used as strategic tools for learning, adaptation, and accountability. By using data proactively, universities can identify emerging problems, evaluate the impact of interventions, and make evidence-based decisions that support long-term goals.

#### **5.3.2.2 Applying the Educational Transformation Model to Strategic Institutional Planning**

One of the most practical and impactful outcomes of this research is the development of a comprehensive model for educational transformation tailored to the context of higher education in Thailand. This model is not only a theoretical contribution but also a managerial tool that can be applied directly to institutional planning, development, and evaluation. In the current climate of rapid change and uncertainty, universities require clear, structured, and adaptable strategies that can guide them through periods of transition. The model developed through this study offers such a guide. It enables universities to identify gaps, prioritize strategic initiatives, and monitor the outcomes of transformation in a systematic and evidence-based manner.

Applying this model to institutional planning begins with its use as a diagnostic framework. Before any meaningful change can occur, universities must have a clear understanding of their current capabilities, strengths, and areas of weakness. The model outlines key dimensions of internal and external factors such as leadership, governance, curriculum innovation, infrastructure, external policy environments, labor market needs, and regional quality frameworks that can be assessed to determine institutional readiness for transformation. By evaluating their performance in each of these areas, universities can map out where gaps exist between their current state and their desired future state. This gap analysis allows for the identification of priorities, guiding leaders in determining where resources and attention should be focused.

Once diagnostic insights are gathered, the model functions as a tool for strategic planning. One of the most important advantages of using a structured model is that it provides a roadmap that integrates various dimensions of institutional development. Rather than approaching planning in fragmented, department-specific ways, the model encourages alignment and coherence across the entire organization.

Strategic goals related to teaching and learning, research, internationalization, lifelong learning, and digital transformation can be developed in a way that reflects both internal capacity and external demand. For example, if a university identifies that its digital teaching infrastructure is lagging behind regional standards, it can develop a targeted plan that combines faculty training, investment in digital platforms, and student support mechanisms, all aligned with the larger transformation vision.

Furthermore, the model supports evidence-based decision-making, which is critical in today's resource-constrained environment. University administrators often face difficult choices in terms of budgeting, program expansion, or restructuring. With the help of this model, decisions can be made based on a clear understanding of how each strategic initiative contributes to broader institutional goals. The interconnected nature of the model allows decision-makers to consider not just the isolated impact of a policy or action, but its influence across other dimensions of university functioning. For instance, a decision to invest in interdisciplinary programs can be analyzed not just for its academic merit, but also in terms of how it supports future skills development, faculty collaboration, and student employability. This systems-oriented perspective ensures that planning is not only strategic but also synergistic.

Another important managerial application of the model lies in its ability to inform the design of implementation strategies. Planning alone is not sufficient; universities must also ensure that plans are translated into action through effective coordination, communication, and execution. The model highlights critical enablers of successful implementation, including leadership commitment, stakeholder engagement, and organizational agility. By using the model as a reference point, institutions can develop implementation pathways that are realistic, inclusive, and responsive. Milestones and timelines can be set based on the readiness levels identified in the diagnostic phase, while feedback mechanisms can be built in to ensure continual learning and adaptation.

In terms of monitoring and evaluation, the model offers a framework for assessing progress. Educational transformation is a complex and long-term endeavor, and without structured tools for monitoring, it can be difficult to determine whether strategic goals are being achieved. The model provides specific indicators both qualitative and quantitative that can be used to track performance over time. These indicators might include graduation rates, student satisfaction, faculty development participation, curriculum renewal metrics, digital platform usage, or external collaboration measures. By collecting and analyzing this data, universities can assess what is working, what needs adjustment, and how to continuously improve their transformation efforts.

One of the most powerful aspects of applying this model is that it fosters a culture of continuous improvement. Rather than treating change as a one-time initiative, the model encourages universities to view transformation as an

ongoing process. This is particularly valuable in a world where external conditions shift constantly and where universities must be prepared to respond quickly and effectively. By embedding the model into the institutional planning cycle, universities can establish regular review processes, update their strategic plans based on emerging trends, and ensure that they remain aligned with both national priorities and global developments.

Moreover, the model supports cross-functional collaboration and integration, which are often challenging in large and complex institutions. It encourages different units such as academic departments, IT services, student affairs, and international offices to work together toward shared transformation goals. Since the model links strategic domains such as governance, curriculum, technology, and stakeholder engagement, it creates a shared language that can unite various teams under a common vision. This collaborative planning environment leads to stronger ownership, more innovative ideas, and greater overall commitment to the change process.

In the Thai context, where universities face unique challenges including declining student populations, limited funding, and the need to align with national innovation strategies like Thailand 4.0, applying this model can help ensure that institutional transformation is both contextually relevant and globally competitive. It allows universities to be proactive rather than reactive, to be strategic rather than fragmented, and to make decisions that are grounded in evidence and aligned with long-term goals.

Finally, the model also has the potential to serve as a benchmarking tool across institutions. When adopted by multiple universities, it can facilitate comparative analysis, peer learning, and shared improvement initiatives. Institutions can learn from each other's strengths and experiences, building a national or regional network of practice that accelerates innovation and excellence in higher education. Policymakers, accreditation bodies, and funding agencies may also use the model to assess institutional performance and guide capacity-building programs.

The educational transformation model developed in this study holds significant value not only as a conceptual framework but also as a practical managerial tool. Its application in strategic institutional planning allows universities to better understand their challenges, design coherent strategies, implement meaningful changes, and evaluate their progress in a structured and informed way. By embedding the model into organizational processes, universities can become more agile, responsive, and effective in fulfilling their missions. As higher education continues to face pressures from digitalization, labor market evolution, and demographic change, such a tool becomes essential for sustained excellence and relevance in the years to come.

### 5.3.3 Suggestions for Future Research

#### 5.3.3.1 Expanding the Sample and Conducting Comparative Research

Future studies would benefit greatly from expanding the range and diversity of the research sample beyond university administrators and academic staff. One of the key limitations in many existing studies, including this one, is the narrow focus on internal stakeholders. While institutional leadership provides valuable insights into strategic planning and management, a more holistic understanding of educational transformation can be achieved by incorporating the voices of other critical stakeholders. Specifically, future research should include students, alumni, and industry representatives in the data collection process. These groups offer unique and important perspectives on how educational strategies affect learning outcomes, employability, real-world relevance, and institutional reputation.

Incorporating the student voice would shed light on the lived experiences of those most directly impacted by educational reforms. Students can offer detailed feedback on how changes in curriculum design, teaching practices, technology integration, and campus services affect their learning engagement and academic performance. Their insights are particularly valuable in evaluating whether transformation strategies are truly enhancing student-centered learning or merely reshaping institutional structures without tangible benefits to learners.

Similarly, alumni perspectives can provide long-term insights into the effectiveness of transformation strategies. Alumni are in a unique position to evaluate how their education prepared them for the workforce and how well the university adapted to evolving industry needs. Including alumni in future research will help institutions assess the impact of transformation beyond graduation, contributing to more sustainable and long-term strategic development.

Industry partners also play a vital role in shaping and responding to higher education reform. As key end-users of university graduates, their expectations and feedback are critical to evaluating whether transformation strategies align with labor market demands and technological change. By including industry voices, future research can bridge the gap between academic outcomes and employment needs, helping to ensure that transformation strategies are both educationally and economically relevant.

Additionally, comparative studies across institutions or countries within the ASEAN region can further enrich the research. Comparative analysis allows researchers to examine how different cultural, political, and economic contexts influence the implementation and effectiveness of transformation strategies. ASEAN countries share regional goals related to education quality and integration, but they vary significantly in terms of resources, governance models, and social expectations. By conducting cross-border comparative research, future studies can identify best practices, common challenges, and transferable models of

transformation. This can lead to regional collaboration and policy alignment in higher education development.

### **5.3.3.2 Conducting Follow-Up Studies on Post-Implementation Impact**

Another valuable direction for future research is to conduct longitudinal follow-up studies that assess the real-world impact of implementing educational transformation strategies aimed at achieving institutional excellence. While the present study provides a comprehensive framework and strategic recommendations, it does not evaluate the outcomes of these strategies once they have been applied in practice. Therefore, it is crucial for future researchers to investigate how institutions change over time after the adoption of transformation initiatives, and more importantly, whether those changes yield measurable improvements.

Follow-up studies should be designed to track a range of key performance indicators (KPIs), such as student academic performance, graduate employability, faculty satisfaction, research productivity, and institutional rankings. In addition, qualitative data such as stakeholder perceptions, institutional culture shifts, and changes in teaching and learning environments should also be collected to provide a rich and nuanced understanding of impact. This dual-method approach will ensure that both tangible outcomes and intangible changes are captured.'

Longitudinal research also allows for the identification of factors that contribute to either the success or failure of transformation strategies. Some universities may experience rapid progress, while others may encounter resistance, stagnation, or even regression. Understanding why these differences occur will enable policymakers and institutional leaders to refine strategies, address bottlenecks, and replicate successful interventions in similar contexts.

Furthermore, assessing the efficiency of implementation how well institutions allocate and use their resources to support transformation is just as important as evaluating effectiveness. Resource allocation, leadership commitment, stakeholder engagement, and technological infrastructure all influence how strategies are carried out. Future research should examine how these operational elements interact with transformation goals and whether investments lead to proportional outcomes.

Another important aspect of post-implementation studies is the opportunity to explore unintended consequences. While educational transformation is typically aimed at achieving positive outcomes, it can sometimes result in increased workload for staff, confusion among students, or loss of focus on core academic values. A follow-up study can help detect and address such issues early, ensuring that transformation strategies remain aligned with institutional missions and stakeholder expectations.

Overall, conducting follow-up studies is essential for validating the practicality and impact of proposed transformation models. It moves the conversation from theoretical frameworks to evidence-based change, allowing universities to learn from real experiences, refine their practices, and ensure that transformation leads to long-lasting improvement rather than short-lived reform.

#### **5.3.3.3 Integrating New Strategic Variables into Future Models**

As the global higher education landscape continues to evolve, future studies should consider incorporating new and emerging strategic variables into transformation models to better reflect the changing environment. The current research offers a strong foundation for understanding the interaction between external pressures, internal capacities, and strategic planning. However, additional variables such as digital readiness, institutional agility, and sustainability are becoming increasingly relevant and deserve deeper investigation.

Digital readiness refers to an institution's capacity to adopt, integrate, and optimize digital technologies for learning, administration, and innovation. In the post-COVID era, digital transformation is not merely an enhancement but a core element of higher education strategy. Future studies should examine how digital readiness influences the success of transformation efforts, including how institutions build digital infrastructure, develop digital skills among faculty and students, and manage data security and digital equity concerns. Measuring digital readiness as part of the transformation model can help identify whether technological capacity is an enabler or a barrier to innovation.

Institutional agility is another critical variable that reflects the ability of a university to respond quickly and effectively to internal and external change. Agile institutions are characterized by flexible governance structures, decentralized decision-making, and a culture of experimentation and learning. As the pace of change accelerates, especially in response to global shocks like pandemics or economic shifts, the ability to pivot rapidly becomes a competitive advantage. Future research should explore how institutional agility can be operationalized and measured, and how it correlates with successful transformation outcomes.

Sustainability both environmental and operational is also emerging as a strategic priority for higher education. Universities are being called upon not only to teach and research sustainability but to embody it in their own practices. This includes reducing carbon footprints, ensuring financial viability, promoting social inclusion, and fostering ethical governance. Including sustainability in transformation models allows institutions to align with broader global goals such as the United Nations Sustainable Development Goals (SDGs), while also securing their long-term relevance and credibility.

Incorporating these new strategic variables into future research will expand the explanatory power of transformation models and ensure that they remain relevant in an increasingly complex and interconnected world. It will also help institutions align their transformation strategies with future societal demands, preparing them not just to survive but to thrive in a rapidly changing educational ecosystem.



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**APPENDIX**





## บันทึกข้อความ

ส่วนงาน สำนักงานบริหารการวิจัย นวัตกรรมและการสร้างสรรค์ มหาวิทยาลัยศิลปากร ภายใน 216005

ที่ อว 8603.16/0068

วันที่ 7 มกราคม 2568

เรื่อง ผลการพิจารณาการขอรับการรับรองจริยธรรมการวิจัยในมนุษย์

เรียน นางสาวจีราภา สตะเวทิน (นักศึกษาคณะวิทยาการจัดการ)

ตามที่ท่านได้ส่งโครงการวิจัยเรื่อง กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการทำงานที่ดีเลิศ (เลขที่โครงการ REC 67.1111-173-8892) ไปยังสำนักงานบริหารการวิจัย นวัตกรรมและการสร้างสรรค์ เพื่อขอรับการพิจารณารับรองจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยศิลปากรแล้ว นั้น

บัดนี้ สำนักงานบริหารการวิจัยฯ ขอแจ้งผลการพิจารณา ให้ทราบว่าโครงการวิจัยดังกล่าว เป็นโครงการวิจัยที่มีลักษณะได้รับการพิจารณาแบบรวดเร็ว (Expedited review) จึงออกหนังสือรับรองให้กับโครงการวิจัยดังกล่าวตามเอกสารแนบ โดยขอให้ดำเนินการ ดังนี้

1. รายงานแจ้งปิดเมื่อโครงการเสร็จสิ้น
2. ผู้วิจัยต้องดำเนินการวิจัยตามที่ระบุไว้ในหนังสือรับรองจากคณะกรรมการฯ แล้วเท่านั้น หากมีการเปลี่ยนแปลงจากเอกสารที่ได้รับรองดังกล่าว ต้องแจ้งต่อคณะกรรมการฯ พิจารณาก่อนเริ่มดำเนินการวิจัย และหากคณะกรรมการฯ พบว่ามีการดำเนินการวิจัยไปก่อนได้รับการรับรองจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์ ผลการดำเนินการวิจัยนั้น ถือเป็นโมฆะ

อนึ่ง เมื่อหนังสือรับรองหมดอายุและผู้วิจัยยังดำเนินการวิจัยไม่แล้วเสร็จ หากผู้วิจัยประสงค์จะขอต่ออายุเอกสารรับรองโครงการวิจัย ผู้วิจัยต้องยื่นเสนอขอต่ออายุการรับรองโครงการไม่เกิน 30 วัน หลังจากวันหมดอายุการรับรอง กรณีที่ผู้วิจัยไม่ยื่นเสนอขอต่ออายุการรับรองโครงการเกิน 30 วัน หลังจากวันหมดอายุการรับรองจะถือว่าผู้วิจัยมีความประสงค์ปิดโครงการ ซึ่งผู้วิจัยจะไม่สามารถดำเนินการวิจัยนั้นต่อไป หากผู้วิจัยต้องการดำเนินการวิจัยต่อ ต้องยื่นโครงการวิจัยเพื่อขอรับการพิจารณาใหม่

จึงเรียนมาเพื่อโปรดทราบ หากผู้วิจัยมีข้อสงสัยสามารถสอบถามเพิ่มเติมได้ที่นางสาววาริ จิตต์รัตนสุข (เบอร์สำนักงาน) 098-5479738 ภายใน 216005

(รองศาสตราจารย์ ดร.ประเสริฐ อัครมงคลพร)  
ประธานกรรมการจริยธรรมการวิจัยในมนุษย์

สำเนาเรียน ผู้ช่วยศาสตราจารย์ ดร.สันติธร ภูริภักดี (อาจารย์ที่ปรึกษา)



มหาวิทยาลัยศิลปากร

หนังสือฉบับนี้ให้ไว้เพื่อแสดงว่า

รหัสโครงการ: REC 67.1111-173-8892

ชื่อโครงการ (ภาษาไทย): กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการดำเนินงานที่ดีที่สุด

ชื่อโครงการ (ภาษาอังกฤษ): Educational Transformation Strategies for University Performance Excellence

ผู้วิจัยหลัก: นางสาวจีราภา สตะเวทิน

สังกัด: คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร

อาจารย์ที่ปรึกษา: ผู้ช่วยศาสตราจารย์ ดร.สันติธร ภูริภักดี

สังกัด: คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร

เอกสารที่รับรอง:

1. แบบเสนอโครงการวิจัยเพื่อการพิจารณาจริยธรรมการวิจัยในมนุษย์ (ฉบับภาษาไทย) เวอร์ชัน 02 ฉบับลงวันที่ 2 มกราคม 2568
2. แบบสอบถามเพื่อการวิจัย เวอร์ชัน 02 ฉบับลงวันที่ 2 มกราคม 2568

ได้ผ่านการรับรองจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยศิลปากร โดยยึดหลักเกณฑ์ตามรายงานเบลมอนด์ และมีความสอดคล้องกับหลักจริยธรรมสากล ตลอดจนกฎหมายข้อบังคับ และข้อกำหนดภายในประเทศ และรายงานผลการวิจัยเมื่อโครงการเสร็จสิ้น



(รองศาสตราจารย์ ดร. ประเสริฐ อัครมงคลพร)  
ประธานกรรมการจริยธรรมการวิจัยในมนุษย์  
มหาวิทยาลัยศิลปากร

หมายเลขใบรับรอง COA 68.0103-002

วันที่รับรอง: 3 มกราคม พ.ศ. 2568

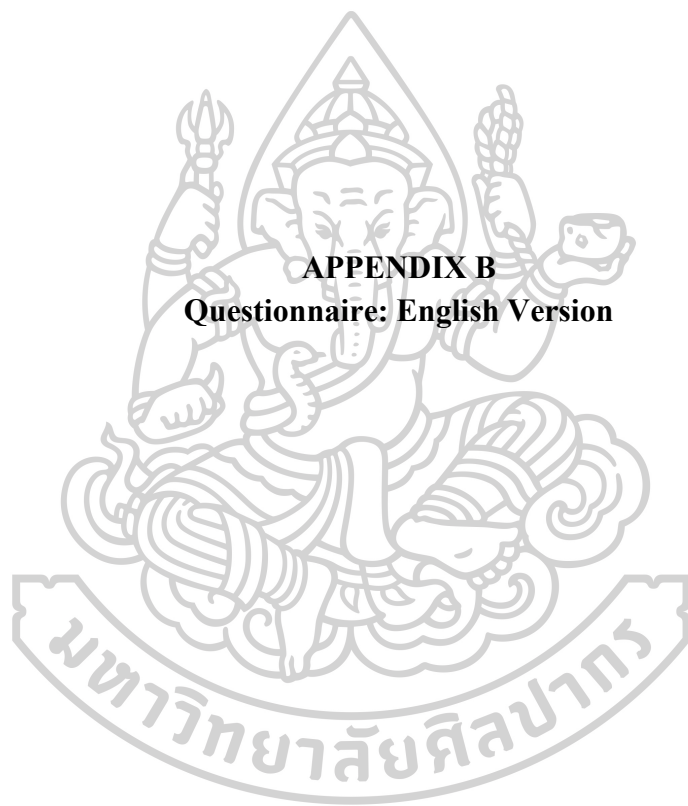
วันหมดอายุ: 2 มกราคม พ.ศ. 2569

สำนักงานบริหารการวิจัย นวัตกรรมและการสร้างสรรค์

6 ถนนราชมรรคาใน ตำบลพระปฐมเจดีย์ อำเภอเมืองนครปฐม จังหวัดนครปฐม 73000

โทร 0-3425-5808 โทรสาร (Fax) : 0-3425-5808

email: humanethics@su.ac.th



**APPENDIX B**  
**Questionnaire: English Version**

**Research Questionnaire**  
**Educational Transformation Strategies**  
**for University Performance Excellence**  
**Instructions**

This research on "Educational Transformation Strategies for University Performance Excellence" is part of a doctoral dissertation for the Doctor of Business Administration program at the Faculty of Management Science, Silpakorn University. The study examines the adaptation of Thai universities amid significant changes resulting from digital technology advancements, Industry 4.0 revolution, and the transition to an aging society. These changes affect all sectors, including students, faculty, staff, and external stakeholders such as parents, alumni, and employers.

This research aims to explore the current state of strategic management in Thai universities and study the relationships between key factors, including future higher education drivers, strategic management, educational transformation, and operational excellence. The goal is to develop an educational transformation strategy model suitable for the Thai university context.

The research results will benefit the development of higher education in Thailand by providing universities with clearer adaptation guidelines in curriculum development, teaching and learning management, and organizational administration. This will enable them to produce quality graduates that meet the demands of the labor market in the digital era and effectively handle various changes. Additionally, the findings will benefit policymakers in planning the development of higher education in the country to keep pace with global changes.

I kindly request your cooperation in completing this questionnaire, which consists of 5 parts:

- Part 1: Status and basic information of the respondent
- Part 2: External factors affecting strategic educational transformation
- Part 3: Internal factors affecting strategic educational transformation
- Part 4: Strategic educational transformation affecting organizational development toward excellence
- Part 5: Other recommendations

Your answers will be kept confidential, and no information revealing your identity will be used in the data reporting. This information will not be shared with any third parties without your permission.

If you have any questions about the questionnaire, please contact the researcher, Ms. Jerapa Satavetin, by phone at 081-919-3252 or by email at [satavetin\\_j@su.ac.th](mailto:satavetin_j@su.ac.th). If you wish to receive a summary report of this research study, please indicate your intention and specify your email address as indicated below.

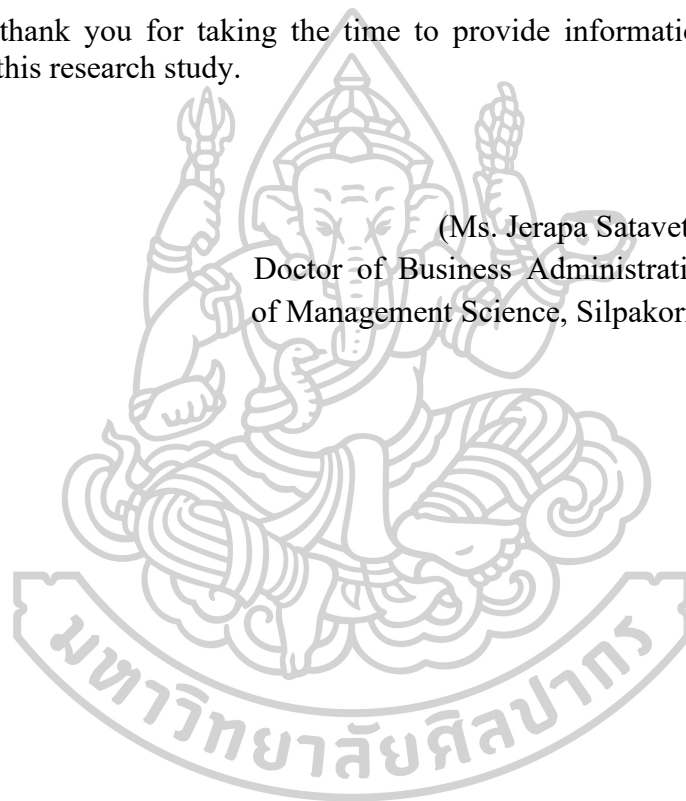
Yes, I would like to receive the report. Email: \_\_\_\_\_

No, I do not wish to receive the report

I sincerely thank you for taking the time to provide information that is extremely valuable to this research study.

(Ms. Jerapa Satavetin)

Doctor of Business Administration program Faculty  
of Management Science, Silpakorn University



**Part 1 Demographic data of the respondents**

Instructions: Please mark ✓ in only 1 box according to your actual circumstances.

## 1) Gender

- Male
- Female
- Other

## 2) Age

- Less than 30 years old
- 30 – 39 years old
- 40 – 49 years old
- More than 50 years old

## 3) Educational Background

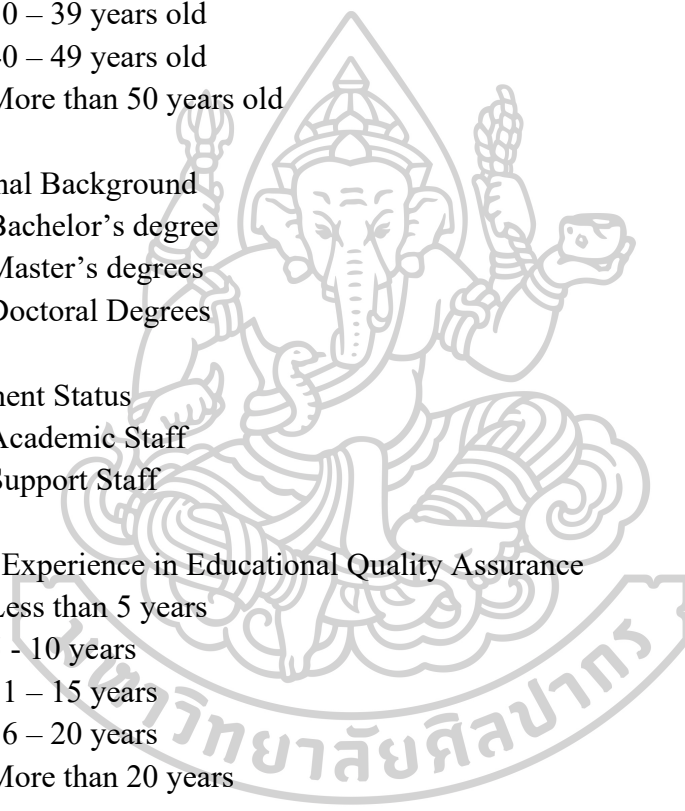
- Bachelor's degree
- Master's degrees
- Doctoral Degrees

## 4) Employment Status

- Academic Staff
- Support Staff

## 5) Working Experience in Educational Quality Assurance

- Less than 5 years
- 5 - 10 years
- 11 – 15 years
- 16 – 20 years
- More than 20 years



## Part 2 External Factors Affecting Educational Transformation Strategies

Instructions: Please mark ✓ in the box that best matches your opinion level.

External Factors Affecting Educational Transformation Strategies	Opinion Levels				
	Strongly Agree <----> Strongly Disagree				
	5	4	3	2	1
<b>Future Skills</b>					
1. University teaching promotes the development of critical thinking and problem-solving skills.					
2. The university promotes business simulation learning to develop students' future skills.					
3. The university promotes entrepreneurship skills development.					
4. University teaching emphasizes the development of sustainability and ethical skills.					
5. The university uses diverse assessment methods to measure students' future skills.					
<b>Lifelong Learning</b>					
6. Promoting continuous learning helps universities make improvements and changes.					
7. Leaders who support lifelong learning for personnel help develop the university.					
8. Up-to-date learning content that meets social needs helps improve educational curricula and promotes lifelong learning.					
9. Working with colleagues to create new teaching methods helps organizations change for the better and promotes lifelong learning.					
10. Creating motivation helps people desire lifelong learning and helps raise the quality of educational institutions.					
11. Continuous and systematic learning helps personnel adapt better to quality development in educational institutions.					

External Factors Affecting Educational Transformation Strategies	Opinion Levels				
	Strongly Agree <----> Strongly Disagree				
	5	4	3	2	1
12. Those who enjoy learning continuously help organizations progress toward educational excellence better than others.					
<b>Personalization of Academic Learning</b>					
13. Universities encourage students to understand personalized learning.					
14. Universities develop environments conducive to personalized learning.					
15. Universities promote student participation in personalized learning.					
16. Universities assess students individually to lead toward personalized learning.					
17. Universities have easily accessible counseling services for students with learning issues or mental health concerns.					
<b>AUN-QA Criteria</b>					
18. Outcome-based education helps develop educational quality according to AUN-QA criteria.					
19. Improving curricula to meet stakeholder needs helps raise educational standards.					
20. Teaching methods that emphasize hands-on/practical work stimulate learning according to AUN-QA standards.					
21. Adequate allocation of physical, social, and environmental resources supports AUN-QA standards.					
22. Faculty and staff training helps make the implementation of AUN-QA criteria more effective.					
23. Improving the quality assurance system according to AUN-QA helps raise overall educational standards.					

External Factors Affecting Educational Transformation Strategies	Opinion Levels				
	Strongly Agree <----> Strongly Disagree				
	5	4	3	2	1
<b>University Holding Companies, UHCs</b>					
24. Promoting the commercial use of research helps add value to academic work or routine-to-research development (R2R).					
25. Collaboration with industry helps better address labor market needs.					
26. Having students do real work and start businesses helps increase practical skills and gain real experience.					
27. Encouraging staff to work with industry increases expertise and experience.					
28. Finding diverse research funding sources increases opportunities for quality research.					
29. Instilling innovation and entrepreneurship concepts helps create graduates with creativity and initiative.					
<b>Multi-institutional Cooperation</b>					
30. Collaboration with other institutions in developing multi-disciplinary curricula helps create educational change.					
31. Joint research with multiple institutions helps elevate research quality and leads to educational transformation.					
32. Student exchange and joint curriculum development with other institutions helps increase educational opportunities and learning experiences.					
33. Creating collaborative networks between universities, industry, and government helps develop educational innovations.					
34. Collaboration with international institutions helps increase cultural understanding and global perspectives for students.					

External Factors Affecting Educational Transformation Strategies	Opinion Levels				
	Strongly Agree <----> Strongly Disagree				
	5	4	3	2	1
35. Using the strengths of each partner institution helps enhance educational management efficiency.					
36. Exchanging best practices in administration between institutions helps improve operational efficiency.					

### Part 3 Internal Factors Affecting Educational Transformation Strategies

Instructions: Please mark ✓ in the box that best matches your opinion level.

Internal Factors Affecting Educational Transformation Strategies	Opinion Levels				
	Strongly Agree <----> Strongly Disagree				
	5	4	3	2	1
<b>Leaders and Governance</b>					
37. Leaders in the organization have clear guidelines regarding good governance principles to facilitate educational change.					
38. There are direct responsible persons to ensure that educational changes comply with laws and standards.					
39. Leaders have clear practices for avoiding conflicts of interest.					
40. Leaders can oversee educational changes with transparency.					
41. Ethical guidelines regarding changes are communicated to all personnel thoroughly.					
42. All personnel have equal opportunities to express opinions on educational changes.					
43. The university's governance structure is flexible and responsive to changes quickly.					

<b>Internal Factors Affecting Educational Transformation Strategies</b>	<b>Opinion Levels</b>				
	<b>Strongly Agree &lt;----&gt; Strongly Disagree</b>				
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Faculty and Staff Engagement</b>					
44. Encouraging faculty and staff participation in decision-making helps drive educational change.					
45. Adjusting institutional policies to align with faculty and staff needs helps promote educational change.					
46. Supporting faculty and staff to propose new ideas helps create educational innovations.					
47. Creating understanding and acceptance among faculty and staff helps make educational changes sustainable.					
48. Faculty and staff engagement is a key driver in educational change.					
<b>Financial Management</b>					
49. Budget expenditure aligns with educational strategic plans.					
50. Resources are appropriately allocated to support educational system development.					
51. The budget is flexible and can be adjusted according to the needs of each project.					
52. Revenue sources are diverse to continuously support educational system development.					
53. There is adequate investment in technology and teaching innovations.					
54. Financial planning takes into account long-term development goals.					
55. There is financial readiness to handle unexpected situations.					
56. All stakeholders, including faculty, staff, and students, participate in the budget decision-making process.					

<b>Internal Factors Affecting Educational Transformation Strategies</b>	<b>Opinion Levels</b>				
	<b>Strongly Agree &lt;----&gt; Strongly Disagree</b>				
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Academic Programs and Curriculum Design</b>					
57. Curricula are updated to respond to changing societal needs.					
58. There is integration of knowledge from multiple disciplines in curricula.					
59. Digital technology is appropriately used in teaching and learning.					
60. Curricula promote global perspectives and cross-cultural work skills.					
61. Curriculum design begins with clearly defined learning outcomes.					
62. Curricula emphasize the development of skills and specific knowledge according to required competency levels.					
63. Curricula are flexible and adaptable to various teaching and learning approaches.					
<b>Infrastructure and Facilities</b>					
64. Physical environments and classrooms align with modern teaching methods and support diverse teaching formats.					
65. Technology is efficiently integrated into infrastructure to enhance learning experiences and support digital transformation.					
66. Facilities are designed to be flexible and easily adaptable to different needs and teaching methods.					
67. Classrooms and learning spaces have sufficient, ready-to-use, modern equipment for hands-on student practice.					
68. The university is designed as a learning landscape with diverse spaces for both formal and informal learning.					

<b>Internal Factors Affecting Educational Transformation Strategies</b>	<b>Opinion Levels</b>				
	<b>Strongly Agree &lt;----&gt; Strongly Disagree</b>				
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
69. Digital infrastructure is robust and can support learning needs both on and off campus.					
70. There are adequate spaces and facilities for collaborative work that promote interaction and group work among students, faculty, and staff.					
<b>Technology Integration</b>					
71. Appropriate use of technology to develop necessary current skills.					
72. Sufficient technological equipment and systems ready for teaching and learning.					
73. Personnel receive training to use technology efficiently in their work.					
74. Personnel can effectively integrate technology into their work.					
75. Students develop both technical and analytical thinking technology skills.					
76. Appropriate integration of classroom and online learning.					
77. Use of data to analyze and improve student learning.					
78. Security measures to protect personal data in educational technology.					
79. All students have equal access to learning technology.					

### Part 4 Educational Transformation Strategies Affecting University Performance Excellence

Instructions: Please mark ✓ in the box that best matches your opinion level.

Educational Transformation Strategies Affecting University Performance Excellence	Opinion Levels				
	Strongly Agree <----> Strongly Disagree				
	5	4	3	2	1
<b>Leadership and Vision</b>					
80. Leaders in your organization clearly communicate vision and organizational values.					
81. Leaders promote organizational culture focused on quality and continuous improvement.					
82. Leaders demonstrate commitment to long-term organizational sustainability.					
83. Leaders can adapt strategies to the context aimed at international excellence standards.					
84. Leaders promote stakeholder participation in organizational development.					
85. Leaders demonstrate ethical values and integrity administration.					
86. Leaders can inspire and motivate personnel toward excellence goals.					
87. Leaders promote leadership development at all organizational levels.					
<b>Faculty and Staff Development</b>					
88. University promotes career development opportunities for all levels of personnel.					
89. Personnel development programs enhance job competencies, including knowledge, skills, and work attitudes.					
90. Administrators give importance to and continuously support personnel competency development.					
91. University systematically evaluates personnel competency development and continuously uses results for improvement.					
92. Personnel development programs increase job satisfaction and university engagement.					
93. Personnel development directly impacts organizational development toward excellence.					

Educational Transformation Strategies Affecting University Performance Excellence	Opinion Levels				
	Strongly Agree <----> Strongly Disagree				
	5	4	3	2	1
<b>(New Curriculum Design and Pedagogy)</b>					
94. University provides opportunities for faculty, current students, alumni, and stakeholders to participate in curriculum design.					
95. University curricula develop skills and abilities necessary for future work.					
96. University promotes new student-centered teaching methods such as Active Learning and Experiential Learning.					
97. Alignment exists between learning outcomes, teaching methods, and assessment methods in university curricula.					
98. University continuously evaluates and improves curricula using student learning outcome data.					
99. University curricula are flexible for adapting to various teaching formats such as classroom, online, and blended learning.					
100. New curriculum design and pedagogy directly impacts the development of academic excellence.					
<b>Assessment and Quality Assurance</b>					
101. University administrators demonstrate clear commitment and support for quality assurance processes.					
102. Personnel at all levels participate in quality assurance processes.					
103. University clearly communicates quality assurance processes and goals.					
104. Quality assurance processes are integrated into daily university operations.					
105. Student learning assessment helps in university strategic decision-making.					

<b>Educational Transformation Strategies Affecting University Performance Excellence</b>	<b>Opinion Levels</b>				
	<b>Strongly Agree &lt;----&gt; Strongly Disagree</b>				
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
106. University uses quality assessment results to improve teaching quality and student learning outcomes.					
107. University quality assurance aligns with Education Criteria for Performance Excellence (EdPEX).					
<b>Student Support Services</b>					
108. University provides comprehensive and effective academic support services.					
109. University has professional skill development programs that enhance graduate employability.					
110. University provides adequate mental health counseling and support services.					
111. University has comprehensive financial support programs for students with needs.					
112. University student support services are systematically integrated and connected.					
113. University student support services positively impact student retention and graduation rates.					
114. University student support services align with Education Criteria for Performance Excellence (EdPEX).					
<b>University Performance Excellence</b>					
115. The university has systematically and efficiently designed curricula and teaching processes that can be adapted to various contexts.					
116. The university has personnel development programs that cover teaching, research, and overall work efficiency.					
117. The university allocates sufficient resources and support systems for quality assurance operations.					
118. The university continuously evaluates and improves the quality of student support services.					

**Part 5 Other recommendations**

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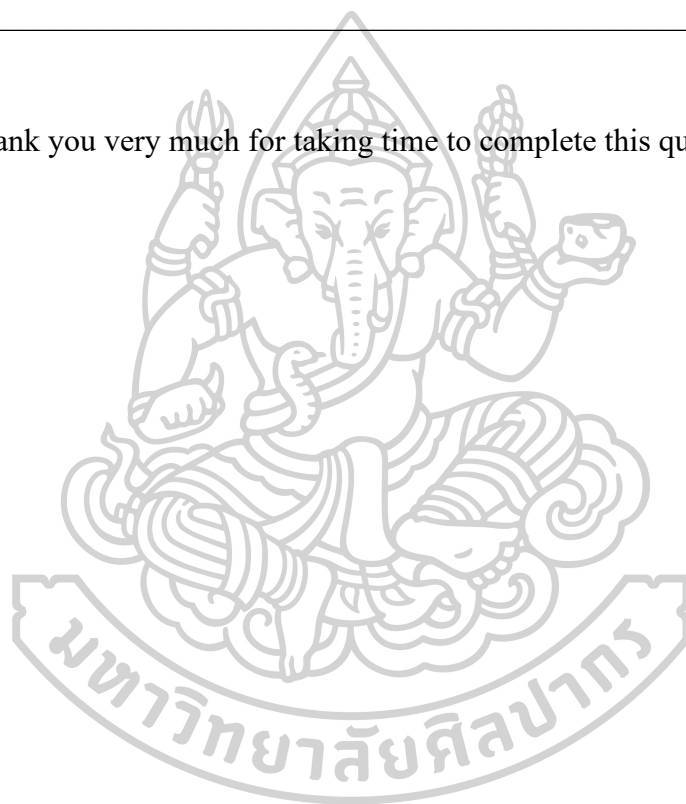
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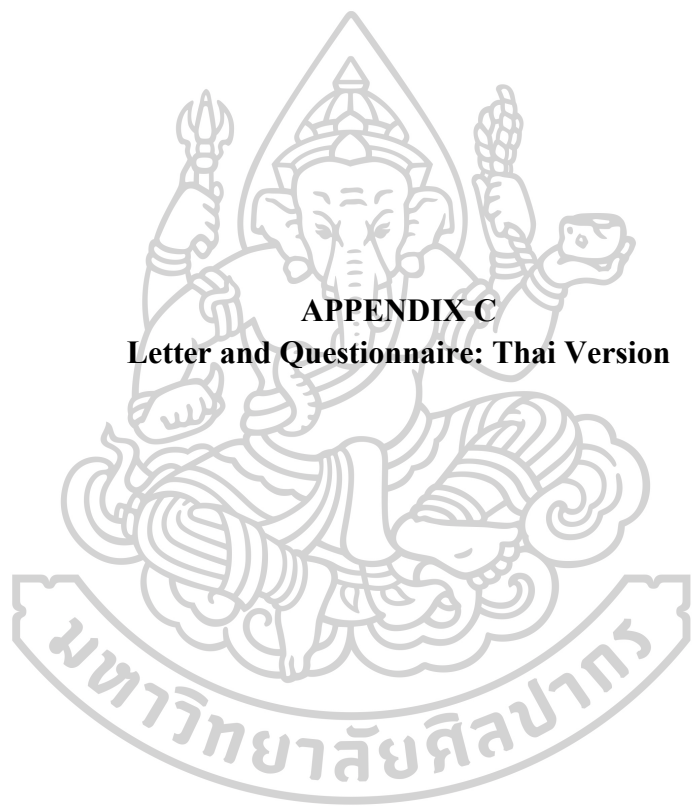
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Thank you very much for taking time to complete this questionnaire.





**APPENDIX C**  
**Letter and Questionnaire: Thai Version**



ที่ อว 8618/4442

คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร  
เลขที่ 1 หมู่ 3 ตำบลสามพระยา  
อำเภอชะอำ จังหวัดเพชรบุรี 76120

24 ธันวาคม 2567

เรื่อง ขอความอนุเคราะห์ในการเก็บรวบรวมข้อมูล

เรียน

ด้วยนางสาวจีราภา สตะเวทิน รหัสประจำตัว 621230024 นักศึกษาระดับปริญญาตรีบัณฑิต หลักสูตรบริหารธุรกิจบัณฑิต (หลักสูตรนานาชาติ) คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร กำลังดำเนินการวิทยานิพนธ์เรื่อง "กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการทำงานที่ดีเลิศ" มีความประสงค์จะขอเก็บรวบรวมข้อมูลกับบุคลากรสายวิชาการ และ/หรือ บุคลากรสายสนับสนุนที่มีประสบการณ์ในการทำงานด้านประกันคุณภาพการศึกษาตามเกณฑ์ EdPEx หรือเป็นผู้ที่มีส่วนเกี่ยวข้องกับการดำเนินงานด้าน EdPEx ของมหาวิทยาลัย และสังกัดในหน่วยงานที่ผ่านการประเมินระดับ 200 คะแนนให้เข้าร่วมโครงการพัฒนาคุณภาพการศึกษาสู่ความเป็นเลิศ : EdPEx200 โดยพิจารณาจากรุ่นที่ 1 พ.ศ. 2556 (ปีการศึกษา 2555) ถึงรุ่นปัจจุบันคือรุ่นที่ 10 พ.ศ. 2565 (ปีการศึกษา 2564) รวมทั้งหมด 90 หน่วยงาน เพื่อประกอบการดำเนินวิทยานิพนธ์

ในการนี้ คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร จึงขอความอนุเคราะห์จากท่านโปรดให้ ความอนุเคราะห์แก่นักศึกษาตามที่เห็นสมควร ทั้งนี้เพื่อประโยชน์ทางการศึกษา สำหรับกำหนดวัน เวลา สถานที่ในการเข้าเก็บรวบรวมข้อมูล และรายละเอียดเพิ่มเติมต่าง ๆ คณะวิทยาการจัดการ ขออนุญาตให้ นางสาวจีราภา สตะเวทิน หมายเลขโทรศัพท์ 08 1919 3252 เป็นผู้ประสานงานโดยตรงต่อไป

จึงเรียนมาเพื่อโปรดให้ความอนุเคราะห์ จักขอบพระคุณยิ่ง

ขอแสดงความนับถือ

(อาจารย์ ดร.บุชริน วงศ์วิวัฒนา)

รองคณบดีฝ่ายบัณฑิตศึกษา ปฏิบัติการแทน

คณบดีคณะวิทยาการจัดการ

คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร  
โทร.0 3259 4031



## บันทึกข้อความ

ส่วนงาน คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร โทร.0 3259 4031  
ที่ อว 8618/4441 วันที่ 24 ธันวาคม 2567

เรื่อง ขอความอนุเคราะห์ในการเก็บรวบรวมข้อมูล

เรียน

ด้วยนางสาวจีราภา สตะเวทิน รหัสประจำตัว 621230024 นักศึกษาระดับปริญญาตรีบัณฑิต  
หลักสูตรบริหารธุรกิจดุขฎีบัณฑิต (หลักสูตรนานาชาติ) คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร กำลัง  
ดำเนินการวิทยานิพนธ์ เรื่อง "กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการค้าดำเนินงานที่ดีเลิศ"  
มีความประสงค์จะขอเก็บรวบรวมข้อมูลกับบุคลากรสายวิชาการ และ/หรือ บุคลากรสายสนับสนุนที่มี  
ประสบการณ์ในการทำงานด้านประกันคุณภาพการศึกษาตามเกณฑ์ EdPEx หรือเป็นผู้ที่มีส่วนเกี่ยวข้องกับ  
การค้าดำเนินงานด้าน EdPEx ของมหาวิทยาลัย และสังกัดในหน่วยงานที่ผ่านการประเมินระดับ 200 คะแนน  
ให้เข้าร่วมโครงการพัฒนาคุณภาพการศึกษาสู่ความเป็นเลิศ : EdPEx200 โดยพิจารณาจากรุ่นที่ 1 พ.ศ. 2556  
(ปีการศึกษา 2555) ถึงรุ่นปัจจุบันคือรุ่นที่ 10 พ.ศ. 2565 (ปีการศึกษา 2564) รวมทั้งหมด 90 หน่วยงาน  
เพื่อประกอบการดำเนินวิทยานิพนธ์

ในการนี้ คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร จึงขอความอนุเคราะห์จากท่านโปรดให้  
ความอนุเคราะห์แก่นักศึกษาตามความเห็นสมควร ทั้งนี้เพื่อประโยชน์ทางการศึกษา สำหรับกำหนดวัน เวลา สถานที่  
ในการเข้าเก็บรวบรวมข้อมูล และรายละเอียดเพิ่มเติมต่าง ๆ คณะวิทยาการจัดการ ขออนุญาตให้  
นางสาวจีราภา สตะเวทิน หมายเลขโทรศัพท์ 08 1919 3252 เป็นผู้ประสานงานโดยตรงต่อไป

จึงเรียนมาเพื่อโปรดให้ความอนุเคราะห์ จักขอบพระคุณยิ่ง

(อาจารย์ ดร.บุษริน วงศ์วิวัฒนา)

รองคณบดีฝ่ายบัณฑิตศึกษา ปฏิบัติการแทน

คณบดีคณะวิทยาการจัดการ

## แบบสอบถามเพื่อการวิจัย

### เรื่อง กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการดำเนินงานที่ดีเลิศ

#### คำชี้แจง

การวิจัยเรื่อง "กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการดำเนินงานที่ดีเลิศ" เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก หลักสูตรบริหารธุรกิจดุษฎีบัณฑิต คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร ซึ่งศึกษาการปรับตัวของมหาวิทยาลัยไทยท่ามกลางการเปลี่ยนแปลงครั้งสำคัญ อันเนื่องมาจากความก้าวหน้าทางเทคโนโลยีดิจิทัล การปฏิวัติอุตสาหกรรม 4.0 และการเข้าสู่สังคมผู้สูงอายุ การเปลี่ยนแปลงเหล่านี้ส่งผลกระทบต่อทุกภาคส่วน ทั้งนักศึกษา อาจารย์ บุคลากร รวมถึงผู้มีส่วนได้ส่วนเสียภายนอก เช่น ผู้ปกครอง ศิษย์เก่า และนายจ้าง

งานวิจัยนี้มุ่งสำรวจสภาพปัจจุบันของการบริหารเชิงกลยุทธ์ในมหาวิทยาลัยไทย และศึกษาความสัมพันธ์ระหว่างปัจจัยสำคัญที่เกี่ยวข้อง ได้แก่ ปัจจัยขับเคลื่อนการอุดมศึกษาในอนาคต การบริหารเชิงกลยุทธ์ การเปลี่ยนแปลงทางการศึกษา และความเป็นเลิศในการดำเนินงาน เพื่อพัฒนาโมเดลกลยุทธ์การเปลี่ยนแปลงทางการศึกษาที่เหมาะสมกับบริบทของมหาวิทยาลัยไทย

ผลการวิจัยจะเป็นประโยชน์ต่อการพัฒนาการศึกษาระดับอุดมศึกษาของไทย โดยจะช่วยให้มหาวิทยาลัยมีแนวทางในการปรับตัวที่ชัดเจนขึ้น ทั้งด้านการพัฒนาหลักสูตร การจัดการเรียนการสอน และการบริหารจัดการองค์กร เพื่อให้สามารถผลิตบัณฑิตที่มีคุณภาพตรงกับความต้องการของตลาดแรงงานในยุคดิจิทัล รวมถึงสามารถรับมือกับการเปลี่ยนแปลงต่าง ๆ ได้อย่างมีประสิทธิภาพ นอกจากนี้ ผลการวิจัยยังจะเป็นประโยชน์ต่อผู้กำหนดนโยบายในการวางแผนพัฒนาการศึกษาระดับอุดมศึกษาของประเทศให้ก้าวทันการเปลี่ยนแปลงของโลก

ข้าพเจ้าใคร่ขอความอนุเคราะห์จากท่านผู้ตอบแบบสอบถามโปรดตอบแบบสอบถามชุดนี้ โดยรายละเอียดของแบบสอบถามประกอบด้วยส่วนคำถาม 5 ตอน ดังนี้

ตอนที่ 1 ข้อมูลเกี่ยวกับสถานภาพและข้อมูลพื้นฐานของผู้ตอบแบบสอบถาม

ตอนที่ 2 ปัจจัยภายนอกส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา

ตอนที่ 3 ปัจจัยภายในส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา

ตอนที่ 4 การเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษาส่งผลต่อการพัฒนาองค์กรสู่ความเป็นเลิศ

ตอนที่ 5 ข้อเสนอแนะอื่น ๆ

คำตอบของท่านจะถูกเก็บรักษาเป็นความลับและจะไม่มีการใช้ข้อมูลใด ๆ ที่เปิดเผยเกี่ยวกับตัวท่านในการรายงานข้อมูล รวมทั้งจะไม่มีการร่วมใช้ข้อมูลดังกล่าวกับบุคคลภายนอกอื่นใดโดยไม่ได้รับอนุญาตจากท่าน

อนึ่ง หากท่านมีข้อสงสัยประการใดเกี่ยวกับแบบสอบถามโปรดติดต่อผู้วิจัย นางสาวจีราภา สตะเวทิน โทรศัพท์ 081-919-3252 หรือ e-mail: satavetin\_j@su.ac.th และหากท่านมีความประสงค์ที่จะขอรับรายงานสรุปเกี่ยวกับการศึกษาวิจัยในครั้งนี้ โปรดแจ้งความประสงค์และโปรดระบุ e-mail address ของท่านตามที่ระบุไว้ด้านล่าง มาพร้อมกับแบบสอบถามชุดนี้

( ) ต้องการ ระบุ e-mail .....

( ) ไม่ต้องการ

ข้าพเจ้าขอขอบพระคุณท่านที่ได้กรุณาเสียสละเวลาในการให้ข้อมูลที่เป็นประโยชน์อย่างยิ่งต่อการศึกษาวิจัย มา ณ โอกาสนี้

(นางสาวจีราภา สตะเวทิน)

นักศึกษาปริญญาเอก หลักสูตรบริหารธุรกิจดุษฎีบัณฑิต

คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร



**ตอนที่ 1** ข้อมูลเกี่ยวกับสถานภาพและข้อมูลพื้นฐานของผู้ตอบแบบสอบถาม

คำชี้แจง โปรดทำเครื่องหมาย ✓ เพียง 1 ช่องตามความเป็นจริง

1) เพศ

- ( ) ชาย  
( ) หญิง  
( ) อื่น ๆ

2) อายุ

- ( ) ต่ำกว่า 30 ปี  
( ) 30 – 39 ปี  
( ) 40 – 49 ปี  
( ) 50 ปีขึ้นไป

3) ระดับการศึกษาสูงสุด

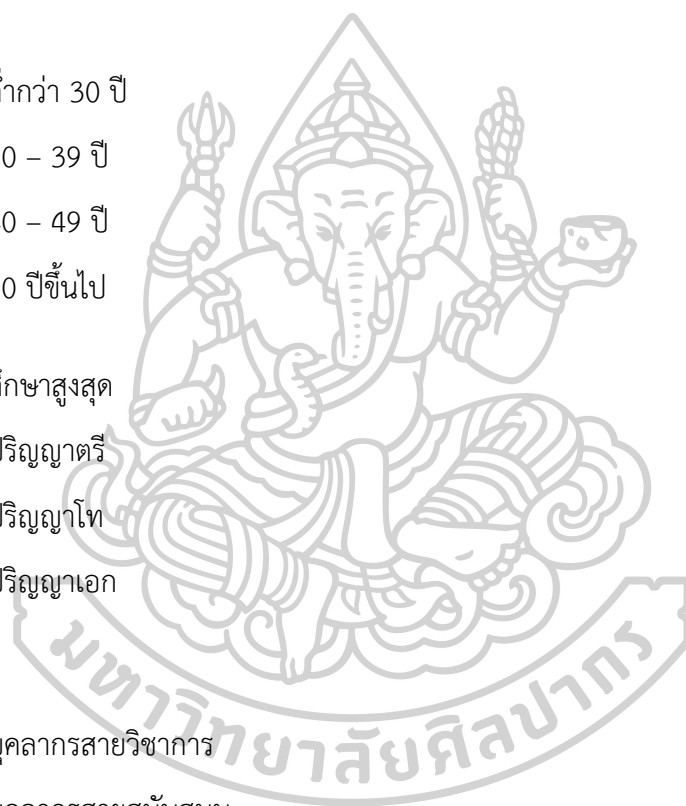
- ( ) ปริญญาตรี  
( ) ปริญญาโท  
( ) ปริญญาเอก

4) สถานะ

- ( ) บุคลากรสายวิชาการ  
( ) บุคลากรสายสนับสนุน

5) ประสบการณ์ในการทำงานด้านประกันคุณภาพการศึกษาตามเกณฑ์ EdPEX หรือเป็นผู้ที่มีส่วนเกี่ยวข้องกับการดำเนินงานด้าน EdPEX ของมหาวิทยาลัย

- ( ) น้อยกว่า 5 ปี  
( ) 5 – 10 ปี  
( ) 11 – 15 ปี  
( ) 16 – 20 ปี  
( ) 20 ปีขึ้นไป



ตอนที่ 2 ปัจจัยภายนอกส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา

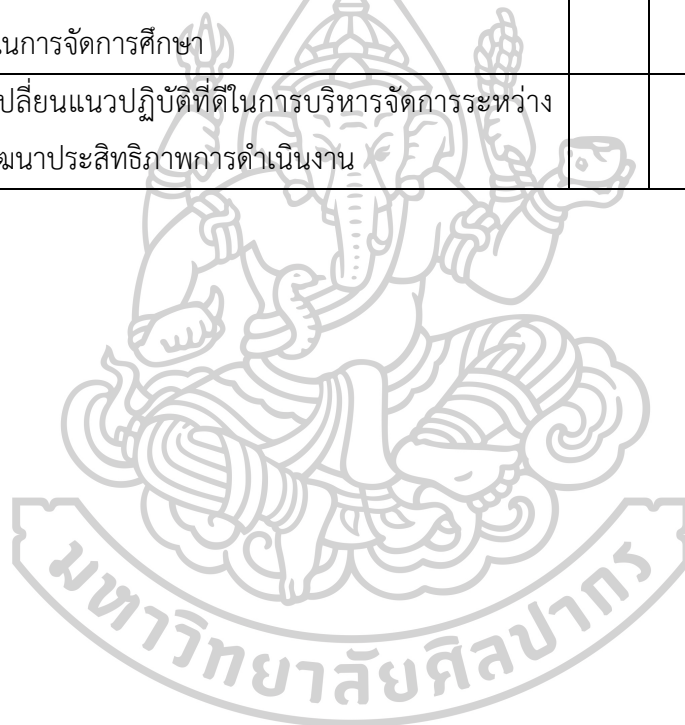
คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับระดับความคิดเห็นของท่านมากที่สุด

ปัจจัยภายนอกส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อยที่สุด				
	5	4	3	2	1
<b>ทักษะอนาคต (Future Skills)</b>					
1. การเรียนการสอนในมหาวิทยาลัยส่งเสริมการพัฒนาทักษะการคิดเชิงวิพากษ์และการแก้ปัญหา					
2. มหาวิทยาลัยส่งเสริมการเรียนรู้แบบจำลองสถานการณ์ทางธุรกิจเพื่อพัฒนาทักษะอนาคตของนักศึกษา					
3. มหาวิทยาลัยส่งเสริมการพัฒนาทักษะความเป็นผู้ประกอบการ					
4. การเรียนการสอนในมหาวิทยาลัยให้ความสำคัญกับการพัฒนาทักษะด้านความยั่งยืนและจริยธรรม					
5. มหาวิทยาลัยใช้วิธีการประเมินผลที่หลากหลายเพื่อวัดทักษะอนาคตของนักศึกษา					
<b>การเรียนรู้ตลอดชีวิต (Lifelong Learning)</b>					
6. การส่งเสริมการเรียนรู้อย่างต่อเนื่องช่วยให้มหาวิทยาลัยเกิดการปรับปรุงเปลี่ยนแปลง					
7. ผู้บริหารที่สนับสนุนให้บุคลากรเรียนรู้ตลอดชีวิตช่วยพัฒนามหาวิทยาลัย					
8. เนื้อหาการเรียนรู้ที่ทันสมัยและตรงกับความต้องการของสังคมช่วยปรับปรุงหลักสูตรการศึกษาและส่งเสริมการเรียนรู้ตลอดชีวิต					
9. การทำงานร่วมกับเพื่อนร่วมงานเพื่อสร้างวิธีการสอนใหม่ ๆ ช่วยให้องค์กรเปลี่ยนแปลงไปในทางที่ดีพร้อมส่งเสริมการเรียนรู้ตลอดชีวิต					
10. การสร้างแรงจูงใจช่วยให้คนต้องการการเรียนรู้ตลอดชีวิตและช่วยยกระดับคุณภาพของสถาบันการศึกษา					

ปัจจัยภายนอกส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อยที่สุด				
	5	4	3	2	1
11. การเรียนรู้อย่างต่อเนื่องและเป็นระบบช่วยให้บุคลากรปรับตัวกับการพัฒนาคุณภาพในสถาบันการศึกษาได้ดีขึ้น					
12. ผู้ที่ขอเรียนรู้อยู่เสมอช่วยให้องค์กรก้าวไปสู่ความเป็นเลิศทางการศึกษาได้ดีกว่า					
<b>การเรียนรู้เฉพาะบุคคล (Personalization of Academic Learning)</b>					
13. มหาวิทยาลัยส่งเสริมให้นักศึกษามีความเข้าใจในเรื่องการเรียนรู้เฉพาะบุคคล					
14. มหาวิทยาลัยพัฒนาสภาพแวดล้อมที่เอื้อต่อการเรียนรู้เฉพาะบุคคล					
15. มหาวิทยาลัยส่งเสริมการมีส่วนร่วมของนักศึกษาในการเรียนรู้เฉพาะบุคคล					
16. มหาวิทยาลัยมีการประเมินผลที่สามารถวัดพัฒนาการของนักศึกษารายบุคคลเพื่อนำไปสู่การเรียนรู้เฉพาะบุคคล					
17. มหาวิทยาลัยมีบริการให้คำปรึกษาที่เข้าถึงง่ายสำหรับนักศึกษาที่มีปัญหาด้านการเรียนหรือสุขภาวะทางจิตใจหากเกิดอุปสรรคในการเรียนรู้เฉพาะบุคคล					
<b>การประเมินคุณภาพการศึกษาตามเกณฑ์ AUN-QA</b>					
18. การจัดการศึกษาที่มุ่งเน้นผลลัพธ์การเรียนรู้ช่วยพัฒนาคุณภาพการศึกษาตามเกณฑ์ AUN-QA					
19. การปรับปรุงหลักสูตรให้ตรงกับความต้องการของผู้มีส่วนได้ส่วนเสียช่วยยกระดับมาตรฐานการศึกษา					
20. การจัดการเรียนการสอนที่เน้นให้ผู้เรียนลงมือทำ/ปฏิบัติช่วยกระตุ้นการเรียนรู้ตามมาตรฐาน AUN-QA					
21. การจัดสรรทรัพยากรทางกายภาพ สังคม และสิ่งแวดล้อมอย่างเพียงพอ ช่วยสนับสนุนมาตรฐาน AUN-QA					

ปัจจัยภายนอกส่งผลกระทบต่อ การเปลี่ยนแปลงเชิงกลยุทธ์ทาง การศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อย				
	ที่สุด				
	5	4	3	2	1
22. การฝึกอบรมอาจารย์และบุคลากรช่วยให้การนำเกณฑ์ AUN-QA ไปใช้มีประสิทธิภาพมากขึ้น					
23. การปรับปรุงระบบประกันคุณภาพตาม AUN-QA ช่วยยกระดับมาตรฐานการศึกษาโดยรวม					
<b>หน่วยธุรกิจที่มีสถานะเป็นนิติบุคคลแยกออกจากมหาวิทยาลัยเพื่อทำหน้าที่บริหารการลงทุนใน ธุรกิจนวัตกรรมอย่างมืออาชีพ (University Holding Companies, UHCs)</b>					
24. การส่งเสริมให้นำงานวิจัยไปใช้ในเชิงพาณิชย์ช่วยสร้างมูลค่าเพิ่มให้กับผลงานทางวิชาการหรือการพัฒนางานประจำสู่งานวิจัย (R2R)					
25. การร่วมมือกับภาคอุตสาหกรรมช่วยให้ตอบสนองความต้องการของตลาดแรงงานมากขึ้น					
26. การให้นักศึกษาได้ทำงานจริงและเริ่มธุรกิจช่วยเพิ่มทักษะปฏิบัติและได้รับประสบการณ์จริง					
27. การส่งเสริมให้บุคลากรทำงานร่วมกับภาคอุตสาหกรรมช่วยเพิ่มความเชี่ยวชาญและประสบการณ์					
28. การหาแหล่งทุนวิจัยที่หลากหลายช่วยเพิ่มโอกาสในการทำวิจัยที่มีคุณภาพ					
29. การปลูกฝังแนวคิดนวัตกรรมและการเป็นผู้ประกอบการช่วยสร้างบัณฑิตที่มีความคิดสร้างสรรค์และกล้าริเริ่มสิ่งใหม่					
<b>ความร่วมมือระหว่างสถาบัน (Multi-institutional Cooperation)</b>					
30. การร่วมมือกับสถาบันอื่นในการพัฒนาหลักสูตรที่เชื่อมโยงหลายสาขาวิชาช่วยสร้างการเปลี่ยนแปลงในการศึกษา					
31. การทำวิจัยร่วมกับหลายสถาบันช่วยยกระดับคุณภาพงานวิจัยและนำไปสู่การเปลี่ยนแปลงทางการศึกษา					
32. การแลกเปลี่ยนนักศึกษาและการทำหลักสูตรร่วมกับสถาบันอื่นช่วยเพิ่มโอกาสทางการศึกษาและประสบการณ์การเรียนรู้					

ปัจจัยภายนอกส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อยที่สุด				
	5	4	3	2	1
33. การสร้างเครือข่ายความร่วมมือระหว่างมหาวิทยาลัยภาคอุตสาหกรรม และภาครัฐช่วยพัฒนานวัตกรรมทางการศึกษา					
34. การร่วมมือกับสถาบันต่างประเทศช่วยเพิ่มความเข้าใจทางวัฒนธรรมและมุมมองระดับสากลให้กับนักศึกษา					
35. การใช้จุดแข็งของแต่ละสถาบันพันธมิตรช่วยเสริมสร้างประสิทธิภาพในการจัดการศึกษา					
36. การแลกเปลี่ยนแนวปฏิบัติที่ดีในการบริหารจัดการระหว่างสถาบันช่วยพัฒนาประสิทธิภาพการดำเนินงาน					



ตอนที่ 3 ปัจจัยภายในส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับระดับความคิดเห็นของท่านมากที่สุด

ปัจจัยภายในส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อยที่สุด				
	5	4	3	2	1
<b>ผู้นำและการกำกับดูแลองค์กร (Leaders and Governance)</b>					
37. ผู้นำในองค์กรมีแนวทางที่ชัดเจนเกี่ยวกับหลักธรรมาภิบาลในการกำกับดูแลเพื่อให้เกิดเปลี่ยนแปลงทางการศึกษา					
38. มีผู้รับผิดชอบโดยตรงในการดูแลให้การเปลี่ยนแปลงทางการศึกษาเป็นไปตามกฎหมายและมาตรฐาน					
39. ผู้นำมีหลักปฏิบัติที่ชัดเจนในการหลีกเลี่ยงปัญหาผลประโยชน์ทับซ้อน					
40. ผู้นำสามารถกำกับดูแลการเปลี่ยนแปลงทางการศึกษาให้เป็นไปอย่างโปร่งใส					
41. มีการแจ้งแนวทางปฏิบัติด้านจริยธรรมเกี่ยวกับการเปลี่ยนแปลงให้บุคลากรทุกคนทราบอย่างทั่วถึง					
42. บุคลากรทุกคนมีโอกาสแสดงความคิดเห็นต่อการเปลี่ยนแปลงทางการศึกษาอย่างเท่าเทียมกัน					
43. โครงสร้างการกำกับดูแลของมหาวิทยาลัยมีความยืดหยุ่นและตอบสนองต่อการเปลี่ยนแปลงได้อย่างรวดเร็ว					
<b>การมีส่วนร่วมของอาจารย์และเจ้าหน้าที่ (Faculty and Staff Engagement)</b>					
44. การส่งเสริมให้อาจารย์และเจ้าหน้าที่มีส่วนร่วมในการตัดสินใจช่วยผลักดันการเปลี่ยนแปลงทางการศึกษา					
45. การปรับนโยบายของสถาบันให้สอดคล้องกับความต้องการของอาจารย์และเจ้าหน้าที่ช่วยส่งเสริมการเปลี่ยนแปลงทางการศึกษา					
46. การสนับสนุนให้อาจารย์และเจ้าหน้าที่เสนอแนวคิดใหม่ๆ ช่วยสร้างนวัตกรรมทางการศึกษา					

ปัจจัยภายในส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทาง การศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อย ที่สุด				
	5	4	3	2	1
47. การสร้างความเข้าใจและการยอมรับในหมู่อาจารย์และ เจ้าหน้าที่ช่วยให้การเปลี่ยนแปลงทางการศึกษามีความยั่งยืน					
48. การมีส่วนร่วมของอาจารย์และเจ้าหน้าที่เป็นกุญแจสำคัญใน การขับเคลื่อนการเปลี่ยนแปลงทางการศึกษา					
<b>การจัดการทางการเงิน (Financial Management)</b>					
49. การใช้จ่ายงบประมาณสอดคล้องกับแผนกลยุทธ์ทาง การศึกษา					
50. ทรัพยากรถูกจัดสรรอย่างเหมาะสมเพื่อสนับสนุนการพัฒนา ระบบทางการศึกษา					
51. งบประมาณมีความยืดหยุ่น สามารถปรับเปลี่ยนตามความ จำเป็นของแต่ละโครงการ					
52. แหล่งรายได้มีความหลากหลายเพื่อสนับสนุนการพัฒนา ระบบการศึกษาอย่างต่อเนื่อง					
53. มีการลงทุนอย่างเพียงพอในเทคโนโลยีและนวัตกรรมการ เรียนการสอน					
54. การวางแผนทางการเงินคำนึงถึงเป้าหมายการพัฒนาในระยะ ยาว					
55. มีความพร้อมทางการเงินในการรับมือกับสถานการณ์ไม่ คาดคิด					
56. บุคลากรทุกภาคส่วน รวมถึงคณาจารย์ เจ้าหน้าที่ และ นักศึกษา มีส่วนร่วมในกระบวนการตัดสินใจด้านการบริหาร งบประมาณ					
<b>การออกแบบหลักสูตร (Academic Programs and Curriculum Design)</b>					
57. หลักสูตรมีการปรับปรุงเพื่อตอบสนองความต้องการของ สังคมที่เปลี่ยนแปลง					
58. มีการผสมผสานความรู้จากหลายสาขาวิชาในหลักสูตร					

ปัจจัยภายในส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อยที่สุด				
	5	4	3	2	1
59. มีการใช้เทคโนโลยีดิจิทัลในการเรียนการสอนอย่างเหมาะสม					
60. หลักสูตรส่งเสริมมุมมองระดับสากลและทักษะการทำงานข้ามวัฒนธรรม					
61. การออกแบบหลักสูตรเริ่มจากการกำหนดผลลัพธ์การเรียนรู้ที่ชัดเจน					
62. หลักสูตรเน้นการพัฒนาทักษะและความรู้เฉพาะทางตามระดับสมรรถนะที่ต้องการ					
63. หลักสูตรมีความยืดหยุ่นและสามารถปรับใช้กับรูปแบบการเรียนการสอนที่หลากหลาย					
<b>โครงสร้างพื้นฐานและสิ่งอำนวยความสะดวก (Infrastructure and Facilities)</b>					
64. สภาพแวดล้อมทางกายภาพและห้องเรียนสอดคล้องกับวิธีการสอนสมัยใหม่และรองรับรูปแบบการเรียนการสอนที่หลากหลาย					
65. มีการนำเทคโนโลยีมาใช้ในโครงสร้างพื้นฐานอย่างมีประสิทธิภาพเพื่อเพิ่มประสบการณ์การเรียนรู้และสนับสนุนการเปลี่ยนแปลงสู่ยุคดิจิทัล					
66. สิ่งอำนวยความสะดวกถูกออกแบบให้มีความยืดหยุ่นและสามารถปรับเปลี่ยนได้ง่ายตามความต้องการและวิธีการสอน					
67. ห้องเรียนและพื้นที่สำหรับเรียนรู้ต่าง ๆ มีอุปกรณ์ที่เพียงพอพร้อมใช้ ทันสมัยพร้อมสำหรับการลงมือทำ/ฝึกปฏิบัติของผู้เรียน					
68. มหาวิทยาลัยถูกออกแบบให้เป็นภูมิทัศน์แห่งการเรียนรู้ โดยมีพื้นที่หลากหลายสำหรับการเรียนรู้ทั้งแบบทางการ (Formal Learning) และการเรียนรู้ตามอัธยาศัย (Informal Learning)					
69. โครงสร้างพื้นฐานด้านดิจิทัลมีความแข็งแกร่งและสามารถรองรับความต้องการในการเรียนรู้ทั้งในที่ตั้งและนอกที่ตั้ง					

ปัจจัยภายในส่งผลต่อการเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษา	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อยที่สุด				
	5	4	3	2	1
70. มีพื้นที่และสิ่งอำนวยความสะดวกสำหรับการทำงานร่วมกันอย่างเพียงพอ ซึ่งส่งเสริมการมีปฏิสัมพันธ์และการทำงานกลุ่มระหว่างนักศึกษาและอาจารย์ รวมถึงบุคลากร					
<b>การผสมผสานเทคโนโลยี (Technology Integration)</b>					
71. มีการใช้เทคโนโลยีอย่างเหมาะสมเพื่อพัฒนาทักษะที่จำเป็นในปัจจุบัน					
72. มีอุปกรณ์และระบบเทคโนโลยีที่เพียงพอ พร้อมใช้สำหรับการเรียนการสอน					
73. บุคลากรได้รับการอบรมเพื่อใช้เทคโนโลยีในการปฏิบัติงานอย่างมีประสิทธิภาพ					
74. บุคลากรสามารถผสมผสานเทคโนโลยีเข้ากับการปฏิบัติงานได้ดี					
75. นักศึกษาได้พัฒนาทักษะการใช้เทคโนโลยีทั้งด้านเทคนิคและการคิดวิเคราะห์					
76. มีการผสมผสานการเรียนในห้องเรียนและออนไลน์อย่างเหมาะสม					
77. มีการใช้ข้อมูลเพื่อวิเคราะห์และปรับปรุงการเรียนรู้ของนักศึกษา					
78. มีมาตรการรักษาความปลอดภัยของข้อมูลส่วนตัวในการใช้เทคโนโลยีทางการศึกษา					
79. นักศึกษาทุกคนสามารถเข้าถึงเทคโนโลยีเพื่อการเรียนรู้ได้อย่างเท่าเทียม					

ตอนที่ 4 การเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษาส่งผลต่อการพัฒนาองค์กรสู่ความเป็นเลิศ  
คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับระดับความคิดเห็นของท่านมากที่สุด

การเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษาส่งผลต่อการพัฒนา องค์กร สู่ความเป็นเลิศ	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อย ที่สุด				
	5	4	3	2	1
<b>ภาวะผู้นำและวิสัยทัศน์ (Leadership and Vision)</b>					
80. ผู้นำในองค์กรของท่านสื่อสารวิสัยทัศน์และค่านิยมองค์กรได้อย่างชัดเจน					
81. ผู้นำส่งเสริมวัฒนธรรมองค์กรที่มุ่งเน้นคุณภาพและการปรับปรุงอย่างต่อเนื่อง					
82. ผู้นำแสดงให้เห็นถึงความมุ่งมั่นในการสร้างความยั่งยืนขององค์กรในระยะยาว					
83. ผู้นำสามารถปรับกลยุทธ์ให้เข้ากับบริบทเพื่อมุ่งสู่มาตรฐานความเป็นเลิศระดับสากล					
84. ผู้นำส่งเสริมการมีส่วนร่วมของผู้มีส่วนได้ส่วนเสียในการพัฒนาองค์กร					
85. ผู้นำแสดงออกถึงค่านิยมทางจริยธรรมและความซื่อสัตย์ในก บริหารงาน					
86. ผู้นำสามารถสร้างแรงบันดาลใจและกระตุ้นให้บุคลากรมุ่งสู่เป้าหมายความเป็นเลิศ					
87. ผู้นำส่งเสริมการพัฒนาภาวะผู้นำในทุกระดับขององค์กร					
<b>พัฒนาอาจารย์และเจ้าหน้าที่ (Faculty and Staff Development)</b>					
88. มหาวิทยาลัยส่งเสริมโอกาสในการพัฒนาสายอาชีพให้แก่บุคลากรทุกระดับ					
89. โครงการพัฒนาบุคลากรช่วยเพิ่มพูนสมรรถนะตามตำแหน่งงาน รวมทั้ง ความรู้ ทักษะ และทัศนคติในการทำงาน					
90. ผู้บริหารให้ความสำคัญและสนับสนุนการพัฒนาสมรรถนะตามตำแหน่งงานของบุคลากรอย่างต่อเนื่อง					

การเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษาส่งผลต่อการพัฒนา องค์กร สู่วิธีการเป็นเลิศ	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อย ที่สุด				
	5	4	3	2	1
91. มหาวิทยาลัยมีการประเมินการพัฒนาสมรรถนะของบุคลากร อย่างเป็นระบบและนำผลมาปรับปรุงอย่างต่อเนื่อง					
92. โครงการพัฒนาบุคลากรช่วยเพิ่มความพึงพอใจในการ ปฏิบัติงานและความผูกพันต่อมหาวิทยาลัย					
93. การพัฒนาบุคลากรในองค์กรส่งผลโดยตรงต่อการพัฒนา องค์กรสู่ความเป็นเลิศ					
<b>การออกแบบหลักสูตรและการเรียนการสอนแบบใหม่ (New Curriculum Design and Pedagogy)</b>					
94. มหาวิทยาลัยเปิดโอกาสให้อาจารย์ นักศึกษาปัจจุบัน ศิษย์ เก่า และผู้มีส่วนได้ส่วนเสียมีส่วนร่วมในการออกแบบหลักสูตร					
95. หลักสูตรของมหาวิทยาลัยพัฒนาทักษะและความสามารถที่ จำเป็นสำหรับการทำงานในอนาคต					
96. มหาวิทยาลัยส่งเสริมการใช้วิธีการสอนแบบใหม่ที่เน้นผู้เรียน เป็นศูนย์กลาง เช่น การเรียนรู้เชิงรุก (Active Learning) และ การเรียนรู้จากประสบการณ์ (Experiential Learning)					
97. มีความสอดคล้องระหว่างผลลัพธ์การเรียนรู้ วิธีการสอน และวิธีการประเมินผลในหลักสูตรของมหาวิทยาลัย					
98. มหาวิทยาลัยมีการประเมินและปรับปรุงหลักสูตรอย่าง ต่อเนื่องโดยใช้ข้อมูลผลลัพธ์การเรียนรู้ของนักศึกษา					
99. หลักสูตรของมหาวิทยาลัยมีความยืดหยุ่นในการปรับใช้กับ รูปแบบการเรียนการสอนที่หลากหลาย เช่น การเรียนในชั้นเรียน การเรียนออนไลน์ และการเรียนแบบผสมผสาน					
100. การออกแบบหลักสูตรและการเรียนการสอนแบบใหม่ (New Curriculum Design and Pedagogy) ของมหาวิทยาลัย ส่งผลโดยตรงต่อการพัฒนาสู่ความเป็นเลิศทางวิชาการ					
<b>การประเมินผลและการประกันคุณภาพ (Assessment and Quality Assurance)</b>					

การเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษาส่งผลต่อการพัฒนา องค์กร สู่วิทยาลัย	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อย ที่สุด				
	5	4	3	2	1
101. ผู้บริหารมหาวิทยาลัยแสดงความมุ่งมั่นและให้การสนับสนุนอย่างชัดเจนต่อกระบวนการประกันคุณภาพ					
102. บุคลากรทุกระดับในมหาวิทยาลัยมีส่วนร่วมในกระบวนการประกันคุณภาพ					
103. มหาวิทยาลัยมีการสื่อสารเกี่ยวกับกระบวนการและเป้าหมายของการประกันคุณภาพอย่างชัดเจน					
104. กระบวนการประกันคุณภาพถูกบูรณาการเข้ากับการปฏิบัติงานประจำวันของมหาวิทยาลัย					
105. การประเมินผลการเรียนรู้ของนักศึกษามีส่วนช่วยในการตัดสินใจเชิงกลยุทธ์ของมหาวิทยาลัย					
<b>การประเมินผลและการประกันคุณภาพ (Assessment and Quality Assurance) (ต่อ)</b>					
106. มหาวิทยาลัยมีการนำผลการประเมินคุณภาพมาใช้ในการปรับปรุงคุณภาพการสอนและผลลัพธ์การเรียนรู้ของนักศึกษา					
107. การประกันคุณภาพของมหาวิทยาลัยมีความสอดคล้องกับเกณฑ์คุณภาพการศึกษาเพื่อการดำเนินการที่เป็นเลิศ (EdPEX)					
<b>บริการสนับสนุนนักศึกษา (Student Support Services)</b>					
108. มหาวิทยาลัยจัดให้มีบริการสนับสนุนทางวิชาการที่ครอบคลุมและมีประสิทธิภาพ					
109. มหาวิทยาลัยมีโครงการพัฒนาทักษะวิชาชีพที่ช่วยเพิ่มโอกาสการจ้างงานของบัณฑิต					
110. มหาวิทยาลัยจัดให้มีบริการให้คำปรึกษาด้านสุขภาพจิตและการสนับสนุนที่เพียงพอ					
111. มหาวิทยาลัยมีโครงการสนับสนุนทางการเงินที่ครอบคลุมสำหรับนักศึกษาที่มีความต้องการ					
112. บริการสนับสนุนนักศึกษาของมหาวิทยาลัยมีการบูรณาการและเชื่อมโยงกันอย่างเป็นระบบ					

การเปลี่ยนแปลงเชิงกลยุทธ์ทางการศึกษาส่งผลต่อการพัฒนา องค์กร สู่วิธีการที่เป็นเลิศ	ระดับความคิดเห็น				
	มากที่สุด <-----> น้อย ที่สุด				
	5	4	3	2	1
113. บริการสนับสนุนนักศึกษาของมหาวิทยาลัยส่งผลในเชิงบวก ต่ออัตราการคงอยู่และสำเร็จการศึกษาของนักศึกษา					
114. บริการสนับสนุนนักศึกษาของมหาวิทยาลัยสอดคล้องกับ เกณฑ์คุณภาพการศึกษาเพื่อการดำเนินการที่เป็นเลิศ (EdPEX)					
<b>การพัฒนาองค์กรสู่ความเป็นเลิศ (University Performance Excellence)</b>					
115. มหาวิทยาลัยมีการออกแบบหลักสูตรและกระบวนการ เรียนการสอนที่สามารถปรับให้เข้ากับบริบทต่าง ๆ ได้อย่างมี ระบบและมีประสิทธิภาพ					
116. มหาวิทยาลัยมีโครงการพัฒนาบุคลากรที่ครอบคลุมทั้งด้าน การสอน การวิจัย และประสิทธิภาพการทำงานโดยรวม					
117. มหาวิทยาลัยจัดสรรทรัพยากรและระบบสนับสนุนที่ เพียงพอสำหรับการดำเนินงานด้านการประกันคุณภาพ					
118. มหาวิทยาลัยมีการประเมินและปรับปรุงคุณภาพของ บริการสนับสนุนนักศึกษาอย่างต่อเนื่อง					

ตอนที่ 5 ข้อเสนอแนะอื่น ๆ

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ขอขอบพระคุณเป็นอย่างยิ่งที่ท่านสละเวลาตอบแบบสอบถามทุกข้อ





**APPENDIX D**  
**In-depth Interview Questions**

**แบบสัมภาษณ์เพื่อการวิจัย**  
**เรื่อง กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการดำเนินงานที่ดีเลิศ**

**คำชี้แจง**

การวิจัยเรื่อง "กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการดำเนินงานที่ดีเลิศ" เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก หลักสูตรบริหารธุรกิจดุษฎีบัณฑิต คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร ซึ่งศึกษาการปรับตัวของมหาวิทยาลัยไทยท่ามกลางการเปลี่ยนแปลงครั้งสำคัญ อันเนื่องมาจากความก้าวหน้าทางเทคโนโลยีดิจิทัล การปฏิวัติอุตสาหกรรม 4.0 และการเข้าสู่สังคมผู้สูงอายุ การเปลี่ยนแปลงเหล่านี้ส่งผลกระทบต่อทุกภาคส่วน ทั้งนักศึกษา อาจารย์ บุคลากร รวมถึงผู้มีส่วนได้ส่วนเสียภายนอก เช่น ผู้ปกครอง ศิษย์เก่า และนายจ้าง

งานวิจัยนี้มุ่งสำรวจสภาพปัจจุบันของการบริหารเชิงกลยุทธ์ในมหาวิทยาลัยไทย และศึกษาความสัมพันธ์ระหว่างปัจจัยสำคัญที่เกี่ยวข้อง ได้แก่ ปัจจัยขับเคลื่อนการอุดมศึกษาในอนาคต การบริหารเชิงกลยุทธ์ การเปลี่ยนแปลงทางการศึกษา และความเป็นเลิศในการดำเนินงาน เพื่อพัฒนาโมเดลกลยุทธ์การเปลี่ยนแปลงทางการศึกษาที่เหมาะสมกับบริบทของมหาวิทยาลัยไทย

ผลการวิจัยจะเป็นประโยชน์ต่อการพัฒนาการศึกษาระดับอุดมศึกษาของไทย โดยจะช่วยให้มหาวิทยาลัยมีแนวทางในการปรับตัวที่ชัดเจนขึ้น ทั้งด้านการพัฒนาหลักสูตร การจัดการเรียนการสอน และการบริหารจัดการองค์กร เพื่อให้สามารถผลิตบัณฑิตที่มีคุณภาพตรงกับความต้องการของตลาดแรงงานในยุคดิจิทัล รวมถึงสามารถรับมือกับการเปลี่ยนแปลงต่าง ๆ ได้อย่างมีประสิทธิภาพ นอกจากนี้ ผลการวิจัยยังจะเป็นประโยชน์ต่อผู้กำหนดนโยบายในการวางแผนพัฒนาการศึกษาระดับอุดมศึกษาของประเทศให้ก้าวทันการเปลี่ยนแปลงของโลก

ข้าพเจ้าใคร่ขอความอนุเคราะห์จากท่านผู้ให้ข้อมูลตอบคำถาม โดยคำตอบของท่านจะถูกเก็บรักษาเป็นความลับและจะไม่มีการใช้ข้อมูลใด ๆ ที่เปิดเผยเกี่ยวกับตัวท่านในการรายงานข้อมูล รวมทั้งจะไม่มีการร่วมใช้ข้อมูลดังกล่าวกับบุคคลภายนอกอื่นใดโดยไม่ได้รับอนุญาตจากท่าน

ข้าพเจ้าขอขอบพระคุณท่านที่ได้กรุณาเสียสละเวลาในการให้ข้อมูลที่เป็นประโยชน์อย่างยิ่งต่อการศึกษาวิจัย มา ณ โอกาสนี้

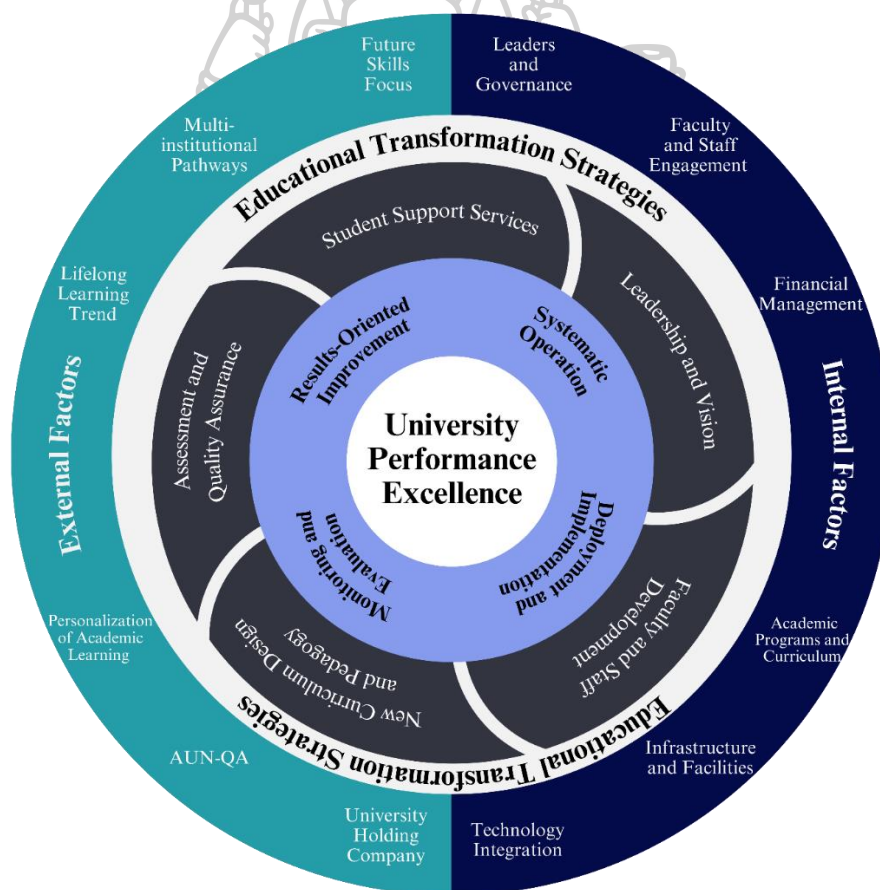


(นางสาวจีราภา สตะเวทิน)

นักศึกษาปริญญาเอก หลักสูตรบริหารธุรกิจดุษฎีบัณฑิต  
คณะวิทยาการจัดการ มหาวิทยาลัยศิลปากร

## รายละเอียดเกี่ยวกับการสัมภาษณ์

ในการดำเนินงานวิจัยเรื่อง กลยุทธ์การปรับเปลี่ยนการจัดการศึกษาเพื่อการดำเนินงานที่ตีเลิศ (Educational Transformation Strategies for University Performance Excellence) ผู้วิจัยได้พัฒนา โมเดลกลยุทธ์การเปลี่ยนแปลงทางการศึกษา ขึ้น โดยอ้างอิงจากการศึกษาทบทวนวรรณกรรม แนวคิด ทฤษฎี และกรณีศึกษา เพื่อให้สามารถตอบสนองต่อบริบทของการเปลี่ยนแปลงในระบบอุดมศึกษาไทยได้อย่างรอบด้าน โมเดลดังกล่าวประกอบด้วยองค์ประกอบหลัก ได้แก่ ปัจจัยภายนอก ปัจจัยภายใน กลยุทธ์การเปลี่ยนแปลงทางการศึกษา และผลลัพธ์ด้านความเป็นเลิศของมหาวิทยาลัย ซึ่งเชื่อมโยงกันในลักษณะเชิงระบบและเชิงกลยุทธ์ เพื่อใช้เป็นแนวทางสำหรับการวางแผนและการตัดสินใจของผู้บริหารในสถาบันอุดมศึกษา ดังภาพต่อไปนี้



การสัมภาษณ์เชิงลึกในครั้งนี้มีวัตถุประสงค์เพื่อขอความคิดเห็นจาก ท่านที่มีประสบการณ์การทำงานที่เกี่ยวข้องกับการประกันคุณภาพในระดับอุดมศึกษาอย่างน้อย 3 ปี เกี่ยวกับความเหมาะสม ความครอบคลุม และความเป็นไปได้ในการนำโมเดลดังกล่าวไปใช้จริง ตลอดจน

ข้อเสนอแนะในการพัฒนาให้สามารถประยุกต์ใช้ได้อย่างมีประสิทธิภาพและสอดคล้องกับสภาพแวดล้อมของการอุดมศึกษาในปัจจุบัน ข้อมูลที่ได้รับจากการสัมภาษณ์จะถูกนำไปใช้เพื่อวัตถุประสงค์ทางวิชาการเท่านั้น และจะมีการจัดเก็บและนำเสนอข้อมูลอย่างเป็นความลับภายใต้หลักจริยธรรมการวิจัยอย่างเคร่งครัด

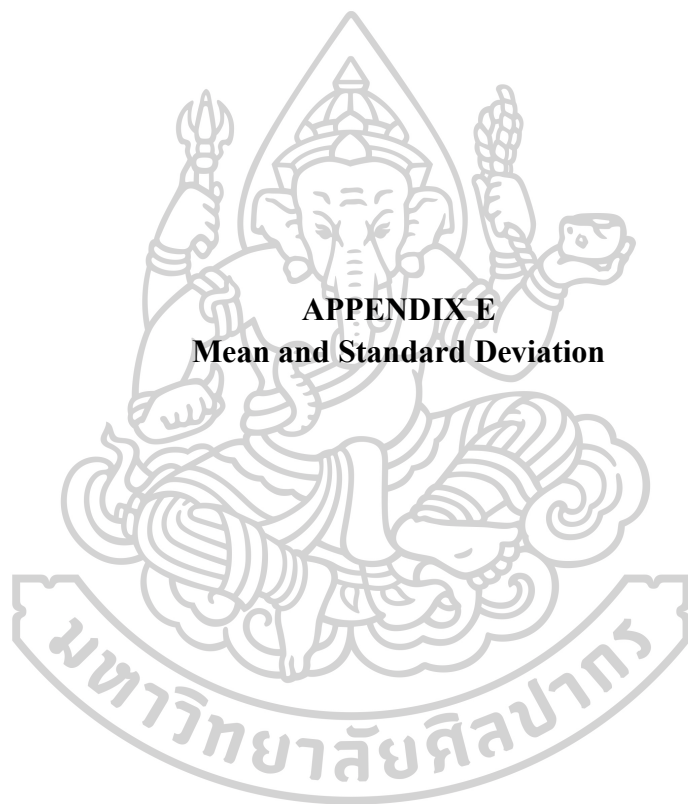
### วัตถุประสงค์ของการสัมภาษณ์เชิงลึก (Interview Objectives)

การสัมภาษณ์เชิงลึกในครั้งนี้มีวัตถุประสงค์เพื่อ

1. ยืนยันความถูกต้อง ความเหมาะสม และความครอบคลุม ขององค์ประกอบในโมเดลกลยุทธ์การเปลี่ยนแปลงทางการศึกษา (Educational Transformation Strategy Model) สำหรับสถาบันอุดมศึกษาในประเทศไทย
2. ประเมินความเป็นไปได้ในการนำโมเดลดังกล่าวไปประยุกต์ใช้จริง ในบริบทของมหาวิทยาลัย โดยอ้างอิงจากประสบการณ์ตรงและความเชี่ยวชาญของผู้ให้ข้อมูล
3. รวบรวมข้อเสนอแนะเชิงกลยุทธ์ เกี่ยวกับการปรับปรุง เสริม เต็ม หรือจัดลำดับความสำคัญขององค์ประกอบต่าง ๆ ในโมเดล เพื่อให้สามารถตอบสนองต่อความท้าทายของระบบอุดมศึกษาไทยได้อย่างแท้จริง

### คำถามสัมภาษณ์ (Semi-structured Interview Questions for Thematic Analysis)

1. โมเดลกลยุทธ์การเปลี่ยนแปลงทางการศึกษาที่เสนอในงานวิจัยนี้ มีองค์ประกอบใดที่สะท้อนความเป็นจริงของบริบทอุดมศึกษาไทยได้ชัดเจน / หรือโมเดลกลยุทธ์การเปลี่ยนแปลงทางการศึกษาที่เสนอในงานวิจัยนี้ มีองค์ประกอบใดที่สำคัญที่สุดในการก่อให้เกิดความเป็นเลิศ (เช่น Systematic Operation, Results-Oriented Improvement) เพราะอะไร
2. จากประสบการณ์ของท่าน แนวทางการดำเนินการเพื่อให้องค์ประกอบใดในโมเดลสามารถนำไปปฏิบัติได้จริงในมหาวิทยาลัยควรเป็นอย่างไร
3. มีองค์ประกอบใดที่ควรเพิ่มเติมหรือไม่ เพราะอะไร
4. ท่านเคยพบอุปสรรคหรือปัญหาใดบ้างในการผลักดันนโยบายหรือกลยุทธ์ลักษณะเดียวกับที่ปรากฏในโมเดล และท่านมีวิธีการแก้ไขอย่างไร



**APPENDIX E**  
**Mean and Standard Deviation**

### Future Skills

Future Skills	Mean	SD	Level
University teaching promotes the development of critical thinking and problem-solving skills.	4.63	0.59	Highest
The university promotes business simulation learning to develop students' future skills.	4.43	0.64	Highest
The university promotes entrepreneurship skills development.	4.33	0.64	Highest
University teaching emphasizes the development of sustainability and ethical skills.	4.43	0.64	Highest
The university uses diverse assessment methods to measure students' future skills.	4.54	0.64	Highest
<b>Overall Average</b>	4.47	0.63	Highest

### Lifelong Learning

Lifelong Learning	Mean	SD	Level
Promoting continuous learning helps universities make improvements and changes.	4.58	0.56	Highest
Leaders who support lifelong learning for personnel help develop the university.	4.55	0.57	Highest
Up-to-date learning content that meets social needs helps improve educational curricula and promotes lifelong learning.	4.53	0.57	Highest
Working with colleagues to create new teaching methods helps organizations change for the better and promotes lifelong learning.	4.42	0.61	Highest
Creating motivation helps people desire lifelong learning and helps raise the quality of educational institutions.	4.56	0.61	Highest

<b>Lifelong Learning</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Continuous and systematic learning helps personnel adapt better to quality development in educational institutions.	4.57	0.57	Highest
Those who enjoy learning continuously help organizations progress toward educational excellence better than others.	4.60	0.54	Highest
<b>Overall Average</b>	4.54	0.58	Highest

### **Personalization of Academic Learning**

<b>Personalization of Academic Learning</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Universities encourage students to understand personalized learning.	4.43	0.73	Highest
Universities develop environments conducive to personalized learning.	4.41	0.74	Highest
Universities promote student participation in personalized learning.	4.32	0.74	Highest
Universities assess students individually to lead toward personalized learning.	4.31	0.76	Highest
Universities have easily accessible counseling services for students with learning issues or mental health concerns.	4.43	0.66	Highest
<b>Overall Average</b>	4.38	0.73	Highest

### Educational Quality Assessment According to AUN-QA Criteria

<b>Educational Quality Assessment According to AUN-QA Criteria</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Outcome-based education helps develop educational quality according to AUN-QA criteria.	4.48	0.68	Highest
Improving curricula to meet stakeholder needs helps raise educational standards.	4.57	0.59	Highest
Teaching methods that emphasize hands-on/practical work stimulate learning according to AUN-QA standards.	4.47	0.60	Highest
Adequate allocation of physical, social, and environmental resources supports AUN-QA standards.	4.45	0.61	Highest
Faculty and staff training helps make the implementation of AUN-QA criteria more effective.	4.47	0.61	Highest
Improving the quality assurance system according to AUN-QA helps raise overall educational standards.	4.50	0.68	Highest
<b>Overall Average</b>	<b>4.49</b>	<b>0.63</b>	<b>Highest</b>

### University Holding Companies (UHCs)

<b>University Holding Companies (UHCs)</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Promoting the commercial use of research helps add value to academic work or routine-to-research development (R2R).	4.51	0.68	Highest
Collaboration with industry helps better address labor market needs.	4.58	0.63	Highest
Having students do real work and start businesses helps increase practical skills and gain real experience.	4.42	0.66	Highest
Encouraging staff to work with industry increases expertise and experience.	4.48	0.66	Highest

<b>University Holding Companies (UHCs)</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Finding diverse research funding sources increases opportunities for quality research.	4.50	0.65	Highest
Instilling innovation and entrepreneurship concepts helps create graduates with creativity and initiative.	4.46	0.66	Highest
<b>Overall Average</b>	4.49	0.66	Highest

### **Multi-institutional Cooperation**

<b>Multi-institutional Cooperation</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Collaboration with other institutions in developing multi-disciplinary curricula helps create educational change.	4.58	0.61	Highest
Joint research with multiple institutions helps elevate research quality and leads to educational transformation.	4.53	0.59	Highest
Student exchange and joint curriculum development with other institutions helps increase educational opportunities and learning experiences.	4.43	0.61	Highest
Creating collaborative networks between universities, industry, and government helps develop educational innovations.	4.54	0.57	Highest
Collaboration with international institutions helps increase cultural understanding and global perspectives for students.	4.56	0.57	Highest
Using the strengths of each partner institution helps enhance educational management efficiency.	4.57	0.60	Highest
Exchanging best practices in administration between institutions helps improve operational efficiency.	4.60	0.59	Highest
<b>Overall Average</b>	4.55	0.59	Highest

### Leaders and Governance

Leaders and Governance	Mean	SD	Level
Leaders in the organization have clear guidelines regarding good governance principles to facilitate educational change.	4.57	0.68	Highest
There are direct responsible persons to ensure that educational changes comply with laws and standards.	4.52	0.62	Highest
Leaders have clear practices for avoiding conflicts of interest.	4.36	0.68	Highest
Leaders can oversee educational changes with transparency.	4.41	0.69	Highest
Ethical guidelines regarding changes are communicated to all personnel thoroughly.	4.53	0.63	Highest
All personnel have equal opportunities to express opinions on educational changes.	4.44	0.72	Highest
The university's governance structure is flexible and responsive to changes quickly.	4.42	0.75	Highest
<b>Overall Average</b>	4.46	0.68	Highest

### Faculty and Staff Engagement

Faculty and Staff Engagement	Mean	SD	Level
Encouraging faculty and staff participation in decision-making helps drive educational change.	4.53	0.65	Highest
Adjusting institutional policies to align with faculty and staff needs helps promote educational change.	4.44	0.71	Highest
Supporting faculty and staff to propose new ideas helps create educational innovations.	4.41	0.63	Highest

<b>Faculty and Staff Engagement</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Creating understanding and acceptance among faculty and staff helps make educational changes sustainable.	4.51	0.63	Highest
Faculty and staff engagement is a key driver in educational change.	4.53	0.62	Highest
<b>Overall Average</b>	4.48	0.65	Highest

### **Financial Management**

<b>Financial Management</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Budget expenditure aligns with educational strategic plans.	4.47	0.72	Highest
Resources are appropriately allocated to support educational system development.	4.34	0.73	Highest
The budget is flexible and can be adjusted according to the needs of each project.	4.31	0.78	Highest
Revenue sources are diverse to continuously support educational system development.	4.24	0.83	Highest
There is adequate investment in technology and teaching innovations.	4.33	0.78	Highest
Financial planning takes into account long-term development goals.	4.37	0.73	Highest
There is financial readiness to handle unexpected situations.	4.28	0.83	Highest
All stakeholders, including faculty, staff, and students, participate in the budget decision-making process.	4.22	0.94	Highest
<b>Overall Average</b>	4.32	0.79	Highest

### Academic Programs and Curriculum Design

Academic Programs and Curriculum Design	Mean	SD	Level
Curricula are updated to respond to changing societal needs.	4.59	0.62	Highest
There is integration of knowledge from multiple disciplines in curricula.	4.47	0.67	Highest
Digital technology is appropriately used in teaching and learning.	4.38	0.66	Highest
Curricula promote global perspectives and cross-cultural work skills.	4.43	0.68	Highest
Curriculum design begins with clearly defined learning outcomes.	4.49	0.61	Highest
Curricula emphasize the development of skills and specific knowledge according to required competency levels.	4.57	0.59	Highest
Curricula are flexible and adaptable to various teaching and learning approaches.	4.53	0.61	Highest
<b>Overall Average</b>	4.49	0.63	Highest

### Infrastructure and Facilities

Infrastructure and Facilities	Mean	SD	Level
Physical environments and classrooms align with modern teaching methods and support diverse teaching formats.	4.51	0.66	Highest
Technology is efficiently integrated into infrastructure to enhance learning experiences and support digital transformation.	4.48	0.61	Highest
Facilities are designed to be flexible and easily adaptable to different needs and teaching methods.	4.34	0.64	Highest

<b>Infrastructure and Facilities</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Classrooms and learning spaces have sufficient, ready-to-use, modern equipment for hands-on student practice.	4.39	0.69	Highest
The university is designed as a learning landscape with diverse spaces for both formal and informal learning.	4.42	0.69	Highest
Digital infrastructure is robust and can support learning needs both on and off campus.	4.44	0.68	Highest
There are adequate spaces and facilities for collaborative work that promote interaction and group work among students, faculty, and staff.	4.36	0.66	Highest
<b>Overall Average</b>	4.42	0.66	Highest

#### **Technology Integration**

<b>Technology Integration</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Appropriate use of technology to develop necessary current skills.	4.53	0.60	Highest
Sufficient technological equipment and systems ready for teaching and learning.	4.37	0.65	Highest
Personnel receive training to use technology efficiently in their work.	4.37	0.64	Highest
Personnel can effectively integrate technology into their work.	4.39	0.62	Highest
Students develop both technical and analytical thinking technology skills.	4.48	0.64	Highest
Appropriate integration of classroom and online learning.	4.47	0.62	Highest
Use of data to analyze and improve student learning.	4.43	0.63	Highest
Security measures to protect personal data in	4.44	0.63	Highest

<b>Technology Integration</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
educational technology.			
All students have equal access to learning technology.	4.47	0.64	Highest
<b>Overall Average</b>	4.44	0.63	Highest

### Leadership and Vision

<b>Leadership and Vision</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
Leaders in your organization clearly communicate vision and organizational values.	4.58	0.63	Highest
Leaders promote organizational culture focused on quality and continuous improvement.	4.57	0.65	Highest
Leaders demonstrate commitment to long-term organizational sustainability.	4.29	0.62	Highest
Leaders can adapt strategies to the context aimed at international excellence standards.	4.37	0.68	Highest
Leaders promote stakeholder participation in organizational development.	4.51	0.65	Highest
Leaders demonstrate ethical values and integrity in administration.	4.46	0.68	Highest
Leaders can inspire and motivate personnel toward excellence goals.	4.42	0.68	Highest
Leaders promote leadership development at all organizational levels.	4.39	0.73	Highest
<b>Overall Average</b>	4.45	0.67	Highest

### Faculty and Staff Development

Faculty and Staff Development	Mean	SD	Level
University promotes career development opportunities for all levels of personnel.	4.43	0.67	Highest
Personnel development programs enhance job competencies, including knowledge, skills, and work attitudes.	4.33	0.63	Highest
Administrators give importance to and continuously support personnel competency development.	4.48	0.63	Highest
University systematically evaluates personnel competency development and continuously uses results for improvement.	4.47	0.63	Highest
Personnel development programs increase job satisfaction and university engagement.	4.35	0.73	Highest
Personnel development directly impacts organizational development toward excellence.	4.46	0.69	Highest
<b>Overall Average</b>	<b>4.44</b>	<b>0.66</b>	<b>Highest</b>

### New Curriculum Design and Pedagogy

New Curriculum Design and Pedagogy	Mean	SD	Level
University provides opportunities for faculty, current students, alumni, and stakeholders to participate in curriculum design.	4.56	0.62	Highest
University curricula develop skills and abilities necessary for future work.	4.47	0.62	Highest
University promotes new student-centered teaching methods such as Active Learning and Experiential Learning.	4.40	0.59	Highest
Alignment exists between learning outcomes, teaching methods, and assessment methods in university curricula.	4.47	0.60	Highest

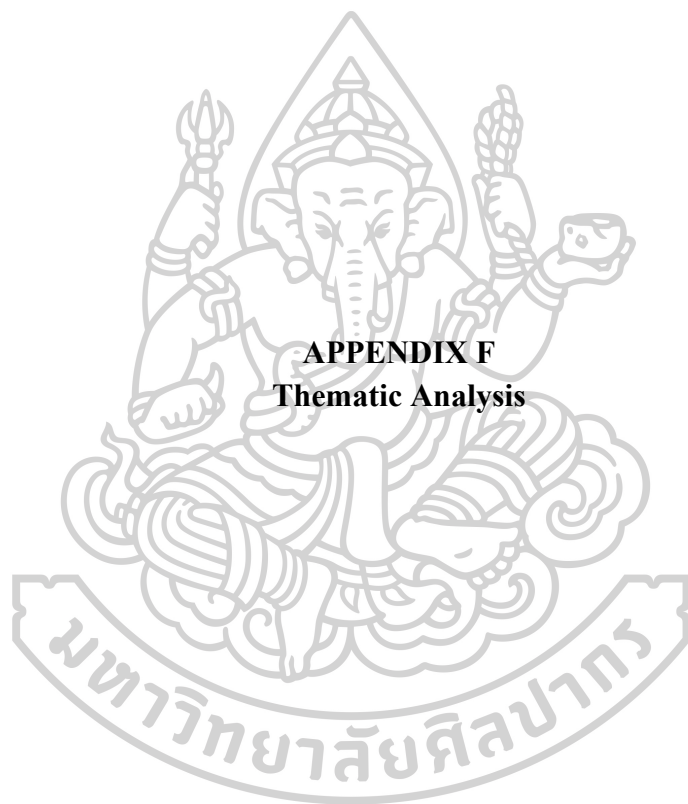
<b>New Curriculum Design and Pedagogy</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
University continuously evaluates and improves curricula using student learning outcome data.	4.48	0.59	Highest
University curricula are flexible for adapting to various teaching formats such as classroom, online, and blended learning.	4.53	0.62	Highest
New curriculum design and pedagogy directly impacts the development of academic excellence.	4.49	0.62	Highest
<b>Overall Average</b>	4.49	0.61	Highest

#### Assessment and Quality Assurance

<b>Assessment and Quality Assurance</b>	<b>Mean</b>	<b>SD</b>	<b>Level</b>
University administrators demonstrate clear commitment and support for quality assurance processes.	4.59	0.60	Highest
Personnel at all levels participate in quality assurance processes.	4.40	0.66	Highest
University clearly communicates quality assurance processes and goals.	4.33	0.62	Highest
Quality assurance processes are integrated into daily university operations.	4.40	0.69	Highest
Student learning assessment helps in university strategic decision-making.	4.44	0.64	Highest
University uses quality assessment results to improve teaching quality and student learning outcomes.	4.44	0.63	Highest
University quality assurance aligns with Education Criteria for Performance Excellence (EdPEX).	4.51	0.63	Highest
<b>Overall Average</b>	4.44	0.64	Highest

### Student Support Services

Student Support Services	Mean	SD	Level
University provides comprehensive and effective academic support services.	4.54	0.64	Highest
University has professional skill development programs that enhance graduate employability.	4.44	0.63	Highest
University provides adequate mental health counseling and support services.	4.37	0.64	Highest
University has comprehensive financial support programs for students with needs.	4.35	0.69	Highest
University student support services are systematically integrated and connected.	4.40	0.70	Highest
University student support services positively impact student retention and graduation rates.	4.51	0.65	Highest
University student support services align with Education Criteria for Performance Excellence (EdPEX).	4.51	0.64	Highest
<b>Overall Average</b>	4.45	0.65	Highest



**APPENDIX F**  
**Thematic Analysis**

Theme	Sub-Themes / Codes	Key Concepts Identified	Representative Quotes	Implications for Practice and Policy
Theme 1: Key Drivers of University Performance Excellence	1.1 Systematic Operation 1.2 Results-Oriented Improvement 1.3 Visionary Leadership 1.4 Internal and External Factors	Implementation must be consistent, embedded, and monitored; leadership sets cultural and strategic direction; readiness depends on internal capacity and external alignment.	"Even with good policies in place, if there is no serious effort in systematic implementation, it becomes meaningless." "A leader with vision is not just a planner, but a communicator." "External policies shape urgency. But internal culture determines capability." "You cannot implement change across the entire institution overnight. Start small, learn from it, and then expand." "If everyone from faculty to administrative staff understands the goals and their role, the likelihood of success increases." "It's easier to get buy-in when people see the model not as an extra burden but as a way to enhance what they're already doing." "Transformation should not be a top-down process. It must involve those who are impacted: students, lecturers, alumni, and employers." "People resist change when they don't understand it. Good communication reduces uncertainty and builds trust." "You can't build excellence on a culture of resistance."	Institutional transformation should begin with robust, system-wide operations supported by visionary leadership. Cultural and contextual readiness must be assessed and aligned before implementation.
Theme 2: Practical Implementation Strategies	2.1 Pilot Implementation Approach 2.2 Strategic Alignment and Shared Understanding 2.3 Institutional Integration and Process Embedding	Successful application requires clear planning, phased rollout, and connection to existing systems; shared ownership across stakeholders enhances sustainability.	Additional model elements should reflect evolving institutional demands and technological shifts; communication and engagement drive transformation.	Implementation strategies must be gradual, inclusive, and tied to quality systems. Strategic workshops and stakeholder alignment can build commitment and reduce resistance.
Theme 3: Recommended Additions to the Model	3.1 Stakeholder Engagement 3.2 Effective Internal Communication 3.3 Strong Organizational Culture 3.4 Digital Transformation and Innovation 3.5 Agility and Responsiveness 3.6 Talent Development	Barriers are both cultural and structural; successful coping strategies involve empowerment, alignment, and leadership continuity.	"Some people see change as a threat, especially if they're unsure how it affects their role." "If leaders change every two years, strategies are often abandoned before they mature." "When performance appraisals reflect institutional strategy, staff are more likely to get involved."	The model should be expanded to reflect communication, technological agility, and human resource development. Stakeholder voice and shared governance are critical for meaningful change.
Theme 4: Challenges and Coping Mechanisms	4.1 Resistance to Change 4.2 High Workload and Limited Capacity 4.3 Lack of Incentives and Misaligned Evaluation 4.4 Leadership Discontinuity 4.5 Need for Change Agents 4.6 Importance of Feedback and Communication Channels			To mitigate challenges, institutions must invest in leadership stability, workload management, and incentive alignment. Empowering internal change agents and building robust communication structures are essential to sustainability.

## VITA

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