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AI Adoption and Institutional Competitive Advantages: The Mediating Roles of Dynamic Capabilities and Moderation in Academic Transformation

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Abstract: Digital transformation has intensified the pressure on higher education institutions to achieve sustainable Institutional Competitive Advantage through the effective management of academic resources and digital technologies. Although Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability have been widely recognized as important organizational capabilities, the mechanism through which these capabilities are transformed into Institutional Competitive Advantage remains insufficiently understood. This study aims to synthesize empirical evidence concerning the relationships among Knowledge Creation Capability, Academic Innovation Capability, Research Collaboration Capability, Institutional Dynamic Academic Capability, AI Adoption, and Institutional Competitive Advantage. A semi-systematic (narrative) literature review was conducted by synthesizing 78 empirical articles published in Scopus-indexed journals between 2020 and 2025. The conceptual synthesis integrates the Resource-Based View, Dynamic Capability Theory, and the Technology-Organization-Environment framework, while Structural Equation Modeling serves as the analytical perspective for interpreting the relationships reported in previous empirical studies. The synthesized evidence indicates that Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability constitute complementary antecedents of Institutional Dynamic Academic Capability. Institutional Dynamic Academic Capability functions as the central mediating mechanism that transforms academic capabilities into Institutional Competitive Advantage, whereas AI Adoption strengthens this relationship by enhancing organizational adaptability, knowledge utilization, and strategic responsiveness. Based on these findings, this study proposes an integrated conceptual model that advances the understanding of capability-based academic transformation and provides a theoretical foundation for future empirical research and strategic digital transformation initiatives in higher education institutions.

Keywords: Knowledge Creation Capability, Academic Innovation Capability, Research Collaboration Capability, Institutional Dynamic Academic Capability, AI Adoption, Institutional Competitive Advantage.

INTRODUCTION

A sudden, fast-paced, and continuous digital transformation has reshaped the competitive landscape of higher education institutions across many countries. The role of universities has shifted from merely providing educational services and producing graduates toward developing institutional competitive advantage through effective knowledge management, academic innovation, and research collaboration. Increasing competition, growing demands for international accreditation, rapid technological advancement, and rising stakeholder expectations have made institutional adaptability and strategic transformation critical determinants of long-term success in higher education (Hart & Rodgers, 2024; Marginson, 2006).

For decades, internal resources and organizational capabilities have been recognized as the primary sources of sustainable competitive advantage in the strategic management literature (Barney, 1991; Barney et al., 2021). The Resource-Based View (RBV) posits that organizations achieve sustainable competitive advantage by developing valuable, rare, inimitable, and non-substitutable resources. Within higher education institutions, these strategic resources are manifested through academic capabilities that enable universities to generate knowledge, create innovation, and establish collaborative research networks. Collectively, these capabilities constitute the institutional foundation for creating value, strengthening organizational adaptability, and sustaining long-term competitiveness.

Knowledge Creation Capability (X_1) represents an institution's ability to generate, develop, and disseminate new knowledge through teaching, research, and community engagement activities (Nonaka & Takeuchi, 1995; Stern et al., 2021). Academic Innovation Capability (X_2) refers to a university's capacity to transform ideas, knowledge, and research outputs into innovative curricula, educational services, academic processes, and other value-creating outcomes for stakeholders (Fitriasari et al., 2024; Zawislak et al., 2012). Research Collaboration Capability (X_3) reflects an institution's ability to establish, maintain, and leverage collaborative research networks involving universities, industry, government, and international partners to improve research quality, productivity, and societal impact (Ducharme et al., 2024; Leih & Teece, 2022; Yin et al., 2023;). These three academic capabilities represent complementary strategic resources that enable universities to respond to increasing institutional complexity and environmental change.

Previous studies consistently demonstrate that academic capabilities contribute positively to organizational performance and institutional competitiveness. Nevertheless, existing studies have primarily examined the direct effects of organizational capabilities on performance or competitive advantage, providing limited explanation of the mechanisms through which academic capabilities are transformed into sustainable institutional competitive advantage. More importantly, empirical evidence integrating Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability within a single capability-based framework remains limited, particularly in the context of higher education institutions (Elistia et al., 2024).

To address this limitation, Institutional Dynamic Academic Capability is proposed as the central mechanism that enables universities to continuously integrate, reconfigure, and renew their academic resources in response to environmental change. Extending the logic of Dynamic Capability Theory to the higher education context, Institutional Dynamic Academic Capability emphasizes universities' ability to adapt knowledge resources, innovation processes, and collaborative networks to changing institutional demands. This capability is expected to explain how strategic academic resources are transformed into Institutional Competitive Advantage through continuous organizational adaptation and renewal (Elistia et al., 2024).

The rapid advancement of Artificial Intelligence (AI) has introduced a new dimension to the management of knowledge-based organizations. Within higher education institutions, AI has evolved beyond operational support technology into a strategic enabler that improves knowledge processing, supports evidence-based decision making, accelerates academic innovation, and strengthens collaborative academic networks (Chan, 2023; Rahiman & Kodikal, 2024). Rather than functioning as an independent source of competitive advantage, AI adoption is expected to strengthen the effectiveness of Institutional Dynamic Academic Capability by enhancing universities' abilities to sense environmental changes, process knowledge, and execute adaptive organizational transformation. Consequently, institutions with higher levels of AI adoption are expected to obtain greater strategic benefits from their dynamic academic capabilities than institutions that remain at earlier stages of digital transformation (Chan, 2023; Rahiman & Kodikal, 2024).

Despite the growing body of literature on academic capabilities, dynamic capabilities, AI adoption, and competitive advantage, these relationships have largely been examined independently. Limited attention has been devoted to explaining how Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability jointly contribute to Institutional Competitive Advantage through Institutional Dynamic Academic Capability, while considering AI adoption as a contextual factor that strengthens this transformation process in higher education institutions. This fragmented body of knowledge highlights the need for an integrated conceptual framework capable of synthesizing empirical evidence and explaining the interplay among these strategic capabilities.

This study aims to: (1) identify and synthesize empirical evidence regarding the relationships among Knowledge Creation Capability, Academic Innovation Capability, Research Collaboration Capability, Institutional Dynamic Academic Capability, AI Adoption, and Institutional Competitive Advantage in higher education institutions; (2) analyze the mediating role of Institutional Dynamic Academic Capability in explaining how academic capabilities are transformed into Institutional Competitive Advantage; (3) examine the moderating role of AI Adoption in strengthening the relationship between Institutional Dynamic Academic Capability and Institutional Competitive Advantage; (4) develop an integrated conceptual model grounded in the Resource-Based View, Dynamic Capability Theory, and the Technology-Organization-Environment framework to explain capability-based academic transformation for enhancing institutional competitive advantage in higher education; and (5) provide directions for future empirical research on strategic management and academic transformation based on organizational capabilities and Artificial Intelligence.

METHODS

This study employed a semi-systematic (narrative) literature review to synthesize and integrate empirical evidence concerning the relationships among Knowledge Creation Capability, Academic Innovation Capability, Research Collaboration Capability, Institutional Dynamic Academic Capability, AI adoption, and Institutional Competitive Advantage in higher education institutions. A semi-systematic literature review was selected because it enables the integration of diverse theoretical perspectives and empirical evidence to develop a comprehensive conceptual understanding of capability- and technology-based academic transformation, particularly in emerging research areas where knowledge is dispersed across multiple disciplines (Snyder, 2019).

The literature was retrieved exclusively from the Scopus database as the primary source of internationally recognized scientific publications. The search strategy employed keywords representing the main constructs of the conceptual model, including knowledge creation capability, academic innovation capability, research collaboration capability, institutional dynamic capability, dynamic capability, institutional competitive advantage, AI adoption,

higher education, mediation, and moderation. The search was limited to English-language articles published between 2020 and 2025 in Scopus-indexed Q1 and Q2 journals to ensure the inclusion of recent and high-quality empirical evidence.

The selection process was guided by the alignment of each study with the proposed conceptual model. Articles were included if they: (1) examined one or more of the research constructs; (2) employed quantitative research designs using multivariate statistical analysis; and (3) reported empirical evidence concerning direct, mediating, or moderating relationships among organizational variables. Following the screening and evaluation process, a total of 30 articles met the inclusion criteria and were retained for the literature synthesis.

Although this study did not empirically estimate Structural Equation Modeling (SEM), SEM was adopted as an analytical perspective because most of the reviewed empirical studies employed either Covariance-Based Structural Equation Modeling (CB-SEM) or Partial Least Squares Structural Equation Modeling (PLS-SEM). This analytical perspective facilitated the synthesis of direct, indirect, mediating, and moderating relationships reported across previous empirical studies, thereby enabling a systematic interpretation of the relationships among the proposed constructs (Ghozali & Kusumadewi, 2023).

The conceptual scope of this review encompasses the relationships among Knowledge Creation Capability, Academic Innovation Capability, Research Collaboration Capability, Institutional Dynamic Academic Capability, AI adoption, and Institutional Competitive Advantage. Institutional Dynamic Academic Capability is positioned as the mediating mechanism through which academic capabilities are transformed into Institutional Competitive Advantage, whereas AI adoption is treated as a contextual moderator that strengthens this relationship. The synthesized evidence was subsequently interpreted to identify consistent empirical relationship patterns among the proposed constructs and to develop an integrated conceptual model. This synthesis provides the analytical foundation for the subsequent discussion by explaining how academic capabilities, Institutional Dynamic Academic Capability, and AI adoption interact to shape Institutional Competitive Advantage in higher education institutions.

RESULTS AND DISCUSSION

This section synthesizes empirical evidence to explain the relationships among Knowledge Creation Capability, Academic Innovation Capability, Research Collaboration Capability, Institutional Dynamic Academic Capability, AI adoption, and Institutional Competitive Advantage in higher education institutions. The discussion is organized by integrating relevant theoretical perspectives with empirical findings to develop a coherent conceptual explanation of capability-based academic transformation. The analysis begins with the theoretical foundations underlying the proposed conceptual model, followed by a synthesis of the empirical relationships among the research constructs and the development of an integrated conceptual model.

Theoretical Foundations

The proposed conceptual model is grounded in the complementary perspectives of the Resource-Based View (RBV) and Dynamic Capability Theory (DCT). These theories provide the conceptual basis for explaining how academic resources are transformed into Institutional Competitive Advantage through Institutional Dynamic Academic Capability. Rather than treating organizational resources and dynamic capabilities as independent perspectives, this study integrates both theories to explain the process through which higher education institutions develop, renew, and leverage their academic capabilities to respond to an increasingly dynamic and competitive environment.

The Resource-Based View argues that sustainable competitive advantage originates from valuable, rare, inimitable, and non-substitutable resources that enable organizations to create superior value (Barney, 1991; Barney et al., 2021). Within higher education institutions, these strategic resources extend beyond tangible assets and include knowledge-based capabilities embedded in academic activities. Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability represent institutional resources that facilitate knowledge generation, innovation, and collaborative value creation. These capabilities enable universities to accumulate intellectual assets and strengthen their strategic position in increasingly competitive higher education systems. From the RBV perspective, however, the possession of valuable academic resources alone is insufficient to sustain competitive advantage because organizational resources must be continuously renewed and adapted to changing environmental conditions.

Dynamic Capability Theory complements this limitation by emphasizing an organization's ability to integrate, build, and reconfigure internal and external competencies in response to environmental change (Teece, 2007). In the context of higher education, Institutional Dynamic Academic Capability represents the institutional capacity to continuously renew academic knowledge, innovation processes, and collaborative networks while responding to evolving technological developments, policy changes, and stakeholder expectations. This perspective explains that Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability do not directly generate Institutional Competitive Advantage. Instead, these capabilities become strategically valuable when universities are able to transform and reconfigure them into adaptive institutional capabilities that support continuous organizational renewal. Accordingly, Institutional Dynamic Academic Capability is positioned as the mediating mechanism through which academic capabilities are converted into sustainable Institutional Competitive Advantage.

Knowledge Creation Capability and Institutional Dynamic Academic Capability

Knowledge Creation Capability represents a university's ability to generate, acquire, integrate, and disseminate knowledge through teaching, research, and community engagement activities. Within higher education institutions, knowledge creation extends beyond the production of academic outputs by enabling continuous organizational learning, facilitating knowledge exchange, and supporting institutional adaptation to changing academic and technological environments. Consequently, Knowledge Creation Capability constitutes a fundamental strategic resource that contributes to the development of Institutional Dynamic Academic Capability.

Recent empirical studies consistently indicate that effective knowledge creation enhances an organization's capacity to develop dynamic capabilities. Knowledge generation and knowledge-sharing processes strengthen organizational learning, improve absorptive capacity, and facilitate the continuous renewal of organizational resources. Universities capable of systematically creating and disseminating knowledge are better positioned to identify emerging opportunities, integrate new knowledge into institutional processes, and continuously improve their academic activities (Kapoor & Aggarwal, 2021; Stern et al., 2021).

Evidence from recent knowledge management studies further demonstrates that knowledge creation contributes to innovation capability by supporting organizational adaptability and strategic renewal. Organizations with stronger knowledge creation processes are more capable of transforming accumulated knowledge into new institutional routines, innovative academic practices, and sustainable organizational capabilities. This dynamic process enables universities to continuously renew their academic competencies while responding to increasingly complex environmental changes (Cordeiro et al., 2023; Han & Zhao, 2026).

Collectively, the reviewed literature suggests that Knowledge Creation Capability does not merely increase organizational knowledge assets but also strengthens Institutional Dynamic Academic Capability by facilitating continuous knowledge renewal, organizational learning, and adaptive capability development. These findings support the proposition that Knowledge Creation Capability serves as one of the principal antecedents of Institutional Dynamic Academic Capability within higher education institutions.

Academic Innovation Capability and Institutional Dynamic Academic Capability

Academic Innovation Capability reflects a university's capacity to transform knowledge, research outcomes, and institutional experience into innovative educational processes, academic services, research commercialization, and organizational improvements. As higher education institutions operate within increasingly dynamic environments, the ability to continuously generate and implement academic innovation has become an essential determinant of institutional adaptability and long-term competitiveness.

Empirical evidence consistently indicates that innovation capability strengthens dynamic organizational capabilities by enabling institutions to continuously modify organizational routines, introduce new academic practices, and improve institutional responsiveness to environmental change. Universities with stronger innovation capabilities are generally more successful in translating research outputs into educational innovation, curriculum development, digital transformation initiatives, and collaborative academic activities, thereby enhancing their adaptive capacity (Cordeiro et al., 2023; Fitriasari et al., 2024).

Recent studies also demonstrate that innovation capability becomes increasingly effective when supported by organizational knowledge and collaborative learning. The interaction between knowledge resources and innovation activities enables universities to develop more flexible institutional processes, accelerate organizational renewal, and improve strategic responsiveness under rapidly changing academic environments (Kumar et al., 2025; Singh et al., 2021).

The synthesized evidence indicates that Academic Innovation Capability contributes to Institutional Dynamic Academic Capability by enabling universities to continuously transform academic knowledge into adaptive institutional practices. Rather than functioning solely as an outcome of knowledge creation, innovation capability acts as a strategic mechanism through which universities strengthen their capacity to renew organizational processes, respond to environmental change, and sustain institutional competitiveness.

Research Collaboration Capability and Institutional Dynamic Academic Capability

Research Collaboration Capability reflects a university's ability to establish, maintain, and leverage collaborative partnerships with academic institutions, industry, government agencies, and international organizations to enhance research quality, knowledge exchange, and innovation outcomes. In contemporary higher education, research collaboration has evolved beyond academic networking into a strategic capability that facilitates resource integration, interdisciplinary knowledge creation, and institutional learning. Consequently, collaborative research activities provide universities with broader access to complementary expertise, advanced technologies, and external knowledge resources that support the continuous development of Institutional Dynamic Academic Capability.

Recent empirical evidence demonstrates that research collaboration strengthens organizational dynamic capabilities by expanding knowledge networks and facilitating the exchange of complementary resources across institutional boundaries. Collaborative partnerships enable universities to acquire new knowledge, enhance research productivity, accelerate innovation, and improve institutional responsiveness to environmental change. Universities actively engaged in collaborative research are more capable of integrating external

knowledge into internal academic processes, thereby reinforcing their adaptive capacity and long-term institutional development (Leih & Teece, 2022; Yin et al., 2023).

The literature also indicates that research collaboration contributes to institutional renewal by strengthening intellectual capital, organizational learning, and knowledge integration. Through sustained collaboration with external stakeholders, universities continuously refine research capabilities, improve innovation performance, and develop more flexible organizational routines capable of responding to changing academic and societal demands (Ducharme et al., 2024; Guerrero & Menter, 2024).

Collectively, the synthesized evidence suggests that Research Collaboration Capability functions as an important antecedent of Institutional Dynamic Academic Capability. Rather than merely increasing research productivity, collaborative capability enables universities to continuously integrate external knowledge, strengthen organizational learning, and develop adaptive institutional capabilities that support long-term academic transformation.

Institutional Dynamic Academic Capability and Institutional Competitive Advantage

Institutional Dynamic Academic Capability represents a university's ability to continuously integrate, reconfigure, and renew its academic resources in response to technological advancement, policy change, and increasing stakeholder expectations. Unlike conventional organizational capabilities that primarily emphasize operational efficiency, Institutional Dynamic Academic Capability reflects the institution's capacity to sustain organizational adaptation through continuous renewal of knowledge, innovation, and collaborative processes. This capability enables universities to maintain strategic flexibility while strengthening their long-term competitiveness within an increasingly dynamic higher education environment.

Empirical studies consistently demonstrate that dynamic capabilities positively influence institutional performance and competitive advantage by improving organizational adaptability, strategic responsiveness, and resource reconfiguration. Universities possessing stronger dynamic academic capabilities are better equipped to anticipate environmental changes, redesign institutional strategies, and continuously align academic resources with emerging opportunities. Such adaptive capacity enables higher education institutions to sustain academic excellence while responding effectively to evolving technological, regulatory, and societal challenges (Elistia et al., 2024; Heaton et al., 2023).

Recent evidence further indicates that dynamic capabilities facilitate the transformation of accumulated organizational resources into sustainable competitive advantage through continuous organizational renewal. Institutions capable of integrating knowledge creation, academic innovation, and research collaboration into coherent institutional capabilities are more likely to strengthen educational quality, research performance, international reputation, and stakeholder value. This capability-oriented transformation enables universities to develop distinctive institutional advantages that are difficult for competitors to replicate (Leih & Teece, 2022; Muneeb et al., 2025).

The synthesized literature supports the proposition that Institutional Dynamic Academic Capability constitutes the primary mechanism through which academic capabilities generate Institutional Competitive Advantage. Rather than serving merely as an intermediate organizational capability, Institutional Dynamic Academic Capability functions as a strategic integrator that transforms knowledge creation, academic innovation, and research collaboration into sustainable institutional value and long-term competitive advantage.

The Moderating Role of AI Adoption

Artificial Intelligence (AI) adoption has emerged as a strategic enabler that extends beyond technological automation to support organizational learning, knowledge processing,

and evidence-based decision making within higher education institutions. From a strategic management perspective, AI does not independently create competitive advantage; instead, its value depends on how effectively it enhances existing organizational capabilities. Consequently, AI adoption is positioned in this study as a contextual factor that strengthens the contribution of Institutional Dynamic Academic Capability to Institutional Competitive Advantage.

Recent empirical studies indicate that AI adoption improves organizational adaptability by accelerating knowledge acquisition, facilitating data-driven decision making, enhancing innovation processes, and supporting organizational responsiveness to environmental changes. Universities that effectively integrate AI into academic and managerial activities are better positioned to optimize institutional resources, improve strategic decision quality, and accelerate organizational transformation. As a result, dynamic academic capabilities are expected to generate greater institutional value when supported by higher levels of AI adoption (Chan, 2023; Lin et al., 2025; Rahiman & Kodikal, 2024).

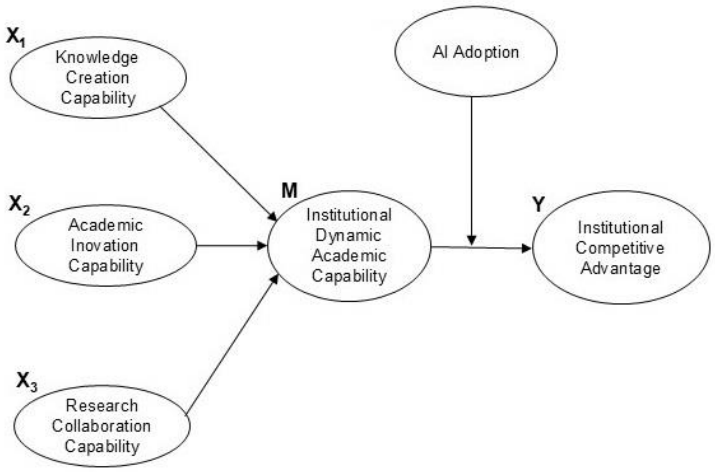
The literature further suggests that AI functions primarily as a capability enhancer rather than a substitute for organizational capabilities. Institutions possessing well-developed dynamic academic capabilities are more capable of exploiting AI technologies to strengthen knowledge integration, improve innovation efficiency, and expand collaborative academic networks. Conversely, institutions with limited dynamic capabilities are less likely to realize the strategic benefits of AI adoption despite substantial technological investment.

The synthesized evidence supports the proposition that AI adoption moderates the relationship between Institutional Dynamic Academic Capability and Institutional Competitive Advantage. Higher levels of AI adoption strengthen universities' ability to transform adaptive academic capabilities into sustainable competitive advantage by improving institutional agility, knowledge utilization, and strategic responsiveness. Accordingly, AI adoption should be viewed as a complementary strategic capability that amplifies, rather than replaces, the value of Institutional Dynamic Academic Capability.

Integrated Literature Synthesis and Proposed Conceptual Model

The synthesized literature demonstrates a consistent capability transformation mechanism in which Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability function as complementary strategic resources that strengthen Institutional Dynamic Academic Capability. Rather than directly generating Institutional Competitive Advantage, these academic capabilities are transformed into sustainable institutional value through universities' ability to continuously integrate, renew, and reconfigure their academic resources in response to changing environmental conditions. AI adoption further strengthens this transformation by enhancing organizational learning, knowledge utilization, and strategic responsiveness, thereby amplifying the contribution of Institutional Dynamic Academic Capability to Institutional Competitive Advantage.

Based on this synthesis, an integrated conceptual model is proposed by combining the complementary perspectives of the Resource-Based View, Dynamic Capability Theory, and the Technology–Organization–Environment framework. The model explains how capability-based academic transformation occurs in higher education institutions and provides a theoretical foundation for future empirical research examining the relationships among the proposed constructs.



Source: Research Results

Figure 1. Proposed conceptual model illustrating the relationships among Knowledge Creation Capability, Academic Innovation Capability, Research Collaboration Capability, Institutional Dynamic Academic Capability, AI Adoption, and Institutional Competitive Advantage

Figure 1 presents the conceptual model developed from the synthesized literature. The model proposes that Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability function as complementary antecedents of Institutional Dynamic Academic Capability. Institutional Dynamic Academic Capability subsequently mediates the transformation of these academic capabilities into Institutional Competitive Advantage. AI Adoption is positioned as a moderating variable that strengthens the influence of Institutional Dynamic Academic Capability on Institutional Competitive Advantage by enhancing organizational adaptability, knowledge utilization, and evidence-based decision making. Collectively, the model explains how universities develop sustainable competitive advantage through the interaction of academic capabilities, dynamic capability, and AI-enabled organizational transformation.

Theoretical and Practical Implications

The proposed conceptual model extends the strategic management literature by integrating the Resource-Based View, Dynamic Capability Theory, and the Technology–Organization–Environment framework into a unified explanation of capability-based academic transformation in higher education. Unlike previous studies that have generally examined knowledge creation, academic innovation, research collaboration, dynamic capabilities, and AI adoption as separate research domains, this study synthesizes these constructs into a coherent mechanism in which Institutional Dynamic Academic Capability serves as the central capability that transforms academic resources into Institutional Competitive Advantage. The model also broadens the application of Dynamic Capability Theory by conceptualizing Institutional Dynamic Academic Capability as a higher education-specific capability that explains how universities continuously renew knowledge, innovation, and collaborative resources to sustain competitiveness.

From a practical perspective, the proposed model suggests that universities should not rely solely on improving individual academic capabilities. Sustainable Institutional Competitive Advantage requires the integration of knowledge creation, academic innovation, and research collaboration into an adaptive institutional capability that continuously responds to technological, regulatory, and stakeholder changes. The findings further indicate that AI adoption should be implemented as a strategic enabler supporting institutional transformation rather than merely as a technological investment. Universities that simultaneously strengthen

academic capabilities, develop Institutional Dynamic Academic Capability, and strategically integrate AI into academic and managerial processes are expected to achieve greater organizational adaptability and stronger long-term competitive advantage.

CONCLUSION

This study synthesizes empirical evidence to develop an integrated conceptual model explaining how higher education institutions achieve Institutional Competitive Advantage through capability-based academic transformation. The review indicates that Knowledge Creation Capability, Academic Innovation Capability, and Research Collaboration Capability represent complementary strategic academic resources that contribute to institutional competitiveness. However, these capabilities do not independently generate sustainable competitive advantage. Instead, their strategic value is realized through Institutional Dynamic Academic Capability, which functions as the central mechanism that continuously integrates, reconfigures, and renews academic resources in response to evolving technological, institutional, and environmental demands.

The synthesis further demonstrates that AI adoption does not directly create Institutional Competitive Advantage but strengthens the contribution of Institutional Dynamic Academic Capability by enhancing organizational learning, knowledge processing, evidence-based decision making, and adaptive institutional transformation. This finding reinforces the view that digital technologies create greater strategic value when combined with well-developed organizational capabilities rather than operating as stand-alone technological resources.

This article contributes to the strategic management literature by integrating the Resource-Based View, Dynamic Capability Theory, and the Technology–Organization–Environment framework into a unified conceptual explanation of capability-based academic transformation in higher education. The proposed model offers a comprehensive theoretical foundation for understanding the relationships among academic capabilities, Institutional Dynamic Academic Capability, AI adoption, and Institutional Competitive Advantage while providing a conceptual framework that can be empirically validated in future studies.

This study is subject to several limitations. As a conceptual literature review, the proposed relationships have not been empirically tested, and the synthesis is based exclusively on empirical studies indexed in the Scopus database. Future research is encouraged to empirically validate the proposed conceptual model using Structural Equation Modeling, examine its applicability across different higher education systems and institutional contexts, and investigate additional contextual factors that may influence capability-based academic transformation in universities.

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