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Review of Employee Absorptive Capacity and Performance in Colleges of
Education in Ghana**



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Leadership Styles and Open Innovation in Higher Education: A Theoretical Review of Employee Absorptive Capacity and Performance in Colleges of Education in Ghana

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Abstract

Purpose: The aim of this study is to investigate the impact of transformational, transactional, and distributed leadership styles on open innovation and institutional performance in Colleges of Education in Ghana. The study will consider employee absorptive capacity as a mediating variable in the relationship between leadership styles on engagement in innovation and the outcomes of innovation.

Methodology: A systematic literature review was undertaken of peer-reviewed literature published from 2020 to 2024. Databases searched included Scopus, Web of Science, Google Scholar, ERIC and African Journals Online. The literature review focused on leadership, innovation, and absorptive capacity in Sub-Sahara Africa specifically around teacher education.

Findings: While transformational leadership promotes innovation by articulating a vision, encouraging staff agency, and cherishing experimentation, transactional leadership assures compliance with policies and rules while establishing boundaries for the organizational structure. Additionally, distributed leadership fosters collaboration and sharing of information and knowledge across organizational silos. Absorptive capacity emerged as a significant mediator between leadership and performance; however, barriers such as resource limitations and institutional inertia prevented the ideal situation.

Unique Contribution to Theory, Practice, and Policy: The review offers a multi-theoretical perspective, including leadership theory, open innovation, and absorptive capacity in a Sub-Saharan context. It recommends hybrid leadership strategies according to institutional realities, and it provides policy implications such as encouraging flexible governance, executive leadership training, and investment in knowledge infrastructure to promote educational innovation in Ghana.

Keywords: *Leadership Styles, Open Innovation, Absorptive Capacity, Higher Education, Institutional Performance, Ghana*



Introduction

Higher Education Institutions (HEIs) operate in a transformed operational environment because of the global knowledge economy which demands enhanced agility and sustained innovation and improved performance in competitive markets (Zhou & Li, 2021). Open innovation represents a fundamental driver of creativity and institutional growth and competitive advantage in higher education because it systematically combines external ideas and technologies with internal capabilities (Chesbrough & Bogers, 2023). The "open" innovation paradigm uses strategic external partnerships and cross-organizational collaboration throughout the innovation process to break through traditional institutional boundaries. Leadership plays a vital role in developing work environments that drive employee motivation and productivity and enable knowledge and resource sharing (Mok et al., 2022). Higher education institutions use open innovation to expand their academic boundaries through collaborative curriculum development and interdisciplinary research and service learning and strategic partnerships with industry and international collaborators. These activities enable institutions to become more responsive to societal challenges and provide mechanisms to use intellectual capital for local and global development priorities (Yuan & Lee, 2020; Salazar-Elena et al., 2021). The adoption and implementation of open innovation in HEIs are significantly influenced by organizational leadership practices. The institutional culture and information flows and interaction mechanisms which leadership shapes determine employee receptiveness to new ideas and their innovative activity engagement (Al-Husseini & Elbeltagi, 2021). Educational research has identified transformational, transactional and distributed leadership approaches as the most discussed leadership styles regarding their impact on innovation and organizational change (Nguyen et al., 2022). These leadership styles have a profound impact on an institution's absorptive capacity, the ability to recognize, assimilate, and apply external knowledge to enhance performance outcomes (Zahra et al., 2021). The relationship between leadership styles, open innovation, and absorptive capacity is particularly relevant for Ghanaian Colleges of Education, which are currently undergoing comprehensive reforms driven by national educational policies and global shifts in teaching and learning paradigms. These institutions face the dual challenge of preparing educators with requisite competencies while simultaneously responding to evolving demands in pedagogy, technology integration, and policy frameworks (Boateng & Essel, 2020). Despite the significance of this relationship, there is limited primary research examining the nexus between leadership styles, innovation processes, and knowledge absorption capacities in the Sub-Saharan African higher education context. This represents a substantial gap in understanding how different leadership approaches influence innovation and knowledge management in rapidly transforming academic environments (Mensah & Owusu, 2023). This extensive review fills the existing knowledge gaps through a synthesis of empirical and theoretical research about leadership and innovation in higher education institutions from 2020 to 2024. The main objective of this research investigates how different leadership approaches affect open innovation practices and absorptive capacity and their subsequent effects on institutional performance outcomes (Nguyen et al., 2022; Zahra et al., 2021). The review analyzes Ghanaian College of Education experiences to enhance higher education discourse by revealing

new trends and research areas that need additional study (Mensah & Owusu, 2023). The research aims to guide leadership approaches and policy creation for Ghana's teacher education sector through its ongoing transformation (Boateng & Essel, 2020). The review demonstrates that HEIs need strategic leadership approaches to develop innovation while managing knowledge resources and maximizing workforce productivity in their evolving educational environment (Al-Husseini & Elbeltagi, 2021).

Problem Statement

The rapid educational reforms and technological advancements and stakeholder demands create significant challenges for Ghanaian Colleges of Education which need innovative teacher preparation methods to maintain quality and fulfill national development requirements. The existing literature lacks research about how transformational, transactional and distributed leadership styles affect open innovation and absorptive capacity specifically in this context while most studies focus on Western and Asian settings. The absence of empirical research about Ghana's specific socio-cultural and institutional framework prevents the creation of effective evidence-based leadership strategies and policies. The identified research gap requires immediate attention because it enables educational leaders and policymakers to improve innovation and knowledge management and institutional performance in Ghana's teacher education sector.

Objectives

This review aims to achieve the following objectives:

1. To critically examine how transformational, transactional, and distributed leadership styles influence open innovation practices in Ghanaian Colleges of Education.
2. To assess the theoretical impact of these leadership styles on employees' absorptive capacity, their ability to identify, assimilate, and apply external knowledge for institutional advancement.
3. To analyze the relationship between leadership-driven open innovation, absorptive capacity, and key institutional performance outcomes such as academic quality, research productivity, and organizational adaptability within Ghana's teacher education sector.

Literature Review

Transformational Leadership Theory

The Transformational Leadership Theory that Burns (1978) first proposed and expanded upon in 1985 focuses on visionary leadership combined with motivational and supportive approaches to drive organizational change and innovation. The leadership approach functions through four main dimensions which include idealized influence (charismatic role modeling), inspirational motivation (articulating compelling visions), intellectual stimulation (challenging assumptions and encouraging creative thinking), and individualized consideration (attending to followers' unique needs and development) (Bass & Riggio, 2021). The Ghanaian Colleges of Education which face major curriculum reforms and policy changes benefit from transformational leadership because it

builds an inclusive space that motivates staff members to use external knowledge resources and adopt new teaching approaches (Boateng & Essel, 2020; Sikalumbi, 2022). Higher education institutions under transformational leadership support ongoing professional development programs which help academic staff incorporate new technologies and stakeholder partnerships into their teaching practices (Mensah & Owusu, 2023). Through this leadership approach institutions achieve better alignment between their objectives and national educational targets which leads to higher employee involvement and creativity and better performance through shared vision development and staff empowerment for meaningful institutional growth (Nguyen et al., 2022). Research shows that transformational leadership promotes organizational innovation through its ability to establish psychological safety which enables risk-taking and experimentation for open innovation processes (Al-Husseini & Elbeltagi, 2021). The implementation of transformational leadership faces criticism because it depends heavily on leaders' charisma and may not work well in procedural environments that need standardization and regulatory compliance (Alghamdi, 2020). The high expectations of transformational leadership in bureaucratic settings such as Ghanaian public educational institutions may lead to employee burnout or resistance because innovation demands exceed available resources or institutional capacity (West & Bogers, 2020). The limitations can be overcome by integrating transactional leadership elements into transformational approaches to provide operational structure for implementing innovative initiatives. The success of transformational leadership in open innovation and absorptive capacity development depends on institutional readiness and resource availability and leadership stability which makes it a context-sensitive yet powerful approach for educational reform in Ghana's higher education landscape. Transformational leadership adapted to local conditions and institutional needs can substantially improve innovation capacity and organizational performance in Colleges of Education (Nguyen et al., 2022; Mensah & Owusu, 2023).

Transactional Leadership Theory

The Transactional Leadership Theory developed from Burns (1978) and Bass (1985) describes a performance-based leadership approach which tracks tasks while enforcing rules through reward and consequence systems to achieve operational efficiency and accountability (Bass & Riggio, 2021; Alghamdi, 2020). Higher education institutions benefit from transactional leadership because it delivers effective results in environments where policy compliance and quality assurance and stakeholder accountability stand as essential priorities (Nguyen et al., 2022). The Ghanaian Colleges of Education implement transactional leadership to ensure their innovation initiatives follow national education policies and institutional strategic objectives and accreditation standards through formal expectations and established collaboration parameters with universities and non-governmental organizations and government agencies (Mensah & Owusu, 2023). The leadership approach delivers operational clarity and maintains departmental performance consistency while minimizing regulatory compliance risks (Al-Husseini & Elbeltagi, 2021). The structured frameworks developed by transactional leaders enable systematic innovation adoption

that matches institutional policies and strategic priorities. The critics state that transactional leadership depends on external motivators and hierarchical controls which might limit creativity and autonomy and bottom-up innovation in academic environments (West & Bogers, 2020). The focus on compliance and predetermined outcomes may decrease effectiveness in environments that need flexible governance approaches and participatory management (Alghamdi, 2020; Nguyen et al., 2022). The constraints of this approach become most significant in higher education institutions because faculty members value their independence and freedom to make decisions. The criticisms do not diminish the importance of transactional leadership in educational administration because developing higher education institutions need disciplined management and administrative capacity building. The structural base for sustainable innovation and institutional development emerges from combining transactional leadership with transformational or distributed leadership approaches. The leadership style functions as a fundamental component for implementing and institutionalizing innovative practices in Ghanaian Colleges of Education even though it stands alone as a less innovative approach (Mensah & Owusu, 2023; Boachie-Mensah & Tutu, 2023).

Distributed Leadership

The distributed leadership model distributes leadership duties throughout various organizational levels and stakeholders beyond traditional hierarchical systems that depend on single authority figures. The approach promotes joint decision processes and collective accountability and utilizes diverse institutional expertise (Boachie-Mensah & Tutu, 2023). Distributed leadership works well in complex academic environments because it acknowledges that expertise and influence exist throughout faculty members and administrators and students and external partners. The distributed leadership approach in Ghanaian Colleges of Education promotes innovation through governance systems which bring together various stakeholders to develop institutions. The method allows innovative ideas to move between different fields of study and organizational tiers which establishes conditions for open innovation practices (Mensah & Owusu, 2023). Distributed leadership enables institutions to become more adaptable to new educational challenges through its decision-making power that extends to faculty and staff members at different levels. Research shows distributed leadership creates positive effects on organizational learning and knowledge sharing through multiple information channels and reduced collaboration barriers (Nguyen et al., 2022). The leadership approach enhances absorptive capacity through its ability to gather various knowledge resources and perspectives which enables institutions to better identify and apply external knowledge (Asare & Boateng, 2022). Distributed leadership creates a shared ownership feeling among members which leads to higher chances of successful innovation initiative implementation and sustainability. The implementation of distributed leadership in traditional hierarchical educational systems faces major obstacles because it creates confusion about roles and makes coordination harder while traditional authority holders resist this new approach (Boachie-Mensah & Tutu, 2023). Distributed leadership needs open communication systems along with established accountability frameworks and an organizational environment that promotes teamwork

and shared accountability. Distributed leadership works effectively with transformational and transactional approaches to build a complete leadership system which promotes open innovation and boosts institutional performance in Ghanaian Colleges of Education.

Open Innovation Theory

The Open Innovation Theory which Chesbrough (2003) introduced breaks away from traditional closed innovation systems by promoting intentional knowledge sharing between different organizations. The approach recognizes that organizations gain value from strategic partnerships with diverse stakeholders including government agencies and non-governmental organizations and industry partners and other educational institutions (Chesbrough & Bogers, 2022). Academic institutions benefit from open innovation through collaborative research and co-developed curricula and community-engaged projects and technology transfer activities that enhance institutional impact and relevance (de Medeiros et al., 2021). The implementation of open innovation in Ghanaian Colleges of Education creates professional networks and knowledge ecosystems that enhance pedagogical practices and policy responsiveness and real-world relevance of teacher education programs (Mensah & Owusu, 2023). The institution gains access to new funding opportunities and contemporary educational materials through external partnerships which also enable staff and students to address real educational field challenges. Open innovation requires transformational and distributed leadership approaches to establish trust-based open cultures which enable effective knowledge exchange and co-creation (Nguyen et al., 2022). Open innovation presents potential advantages yet creates intellectual property protection issues and competitive disadvantage risks from knowledge leaks and complex relationship management difficulties (West & Bogers, 2020). The success of open innovation strategies depends heavily on institutional absorptive capacity and organizational readiness which may be restricted in resource-limited higher education institutions across Sub-Saharan Africa (Al-Husseini & Elbeltagi, 2021). The implementation of open innovation in Ghanaian Colleges of Education faces multiple barriers because of poor governance systems and resistance to external ideas and cultural obstacles that block knowledge exchange and teamwork. Open innovation approaches demonstrate substantial potential to improve teacher education programs when properly guided by leadership and institutional safeguards while supporting research and community engagement and national development alignment. The strategic implementation of open innovation principles within institutional policies and practices serves as a vital approach for Ghanaian Colleges of Education to boost their performance and social impact in the modern interconnected educational environment (Mensah & Owusu, 2023; Boachie-Mensah & Tutu, 2023).

Absorptive Capacity Theory

The Absorptive Capacity Theory which Cohen and Levinthal (1990) first developed and Zahra and George (2002) later expanded helps organizations identify external knowledge which they can assimilate transform and exploit for strategic advantage. The theoretical framework has become more important in knowledge-based innovation discussions especially within the dynamic educational environment of Ghanaian Colleges of Education (Nguyen et al., 2021; Ali & Park,

2022). The absorptive capacity in these institutions enables effective responses to curriculum reforms and policy shifts and technological trends which guides the adoption of innovative pedagogical approaches and enhances academic performance outcomes (Mensah & Owusu, 2023). Leadership plays a vital role according to the theory in developing organizational absorptive capacity through professional development initiatives and collaborative networks and organizational culture that supports experimentation and continuous learning (Asare & Boateng, 2022). Transformational leadership strengthens absorptive capacity by encouraging intellectual curiosity and establishing conditions where employees feel safe to share and apply knowledge (Nguyen et al., 2022). The explicit relationship between organizational learning processes and institutional performance outcomes in absorptive capacity theory makes it highly valuable for strategic planning and leadership development in higher education settings (Ali & Park, 2022). The theory of absorptive capacity faces criticism because it simplifies knowledge integration processes while assuming uniform capacity levels across institutions yet fails to recognize substantial differences in resource access and organizational culture and change resistance (West & Bogers, 2020; Nguyen et al., 2021). The concept remains abstract and difficult to operationalize because bureaucratic educational systems with multiple competing priorities and stakeholder demands present challenges to consistent implementation. The limitations of absorptive capacity theory become particularly important in Ghanaian Colleges of Education because resource constraints force institutions to prioritize basic infrastructure and staffing needs over knowledge management initiatives. The absorptive capacity theory serves as a useful conceptual framework for Ghanaian higher education institutions to acquire external knowledge through appropriate contextualization and strong leadership and organizational support. The theory matches well with current Ghanaian teacher education sector reforms because it focuses on prior knowledge and organizational routines and strategic leadership thus providing useful insights for leadership development and policy formulation (Asare & Boateng, 2022; Mensah & Owusu, 2023).

Goal-Setting Theory

The Goal-Setting Theory developed by Locke and Latham (1990) demonstrates that performance at both individual and organizational levels improves when people have specific challenging goals and receive suitable feedback and motivational support. The implementation of effective goal-setting practices by Ghanaian educational leaders enables them to launch innovation initiatives while supporting professional development and maintaining regulatory compliance and quality standards (Latham & Locke, 2021; Boachie-Mensah & Tutu, 2023). The combination of transformational leadership vision and transactional leadership operational goals creates a dual approach that drives staff motivation toward long-term excellence through inspiring visions and ambitious goals and operational goals that are specific measurable and aligned with institutional standards and accountability frameworks (Mensah & Owusu, 2023). The dual approach to goal-setting enables institutions to link their strategic objectives with individual professional contributions thus creating motivated and accountable staff in uncertain and resource-constrained environments (Asare & Boateng, 2022). The Goal-Setting Theory demonstrates wide applicability

in different educational settings because research evidence shows that clear goals and strong commitment lead to better performance results in higher education institutions (Latham & Locke, 2021). The theory's focus on feedback and progress tracking matches the quality assurance procedures in Ghanaian Colleges of Education which enables ongoing improvement of teaching research and administrative operations. The overemphasis on predetermined goals according to critics could restrict academic creativity and intrinsic motivation because exploration and intellectual freedom are essential in academic settings (Boachie-Mensah & Tutu, 2023; Nguyen et al., 2022). Goal-Setting Theory receives criticism because it fails to consider how individual characteristics and environmental elements impact goal achievement and motivation, especially in institutions with limited resources which restrict success regardless of personal dedication (Asare & Boateng, 2022). The theory maintains its effectiveness as an engagement and innovation tool in higher education when leaders adapt it to specific situations and use supportive methods (Asare & Boateng, 2022). The implementation of inflexible or inappropriate goal-setting methods can produce negative results which include employee stress and unethical practices to reach targets and a focus on quantifiable outputs instead of complete educational results (Boachie-Mensah & Tutu, 2023). The success of goal-setting in higher education institutions heavily relies on effective leadership together with adaptable goals and sufficient resources to reach targets. Goal-setting functions as an essential framework to unite individual and organizational efforts toward innovation and performance enhancement in Ghanaian Colleges of Education when properly implemented with awareness of institutional circumstances and capabilities.

Theoretical Integration

The combination of Transformational, Transactional, and Open Innovation Theories with Absorptive Capacity and Goal-Setting Theories creates a complete framework to analyze the intricate relationships between leadership and innovation and performance in higher education institutions. The first three theories demonstrate how leadership affects institutional culture and strategic alliances and innovation processes, but the latter two theories examine employee internal processes for knowledge acquisition and application that align with institutional targets (Nguyen et al., 2022; Asare & Boateng, 2022; Sikalumbi, 2021; Mensah & Owusu, 2023). The theoretical framework applies specifically to Ghanaian Colleges of Education because they face major educational transformations alongside rising performance-based funding needs and changing teaching methods. The combination of these theoretical frameworks reveals how leadership affects learning processes and innovation capacity and institutional responses to external changes (Boachie-Mensah & Tutu, 2023). The integration demonstrates how strong leadership creates organizations that are open to change while sharing common goals and developing innovative capacities which drive sustainable development and ongoing importance in Sub-Saharan African higher education. Transformational leadership offers visionary direction and motivational support to enable open innovation adoption and transactional leadership provides the structural frameworks and accountability mechanisms needed for systematic knowledge absorption and application. Distributed leadership supports these approaches by activating multiple areas of

expertise and building collaborative innovation networks which extend past institutional limits. The combination of leadership approaches strengthens absorptive capacity through supportive conditions that enable knowledge acquisition and assimilation and exploitation while goal-setting processes maintain strategic alignment of innovation efforts with performance objectives. The integrated theoretical framework provides essential knowledge for developing leadership skills and creating policies and institutional plans for Ghanaian Colleges of Education. Educational leadership effectiveness demands a harmonious blend of inspirational vision with operational structure and collaborative engagement to drive innovation and boost performance in dynamic academic settings (Mensah & Owusu, 2023; Nguyen et al., 2022; Asare & Boateng, 2022).

Empirical Review: Synthesis of Key Findings

Transformational Leadership and Innovation Outcomes

Multiple research studies demonstrated that transformational leadership produces positive effects on different innovation results. Mensah & Owusu (2023) surveyed 150 faculty members at five Ghanaian Colleges of Education to show that transformational leadership behaviors (e.g., inspirational motivation, intellectual stimulation) predicted open innovation adoption. The institutions with leaders who both presented a strong vision and supported innovative problem-solving achieved higher levels of faculty involvement in teaching innovation and research partnerships. Alghamdi (2020) analyzed transformational leadership studies in higher education and discovered a moderate positive effect size ($d = 0.45$) that influenced innovation-related performance indicators. Transformational leadership creates an environment for open innovation through its ability to develop creative cultures and shared vision among employees.

Transactional Leadership and Operational Efficiency

The research on transactional leadership demonstrated its effectiveness in maintaining operational efficiency together with compliance standards. Al-Husseini & Elbeltagi (2021) studied public and private Iraqi higher education institutions to discover that public institutions used transactional leadership more frequently and this approach led to better standardized processes and regulatory compliance. The research revealed an unfavorable relationship between transactional leadership and radical innovation because excessive rule-based control hampers creative innovation. The research findings by Yuan & Lee (2020) support these results because they demonstrated that transactional leadership helps execute existing innovations yet restricts the discovery of new concepts. Transactional leadership maintains stability and quality assurance, but organizations need to combine it with adaptive leadership approaches to promote wider innovation.

Distributed Leadership and Collaborative Capacity

Research on distributed leadership highlighted its positive effects on collaborative capacity and knowledge sharing. Boachie-Mensah & Tutu (2023) carried out a qualitative study of three Ghanaian Colleges of Education and observed that institutions with decentralized decision-making processes and empowered faculty members exhibited greater knowledge exchange and collaborative innovation. In these settings, leadership responsibilities were shared among various

stakeholders, leading to more inclusive and contextually relevant innovation initiatives. Similarly, Asare & Boate (2022) surveyed 200 academic staff and found that distributed leadership was a significant predictor of knowledge-sharing behavior, which in turn enhanced institutional absorptive capacity. These findings suggest that distributed leadership promotes a more dynamic and adaptive organizational structure, facilitating innovation through collective intelligence.

Absorptive Capacity as a Mediator

Multiple studies have established absorptive capacity as the essential factor which connects leadership approaches to institutional performance results. Zahra et al. (2021) conducted an extensive analysis by redefining absorptive capacity as an active knowledge acquisition process which includes assimilation and transformation and exploitation stages. The authors stressed that successful leadership plays an important role in developing each step of this process. Institutions led by transformational leaders who promote knowledge sharing and support research and development activities demonstrate higher absorptive capacity. Zhou & Li (2021) demonstrated that leaders need to establish an environment which enables both internal knowledge sharing and external knowledge acquisition for radical innovation to occur.

Gaps and Future Directions

The empirical research provides valuable findings but still shows multiple gaps in its current state. The research lacks sufficient longitudinal investigations which study how leadership styles affect innovation results across extended periods. The current research lacks sufficient studies which examine how institutional resources and cultural values, and policy environments influence the relationship between leadership and innovation. The research requires additional mixed-methods investigations which merge quantitative and qualitative data to explain the intricate relationships between leadership and organizational performance and innovation.

Critical Synthesis

Leadership Styles and Open Innovation

Higher education institutions benefit most from transformational leadership when they want to implement open innovation according to Mensah & Owusu (2023) and Nguyen et al. (2022). Leaders who articulate a compelling vision and empower staff create a culture that embraces external ideas and experimentation. The research by Mensah & Owusu (2023) demonstrates that Ghanaian colleges with transformational leaders show increased participation in cross-institutional research and adoption of new pedagogical technologies. The high expectations of visionary leaders in resource-constrained environments can result in staff burnout and resistance according to West & Bogers (2020) thus requiring adaptive leadership that assesses institutional readiness and resource availability. The implementation of transactional leadership helps organizations maintain proper structure and follow both policy and accreditation standards (Al-Husseini & Elbeltagi, 2021). The systematic implementation of innovations receives support from this leadership approach but it restricts creative initiatives and grassroots efforts because it focuses on rules and external recognition (Nguyen et al., 2022). Transactional leadership remains vital for

implementing and making innovative practices institutional because it ensures accountability and quality assurance standards. Distributed leadership proved most successful in promoting collaborative innovation and knowledge sharing according to Boachie-Mensah & Tutu (2023). Distributed leadership through authority delegation and joint decision-making processes strengthens both absorptive capacity and organizational learning. The complex interdisciplinary problems of Ghanaian Colleges of Education benefit from this approach because it utilizes the combined expertise of faculty members and administrators and external partners.

Absorptive Capacity and Institutional Performance

The ability to recognize and apply external knowledge through assimilation was positively linked to both transformational and distributed leadership styles (Zahra et al., 2021). Institutions with higher absorptive capacity reported greater research productivity, improved teaching quality, and enhanced adaptability to policy changes (Boateng & Essel, 2020). However, most studies are descriptive and lack robust, context-specific empirical evidence from Ghana or Sub-Saharan Africa. There is limited research on how leadership styles interact with local socio-cultural and institutional factors to shape innovation outcomes.

Methodology

The research used systematic literature review to combine and evaluate existing studies on leadership styles and open innovation and absorptive capacity and organizational performance in higher education institutions with a focus on Ghanaian Colleges of Education. The review process followed established guidelines for systematic reviews in educational research to achieve comprehensive coverage and methodological rigor and analytical depth.

Search Strategy and Selection Criteria

The research examined theoretical studies from January 2020 to April 2024 which were retrieved from Scopus, Web of Science, Google Scholar, ERIC and African Journals Online. The search terms included combinations of "leadership styles," "transformational leadership," "transactional leadership," "distributed leadership," "open innovation," "absorptive capacity," "organizational performance," "higher education," "teacher education," "Ghana," and "Sub-Saharan Africa." The inclusion criteria specified that studies (1) explore at least one of the key leadership styles (transformational, transactional, or distributed) in relation to innovation, absorptive capacity, or performance; (2) concentrate on higher education settings with a focus on teacher education institutions; (3) be published in peer-reviewed journals, conference proceedings, or as doctoral dissertations; and (4) be available in English. The research prioritized studies about Ghanaian or Sub-Saharan African contexts but included relevant research from other regions for both comparative analysis and theoretical development.

Data Extraction and Analysis

A standardized data extraction template was used to review selected publications for extracting essential information about research context, theoretical framework, methodology, findings and implications. The qualitative content analysis method was used to discover recurring themes and conceptual relationships and emerging patterns in literature as supported by Sikalumbi A. D. (2023). The analysis concentrated on leadership styles that affect open innovation practices and absorptive capacity and their impact on institutional performance results in higher education institutions. The review investigated how institutional characteristics and resource availability and regulatory frameworks and cultural factors in Ghanaian higher education influence these relationships. The analysis documented all contradictory findings and methodological limitations to identify research uncertainties and future research possibilities. The synthesis of findings was guided by the integrated theoretical framework described in the previous section to achieve a comprehensive and nuanced understanding of leadership dynamics in relation to innovation and performance in Ghanaian Colleges of Education.

Findings and Discussion

This systematic review substantiates and adds to a growing body of literature that highlights the impact of leadership styles on open innovation, absorptive capacity, and institutional performance in higher education. These findings largely corroborate earlier studies including Mensah & Owusu (2023) and Nguyen et al. (2022) which indicated that transformational leadership positively relates to innovation by setting a vision, empowering staff, and encouraging experimentation behaviour. The study also supports Alghamdi (2020), who found a moderate effect size for transformational leadership on innovation in higher education institutions. In accordance with Al-Husseini & Elbeltagi (2021) and Yuan & Lee (2020), this systematic review confirms that although transactional leadership is generally described as structured and compliance-focused, it encourages efficiency in operations and provides a framework for implementation of standard innovation, but it stifles any radical or grassroots innovation by virtue of being top-down. Furthermore, this study supports work by Boachie-Mensah & Tutu (2023) and Asare & Boateng (2022), who found that distributed leadership promotes knowledge sharing and collaboration, and also increases absorptive capacity and allows innovation to reach a wider audience. Overall, the evidence indicates that distributed leadership is especially effective in knowledge-intensive environments such as colleges of education. Moreover, the mediating effect of absorptive capacity is consistent with previous studies by Zahra et al. (2021) and Nguyen et al. (2021) underlining its importance in translating leadership into innovative outcomes. This study reinforces that absorptive capacity, especially as an outcome of leadership, is an important requirement of external knowledge acquisition and external knowledge use during innovation outcomes (Sikalumbi, 2021). While your findings are consistent with the existing literature, the review also notes some distinct contextual challenges in Ghana, like limited resources and institutional inertia, which contribute to leadership ineffectiveness. These limitations suggest a necessity for hybrid leadership models-

and this is yet another contribution to literature as this highlight's context-sensitive adaptations in Sub-Saharan Africa.

Conclusion

The review confirmed that leadership styles are important to innovation, absorptive capacity and performance at Ghanaian Colleges of Education. Each style had a distinguishing role depending on institutional context. Each of the context of leadership had absorptive capacity and a medium to bring action towards outcomes. Effective leadership in Ghanaian Colleges of Education which are undergoing teacher education reforms needs to integrate visionary direction with operational structure and collaborative engagement. This approach allows institutions to use external knowledge resources while adapting to educational changes and improving their performance under limited resources and complex regulatory systems. Educational leaders should prioritize building institutional capacity for knowledge acquisition, assimilation and application because absorptive capacity acts as a mediator between leadership and performance. The research enhances theoretical knowledge about higher education leadership by showing how Sub-Saharan African institutions' leadership effectiveness. The study contributes to understanding of leadership practice and improvement across Sub-Saharan Africa and originally noted multiple limitations due to not being able to enroll institutions of direct contact. Future research should explore the impact of leadership on performance, innovation sustainability, and development of specific and relevant models.

Recommendations

This review advocates for a hybrid leadership perspective to suit institutional needs and emphasizes collaboration, accountability, and innovation. Leaders should develop systems around knowledge-building and external engagement to foster absorptive capacity. Policy-makers are encouraged to foster flexible forms of governance and review standards to enhance innovation. Researchers should pursue context-specific studies, while international partners can strengthen local leadership to support capacity-building and knowledge-exchange. It is hoped that collectively, these efforts will help improve innovation and performance in the Ghanaian Colleges of Education.

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