

Conceptualizing Ambidextrous Leadership in Educational and Higher Education Organizations: A Qualitative Approach Based on Study Synthesis

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ABSTRACT

Objective: This study aims to conceptualize ambidextrous leadership in educational and higher education organizations, exploring its impact on fostering creativity, innovation, and regional engagement.

Methodology: The research employs a qualitative approach, conducting a systematic review of studies on ambidextrous leadership and synthesizing findings on the concept, characteristics, and specialized skills associated with ambidextrous leadership in universities. The review follows PRISMA guidelines, using databases such as Web of Science, SCOPUS, and Magiran to identify and analyze relevant literature.

Findings: The study identifies ambidextrous leadership as encompassing three core areas: the concept of ambidextrous leadership, its specific characteristics in higher education, and the specialized skills necessary for university settings. Key aspects include balancing exploration and exploitation, flexibility, team collaboration, and macro-level management. Ambidextrous leadership supports universities in advancing regional socio-economic growth, promoting innovation, and adapting to dynamic conditions by encouraging both traditional academic functions and community-based roles.

Conclusion: Ambidextrous leadership enables universities to simultaneously pursue diverse missions, balancing traditional academic roles with regional and entrepreneurial functions. This adaptability positions universities to meet modern socio-economic demands, enhancing their influence on local and global scales. However, implementing ambidextrous leadership requires substantial structural and managerial adaptation, highlighting a need for further empirical research on its application in academia.

Keywords: *Ambidextrous Leadership, Higher Education, Innovation, Regional Development, University Management, Systematic Review.*

1 Introduction

In today's competitive world, the growth of an organization depends on its ability to effectively develop and implement innovative ideas (Babu & Kushwaha, 2024; Babu et al., 2024). Therefore, organizations expect innovative work from their employees to sustain themselves in the market. Innovative work behavior encourages individuals to showcase their innovative ideas and thoughts (Karimi et al., 2023). Additionally, a strong motivation for innovation among employees can foster an atmosphere that supports and encourages innovative work conditions (Babu et al., 2024). Employees are more likely to propose innovative ideas and solutions when they believe these are essential for the organization (Tan et al., 2023). Conversely, low motivation among employees may hinder innovative work behavior (Kushwaha, 2021; Kushwaha et al., 2022).

Thus, leadership plays a critical role in motivating employees towards innovative work and discovering new ideas and solutions (Al-Shami et al., 2023). In this regard, an ambidextrous leadership approach can positively influence motivation and encouragement, making employees feel they are contributing significantly to organizational growth (Kushwaha, 2021; Kushwaha et al., 2022). A leader with ambidextrous capabilities can also enhance organizational flexibility by balancing the requirements for adaptability and effectiveness with the need for change and adaptation (Babu et al., 2024). The term "ambidextrous leadership" refers to a leader's ability to balance and integrate contrasting or divergent tendencies to foster innovation and growth (Mohiya & Sulphrey, 2021). This includes managing both the present and the future, exploring new opportunities while optimizing ongoing operations (Kafetzopoulos, 2022, 2023). An ambidextrous leader can create an environment of creativity and innovation throughout the organization by allocating resources to develop new ideas and encouraging experimentation (Elsamani & Kajikawa, 2023).

Ambidextrous leadership typically encompasses two sub-concepts: open and closed behaviors (Jiang et al., 2023). By balancing both behaviors, ambidextrous leaders can cultivate an organizational culture that simultaneously enhances and develops new ideas, leading to long-term success and growth (Amiri et al., 2023). The ambidextrous leadership theory suggests that a leader's engagement with both open and closed behaviors increases followers' exploratory and exploitative behaviors, ultimately enhancing innovative outcomes (Klonek et al., 2023).

Academic institutions focus on creating and disseminating knowledge, making innovative approaches crucial for addressing emerging challenges. However, a lack of sufficient innovative practices among academic staff hinders institutional growth and competitiveness. To excel in their roles and meet the demands of 21st-century higher education, academic staff should embrace technology-based learning, promote research collaboration, foster inclusive environments, and cultivate an entrepreneurial mindset. Most academic staff do not engage in innovative research projects, technology-driven teaching and learning activities, or intrapreneurial initiatives (Kebede et al., 2024). Contemporary universities' activities in teaching processes, research and development, and scientific project execution form an essential part of the economic environment and should act as drivers of civilizational development. Universities face a rapidly changing environment due to technological advancements and increased competition, requiring constant adaptation and innovation (Sliž & Dobrowolska, 2023). In recent years, there has been an increasing recognition of the need to move away from traditional university models towards more entrepreneurial and innovative ones that better respond to the needs of modern society (Kasavin, 2021).

University management solutions include concepts such as the entrepreneurial university, the engaged university (Thomas et al., 2023), or the ambidextrous university. Over the past decade, universities have increasingly become ambidextrous organizations, aligning both academic and commercial missions (Sliž & Dobrowolska, 2023). The literature acknowledges the entwinement of the entrepreneurial university's assumptions with those of ambidexterity (Thomas et al., 2023). The developing model of a multi-skilled university, where universities fulfill both economic and social missions through education, research, and engagement (Thomas et al., 2023), is also noteworthy. Ambidextrous universities refer to institutions that can both explore potential opportunities and enhance the learning process. The core components of the ambidextrous academic approach, identified through publications, include knowledge transfer and innovation generation. Many works highlight the knowledge management aspect, with a particular emphasis on knowledge management and transfer processes within an organization (Cabeza-Pullés et al., 2020). According to Cabeza-Pulles et al. (2020), based on a sample review of 249 research group managers at a public university, only knowledge absorption has a positive and significant impact on innovation ambidexterity (Cabeza-

Pullés et al., 2020). This should be understood to mean that developing knowledge absorption processes stimulates innovation ambidexterity in universities. The innovation aspect fostered by the exploratory layer is, in turn, illustrated in the literature (Thomas et al., 2023).

Thus, ambidextrous leaders who can competently improve the two essential aspects of organizational performance in the current world—exploitation and exploration—are considered a competitive advantage and a key success factor in organizations. Ambidextrous leaders establish a thoughtful balance between exploitation and exploration, taking into account environmental dynamics as well as the internal requirements of the organization. They believe that the relationship between leadership behavior and organizational performance is not linear or formulaic, effective in all situations, but rather that the conscious movement of the organization between construction and innovation ensures adaptation to the environment, thereby enhancing organizational performance (Mohtaram & Pakbaz, 2023). Therefore, understanding the characteristics and concept of ambidextrous leaders is essential for guiding organizations in dynamic and interactive environments. The present study aimed to identify and examine components related to ambidextrous leadership in universities by reviewing existing sources and literature on the concept and components of ambidextrous leaders. The outcome of this work can provide valuable information to managers and organizational development planners in educational organizations, especially in higher education, to enhance leadership skills in line with organizational and environmental requirements.

2 Methods and Materials

This study is a qualitative research project that employs a systematic review approach, synthesizing existing studies on the components of ambidextrous leadership within educational and higher education organizations. The present research adopts the PRISMA guidelines proposed by Tranfield et al. (2003). These systematic review guidelines are considered comprehensive and are widely used by management researchers. Tranfield et al. (2003) suggest a three-stage process for conducting a systematic literature review: the planning stage, the review stage, and the reporting stage (Tranfield et al., 2003).

Planning Stage: The planning stage is the first step in conducting a systematic literature review as suggested by Tranfield et al. (2003). In this phase, the authors closely

followed the protocols and guidelines outlined in Tranfield et al. (2003) to establish a clear direction for the process and method of systematic review. First, simple research questions were formulated to define and narrow down the study's objectives. These questions served as an anchor point for the scope of the systematic review (Tranfield et al., 2003).

Second, the study was conducted following the guidelines provided by management researchers, who selected research databases to search for and extract high-quality, relevant literature. These databases include Web of Science and SCOPUS, both of which contain high-quality academic literature. For Persian articles, data from Magiran were also utilized. Additionally, to support this study's rigor, only research articles in English and Persian were included. Third, the extraction of relevant literature from the research databases was heavily dependent on the chosen set of keywords. It is recommended that researchers use keywords that help retrieve literature pertinent to the research questions being addressed (Paul et al., 2017). Relevant and appropriate keywords were also crucial for filtering out unrelated literature that falls outside the study's scope.

Review Stage: The present study executed the review stage, during which all steps designed in the planning phase were followed as depicted in Figure 1. The first step involved using the developed keywords to search existing literature in Magiran, Web of Science, and SCOPUS databases. Researchers used these keywords alongside the AND and OR operators, resulting in 383 articles extracted after limiting the search to research articles written in English and Persian. Furthermore, researchers used the bibliometrix tool developed by Aria and Cuccurullo (2017). Bibliometrix is an advanced tool for bibliometric data analysis from Web of Science, SCOPUS, and other major academic databases. Built on the powerful R programming language, the bibliometrix tool aids in extracting relevant bibliometric results with suitable interactive visualizations. Using simple code executed in the bibliometrix R library, the researcher removed 58 duplicate publications, resulting in 195 entries. However, the primary results indicated that 383 articles were initially extracted, but bibliometric analysis retained only 195 articles after removing duplicates. Further investigation revealed that bibliometrix filtered out publications lacking quality and standards, thereby simplifying the data filtering process. Additionally, using bibliometrix, this study conducted various descriptive analyses of the extracted publications after removing duplicates. A comprehensive analysis of the obtained

research articles was conducted by thoroughly reviewing each article's abstract. Articles that significantly examined ambidextrous innovation in project management using any research design—qualitative, quantitative, or experimental—were retained, while others were excluded. After applying such criteria, 139 articles were excluded, as they did not significantly discuss ambidextrous innovation or did not address the contexts of education, higher education, and educational leadership. After this step, 56 articles remained. Each article was carefully reviewed by the researchers, and 28 more articles were excluded for failing to address the research questions. This resulted in a review based on 71 research articles. Each of the 28 articles was reviewed using a comprehensive review framework, designed to evaluate each article's relevance to the research questions and to extract recommendations for future researchers to advance ambidextrous innovation in higher education.

Reporting Stage: Following Tranfield et al. (2003) guidelines, the present study divided the reporting of results

into two stages. The first stage of result reporting includes descriptive statistics of the research publication data, which were extracted from SCOPUS and Web of Science. Most descriptive results were obtained using the bibliometrix library in R. The second stage includes findings obtained from a comprehensive review of each relevant article to address the developed research questions and identify future research recommendations.

3 Findings and Results

In this study, the concept and characteristics of ambidextrous leadership were examined in three main aspects: the concept of ambidextrous leadership, the characteristics of ambidextrous leaders, and specialized skills in the university domain within educational and higher education organizations. Table 1 provides a summary of the findings derived from studies in the areas under review.

Table 1

Summary of Findings from the Literature Review for Conceptualizing Ambidextrous Leadership in Educational and Higher Education Organizations

Main Codes	Sub-Codes	Initial Codes	Sample Sources Extracting Codes
Concept of Ambidexterity	Exploration	Identifying new opportunities Knowledge creation and future opportunities analysis Providing unique ideas and capabilities Emphasis on profitability	(Akıncı et al., 2022; Asif, 2020; Babu et al., 2024; Cabeza-Pullés et al., 2020; Duwe, 2021; Gerlach et al., 2020; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2019, 2020; Jia et al., 2022; Jiang et al., 2023; Kafetzopoulos, 2022; Kebede et al., 2024; Klonek et al., 2023; Mohiya & Sulphey, 2021; Mohtaram & Pakbaz, 2023; Omrani et al., 2022; Sliž & Dobrowolska, 2023; Thomas et al., 2023; Zabiegalski & Marquardt, 2022)
	Exploitation	Performing past tasks Extracting existing capabilities Selecting and refining organizational capabilities and knowledge Emphasis on efficiency	
Characteristics of Ambidextrous Leaders	Flexibility and resilience	Ability to quickly adapt to changing conditions Ability to overcome barriers and challenges Willingness to experiment with new ideas and approaches Maintaining a positive outlook	(Akıncı et al., 2022; Asif, 2020; Babu et al., 2024; Duwe, 2021; Gerlach et al., 2020; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2019, 2020; Jia et al., 2022; Jiang et al., 2023; Kafetzopoulos, 2022; Kebede et al., 2024; Klonek et al., 2023; Mohiya & Sulphey, 2021; Mohtaram & Pakbaz, 2023; Omrani et al., 2022)
	Collaboration and Team Building	Strengthening inter-departmental collaboration Creating diverse teams with complementary skills	

Specialized Skills in the University Domain	Skills	Establishing diverse and balanced teams	(Amiri et al., 2023; Gerlach et al., 2020; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2019, 2020; Klonek et al., 2023; Mohtaram & Pakbaz, 2023)
		Utilizing networking opportunities to identify growth opportunities	
		Making mutually beneficial decisions and maintaining coherence	
	Management and Leadership	Resolving intra-team conflicts	(Kebede et al., 2024; Klonek et al., 2023; Mohtaram & Pakbaz, 2023; Omrani et al., 2022; Sliz & Dobrowolska, 2023; Thomas et al., 2023)
		Encouraging open communication and constructive dialogue	
		Addressing intra-team differences	
Specialized Skills in the University Domain	Macro-level Management and Leadership in Universities	Prioritizing tasks	(Ghore Jili & Afandidah, 2021; Kafetzopoulos, 2022; Kebede et al., 2024; Klonek et al., 2023; Kushwaha, 2021; Kushwaha et al., 2022; Mohiya & Sulphey, 2021; Sliz & Dobrowolska, 2023; Thomas et al., 2023)
		Effectively guiding organizational changes and transitions	
		Managing multiple projects simultaneously without reducing quality or efficiency	
	Scientific Engagement and Opportunity Utilization	Effectively allocating time between exploration and exploitation	(Akıncı et al., 2022; Farzana & Charoensukmongkol, 2023; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2020; Jia et al., 2022; Jiang et al., 2023; Mohiya & Sulphey, 2021; Omrani et al., 2022; Tan et al., 2023; Thomas et al., 2023)
		Knowledge management	
		Continuous development and improvement of knowledge	
Specialized Skills in the University Domain	Scientific Engagement and Opportunity Utilization	Participatory management	(Akıncı et al., 2022; Farzana & Charoensukmongkol, 2023; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2020; Jia et al., 2022; Jiang et al., 2023; Mohiya & Sulphey, 2021; Omrani et al., 2022; Tan et al., 2023; Thomas et al., 2023)
		Utilizing human capital capabilities	
		Financial management	
	Scientific Engagement and Opportunity Utilization	Professional development of faculty members	(Akıncı et al., 2022; Farzana & Charoensukmongkol, 2023; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2020; Jia et al., 2022; Jiang et al., 2023; Mohiya & Sulphey, 2021; Omrani et al., 2022; Tan et al., 2023; Thomas et al., 2023)
		Industry relations	
		Commercializing and internationalizing universities	
Specialized Skills in the University Domain	Scientific Engagement and Opportunity Utilization	Absorptive capability	(Akıncı et al., 2022; Farzana & Charoensukmongkol, 2023; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2020; Jia et al., 2022; Jiang et al., 2023; Mohiya & Sulphey, 2021; Omrani et al., 2022; Tan et al., 2023; Thomas et al., 2023)
		Facilities management	
		Identifying competencies	

4 Discussion and Conclusion

Academic institutions focus on creating and disseminating knowledge, and innovative approaches are essential for addressing emerging challenges (Kebede et al., 2024). However, a lack of sufficient innovative practices among academic staff at Debre Berhan University in Ethiopia hinders the institution's growth and competitiveness. To excel in their roles and meet the demands of 21st-century higher education, academic staff must embrace advanced technology-based teaching and

learning, promote research collaboration, create inclusive environments, and foster an entrepreneurial mindset. This study seeks to conceptualize one of the new variables in fostering creativity and innovation in universities—namely, ambidextrous leadership in higher education. The research findings conceptualized this variable in three areas: the concept of ambidextrous leadership, the characteristics of ambidextrous leadership, and specialized skills in the university domain.

1) Concept of Ambidextrous Leadership: Based on the findings, ambidexterity, defined as the organizational ability to simultaneously explore new capabilities and exploit

existing competencies, has been described as a critical antecedent to organizational innovation. Since individual innovation is the foundation of organizational innovation, researchers argue that the relationship between ambidexterity and individual innovation should not be overlooked. It is widely accepted that innovative behavior, as individual innovation, is crucial for organizational effectiveness. Innovative behavior refers to an employee's intentional adoption of new ideas, products, processes, and work-related procedures. Researchers contend that innovative behavior, such as initiating and implementing new work-related ideas and products, plays a vital role in organizational success. The results align with many studies (Akıncı et al., 2022; Asif, 2020; Babu et al., 2024; Duwe, 2021; Gerlach et al., 2020; Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2019, 2020; Jia et al., 2022; Jiang et al., 2023; Kafetzopoulos, 2022; Kebede et al., 2024; Klonek et al., 2023; Mohiya & Sulphrey, 2021; Mohtaram & Pakbaz, 2023; Omrani et al., 2022).

The concept of ambidexterity, drawn from organizational management literature, emphasizes an organization's ability to excel in two seemingly contradictory objectives. In the business domain, ambidexterity refers to pursuing exploration (or innovation) and exploitation (or efficiency). In the context of academic education, this may translate to the ability to provide innovation—such as delving into the complexities of AI research—while integrating vertical specializations with AI principles, crucial for any university aspiring to remain relevant in the AI era. Generally, research findings suggest that ambidextrous leadership refers to a leader's ability to balance and effectively integrate both exploratory and exploitative actions within an organization simultaneously. This involves managing and encouraging innovation and creativity while maintaining stability and efficiency (Jia et al., 2022; Kasavin, 2021). Ambidextrous leaders are skilled in navigating the tensions between discovering new opportunities and exploiting existing resources, fostering an environment that encourages experimentation, learning, and adaptation to changing conditions (Duwe, 2021; Zabiegalski & Marquardt, 2022). They play a crucial role in establishing a work culture that supports both exploration and exploitation, ultimately driving organizational success and growth.

2) Characteristics of Ambidextrous Leadership in Higher Education: Today, universities worldwide are expected to play a unique role as drivers of regional growth and innovation. Although there seems to be a consensus that the role of universities has expanded, criticisms indicate that

universities' contributions to their regions are still not well-defined. Advances in the literature on modern university concepts, such as the triple helix, entrepreneurial universities, and engaged universities, have been made. However, these concepts focus on the execution of university roles in a single domain, such as entrepreneurship, innovation, or civic engagement. The current study's results identify ambidextrous leadership characteristics in higher education, encompassing the main components of "flexibility and resilience, collaboration and team building, skill and management, and leadership," with multiple subcomponents. Numerous studies align with these findings and subcomponents (Ghore Jili & Afandidah, 2021; Ghore Jili et al., 2019, 2020; Kebede et al., 2024; Mohtaram & Pakbaz, 2023; Omrani et al., 2022; Thomas et al., 2023).

Various theories and policy practices have emerged to define new university functions in the region, increasing the pressure on higher education communities to contribute more toward regional social or other contextual issues. Consequently, universities are compelled to play a "complex" role in their regions, affecting how they define their missions. In this expanded role, universities must go beyond their traditional research commercialization roles to serve a broader socio-economic growth agenda. To achieve this, universities are expected to actively participate in policy development and implementation and establish stronger relationships with regional communities and partners. The sense of place should be integrated into universities' missions and embedded in educational, research, and engagement activities. An important issue is that universities are often pulled in different directions to serve their regions while acting as organizers for regional socio-economic growth programs (Thomas et al., 2023). To meet these goals, universities require substantial changes that challenge university management and infrastructure (Cabeza-Pullés et al., 2020).

One important component of ambidextrous leadership characteristics in the academic workplace is maintaining a positive outlook. Happiness in the workplace refers to a positive emotional state that employees experience within their work environment (Mohtaram & Pakbaz, 2023), encompassing feelings of contentment, satisfaction, and fulfillment regarding their job and overall work setting. Workplace happiness is characterized by joy, enthusiasm, engagement in work, and positive relationships with colleagues and a supportive organizational culture. Studies have shown that happiness in the workplace offers numerous benefits, including increased productivity, higher levels of

employee well-being, lower turnover rates, and improved organizational performance. Factors contributing to this include job satisfaction, work-life balance, autonomy, recognition, and growth and development opportunities (Kebede et al., 2024).

3) Specialized Skills in the University Domain: Specialized skills in the university domain, as identified in this study, were noted in two aspects: "macro-level management and leadership in universities" and "scientific engagement and opportunity utilization." These findings align with prior studies (Cabeza-Pullés et al., 2020; Farzana & Charoensukmongkol, 2023; Ghore Jili & Afandidah, 2021; Jiang et al., 2023; Kasavin, 2021; Kebede et al., 2024; Sliz & Dobrowolska, 2023).

Innovative behavior among staff in academic institutions is vital for driving research and development, enhancing teaching quality, promoting collaboration, and attracting external funding (Farzana & Charoensukmongkol, 2023). Previous studies have shown that when staff are encouraged to think outside the box and introduce new ideas, it fosters a dynamic environment that stimulates creativity and pioneering discoveries (Jiang et al., 2023). Additionally, innovative staff often succeed in securing grants, attracting sponsorships, and establishing strategic partnerships that benefit both researchers and contribute to the financial sustainability and reputation of the academic institution. Ambidextrous leadership has been shown to significantly impact innovative behavior (Kebede et al., 2024). Gerlach et al. (2020) examined the impact of various leadership styles, including ambidextrous leadership, on innovation performance in German companies. Their findings showed a positive relationship between ambidextrous leadership and innovation performance (Gerlach et al., 2020). Similarly, Akinci et al. (2022) explored the impact of ambidextrous leadership on innovative work behavior in a military organization in Norfolk, Virginia, USA. Their study found a positive association between ambidextrous leadership and innovative work behavior (Akinci et al., 2022).

Despite the importance of universities' role in their regions, theories about universities and policy practices have largely focused on research commercialization and overlooked how regions can benefit from university activities. Furthermore, the drive to establish a significant global reputation has led many universities to pursue international collaborations. In doing so, universities risk overlooking their region's needs and paying less attention to solving local issues. Playing an active role in the region requires universities to adopt a paradigm shift, considering

new goals and approaches for education and research, such as addressing local socio-economic problems while actively contributing to regional growth. Universities must act as catalysts for growth, building strong links with other key regional players. This multidimensional mission is what Thomas and colleagues (2023) refer to as universities' "dual character," necessitating institutional changes to meet the demands of newly defined roles (Thomas et al., 2023).

This study considers the concept of the ambidextrous organization and questions whether this concept aids our understanding of the multiplicity and complexity of the various roles universities play in both economic and social domains within their regions. In doing so, this study builds on two robust and dynamic areas of literature: organizational ambidexterity in management and the concept of universities and regional development. To elucidate the simultaneous and overlapping activities of contemporary universities, the ambidexterity concept has been adapted from management literature to the academic context, thereby offering a conceptual extension to existing university literature. However, focusing on two core opposing activities, such as exploration and exploitation, we suggest that ambidexterity restricts us to a binary mode of thinking. Metaphorically, this leads us to imagine a person using both hands for different tasks simultaneously. However, what we observe in our empirical research is that the university resembles an octopus with eight arms that sometimes move in harmony and sometimes with difficulty. Thus, we use the concept of ambidexterity to examine the contradictions and trade-offs among a university's many different elements to understand the expanding roles of universities in their regions, particularly how universities adapt their missions in challenging times and handle managerial tensions.

We argue that the role of universities in the region can be viewed as a combination of these two concepts, namely, the entrepreneurial and engaged university. In addition to commercializing research and educating students for regional benefit, universities should be sensitive to regional issues. Given these additional expectations, educational, research, and engagement activities should adopt a new approach where the region and its stakeholders are both inspirations and partners. Universities often face the dual challenge of serving national interests and engaging international audiences. Although adding new region-focused goals is challenging for universities without a strong regional connection, we view it as a necessary step.

In this context, we perceive an ambidextrous university as having a dual capability, as derived from the above

literature. First, ambidexterity enables us to envision the different missions or activities simultaneously undertaken by universities. We argue that ambidexterity provides a solution to overcome tensions from performing multiple missions or activities simultaneously. First, universities must be ambidextrous to pursue not only market-driven activities but also social and regional governance missions. The second tension refers to universities' challenges in leveraging all their activities to benefit the region. Some non-ambidextrous universities may choose to focus on the region through interactive activities. Ambidexterity means that universities use teaching, research, and engagement to contribute to their region. Second, regional content and a sense of place should be incorporated into the university's three missions—education, research, and engagement. We use the concepts of exploration and exploitation to explain how universities continue to pursue established missions and activities while also integrating new roles and activities in response to regional needs. Strategic choices for exploitation and exploration are equally crucial as universities define and redefine their roles in supporting regional growth. This establishes ambidexterity as a unique feature of the university, positioning the institution within a specific region.

This study, while advancing our understanding of universities' roles in their domains, also recognizes limitations in the current concept of ambidextrous universities. By using and expanding the concept of ambidexterity to multi-skills, we can examine the evolution and expansion of "university-specific mission activities" alongside ambidextrous leadership. In this article, the potential of the multi-skilled concept was used to illuminate this broader range of roles. Due to limited focus on universities in the ambidexterity literature, confusing terminology, and the absence of university leadership discussions in ambidexterity literature, this article remains largely exploratory. Through case studies of universities, it addresses existing knowledge gaps regarding ambidextrous leadership. This article advances management literature on organizational ambidexterity and university leadership from a more scientific perspective through cross-fertilization among different fields and ideas. Based on the research question and specific topic of this study, we observe that ambidextrous universities employ flexibility to manage their activities dynamically, adding new activities whenever challenging circumstances arise (such as economic recessions, COVID-19, etc.). An entrepreneurial management style, capable of coping with uncertainty and

seizing opportunities while having the flexibility to act swiftly, allows universities to enhance their capacity in key areas. Ambidexterity offers universities the missing link between entrepreneurship, innovation, and management issues. As part of this study, it also suggests an alternative approach to universities by introducing multi-skills, enabling them to assume multiple thematic roles while addressing internal challenges.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

References

- Akıncı, G., Alpan, L., Yıldız, B., & Karacay, G. (2022). The link between ambidextrous leadership and innovative work behavior in a military organization: The moderating role of climate for innovation. *Sustainability*, 14(22), 15315. <https://doi.org/10.3390/su142215315>
- Al-Shami, S. A., Rafeea, S. J., Kamalrudin, M., Widiastuti, T., & Al Mamun, A. (2023). The mediating role of absorptive capacity in the relationship between transformational

- leadership and corporate entrepreneurship. *Cogent Business & Management*, 10(2), 2226933. <https://doi.org/10.1080/23311975.2023.2226933>
- Amiri, A. M., Kushwaha, B. P., & Singh, R. (2023). Visualisation of global research trends and future research directions of digital marketing in small and medium enterprises using bibliometric analysis. *Journal of Small Business and Enterprise Development*, 30(3), 621-641. <https://doi.org/10.1108/JSBED-04-2022-0206>
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959-975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Asif, M. (2020). Strategic leadership and ambidextrous learning: Exploring the role of dynamic capabilities and intellectual capital. *International Journal of Quality and Service Sciences*, 12(1), 1-14. <https://doi.org/10.1108/IJQSS-03-2019-0034>
- Babu, D., & Kushwaha, B. P. (2024). Does Transformational Leadership Influence Employees' Innovativeness and Mediate the Role of Organisational Culture? Empirical Evidence. *International Research Journal of Multidisciplinary Scope*, 5(1), 428-440. <https://doi.org/10.47857/irjms.2024.v05i01.0244>
- Babu, M. D., Prasad, K. B., & Prasad, U. T. (2024). Impact of Ambidextrous Leadership on Innovative Work Behaviour and Employee Performance in the IT Sector. *Heliyon*. <https://www.sciencedirect.com/science/article/pii/S2405844024091552>
- Cabeza-Pullés, D., Fernández-Pérez, V., & Roldán-Bravo, M. I. (2020). Internal networking and innovation ambidexterity: The mediating role of knowledge management processes in university research. *European Management Journal*, 38(3), 450-461. <https://doi.org/10.1016/j.emj.2019.12.008>
- Duwe, J. (2021). *Ambidextrous leadership: How leaders unlock innovation through ambidexterity*. Springer Nature. <https://doi.org/10.1007/978-3-662-64032-6>
- Elsamani, Y., & Kajikawa, Y. (2023). Teleworking Employees' Well-being and Innovativeness: A Bibliometric Analysis of Teleworking Literature. 2023 Portland International Conference on Management of Engineering and Technology (PICMET),
- Farzana, S., & Charoensukmongkol, P. (2023). Using approach-inhibition theory of power to explain how participative decision-making enhances innovative work behavior of high power distance-oriented employees. *Journal of Organizational Effectiveness: People and Performance*, 10(4), 565-581. <https://doi.org/10.1108/JOEPP-10-2022-0304>
- Gerlach, F., Hundeling, M., & Rosing, K. (2020). Ambidextrous leadership and innovation performance: a longitudinal study. *Leadership & Organization Development Journal*, 41(3), 383-398. <https://doi.org/10.1108/LODJ-07-2019-0321>
- Ghore Jili, S., & Afandidah, N. (2021). Confirmatory Factor Analysis of Ambidextrous Leadership of University Managers in Higher Education. *Journal of Marine Science Education*, 8(4). <https://www.magiran.com/paper/2393488/confirmatory-factor-analysis-of-ambidexterity-leadership-of-university-administrators-in-higher-education?lang=en>
- Ghore Jili, S., Rahmati, M. H., & Pourkarimi, J. (2019). Identifying and Determining the Factors Influencing Ambidextrous Leadership in Universities: A Meta-Synthesis Study. *Journal of Marine Science Education*, 6(1), 123-138. <https://www.magiran.com/paper/1984915/dual-power-leadership-components-a-meta-synthesis-study?lang=en>
- Ghore Jili, S., Rahmati, M. H., & Pourkarimi, J. (2020). Providing an Ambidextrous Leadership Model for Universities Based on a Grounded Theory Approach (Case Study: Public Universities of Tehran). *Public Organizations Management*, 8(2) (Issue 30), 143-168. https://ipom.journals.pnu.ac.ir/article_6792.html?lang=en
- Jia, R., Hu, W., & Li, S. (2022). Ambidextrous leadership and organizational innovation: The importance of knowledge search and strategic flexibility. *Journal of Knowledge Management*, 26(3), 781-801. <https://doi.org/10.1108/JKM-07-2020-0544>
- Jiang, Y., Asante, D., Zhang, J., & Ampaw, E. M. (2023). The influence of ambidextrous leadership on the employee innovative behavior: an empirical study based on Chinese manufacturing enterprises. *Current Psychology*, 42(11), 9452-9465. <https://doi.org/10.1007/s12144-021-02233-1>
- Kafetzopoulos, D. (2022). Ambidextrous leadership: a narrative literature review for theory development and directions for future research. *Baltic Journal of Management*, 17(2), 206-232. <https://doi.org/10.1108/BJM-01-2021-0001>
- Kafetzopoulos, D. (2023). Talent development: a driver for strategic flexibility, innovativeness and financial performance. *Euromed Journal of Business*, 18(2), 296-312. <https://doi.org/10.1108/EMJB-02-2022-0042>
- Karimi, S., Ahmadi Malek, F., Yaghoubi Farani, A., & Liobikienė, G. (2023). The role of transformational leadership in developing innovative work behaviors: The mediating role of employees' psychological capital. *Sustainability*, 15(2), 1267. <https://doi.org/10.3390/su15021267>
- Kasavin, I. T. (2021). The Humboldt-University and its Rivals Under the Market Science Condition. *Voprosy Filosofii*(3), 41-46. <https://doi.org/10.21146/0042-8744-2021-3-41-46>
- Kebede, A. G., Terefe, S. D., & Ijigu, A. W. (2024). Ambidextrous leadership and academic staff innovative behavior at Debre Berhan University, Ethiopia: the mediating role of workplace happiness. *Cogent Business & Management*, 11(1), 2307564. <https://doi.org/10.1080/23311975.2024.2307564>
- Klonek, F. E., Gerpott, F. H., & Parker, S. K. (2023). A conceptual replication of ambidextrous leadership theory: An experimental approach. *The Leadership Quarterly*, 34(4), 101473. <https://doi.org/10.1016/j.leaqua.2020.101473>
- Kushwaha, B. P. (2021). Paradigm shift in traditional lifestyle to digital lifestyle in Gen Z: a conception of consumer behaviour in the virtual business world. *International Journal of Web Based Communities*, 17(4), 305-320. <https://doi.org/10.1504/IJWBC.2021.119472>
- Kushwaha, B. P., Kaur, G., Singh, N., & Sharma, A. (2022). Integrating employees, customers and technology to build an effective sustainable marketing strategy. *International Journal of Sustainable Society*, 14(4), 310-322. <https://doi.org/10.1504/IJSSOC.2022.10052817>
- Mohiya, M., & Sulphey, M. M. (2021). Do Saudi Arabian leaders exhibit ambidextrous leadership: A qualitative examination. *Sage Open*, 11(4), 21582440211054496. <https://doi.org/10.1177/21582440211054496>
- Mohtaram, M., & Pakbaz, Z. (2023). Designing a Competency Model for Ambidextrous Leadership in Social Systems. *Journal of Management and educational perspective*, 5(3), 25-48. https://www.jmep.ir/article_172294.html?lang=en
- Omrani, M., Karimi, A., ZandHessami, H., & Seyed Naqdi, M. (2022). Training Ambidextrous Leadership in Knowledge-Based Startups with a Meta-Combination Approach. *Jundishapur Journal of Educational Development*, 13(1), 220-233. https://edj.ajums.ac.ir/article_153464.html?lang=en
- Sliz, P., & Dobrowolska, E. (2023). The ambidextrous university concept: balancing exploitation and exploration in higher education. *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie*(177). <https://doi.org/10.29119/1641-3466.2023.177.34>

- Tan, D., Wu, Y., Lv, J., Li, J., Ou, X., Meng, Y., & Zhang, Z. (2023). Performance optimization of a diesel engine fueled with hydrogen/biodiesel with water addition based on the response surface methodology. *Energy*, 263, 125869. <https://doi.org/10.1016/j.energy.2023.129168>
- Thomas, E., Pugh, R., Soetanto, D., & Jack, S. L. (2023). Beyond ambidexterity: Universities and their changing roles in driving regional development in challenging times. *The Journal of Technology Transfer*, 48(6), 2054-2073. <https://doi.org/10.1007/s10961-022-09992-4>
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207-222. <https://doi.org/10.1111/1467-8551.00375>
- Zabiegalski, E., & Marquardt, M. J. (2022). Action learning and the ambidextrous organization. *Journal of Work-Applied Management*, 14(2), 170-183. <https://doi.org/10.1108/JWAM-11-2021-0062>