



The Impact of Knowledge Transfer and Knowledge Management on Competitive Advantage: The Mediating Role of Agro-Business Innovation in Agribusiness

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Abstract

This study examines how knowledge-based mechanisms contribute to competitive advantage in agribusiness by emphasizing the mediating role of innovation. Although prior research highlights the importance of knowledge, existing studies often examine Knowledge Transfer and Knowledge Management separately, limiting understanding of how these mechanisms jointly generate sustained competitive advantage. A structured literature synthesis was conducted using a high-confidence sample of 38 empirical studies identified from major academic databases. The analysis focuses on identifying dominant structural patterns among Knowledge Transfer, Knowledge Management, Agro-Business Innovation, and Competitive Advantage. The findings indicate that knowledge-based mechanisms are more consistently linked to innovation than directly to competitive outcomes. Agro-Business Innovation emerges as the central mediating construct, representing the most stable pathway through which knowledge is transformed into sustained competitive advantage. The study contributes by proposing an integrated conceptual framework grounded in empirical convergence, highlighting the complementary roles of Knowledge Transfer and Knowledge Management and clarifying the mechanism through which knowledge is converted into strategic value. The framework provides a foundation for future empirical research and offers practical guidance for agribusiness firms seeking to leverage knowledge for sustained competitiveness.

Keywords: Agro-Business Innovation, Knowledge Transfer, Knowledge Management, Competitive Advantage

Introduction

Agribusiness and agro-processing industries are experiencing significant structural transformation because of digital technologies, sustainability imperatives, and shifting market demands. Although agricultural research has advanced considerably, the translation of knowledge into firm-level competitiveness remains inconsistent, thereby



limiting firms' capacity to achieve sustained competitive advantage (Ben Farah & Amara, 2025).

A significant proportion of agribusiness firms, especially small and medium-sized enterprises, possess limited internal research and development capabilities and therefore depend on external knowledge sources, including universities, research institutions, suppliers, and networks. However, mere access to knowledge does not guarantee enhanced performance. Competitive advantage is realized only when knowledge is effectively transferred, systematically managed, and converted into actionable outcomes. In the absence of structured knowledge processes, firms encounter difficulties in transforming valuable knowledge into sustained performance improvements (Liao et al., 2017; Rambe & Khaola, 2022).

The effectiveness of knowledge utilization is determined by the interplay between Knowledge Transfer and Knowledge Management. Knowledge Transfer enables the movement of external knowledge across organizational boundaries (Liao et al., 2017; Rambe & Khaola, 2022), whereas Knowledge Management supports the internal organization, dissemination, and application of knowledge (Wang et al., 2016; Ureña-Espaillet et al., 2023). The knowledge-based view and dynamic capabilities framework posit that firms must acquire, integrate, and reconfigure knowledge to create value (Grant, 1996; Teece et al., 1997). Nevertheless, the process of transforming knowledge into competitive advantage is seldom straightforward.

Innovation functions as the principal mechanism within this process. Empirical studies consistently indicate that innovation mediates the relationship between knowledge mechanisms and firm performance outcomes (Ntiamoah et al., 2019; Rambe & Khaola, 2022). However, previous research has predominantly examined Knowledge Transfer, Knowledge Management, innovation, and competitive advantage in isolation or through partial relationships. This fragmented approach constrains comprehensive understanding of the interactions among knowledge processes that generate competitive advantage, especially within agribusiness contexts.

mediating addresses this gap by integrating Knowledge Transfer and Knowledge Management within a unified conceptual framework, identifying Agro-Business Innovation as the mediating mechanism that links knowledge-based processes to Competitive Advantage. Through the synthesis of robust empirical evidence, the study offers a coherent explanation of knowledge-driven competitiveness in agribusiness.

Objectives

The objectives of this study are:

1. To develop an integrated conceptual framework that explains the structural



relationships among Knowledge Transfer, Knowledge Management, Agro-Business Innovation, and Competitive Advantage in agribusiness contexts.

2. To synthesize empirical evidence in order to identify dominant structural patterns and examine the mediating role of innovation in explaining how knowledge-based mechanisms are transformed into sustained competitive advantage.

Concept theory framework

Agribusiness competitiveness depends on the ability of firms to transform knowledge resources into innovative and value-creating outcomes. Although knowledge is widely generated through research institutions, industry networks, and supply chain interactions, its contribution to firm performance remains uneven. Empirical evidence indicates that knowledge alone does not generate competitive advantage unless it is effectively transferred and systematically managed.

Knowledge Transfer and Knowledge Management jointly determine the effectiveness of knowledge utilization. Knowledge Transfer enables the movement of external knowledge across organizational boundaries, enhancing coordination and learning (Liao et al., 2017; Rambe & Khaola, 2022), while Knowledge Management supports the internal organization and application of knowledge (Wang et al., 2016; Ureña-Espaillet et al., 2023). However, prior studies report inconsistent direct effects of these mechanisms on competitive outcomes, suggesting that additional processes are required to translate knowledge into performance.

Innovation functions as the critical mechanism in this transformation. Empirical studies consistently identify innovation as a mediating construct linking knowledge processes to firm performance (Ntiamoah et al., 2019; Rambe & Khaola, 2022). Through product development, process improvement, and capability enhancement, firms recombine knowledge into differentiated outputs that sustain competitive advantage.

Despite these established relationships, existing research largely examines Knowledge Transfer, Knowledge Management, innovation, and competitive advantage in isolation or through partial linkages. This fragmented perspective limits understanding of how external knowledge acquisition and internal knowledge structuring interact to generate competitive advantage.

Accordingly, this study proposes a conceptual framework in which Knowledge Transfer and Knowledge Management jointly stimulate Agro-Business Innovation, which in turn enhances Competitive Advantage. The framework positions innovation as the central mediating mechanism linking knowledge-based inputs to strategic outcomes, while acknowledging that contextual factors such as firm characteristics and technological capability may influence these relationships.



Materials and Methods

This study employs a structured literature synthesis approach to develop a conceptual framework linking Knowledge Transfer, Knowledge Management, Agro-Business Innovation, and Competitive Advantage.

The data source consists of peer-reviewed journal articles identified through targeted searches in major academic databases, including Scopus-indexed and publisher platforms (e.g., Emerald, ScienceDirect, MDPI, and Wiley). Keywords such as “knowledge transfer,” “knowledge management,” “innovation,” and “competitive advantage” were used in various combinations to identify relevant studies in agribusiness, agro-processing, and related contexts.

The study applied a multi-stage screening process. First, articles were selected based on relevance to at least two of the core constructs: Knowledge Transfer, Knowledge Management, Innovation, or Competitive Advantage. Secondly, only empirical studies with clear methodological transparency were retained, with a focus on quantitative research employing Structural Equation Modeling (SEM) or Partial Least Squares SEM (PLS-SEM). Conceptual papers, bibliometric reviews, and studies lacking sufficient methodological detail were excluded to ensure analytical rigor.

Following screening, a high-confidence subset of 38 empirical studies was retained for analysis. Each study was systematically reviewed to extract information on theoretical foundations, key constructs, and structural relationships. The analysis focused on identifying recurring empirical patterns, particularly the relationships between knowledge-based mechanisms, innovation processes, and competitive outcomes.

The analytical procedure involved two steps. First, studies were categorized according to their primary focus, including knowledge processes, innovation capability, and performance outcomes. Second, dominant structural relationships were compared across studies to identify consistent empirical trends. The objective was not to produce statistical aggregation, but to detect convergent patterns that support theory-driven framework development.

This structured synthesis approach enhances conceptual clarity while maintaining methodological consistency, providing a robust basis for developing the proposed conceptual framework.

Results

This study synthesized empirical evidence from a high-confidence subset of 38 studies to examine the distribution of sources, the prominence of key constructs, and the dominant structural relationships among Knowledge Transfer (KT), Knowledge Management (KM), Agro-Business Innovation (ABI), and Competitive Advantage (CA). The



majority of the included studies employed variance-based structural equation modeling, particularly PLS-SEM, ensuring methodological consistency across the dataset.

Table 1: Integrated Construct and Relationship Synthesis (N = 38)

Variable / Relationship	N (%)	Typical Structural Role	Representative Studies
Construct-Level			
KT	18 (47.4%)	Independent Variable / Mediator	Wang et al. (2016); Hameed et al. (2025); Liao et al. (2017); Hafeez et al. (2023)
KM	19 (50.0%)	Independent Variable	Ureña-Espaillet et al. (2023); Wahyono (2019); Nonaka & Takeuchi (1995); Grant (1996)
ABI	22 (57.9%)	Mediator	Rambe & Khaola (2022); Martínez-Falcó et al. (2023); Martínez-Falcó et al. (2024)
CA	24 (63.2%)	Dependent Variable	Shafiee (2021); Ntiamoah et al. (2019); Barney (1991); Le & Nguyen (2025)
Dominant Empirical Relationships			
KT → ABI	12 (31.6%)	Direct Positive Effect	Wang et al. (2016); Hameed et al. (2025); Hafeez et al. (2023)
KM → ABI	14 (36.8%)	Direct Positive Effect	Ureña-Espaillet et al. (2023); Wahyono (2019); Grant (1996)
ABI → CA	15 (39.5%)	Direct Positive Effect	Rambe & Khaola (2022); Abid et al. (2020); Martínez-Falcó et al. (2024)
KT → CA	8 (21.1%)	Direct Positive Effect	Liao et al. (2017); Hafeez et al. (2023)
KM → CA	10 (26.3%)	Direct Positive Effect	Shafiee (2021); Le & Nguyen (2025); Teece et al. (1997)



As shown in Table 1, the empirical evidence is concentrated in peer-reviewed journals, with Emerald accounting for the largest share (26.3%), followed by ScienceDirect (13.2%), MDPI (10.5%), and Wiley (7.9%). The remaining studies (42.1%) are distributed across other academic publishers. This distribution suggests that the empirical foundation of the study is grounded primarily in management and innovation-oriented research domains.

Construct-level analysis indicates that Competitive Advantage (63.2%) and Agro-Business Innovation (57.9%) are the most frequently modeled constructs, reflecting a strong emphasis on strategic performance outcomes. Knowledge Management (50.0%) and Knowledge Transfer (47.4%) also appear prominently, typically positioned as antecedent variables. The high frequency of ABI as a mediating construct is interpreted as evidence of empirical convergence across studies, indicating its consistent role as a mechanism linking knowledge-based processes to competitive outcomes.

The analysis of structural relationships further reinforces this pattern. As presented in Table 1, the relationships $KT \rightarrow ABI$ (31.6%) and $KM \rightarrow ABI$ (36.8%) occur more frequently than direct effects on Competitive Advantage. In contrast, the direct effects of $KT \rightarrow CA$ (21.1%) and $KM \rightarrow CA$ (26.3%) appear less consistently. This distribution indicates that knowledge-based mechanisms alone are insufficient to generate sustained competitive advantage without transformation through innovation processes.

Three dominant patterns can be identified. First, Knowledge Transfer and Knowledge Management primarily function as enabling conditions that support capability development rather than direct drivers of performance. Second, Agro-Business Innovation represents the most stable pathway linking knowledge processes to competitive outcomes, as reflected in its consistent relationship with Competitive Advantage (39.5%). Third, the indirect pathway ($KT/KM \rightarrow ABI \rightarrow CA$) emerges as the most consistent structural configuration across the dataset.

Accordingly, the proposed conceptual framework positions Agro-Business Innovation as the central mediating mechanism linking knowledge-based inputs to competitive advantage in agribusiness contexts.

Proposed Relationships

P1: Knowledge Transfer positively influences Agro-Business Innovation.

P2: Knowledge Management positively influences Agro-Business Innovation.

P3: Agro-Business Innovation positively influences Competitive Advantage.

P4: Agro-Business Innovation mediates the relationship between knowledge-based mechanisms and Competitive Advantage.

The conceptual framework is described as follows:

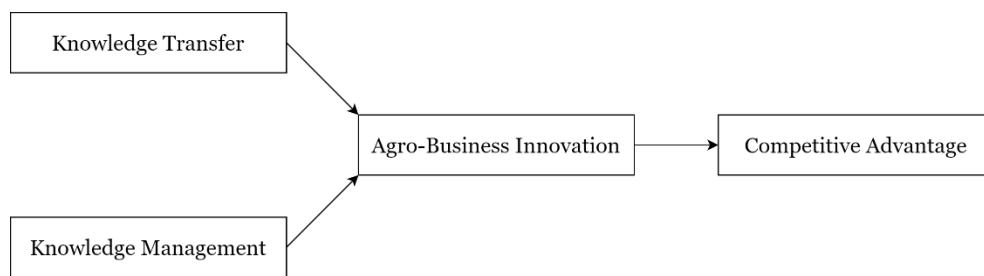


Figure 1: Conceptual framework from the results

Conclusions and Discussion

This study sets out to synthesize empirical evidence on the relationships among Knowledge Transfer, Knowledge Management, Agro-Business Innovation, and Competitive Advantage, and to develop an integrated conceptual framework grounded in recurring empirical patterns. The findings provide several important insights for both theory and practice in agribusiness contexts.

First, the results indicate that knowledge-based mechanisms alone are not sufficient to generate sustained competitive advantage. While Knowledge Transfer and Knowledge Management appear frequently as key antecedents in prior studies, their direct effects on competitive outcomes are less consistent than their indirect influence through innovation. This suggests that the value of knowledge does not lie merely in its availability or movement, but in its transformation into actionable outcomes. This interpretation helps clarify inconsistencies in prior research that reported mixed findings regarding the direct impact of knowledge processes on performance.

Second, the analysis highlights Agro-Business Innovation as the central mechanism through which knowledge is converted into competitive advantage. Rather than treating innovation as an isolated outcome, the findings position it as a necessary transformation process that enables firms to recombine and apply knowledge in ways that create differentiation. The consistent empirical support for the ABI → CA relationship reinforces the view that innovation is not only an outcome of knowledge processes, but also the pathway through which strategic value is realized.

Third, the findings reveal the complementary roles of Knowledge Transfer and Knowledge Management. Knowledge Transfer facilitates access to external knowledge, while Knowledge Management enables internal structuring and application. The interaction between these mechanisms suggests that competitive advantage in agribusiness is shaped by both external connectivity and internal capability development.



This integrated perspective extends existing research, which has often examined these constructs in isolation.

From a theoretical perspective, the study contributes by consolidating fragmented empirical findings into a coherent framework grounded in the knowledge-based view and dynamic capabilities perspective. The results support the argument that firms must not only acquire knowledge but also mobilize and reconfigure it through innovation to achieve sustained competitive advantage. By positioning Agro-Business Innovation as a mediating construct, the framework provides a clearer explanation of the mechanism through which knowledge-based resources are transformed into strategic outcomes.

From a managerial standpoint, the findings suggest that agribusiness firms should align knowledge initiatives with innovation strategies. Investments in knowledge transfer activities and knowledge management systems should be explicitly directed toward enhancing innovation capabilities. Firms that treat knowledge processes and innovation as separate functions may struggle to translate knowledge into measurable performance improvements. Instead, an integrated approach that connects knowledge acquisition, internal capability development, and innovation execution is essential for achieving long-term competitiveness.

Despite these contributions, several limitations should be acknowledged. First, the study is based on secondary data derived from existing empirical research, which may be subject to publication bias and variation in methodological quality. Second, the use of frequency-based synthesis provides an indication of dominant patterns but does not capture the strength or magnitude of relationships. Third, the analysis does not explicitly account for contextual factors such as firm size, technological capability, or institutional environment, which may influence the observed relationships.

Future research could address these limitations by employing meta-analytic techniques or conducting empirical testing of the proposed framework in specific agribusiness contexts. In addition, further investigation into potential moderating variables would provide a more nuanced understanding of how knowledge-based mechanisms operate under different conditions.

In conclusion, this study proposes a conceptual framework in which Knowledge Transfer and Knowledge Management jointly stimulate Agro-Business Innovation, which in turn enhances Competitive Advantage. The findings demonstrate that innovation serves as the primary mechanism through which knowledge is transformed into strategic value. This framework offers a structured foundation for future research and provides practical guidance for firms seeking to leverage knowledge for sustainable competitiveness in agribusiness.



References

- Abid, A., Jie, S., Aslam, W., Batool, S., & Lili, Y. (2020). Application of structural equation modelling to develop a conceptual model for smallholder's credit access: The mediation of agility and innovativeness in organic food value chain finance. *PLOS ONE*, 15(8), e0235921.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Boroujerdi, S. S., Hasani, K., & Delshab, V. (2019). Investigating the influence of knowledge management on organizational innovation. *Kybernetes*, 49(2), 442–459.
- Changalima, I. A., et al. (2025). Driving SME performance through technological absorptive capacity and e-business innovation. *Sustainable Technology and Entrepreneurship*, 4, 100073.
- Farah, S. B., & Amara, N. (2025). Lab to farm: mapping knowledge transfer channels and determinants from researchers' perspective—A systematic literature review. *Journal of Innovation & Knowledge*, 10(1), 100650.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109–122.
- Hafeez, A., Shamsuddin, A. B., & Saeed, B. (2023). An empirical investigation of absorptive capacity on technology transfer effectiveness through organizational innovation. *International Journal of Professional Business Review*, 8(2), e01550.
- Hameed, M. M. A., Hashem, A. E. A. E., & Ali, T. M. (2025). Knowledge management enablers and innovative capabilities: The mediating role of knowledge transfer. *Future Business Journal*, 11(20), 1–29.
- Liao, S.-H., Chen, C.-C., Hu, D.-C., Chung, Y.-C., & Yang, M.-J. (2017). Developing a sustainable competitive advantage: Absorptive capacity, knowledge transfer and organizational learning. *The Journal of Technology Transfer*, 42(6), 1431–1450.
- Le, T. T., & Nguyen, N. B. (2025). AI technologies for sustainable performance of agri-food businesses. *British Food Journal*, 127(1), 1–21.
- Martínez-Falcó, J., Marco-Lajara, B., Zaragoza-Sáez, P., & Millán-Tudela, L. A. (2023). Analyzing the effect of corporate social responsibility on green innovation performance. *Agribusiness*, 39(4), 985–1006.
- Martínez-Falcó, J., et al. (2024). Green intellectual capital and environmental performance. *Journal of Intellectual Capital*, 25(2/3), 396–415.
- Ntiamoah, E. B., Li, D., & Sarpong, D. B. (2019). The effect of innovation practices on agribusiness performance: A structural equation modelling approach. *African Journal of Science, Technology, Innovation and Development*, 11(4), 1–15.



- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. Oxford University Press.
- Rambe, P., & Khaola, P. (2022). The impact of innovation on agribusiness competitiveness: The mediating role of technology transfer and productivity. *European Journal of Innovation Management*, 25(3), 741–773.
- Shafiee, M. M. (2021). Knowledge-based marketing and competitive advantage. *Journal of Modelling in Management*, 16(4), 1208–1229.
- Teece, D. J., Pisano, G., & Shuen, G. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533.
- Ureña-Espallat, H. J., Briones-Peñalver, A. J., Bernal-Conesa, J. A., & Córdoba-Pachón, J. R. (2023). Knowledge and innovation management in agribusiness. *Business Strategy and the Environment*, 32(4), 2008–2021.
- Wahyono. (2019). The mediating effects of product innovation in relation between knowledge management and competitive advantage. *Journal of Management Development*, 39(1), 18–30.
- Wang, Z., Sharma, P. N., & Cao, J. (2016). From knowledge sharing to firm performance: A predictive model comparison. *Journal of Business Research*, 69(10), 4650–4658.