

Abstract Book of

ICEFMS2026 & MGMTENTR2026

May 21-23, 2026

Suzhou, China



SciencePC
Science Publishing Group

Abstract Book of

ICEFMS2026 & MGMTENTR2026

May 21-23, 2026

Suzhou, China

Published by
Science Publishing Group
1 Rockefeller Plaza, 10th and 11th Floors,
New York, NY 10020 U.S.A.

All abstracts in the abstract book are published under the Creative Commons Attribution 4.0 International (CC BY 4.0) License. This license allows readers to copy and redistribute the material in any medium or format, and to remix, transform, or build upon the material, including for commercial use, providing the original author is credited. To view a copy of this license, visit

<https://creativecommons.org/licenses/by/4.0/>

Copyright on any open access abstract published by Science Publishing Group is retained by the author(s). Authors grant Science Publishing Group a license to publish the abstract and identify itself as the original publisher. Authors also grant any third party the right to use the abstract freely as long as its original authors, citation details and publisher are identified.



ISBN: 979-8-88599-171-1

Full abstract book available online at
<http://sciencepublishinggroup.com/ISBN/979-8-88599-171-1>

Preface

Abstract Book of ICEFMS2026 & MGMTENTR2026 is composed of the abstracts of the 2026 11th International Conference on Economics, Finance and Management Science (ICEFMS2026) and 2026 9th International Conference on Innovation Management and Entrepreneurship (MGMTENTR2026). According to the similarity among the topics of ICEFMS2026 and MGMTENTR2026, ICEFMS2026 is held in conjunction with MGMTENTR2026 on May 21-23, 2026.

ICEFMS2026 and MGMTENTR2026 serve as an optimal platform for specialists, scholars and researchers in the field related to economics, finance and management science, innovation management and entrepreneurship to facilitate academic communications and exchange ideas. These abstracts demonstrate the richness of interdisciplinary approaches, theories, models and applied research presented.

Major themes of the conferences include:

Social Sciences: Anthropology, Archaeology, Area Studies, Business Studies, Civics, Communication Studies, Criminology, Demography, Development Studies, Economics, etc.

Economics: Microeconomics, Neoclassical Economics, Classical Political Economy, Production, Cost, Efficiency, Supply and Demand, Welfare, Unemployment, Inflation and Monetary Policy, Fiscal Policy, etc.

Finance: Capital Markets, Financial Institutions, Corporate Finance, Corporate Governance, The Economics of Organizations, Personal Finance, Accounting, Public Finance, Investment Management, Risk Management, Financial Mathematics, etc.

Management: Management: Human Resources, Advertising Management, Business Management, Engineering Management, Information Management, Enterprise Management, Intellectual Capital Management, Management in Tourism, Management Psychology, Energy Management, Leadership Management, etc.

Innovation: Educational Innovation, Commercial Innovation, Organizational Innovation, Political Innovation, Technical Innovation, Institutional Innovation.

Entrepreneurship: Social Entrepreneurship, Political Entrepreneurship, Knowledge Entrepreneurship, Entrepreneurship Ecosystem.

We thank all authors for their scientific contribution to ICEFMS2026 and MGMTENTR2026 and look forward to having the opportunity to showcase and disseminate your research.

Sincerely,

ICEFMS2026 and MGMTENTR2026 Organizing Committees

Table of Contents

Data-Driven Coopetition and Capability Evolution for Sustainable Performance: Evidence from China's Techno-Sovereignty Context.....	1
Yi Wang, Lim Wei Lee	
The Coupling Coordination Relationship and Spatial Spillover Effect Between Patient Capital and New Energy Industry Development	2
Lili Ding	
Digital Inclusive Finance Empowering New Productive Forces of Manufacturing Enterprises: Theoretical Mechanisms and Empirical Tests	3
Zhenbang Ji	
Research on Haier's "Ren Dan He Yi" Model Based on the Balanced Scorecard	4
Zijian Gao	
An Analysis of the Impact of Digital Payments on Consumer Credit Constraints	5
Haotian Chao	
Multi-dimensional Measurement and Collaborative Prevention and Control of Carbon Financial Transaction Risks in China Under the Strategic Dual Carbon Goals	6
Xiao Chen	
Regional Differentiation and Dynamic Transmission Mechanism of Green Credit Policy from the Perspective of Technological Absorption Capacity	8
Xiaoxi Chen	
Research on the Driving Effect of Artificial Intelligence Pilot Zone Construction on Corporate Green Innovation	9
Qiyuan Hou	
Bankruptcy Prediction for Micro and Small Enterprises with Heterogeneous Graph Representation Learning and Topology-Aware Domain Adaptation	10
Meiru Liu, Daji Ergu, Yong Xu, Hegui Zhang, Zuanjiu Zhou	
Research on the Impact of Data Assetization on Corporate Green Innovation	12
Mengtian Zang	
Research on the Impact of Investment-Financing Maturity Mismatch on Corporate Green Technology Innovation	13
Wanting Cui	

Digital Consumption and Green Economic Efficiency: Evidence from China's National Information Consumption Pilot Program	14
Xiaohan Liu	
“Digital Springboard” or “Digital Divide”: The Impact of Digital Literacy on Employment Quality in Chinese Motherhood.....	15
Xixi Zhang, Xinyu Wu, Xiaolin Jia, Xintian Liu	
Research on the Impact of Green Product Failure on Consumer Negative Word-of-Mouth	16
Hanbin Pang	
Understanding Customers’ Satisfaction of the SERVQUAL Dimensions in Pyin Oo Lwin Co-operative Microfinance, Myanmar	17
Win Naing A Liu Kyum De, Tin Tin Mya, Ngu Khin Khin Kyaw	
Research on the Spatiotemporal Dynamic Evolution of China’s New Quality Productive Forces in Energy.....	18
Huimin Liu, Yin Li	
Forecasting Multi-Technology Convergence via Dual-Channel Spatial-Temporal Hypergraph Neural Networks: A Case Study of Intelligent Connected Vehicles	19
Zhilin Zhang, Heng Chen	
A Higher-Order Topological Theory of Knowledge Recombination: When Do Breakthrough Innovations Emerge	20
Tian Ye, Chen Heng	
Research on Technology Opportunity Identification Based on Technical Boundaries.....	21
Heng Chen, Wenbo Zhong	
How New Should It Be — How Product Newness and Brand Openness Jointly Influence Consumer Adoption Intention.....	22
Yilin Wang, Zhenfeng Ma	
Start-up Mindset: Preparing China’s Entrepreneurs for the AI Global Innovation Economy	24
Michael Girel	
Synergistic Effects of Dual-Pilot Policies on the Supply Chain Resilience of Energy Enterprises	25
Xixi Zhang, Yue Tang, Yixin Li	

Data-Driven Coopetition and Capability Evolution for Sustainable Performance: Evidence from China's Techno-Sovereignty Context

Yi Wang¹, Lim Wei Lee^{2, *}

¹School of Economics and Management, Shaanxi University of International Trade & Commerce, Xi'an, P.R. China

²Graduate Business School, UCSI University, Kuala Lumpur, Malaysia

Email address:

13955308569@139.com (Yi Wang), evalim@ucsiuniversity.edu.my (Lim Wei Lee)

*Corresponding author

Abstract

Amid growing technological sovereignty pressures and the global restructuring of technology supply chains, resource-constrained high-tech SMEs increasingly adopt data-driven coopetition to overcome technological bottlenecks while pursuing sustainable development. Yet existing research provides limited insight into how coopetition strategies are translated into firm-level capabilities that support sustainable performance under conditions of technological constraint. Drawing on Dynamic Capabilities Theory, this study develops a multi-stage capability evolution framework linking coopetition strategy to sustainable performance through big data analytics capability and core competency, while considering technological sovereignty pressure as a contextual moderator. Using survey data from 400 Chinese National High-Tech SMEs, the study applies partial least squares structural equation modeling) and artificial neural networks to examine the proposed relationships and assess predictive robustness. The results indicate that coopetition strategy contributes to sustainable performance through a sequential capability-building process in which big data analytics capability facilitates the development of core competency. Moreover, technological sovereignty pressure strengthens the relationship between coopetition strategy and big data analytics capability but shows no significant influence at the core competency stage, revealing a stage-selective moderating effect in the capability formation process. This research advances Dynamic Capabilities Theory by clarifying the evolutionary pathway through which external coopetition strategies are internalized into firm capabilities. It further conceptualizes big data analytics capability as a meso-level dynamic capability connecting strategic collaboration and competence development, while identifying technological sovereignty pressure as an institutional boundary condition shaping capability upgrading. The findings provide insights for SMEs navigating technological constraints and offer policy implications for balancing technological security and openness in digital innovation ecosystems.

Keywords

Coopetition Strategy, Big Data Analytics Capability, Core Competency, Technological Sovereignty Pressure, Sustainable Performance, National High-Tech SMEs

The Coupling Coordination Relationship and Spatial Spillover Effect Between Patient Capital and New Energy Industry Development

Lili Ding*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

1327753504@qq.com (Lili Ding)

*Corresponding author

Abstract

The relationship between patient capital and the new energy industry is not simply causal, but constitutes a complex interactive system. From the perspective of synergetics, exploring their coupling coordination can better reveal their interdependent mechanism. The economic effects generated by such coupling coordination go beyond a single general promotion or inhibition. For provincial economic growth in China, the development of the new energy industry is mainly driven by the internal creation effect of factor inputs and the spatial spillover effect from neighboring regions. Decomposing the total economic effects into direct and spillover effects to investigate regional growth disparities represents an important innovation of this study. This paper includes six chapters with Chapters 2–5 as the core. Chapter 2 illustrates the coupling mechanism, regional characteristics, driving factors, vulnerability, current status and risks. Chapter 3 measures the coupling coordination degree and analyzes its national spatial pattern and differences. Chapter 4 theoretically examines the spatial spillover effects, while Chapter 5 provides empirical evidence. Based on provincial-level data, the results show that: (1) Coordination degree performs better than coupling degree in reflecting the interactive relationship. (2) Provinces can be divided into four types of zones with distinctly different economic structures. (3) The coupling coordination degree presents significant positive spatial correlation and agglomeration. (4) There is a significant two-way positive effect between patient capital and the new energy industry. (5) Both systems show significantly positive local spatial spillover effects. Finally, this paper proposes policy recommendations: strengthening spatial correlation effects, expanding R&D human capital, and advancing new-type urbanization.

Keywords

Patient Capital, New Energy Industry, Coupling Coordination Degree, Spatial Spillover Effect

Digital Inclusive Finance Empowering New Productive Forces of Manufacturing Enterprises: Theoretical Mechanisms and Empirical Tests

Zhenbang Ji*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

jzb1158315124@163.com (Zhenbang Ji)

*Corresponding author

Abstract

Against the backdrop of global industrial restructuring and digital technology upgrading, the transformation of the manufacturing industry is encountering development bottlenecks, and fostering new-quality productive forces has become the key to enhancing competitiveness. Based on the data of A-share listed manufacturing enterprises in Shanghai and Shenzhen from 2011 to 2022, this study adopts a two-way fixed effects model to measure the enabling effect of digital inclusive finance on the new-quality productive forces of manufacturing enterprises, while exploring the mediating roles of financing constraint alleviation effect, information effect, and scientific and technological innovation effect in the enabling process. The results show that digital inclusive finance has a significant positive enabling effect on the new-quality productive forces of manufacturing enterprises, and this effect exhibits heterogeneity among manufacturing enterprises in different regions, with different ownership types and of different scales. Specifically, the enabling effect of digital inclusive finance is more significant for enterprises in the central and western regions, non-state-owned enterprises, and small and medium-sized enterprises. Mechanism tests indicate that digital inclusive finance can exert an indirect impact on the new-quality productive forces of manufacturing enterprises by alleviating financing constraints, enhancing enterprises' commercial credit, and improving their level of scientific and technological innovation.

Keywords

Digital Inclusive Finance, Manufacturing Enterprises, New Productive Forces

Research on Haier's "Ren Dan He Yi" Model Based on the Balanced Scorecard

Zijian Gao*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

15006841510@163.com (Zijian Gao)

*Corresponding author

Abstract

With the advent of the digital economy era, entity enterprises are increasingly integrated with Internet big data, and the proportion of knowledge economy in enterprise development is constantly rising, which has profoundly changed the operation mode of traditional manufacturing industry and broken the inherent limitations of the traditional hierarchical management model. At the same time, people's growing material and cultural demands have put forward higher requirements and expectations for the traditional manufacturing industry, emphasizing personalized customization and high-quality services, making how to innovate business models to adapt to the new development trend and help the high-quality development of enterprises become the primary issue facing many enterprises. Based on these practical problems, Haier Group took the lead in launching and implementing the "Ren Dan He Yi" business model in 2005, which takes user demand as the core, breaks departmental barriers, transforms employees into makers, and realizes the organic unity of employee value and user value. In view of this, this paper takes Haier Group as an example, makes an in-depth analysis and interpretation of the "Ren Dan He Yi" business model through the combination of literature review and summary method, expounds its core operation mechanism including chain-ownership contracts and user-paid system, analyzes Haier's economic operation data through four dimensions of the balanced scorecard (financial, customer, internal process, learning and growth), summarizes the advantages of this model in promoting efficiency improvement and user satisfaction, as well as existing deficiencies in global replication and resource allocation. Finally, targeted optimization solutions are put forward. This study is expected to provide a useful reference for the future research and practice of the "Ren Dan He Yi" business model in related manufacturing enterprises, and promote the transformation and upgrading of the industry.

Keywords

"Ren Dan He Yi" Business Model, Balanced Scorecard, Economic Data, Haier Group

An Analysis of the Impact of Digital Payments on Consumer Credit Constraints

Haotian Chao*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

13247864149@163.com (Haotian Chao)

*Corresponding author

Abstract

With the development of digital finance, digital payment has become the mainstream transaction method for urban and rural households. However, urban and rural households still generally face formal credit constraints, and the interaction mechanism between the two has not been fully clarified. Based on the 2019 micro-data from the China Household Finance Survey (CHFS), this paper systematically analyzes the impact of digital payment on the credit constraints of urban and rural households by adopting a correlation analysis model. The results are as follows: (1) Digital payment significantly exacerbates the formal credit constraints of urban and rural households, and has a positive impact on both demand-side and supply-side constraints. (2) The exacerbating effect of digital payment on household credit constraints is more prominent among urban households, households in non-first-tier cities, high-income households, and elderly households. (3) Total household debt plays a significant mediating role in the impact of digital payment on the credit constraints of urban and rural households, but there are differences among formal credit constraints, demand-side credit constraints, and supply-side credit constraints. (4) Robustness tests confirm the reliability of the conclusions. Finally, composite paradigm suggestions are put forward for three subjects, namely the government, financial institutions, and urban and rural households, including guiding the "accurate interpretation" of digital payment data, optimizing credit approval models, and rationally using digital payments.

Keywords

Digital Payment, Credit Constraint, Consumer Behavior, Data Element

Multi-dimensional Measurement and Collaborative Prevention and Control of Carbon Financial Transaction Risks in China Under the Strategic Dual Carbon Goals

Xiao Chen*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

chenxiaocx5@163.com (Xiao Chen)

*Corresponding author

Abstract

Under the macro-background of the strategic "Dual Carbon" goals, China's carbon financial market has entered a period of rapid development. However, accompanying transaction risks have become increasingly prominent, posing potential challenges to market stability and the capacity to serve national strategies. This study systematically investigates the identification, measurement, and collaborative prevention of carbon financial transaction risks in China. By combining qualitative analysis with quantitative models, it provides theoretical support for constructing a risk-controlled unified carbon market. The research first utilizes the SWOT analysis to examine the internal and external environments of the carbon financial market. Using the SWOT-CLPV matrix for cross-quantitative evaluation, the study reveals a complex risk pattern characterized by "high leverage (28L), high suppression (27C), high problematic nature (27P), and medium-high vulnerability (24V)." Specifically, the combination of "institutional absence" and "international rule shocks" constitutes the most critical risk (9P), identifying institutional deficiency as the core bottleneck. Furthermore, insufficient market liquidity and the transmission of energy transition risks form a significant problematic correlation (9P), indicating that shallow markets struggle to effectively hedge systemic risks arising from real-economy transitions. In the empirical measurement phase, the study selects daily transaction data from seven regional pilot markets from September 21, 2020, to September 19, 2025. Applying the GARCH-VaR model, the research quantifies carbon price volatility risks. Findings indicate that yield sequences in all pilot markets exhibit significant leptokurtosis, fat tails, and volatility clustering. The Jarque-Bera test strongly rejects the normality assumption at a 1% level, suggesting that traditional models may underestimate actual risks and require refined GARCH-family models for accurate characterization. Regional heterogeneity is evident: at a 99% confidence level, Shenzhen exhibits the highest risk (VaR of 559,700 RMB), followed by Tianjin and Beijing. Conversely, Shanghai and Hubei demonstrate superior market stability and the lowest risk levels due to better financial foundations and matured institutions. The study concludes that healthy development relies on systematic governance. A collaborative prevention system is proposed across three levels: institutional foundation, market core, and capability support. Recommendations include prioritizing special legislation to clarify the legal attributes of carbon assets, accelerating the development of standardized derivatives like futures and options to enhance liquidity, and building a unified risk monitoring platform using big data and artificial intelligence while strengthening professional talent cultivation.

Keywords

Carbon Financial Trading Risk, SWOT-CLPV Matrix, GARCH-VaR Model, Risk Measurement, Value at Risk, Regional Heterogeneity, Collaborative Prevention and Control System

Regional Differentiation and Dynamic Transmission Mechanism of Green Credit Policy from the Perspective of Technological Absorption Capacity

Xiaoxi Chen*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

2205280667@qq.com (Xiaoxi Chen)

*Corresponding author

Abstract

From the perspective of technological absorption capacity, this paper takes A-share listed heavily polluting enterprises from 2007 to 2023 as the research sample, and employs the Difference-in-Differences (DID) model and the three-stage Baron-Kenny mediation effect test to explore the regional heterogeneous mechanism through which green credit policies affect corporate performance via fixed asset investment, while identifying the dynamic transmission paths of policy impacts. The results show that the inhibitory effect of green credit policies on the performance of heavily polluting enterprises exhibits significant regional differentiation: the negative impact of the policy in the eastern region is significantly weaker than that in the central and western regions, and the regional disparity in technological absorption capacity is the core root cause of this differentiation. Mechanism tests reveal that enterprises in the eastern region, relying on their strong technological absorption capacity, transform environmental investment into green development momentum, presenting a dynamic evolution characteristic of short-term cost frontloading and long-term efficiency recovery. Corporate performance begins to rebound in the third year after policy implementation; the negative effect gradually fades after 2018 and returns to the pre-policy level by 2020, which verifies the dynamic efficiency logic of the Porter Hypothesis. In contrast, due to insufficient technological absorption capacity, 72% of the fixed asset investment of enterprises in the central and western regions flows into traditional capacity expansion, forming a vicious cycle of ineffective investment and cost drag, resulting in a persistent inhibitory effect of the policy on corporate performance. This study reveals the internal logic behind the regional differentiation of green credit policies, provides quantitative evidence of "short-term cost tolerance and long-term efficiency incentives" for the formulation of differentiated environmental finance policies, and offers empirical references for promoting the cross-regional green transformation and synergistic performance improvement of heavily polluting enterprises.

Keywords

Technological Absorption Capacity, Green Credit Policy, Regional Differentiation, Corporate Performance

Research on the Driving Effect of Artificial Intelligence Pilot Zone Construction on Corporate Green Innovation

Qiyuan Hou*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

19898961500@163.com (Qiyuan Hou)

*Corresponding author

Abstract

With the rapid advancement of artificial intelligence (AI) technologies, the establishment of national AI pilot zones has emerged as a pivotal strategic initiative to propel regional economic transformation and high-quality development. Focusing on the driving effect of AI pilot zone construction on corporate green innovation, this study employs a multi-period Difference-in-Differences (DID) model and a mediation effect model using a sample of Chinese A-share listed companies from 2016 to 2022. It investigates the mechanisms and impacts of such zones on both the quantity and quality of green innovation. The findings reveal that AI pilot zones significantly foster green innovation among regional enterprises by providing policy support, aggregating resources, and improving digital infrastructure. On one hand, the construction of these zones effectively incentivizes firms to increase green patent applications, thereby expanding the scale of green innovation. On the other hand, by optimizing the innovation ecosystem and facilitating the flow of high-end factors, they propel corporate green innovation towards higher-value and higher-quality trajectories. Furthermore, the AI pilot zones trigger a significant innovation peer effect, fostering a regional synergistic diffusion mechanism that encourages more enterprises to proactively engage in green transformation. This research provides empirical evidence for assessing the externalities of AI policies and offers policy implications for leveraging technology to empower green development under the "Dual Carbon" goals.

Keywords

Construction of Artificial Intelligence Pilot Zones, Corporate Green Innovation, Innovation Quantity, Innovation Quality, Peer Effect

Bankruptcy Prediction for Micro and Small Enterprises with Heterogeneous Graph Representation Learning and Topology-Aware Domain Adaptation

Meiru Liu¹, Daji Ergu^{2,3}, Yong Xu^{1,2,*}, Hegui Zhang⁴, Zuanjiu Zhou⁵

¹College of Computer Science and Artificial Intelligence, Southwest Minzu University, Chengdu, China

²Institute of National Security and Regional Development, Southwest Minzu University, Chengdu, China

³College of Electronic and Information, Southwest Minzu University, Chengdu, China

⁴School of Data Science and Artificial Intelligence, Dongbei University of Finance and Economics, Dalian, China

⁵Institute of Economics, Chengdu Academy of Social Sciences, Chengdu, China

Email address:

liumeiru2025@163.com (Meiru Liu), ergudaji@163.com (Daji Ergu), xuyong@swun.edu.cn (Yong Xu),
hegui.zhang@qq.com (Hegui Zhang), zuanjiuzhou1991@hotmail.com (Zuanjiu Zhou)

*Corresponding author

Abstract

The bankruptcy prediction of micro and small-sized enterprises (MSEs) is of great significance for financial institutions to identify potential risks in advance. Existing enterprise risk assessment methods mostly rely on structured financial data and explicit relational information, and rarely consider implicit relationships such as litigation associations as well as risk event information, resulting in incomplete semantic representations of enterprise risk. Additionally, distributional shift across different regions also poses significant challenges to improving the prediction performance. To address these issues, we propose a unified framework that integrates graph representation learning and cross-domain adaptation for MSE bankruptcy prediction. First, we propose a Multi-source Heterogeneous Graph Synergistic Contrastive Learning model (MHGSC). The model uses heterogeneous graph neural networks to capture both explicit and implicit relational structures among enterprises, and employs a risk-aware contrastive learning mechanism to learn more discriminative risk representations. Furthermore, to address cross-regional distribution discrepancies, we propose a Topology-Aware Unsupervised Graph Domain Adaptation method (TAGDA). Existing domain adaptation approaches mainly focus on feature alignment while overlooking structural differences in enterprise relational graphs. To overcome this limitation, TAGDA incorporates topology-aware representation learning and a feature disentanglement mechanism to separate domain-invariant and domain-specific features, enabling stable knowledge transfer across regions. In addition, a topology-guided contrastive learning strategy is introduced to enhance cross-domain representation alignment and consistency. Experimental results based on datasets of MSEs from Chengdu and Aba show that the proposed method significantly outperforms multiple baseline models in both enterprise bankruptcy prediction and cross-domain risk prediction tasks. Further ablation experiments, sensitivity analysis, and interpretability analysis verify the effectiveness of each module of the model and its application value in real-world financial risk management.

Keywords

Bankruptcy Prediction, Heterogeneous Graph Neural Networks, Topology-aware Domain Adaptation, Feature Disentanglement, Contrastive Learning

Research on the Impact of Data Assetization on Corporate Green Innovation

Mengtian Zang*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

1442415453@qq.com (Mengtian Zang)

*Corresponding author

Abstract

With the deep integration of the digital economy and green development strategy, data assetization has emerged as a crucial driver of corporate green innovation. This study takes China's A-share listed companies from 2007 to 2023 as research samples to investigate the impact mechanism of data assetization on corporate green innovation. The empirical results demonstrate that data assetization exerts a significant positive effect on corporate green innovation, and this conclusion remains valid after a series of robustness tests. Mechanism analysis indicates that R&D investment and financing constraints play significant mediating roles in the relationship between data assetization and corporate green innovation. Moderation analysis shows that executives' green cognition and the level of new digital infrastructure positively moderate the above relationship. Heterogeneity analysis further reveals that the promotion effect of data assetization on green innovation is more pronounced in non-state-owned enterprises, manufacturing firms, and enterprises located in the eastern region. This study not only enriches the academic research on data assetization and green innovation, providing a new theoretical perspective for understanding corporate green transformation in the digital economy era, but also offers practical implications for enterprises to optimize data asset allocation and enhance green innovation capabilities.

Keywords

Data Assetization, Green Innovation, R&D Investment, Financing Constraints, Executives' Green Cognition, Level of New Digital Infrastructure

Research on the Impact of Investment-Financing Maturity Mismatch on Corporate Green Technology Innovation

Wanting Cui*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

1418622079@qq.com (Wanting Cui)

*Corresponding author

Abstract

Against the backdrop of China's "dual carbon" strategic goals and the shift toward high-quality economic development, green technology innovation has become a core engine driving corporate low-carbon transformation and sustainable growth. This paper focuses on the intrinsic relationship between investment-financing maturity mismatch and corporate green technology innovation, exploring how the structural mismatch between long-term investment demand and short-term financing supply affects enterprises' green innovation activities. Using the panel data of China's A-share listed companies on the Shanghai and Shenzhen Stock Exchanges from 2008 to 2023, this study employs a fixed-effects model, mediation effect test and heterogeneity analysis to empirically examine the inhibitory effect and influence mechanism of investment-financing maturity mismatch on corporate green innovation. The empirical results show that investment-financing maturity mismatch significantly suppresses both the quantity and quality of corporate green technology innovation, and its inhibitory effect on green innovation quality is more pronounced than that on innovation quantity. Further mechanism tests indicate that financing constraints and R&D investment serve as critical transmission channels through which maturity mismatch impedes green innovation. Moreover, heterogeneity analysis reveals that the inhibitory impact is relatively stronger in high-tech industries, state-owned enterprises, non-heavily polluting enterprises and growth-stage enterprises. Finally, this paper proposes targeted policy implications including optimizing financial supply structure, improving corporate internal governance, strengthening policy coordination and innovation, and perfecting market-oriented allocation mechanisms. The conclusions not only enrich the research on financing constraints and green innovation, but also provide a theoretical reference and practical basis for optimizing financial resource allocation, enhancing policy implementation efficiency and supporting corporate green transformation decisions.

Keywords

Investment-financing Maturity Mismatch, Green Innovation, Financing Constraints, R&D Investment

Digital Consumption and Green Economic Efficiency: Evidence from China's National Information Consumption Pilot Program

Xiaohan Liu*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

1194572937@qq.com (Xiaohan Liu)

*Corresponding author

Abstract

Implementing the digital consumption strategy to expand domestic demand is of significant importance for promoting the green transformation of the economy and achieving high-quality development. Using the national information consumption pilot policy as a quasi-natural experiment, this study employs panel data from 280 prefecture-level cities in China from 2011 to 2022 and applies a difference-in-differences (DID) model to empirically examine the impact, mechanisms, and heterogeneity of digital consumption on green economic efficiency. The findings indicate that digital consumption significantly enhances green economic efficiency, primarily through three channels: elevating informatization levels, accelerating marketization processes, and increasing public environmental awareness. Moreover, government attention positively moderates the effect of digital consumption on green economic efficiency. Heterogeneity analysis reveals that the promoting effect of digital consumption on green economic efficiency is more pronounced in non-resource-based cities, environmentally key protected cities, and eastern regions. This study provides policy insights for deepening the integration of digital technology and the green economy, improving market mechanisms and public participation systems, and optimizing government governance and regional coordination mechanisms. It contributes to fostering the vigorous development of the green economy in the context of the digital economy and supports high-quality, sustainable economic growth.

Keywords

Digital Consumption, National Information Consumption Pilot, Green Economic Efficiency

“Digital Springboard” or “Digital Divide”: The Impact of Digital Literacy on Employment Quality in Chinese Motherhood

Xixi Zhang¹, Xinyu Wu¹, Xiaolin Jia^{2, *}, Xintian Liu¹

¹School of Economics and Management, China University of Petroleum (East China), Qingdao, China

²School of Management, Ocean University of China, Qingdao, China

Email address:

2533449708@qq.com (Xixi Zhang), wxyxy0821@163.com (Xinyu Wu), S24080011@s.upc.edu.cn (Xiaolin Jia)

*Corresponding author

Abstract

With the vigorous development of the digital economy and the continuous advancement of digital technologies, the impact of digital literacy on individual employment quality has become increasingly significant. The emerging new business formats spawned by this trend have brought new opportunities for women's employment choices and career development. Moreover, the employment quality of motherhood has garnered considerable attention due to its unique characteristics. This study empirically analyzes the relationship between digital literacy and the employment quality of motherhood using panel data from the China Family Panel Studies (CFPS) spanning 2016 to 2022. The results indicate that an improvement in digital literacy has a significantly positive effect on the employment quality of motherhood. Further mechanism analysis reveals that digital literacy primarily enhances employment quality by improving motherhood's information search capabilities and optimizing their labor time allocation to alleviate information asymmetry. Furthermore, digital literacy has a stronger positive effect on the employment quality of motherhood with fewer children, non-new employment patterns, low intergenerational dependence, and those residing in urban areas. This study provides policy recommendations for enhancing the employment quality of motherhood in the digital economy era, and offers micro-level evidence for promoting high-quality and full employment for women and facilitating high-quality economic development.

Keywords

Digital Literacy, Employment Quality, Motherhood, Information Search, Labor Time Allocation

Research on the Impact of Green Product Failure on Consumer Negative Word-of-Mouth

Hanbin Pang*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

ADIU430124@163.com (Hanbin Pang)

*Corresponding author

Abstract

With the rapid development of the green consumption market, frequent incidents of green product failures may trigger stronger negative word-of-mouth from consumers. Existing research has predominantly focused on the purchase decision stage, with insufficient attention paid to post-consumption failure scenarios. This study aims to investigate whether green product failures (compared to traditional product failures) exacerbate negative word-of-mouth and to uncover the underlying mechanisms and boundary conditions. Based on expectation-disconfirmation theory, it is proposed that green product failures induce higher levels of expectation disconfirmation, leading to stronger negative word-of-mouth. The type of green attribute (core vs. peripheral) moderates this relationship, with stronger negative effects observed when the green attribute is core and directly related to the product's primary function. Through three scenario-based experiments, the results confirm that green product failures indeed trigger stronger negative word-of-mouth than traditional product failures, with expectation disconfirmation mediating this relationship. Moreover, compared to peripheral attributes, core green attributes amplify the negative effect. This study extends the perspective of green consumption research from the purchase stage to the usage stage, revealing the transformation mechanism of green attributes from a "protective shield" to a "magnifying glass" in failure scenarios, providing theoretical foundations for managing green product crises and optimizing marketing communication.

Keywords

Green Products, Product Failure, Negative Word-of-mouth, Expectation-disconfirmation Theory, Core Green Attributes, Peripheral Green Attributes, Consumer Behavior

Understanding Customers' Satisfaction of the SERVQUAL Dimensions in Pyin Oo Lwin Co-operative Microfinance, Myanmar

Win Naing A Liu Kyum De¹, Tin Tin Mya², Ngu Khin Khin Kyaw^{2, *}

¹Institute of Business and Accounting, Kwansei Gakuin University, Hyogo, Japan

²Department of Statistics, Moywa University of Economics, Monywa, Myanmar

Email address:

kowinnaingmkt@gmail.com (Ngu Khin Khin Kyaw)

*Corresponding author

Abstract

Microfinance loans can improve farming and small-to-medium enterprises by addressing start-up financing needs in local communities. However, increasing cooperative microfinance membership in Myanmar requires better understanding of how loan processes, service quality, customer satisfaction, and gender interact areas that remain inadequately studied. This research had two objectives: first, to develop a SERVQUAL measurement framework capturing service quality dimensions and indicators; second, to analyze direct and indirect relationships between gender, service quality factors, and customer satisfaction. A questionnaire survey of customers and member agents in the Pyi Oo Lwin area of Mandalay region yielded 385 responses. Data were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) multigroup analysis in SmartPLS version 4. The study developed a five-dimensional service quality instrument encompassing reliability, assurance, tangibles, empathy, and responsiveness. Results confirm that service quality impacts customer satisfaction difference among male customers than female customers. These findings can help cooperative microfinance authorities improve loan service quality and enhance customer satisfaction levels.

Keywords

Microfinance Loans, Service Quality, SERVQUAL, SmartPLS, Pyi Oo Lwin, Mandalay

Research on the Spatiotemporal Dynamic Evolution of China's New Quality Productive Forces in Energy

Huimin Liu*, Yin Li

School of Economics and Management, JiangXi University of Science and Technology, Ganzhou, China

Email address:

liuhuimin0203@163.com (Huimin Liu)

*Corresponding author

Abstract

The development of new quality productive forces in the energy sector tailored to local conditions is directly linked to national energy security and the green transition of economic and social development. Based on the United Nations Sustainable Development Goals for clean energy and China's carbon peaking and carbon neutrality strategy, this paper constructs a multi-dimensional indicator system for new quality productive forces in the energy sector, and measures the level of such productive forces across 31 provinces in China from 2013 to 2022 using a machine learning model. Combined with Moran's I index, Dagum Gini coefficient, spatial Markov chain and kernel density estimation, this paper analyzes the spatiotemporal dynamic evolution rules of the aforementioned level, and forecasts its future development trend. The findings are as follows: First, the overall level of China's new quality productive forces in the energy sector presents a growing trend, with significant regional development disparities. The eastern region maintains a sustained lead, the central and western regions achieve steady growth, while the northeastern region has long been at a low level with weak growth momentum. Second, China's new quality productive forces in the energy sector have not formed a significant spatial agglomeration pattern, but a spatial lock-in effect exists. The overall disparity has gradually shifted from being dominated by the intensity of transvariation in the early stage to being dominated by inter-group disparity. Third, from 2030 to 2060, China's new quality productive forces in the energy sector will maintain steady growth, with regional balance gradually optimized. The eastern coastal provinces will continue to lead, while the northeastern region will remain at a relatively low level. Against the backdrop of the carbon peaking and carbon neutrality strategy, measuring China's new quality productive forces in the energy sector and revealing its spatiotemporal dynamic evolution characteristics can provide scientific empirical support for accelerating the construction of a new energy system and advancing carbon peaking and carbon neutrality in an active and prudent manner.

Keywords

New Quality Productive Forces, Energy, Spatiotemporal Dynamic Evolution, Machine Learning, Carbon Peaking and Carbon Neutrality Goals

Forecasting Multi-Technology Convergence via Dual-Channel Spatial-Temporal Hypergraph Neural Networks: A Case Study of Intelligent Connected Vehicles

Zhilin Zhang^{*}, Heng Chen

School of Economics and Management, Harbin Engineering University, Harbin, China

Email address:

philips_1994@163.com (Zhilin Zhang), chenh@hrbeu.edu.cn (Heng Chen)

^{*}Corresponding author

Abstract

Technology convergence is a key driver of technology innovation, particularly in highly interdisciplinary fields such as intelligent connected vehicles (ICVs). Accurately forecasting these convergence trends is crucial for strategic R&D planning. However, existing predictive models predominantly rely on pairwise networks and thus fail to capture the complex, high-order interactions among three or more technologies. Furthermore, they often struggle to fuse explicit and implicit convergence signals, and lack robust mechanisms to handle temporal network evolution and the continuous emergence of novel technological nodes (the cold-start problem). To address these critical gaps, this study proposes a novel Dual-Channel Spatial-Temporal Hypergraph Neural Network (DC-STHGNN) to forecast multi-technology convergence, using ICVs as a case study. Using patent data from 2000 to 2024, we construct sequential dual-channel hypergraphs: a co-classification hypergraph that captures explicit inventive integration, and a co-citation hypergraph that maps implicit knowledge flows. The proposed architecture employs parallel Hypergraph Convolutional Networks (HGCNs) with a dynamic node-level attention mechanism that can adaptively fuse multi-view features and handle missing nodes effectively. To capture temporal momentum, we introduce a Gated Recurrent Unit (GRU) module with temporal masking and neighborhood-based history inheritance. This design seamlessly integrates the dynamic evolution of established technologies with the cold-start initialization of emerging ones, formulating the forecasting task as an end-to-end hyperedge link prediction problem. Experimental results on the ICV dataset show that the DC-STHGNN significantly outperforms state-of-the-art baseline models on key metrics such as AUC-ROC and AUPRC. Ablation studies confirm that integrating co-classification and co-citation features via dynamic attention achieves optimal predictive performance. Furthermore, the model successfully anticipates high-probability future technology convergence opportunities in the ICV sector, highlighting the accelerating integration of AI-driven perception, V2X communication, and smart vehicle control systems. This study advances the methodological frontier of technology forecasting by effectively modeling evolving, high-order network interactions. In practice, it provides policymakers and corporate managers with actionable, data-driven intelligence to help them identify latent opportunities and navigate the rapidly converging technological landscape.

Keywords

Technology Convergence, Hypergraph Neural Network, Link Prediction, Spatial-Temporal Evolution, Intelligent Connected Vehicles, Patent Analysis

A Higher-Order Topological Theory of Knowledge Recombination: When Do Breakthrough Innovations Emerge

Tian Ye, Chen Heng*

School of Economics and Management, Harbin Engineering University, Harbin, China

Email address:

tianye@hrbeu.edu.cn (Tian Ye), chenh@hrbeu.edu.cn (Chen Heng)

*Corresponding author

Abstract

Breakthrough innovation arises from the recombination of existing knowledge, yet conventional dyadic network frameworks capture only pairwise links and therefore overlook the higher-order, many-to-many interactions through which novel combinations actually form. To address this gap, this study develops the Higher-Order Topological Theory of Knowledge Recombination (HOTTKR) to explain the emergence of breakthrough innovation beyond conventional binary network frameworks. Using USPTO patent data (1980–2021), we construct knowledge hypergraphs from CPC co-classifications and extract higher-order structural features through persistent homology, the simpliciality index, and the Hodge Laplacian, which jointly characterize the topological holes, connectivity, and flow structure of the evolving knowledge space. We propose the Topological Holes as Opportunity Windows (THOW) hypothesis and examine how topological holes, combinatorial maturity, and knowledge-flow efficiency jointly shape breakthrough innovation. The results show that proximity to topological holes significantly increases the likelihood of breakthrough innovation, Simpliciality exhibits an inverted U-shaped relationship with a tipping point at 0.522, beyond which excessive structural closure constrains novelty, and higher-order topological indicators provide predictive power beyond conventional dyadic network measures. In addition, the Hodge spectral gap leads breakthrough innovation by one to two periods, suggesting that shifts in higher-order topology serve as an early signal of impending breakthroughs. These findings advance a higher-order topological paradigm of innovation and introduce combinatorial readiness as a new theoretical construct, offering both a methodological toolkit for measuring the latent structure of knowledge and practical guidance for firms and policymakers seeking to anticipate and cultivate breakthrough innovation.

Keywords

Knowledge Recombination, Breakthrough Innovation, Algebraic Topology, Hypergraph, Persistent Homology, Betti Numbers, Simpliciality, Hodge Laplacian

Research on Technology Opportunity Identification Based on Technical Boundaries

Heng Chen, Wenbo Zhong*

School of Economics and Management, Harbin Engineering University, Harbin, China

Email address:

chenh@hrbeu.edu.cn (Heng Chen), s944307951@163.com (Wenbo Zhong)

*Corresponding author

Abstract

Identifying authentic technology opportunities from massive patent data is a critical task for strategic R&D and competitive intelligence. Traditional approaches predominantly rely on structured classification systems such as IPC or CPC, which often struggle to capture the granular, evolving, and cross-disciplinary nature of modern technical intelligence. This research presents a systematic framework for identifying technology opportunities by constructing and analyzing mathematically defined "Technical Boundaries" from unstructured textual data. The methodology begins by leveraging BERTopic combined with the BGE-M3 embedding model to transform patent corpora into a high-dimensional semantic manifold, preserving intricate technical features. To address the inherent challenge of data sparsity in high-dimensional spaces and ensure semantic consistency, a Parametric UMAP architecture is implemented. Unlike traditional non-parametric dimension reduction, this deep-learning-based approach utilizes an Encoder-Decoder mechanism to establish a stable, bi-directional mapping between low-dimensional latent coordinates and high-dimensional technical features. Central to the framework is the application of the One-Class SVM (OC-SVM) algorithm to demarcate a "Normative Technical Boundary" based on established CPC-defined knowledge. By quantifying the density distribution and the spillover effects relative to this boundary, the research categorizes technology opportunities into two distinct types: "Filling-type Opportunities", representing critical technical voids within existing frameworks, and "Expansionary-type Opportunities", signifying pioneering breakthroughs beyond established frontiers. Finally, an Inverse Mapping (reconstruction) mechanism is employed, using the Decoder to translate identified spatial voids back into interpretable technical insights. Empirical results demonstrate that this boundary-constrained methodology effectively filters semantic noise and provides a more rigorous, generative path for technological forecasting, offering strategic guidance for navigating complex innovation landscapes.

Keywords

Technology Opportunity, Technical Boundary, Parametric UMAP, BERTopic, One-Class SVM, Patent Mining

How New Should It Be — How Product Newness and Brand Openness Jointly Influence Consumer Adoption Intention

Yilin Wang¹, Zhenfeng Ma^{2, *}

¹School of Design, Jiangnan University, Wuxi, China

²School of Business, Jiangnan University, Wuxi, China

Email address:

yilinwang@stu.jiangnan.edu.cn (Yilin Wang), zhenfengma@jiangnan.edu.cn (Zhenfeng Ma)

*Corresponding author

Abstract

Past research on consumer innovation adoption has primarily examined product newness apart from the identity of the launching brand. Drawing on brand personality theory and information integration theory, this research proposes that product newness and brand personality jointly shape consumer responses to new products. Focusing on the conservation–openness dimension of brand personality, we argue that the effect of product newness on adoption intention depends on the fit between a product’s newness and the perceived openness of the launching brand. When product newness aligns with brand openness, consumers experience greater processing fluency, which increases adoption intention; when such alignment is absent, adoption intention declines. We further propose that, for highly new products launched by low-openness brands, using a new brand name is more effective than using the existing parent brand name. These predictions were tested through three experiments in the automobile context. Study 1 manipulated product newness (high vs. low) and measured perceived openness of the launching brand in a purchase decision scenario. The results showed that the effect of product newness, including both design newness and technological newness, depended on perceived brand openness. When brand openness was high, participants showed stronger adoption intention toward high-newness than low-newness products; when brand openness was low, participants showed stronger adoption intention toward low-newness than high-newness products. This interaction was mediated by perceived processing fluency. Study 2 employed a quasi-experimental design involving 21 real automobile brands. Product newness was held constant across participants, while perceived brand openness varied across brands. The results showed that congruency between product newness and brand openness positively predicted adoption intention beyond the independent effects of product newness and brand openness. Study 3 examined whether launch strategy moderates consumer responses to highly new products by manipulating parent-brand openness (low vs. high) and launch strategy (new-brand vs. parent-brand launch). The results indicated that highly open parent brands generated higher purchase intention when the new product was introduced under the existing brand name, whereas low-openness parent brands benefited more from a new-brand launch. This effect was mediated by perceived brand–product congruency. Overall, this research demonstrates that innovation adoption depends not only on product newness itself but also on its congruency with brand openness. It contributes to innovation adoption and branding research and offers important implications for managers to enhance new product success through congruency-based brand strategies.

Keywords

Brand Openness, Product Newness, Innovation Adoption, Processing Fluency, Brand Architecture

Start-up Mindset: Preparing China's Entrepreneurs for the AI Global Innovation Economy

Michael Girel*

AuxBridge R&D Center, Tel-Aviv, Israel

Email address:

michael@auxbridge.com (Michael Girel)

*Corresponding author

Abstract

The rapid development of artificial intelligence (AI) and digital technologies is fundamentally transforming the nature of entrepreneurship and the conditions under which innovation emerges and scales in the global economy. In this context, traditional entrepreneurial models based on replication, rapid scaling, and growth-driven capital attraction are becoming increasingly insufficient, particularly in countries undergoing structural economic transformation such as China. The objective of this study is to analyse the formation of a start-up mindset as a central component of China's innovation management strategy in the AI era and to identify practical mechanisms that support the development of globally competitive entrepreneurs. The research employs a qualitative analytical approach, combining policy analysis, literature review, and case study methodology, with particular attention to innovation ecosystems, structural shifts in entrepreneurial paradigms, and work-integrated learning models. The findings demonstrate that the emergence of an AI-driven innovation economy requires a fundamental transformation of entrepreneurial logic, characterised by a shift toward original innovation, global market orientation, strategic alignment with national priorities, sustainable organisational models, and long-term value creation. These shifts are further reinforced by the evolution of ecosystem conditions, including the development of patient capital, the strengthening of university–industry knowledge transfer, adaptive regulatory frameworks, and increased emphasis on international professional experience. The analysis also shows that artificial intelligence functions as a cross-cutting factor that reshapes opportunity recognition, innovation processes, competitive advantage, and organisational structures. In this context, the “Chinese Internship in EU” Project, developed by the AuxBridge R&D Center, is examined as an applied model of work-integrated learning that bridges the gap between education and practice by embedding participants in real international business and technological environments. The study concludes that the effective formation of a start-up mindset in China requires a systemic approach that integrates technological competence, practical experience, and global exposure within a coordinated innovation ecosystem. Such an approach can significantly enhance the capacity of Chinese entrepreneurs to operate successfully in the AI global innovation economy and support the country's transition toward high-quality, innovation-driven development.

Keywords

Start-up Mindset, Artificial Intelligence, Innovation Management, Entrepreneurship in China, Global Innovation Economy, Work-integrated Learning, International Internships, Innovation Ecosystems

Synergistic Effects of Dual-Pilot Policies on the Supply Chain Resilience of Energy Enterprises

Xixi Zhang, Yue Tang, Yixin Li*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

tanghbu@163.com (Xixi Zhang), 2840978389@qq.com (Yue Tang), wfliyixin@163.com (Yixin Li)

*Corresponding author

Abstract

China's pursuit of carbon peaking and carbon neutrality has driven the implementation of both the Low-Carbon City Pilot Policy and the Carbon Emission Trading Pilot Policy. To systematically assess the synergistic effects of these two landmark initiatives on the supply chain resilience of energy enterprises, this study treats their overlapping implementation as a quasi-natural experiment and employs a multi-period difference-in-differences (DID) model based on panel data of China's A-share energy enterprises from 2007 to 2023. The empirical results reveal that the dual-pilot policies significantly enhances the supply chain resilience of energy enterprises, with its synergistic impact exceeding that of either policy alone. Mechanism analysis further indicates that green technological innovation and government subsidies serve as key transmission channels through which the dual-pilot policies strengthens resilience. Heterogeneity analysis shows that the policy effect is more pronounced among state-owned enterprises, resource-based cities, and regions in eastern China. By uncovering the mechanisms and regional variations of policy synergy, this study enriches the literature on low-carbon policy evaluation and provides actionable insights for enhancing the resilience of energy enterprise supply chains under China's "dual carbon" strategy

Keywords

Ow-carbon City Pilot Policy, Carbon Emission Trading Policy, Supply Chain Resilience, Collaborative Empowerment



Science Publishing Group (SciencePG), an open access publisher with experienced and eminent reviewers and editorial board members, is mainly attaching importance to developing journals, books and conferences which have owned unique characters respectively. Here is the website of SciencePG: <http://www.sciencepublishinggroup.com>

ISBN 979-888599171-1

