

The Impact of ESG Practices on Corporate Value: A Comparative Analysis of JD.com and Pinduoduo

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ABSTRACT

This study examines JD.com and Pinduoduo as case studies, comparing how their ESG (Environmental, Social, and Governance) practices impact corporate value. Findings reveal that despite significant differences in business models, ESG priorities, and financial structures, both companies enhanced debt repayment capacity and profitability through proactive ESG initiatives, thereby strengthening long-term corporate value. JD.com enhanced operational stability and brand credibility through comprehensive ESG initiatives including green logistics, employee welfare programs, and a three-tier governance system. Pinduoduo, meanwhile, focused on agricultural digitization and social inclusion, achieving differentiated competition and co-creation of social value through initiatives like the "10 Billion Yuan Agricultural Research Fund" and the "New Farmers" program. Further research indicates that while ESG investments may increase costs in the short term, they translate into significant financial performance improvements over the medium to long term, validating the positive correlation between ESG practices and corporate value.

KEYWORDS

ESG practices; Corporate value; JD.com; Pinduoduo; Comparative analysis; Case study

1 Introduction

In recent years, ESG (Environmental, Social, and Governance) has emerged as a core focus for global investors and businesses, with ESG performance regarded as a key indicator for measuring corporate sustainability and long-term value. Driven by national strategies such as the dual carbon goals, high-quality development, and common prosperity, Chinese enterprises and regulators have rapidly heightened their emphasis on ESG, leading to accelerated development in related disclosure requirements and investment practices. An increasing number of domestic and international investors are integrating ESG factors into their investment decision-making frameworks, seeking opportunities that align both ethical values and financial returns.

Since the concept of environmental, social, and governance (ESG) was introduced in 2004, countries worldwide have been promoting sustainable ESG principles. Early research primarily focused on developed economies such as Europe and the United States, examining the impact of ESG factors on corporate financial performance, market performance, and valuation. In recent years, with China's economic transformation and upgrading alongside the continuous improvement of its capital markets, domestic scholars have shown heightened enthusiasm for ESG research. Chinese enterprises, particularly listed companies, have become crucial samples for studying the relationship between ESG and corporate value. Multiple studies indicate that an increasing number of Chinese listed companies have begun preparing and publishing standalone ESG reports. By 2022, over 1,700 listed companies had released their 2022 ESG reports, accounting for 34% of all listed companies. This demonstrates that ESG disclosure has become a significant trend in the development of Chinese enterprises.

This study examines how ESG practices influence corporate value across different business models by comparing JD.com and Pinduoduo—two e-commerce giants with distinct differences in business models, supply chain management, and consumer demographics. This comparative analysis enriches the applicability and universality of ESG theory.

2 The impact of ESG practices on corporate value: the case of JD.com

2.1 JD.com overview

JD.com is China's leading technology-driven e-commerce and retail infrastructure service provider. Listed on the NASDAQ in 2014, it is headquartered in Beijing. Its core business originated as a self-operated e-commerce platform and now encompasses online retail, third-party platforms, logistics, and technology services. JD.com established its reputation with "authentic products" and built a brand image centered on "authenticity assurance." Emphasizing "technology-driven" innovation, the company continues to invest in artificial intelligence, big data, cloud computing, automated warehouses, and drone delivery.

2.2 JD.com's ESG practices

In terms of ESG, JD actively promotes green supply chains and smart logistics, enhancing operational efficiency and environmental sustainability through technological innovation. By 2025, it achieved an MSCI ESG rating of A and a Sustainalytics ESG rating of "Moderate Risk."

2.2.1 JD.com's environmental performance

JD Group has demonstrated outstanding performance in environmental protection and green, low-carbon development, establishing a comprehensive green system that spans the entire supply chain, including warehousing, transportation, and packaging.

In warehousing, JD has secured "Green Warehouse" certification for 10 facilities and installed rooftop photovoltaic systems across its campuses, with a total installed capacity of 139.22 megawatts. These systems generate over 61,000 megawatt-hours of solar power annually, reducing carbon emissions by approximately 50,000 metric tons. This initiative not only lowers energy costs but also advances the adoption of clean energy within the logistics sector. In transportation, JD operates over 10,000 self-owned new energy vehicles and pioneered the large-scale deployment of hydrogen-powered trucks, establishing 64 hydrogen transport routes that reduce annual diesel consumption by 600,000 liters. Simultaneously, JD innovated the "road-to-rail" model, shifting some long-distance freight to rail transport, significantly lowering carbon emissions. For packaging, JD's "Green Stream Initiative" continuously promotes biodegradable packaging and reusable containers. By 2024, it reduced secondary packaging by over 1 billion units, achieved cumulative reuse of reusable containers exceeding 85 million times, and achieved annual carbon savings of 72,000 metric tons.

2.2.2 JD.com's social performance

In terms of social responsibility, JD.com consistently adheres to the principles of "people-oriented" and "customer-first," balancing employee development, customer experience, and social welfare.

In terms of employee care, JD.com employs nearly 500,000 people and spends approximately 90 billion yuan annually on human resources, reflecting the company's commitment to talent development. JD.com launched the "I Study at JD" program to help frontline employees advance their education, while its relief fund assists staff facing hardships. In 2024, over 1,200 employees retired with honor, establishing a rare model of career development and security within the industry. In customer service, JD.com consistently ranks among the top in the State Post Bureau's express delivery satisfaction surveys, leveraging its robust supply chain and intelligent logistics. It has long maintained its "delivery during Spring Festival" commitment to ensure essential supplies. In social welfare and rural revitalization, JD has built a three-tier logistics network covering counties, townships, and villages, facilitating "agricultural products reaching urban markets and express delivery reaching rural areas." It actively participates in disaster relief and emergency supply coordination. In 2024, JD's charitable donations reached 1.316 million yuan, with volunteer service hours exceeding 24,000.

2.2.3 JD.com's governance performance

JD.com has continuously refined its ESG framework in corporate governance, establishing a three-tier governance system comprising the Board of Directors, the ESG Management Committee, and the ESG Task Force to ensure effective implementation of strategies and practices. The Board reviews ESG progress reports at least four times annually and deliberates on major issues, underscoring its strong commitment to sustainable development.

In supply chain governance, JD.com integrates environmental protection, safety, labor rights, and business integrity into its supplier lifecycle management, driving shared responsibility across the industrial chain. In information disclosure and external recognition, JD actively participates in international rating systems. In 2024, it achieved an MSCI ESG rating of "BB," a S&P Global ESG score of 58 (among the highest in the industry), and was included in the S&P Global Sustainability Yearbook 2025. These accomplishments reflect JD's continuous progress in governance transparency, compliance, and accountability implementation.

2.3 The impact of ESG practices on JD.com's corporate value

2.3.1 Debt repayment capacity

The debt-to-asset ratio can to some extent reflect a company's debt situation. Companies with excessively low ratios fail to leverage the advantages of debt financing, while those with excessively high ratios face elevated debt risks. Table 2-1 presents JD.com's year-end balance sheet status and annual current ratio from 2019 to 2024. JD.com's debt-to-asset ratio has remained relatively stable over the past few years, hovering around 50%-55%. This indicates JD.com's prudent

approach to financial leverage, supporting its capital-intensive investments through debt while avoiding excessive financial risk. This stable leverage ratio aligns with its strong governance (G) and long-term infrastructure investment strategy, signaling financial prudence to creditors and investors.

JD.com's current ratio has generally remained above 1.2, reaching 1.29 in 2024. This indicates strong short-term debt repayment capacity, with sufficient liquid assets to cover short-term liabilities. For a retail enterprise requiring substantial working capital, this is critical and reflects robust working capital management capabilities.

Table 1 JD.com Balance Sheet at Year-End 2019–2024 and Annual Current Ratio

Year	Asset-Liability Ratio (%)	Current Ratio	Year	Asset-Liability Ratio (%)	Current Ratio
2019	61.26	0.99	2022	53.95	1.32
2020	47.52	1.35	2023	52.88	1.16
2021	50.30	1.35	2024	55.13	1.29

2.3.2 Profitability

A company's ESG score positively impacts its profitability. Table 2-2 shows JD.com's annual revenue from 2019 to 2024. The slight increase in JD.com's gross margin may be attributed to a higher proportion of high-margin service revenue and improved supply chain efficiency (partially driven by cost optimization from environmental (E) practices such as green logistics).

For the two metrics of net profit margin and return on equity (ROE), the unusually high values in 2020 (net profit margin of 6.62%, ROE of 36.68%) are typically associated with one-time investment gains. Excluding that year reveals a clear trajectory of sustained profitability improvement: net profit margin rose from -0.47% in 2021 to 3.85% in 2024, while ROE surged from -1.80% to 17.55%. This marks the successful transition of JD.com's strategy from “scale growth” to “quality growth.” Its investments in the Social (S) dimension—such as employee benefits and supplier empowerment—increased short-term costs but yielded enhanced operational stability, service quality, and brand reputation, laying the foundation for long-term profitability. Concurrently, governance (G) optimizations reduced risk costs, collectively contributing to the unlocking of profitability.

Table 2 JD.com Revenue by Year, 2019–2024

Year	Gross Profit Margin (%)	Net Profit Margin (%)	Return On Equity (%)	Year	Gross Profit Margin (%)	Net Profit Margin (%)	Return On Equity (%)
2019	14.63	2.06	15.46	2022	14.06	0.93	4.92
2020	14.63	6.62	36.68	2023	14.72	2.14	10.86
2021	13.56	-0.47	-1.80	2024	15.87	3.85	17.55

3 The impact of ESG practices on corporate value: the case of Pinduoduo

3.1 Pinduoduo overview

Pinduoduo (PDD Holdings) is China's leading social e-commerce platform, rapidly rising through its innovative “group-buying” model and strategy to bring agricultural products to urban markets. Listed on the NASDAQ in 2018 and headquartered in Shanghai, it ranks among China's fastest-growing e-commerce companies. Pinduoduo achieved rapid expansion through its unique “social group-buying + lower-tier market” model, establishing a differentiated competitive edge in the industry. Beyond being an e-commerce platform, it has progressively expanded into agriculture, cross-border e-commerce, and community group-buying sectors.

3.2 Pinduoduo's ESG practices

Challenges Pinduoduo may face in ESG include ensuring product quality, protecting consumer rights, and achieving environmental management amid rapid expansion. In 2025, it received a CCC rating from MSCI ESG and a “Low Risk” rating from Sustainalytics.

3.2.1 Pinduoduo's environmental performance

Pinduoduo's environmental initiatives primarily focus on agricultural digitization and green supply chain development. Through its “farm-to-table” direct sourcing model, the platform reduces intermediate distribution channels and unnecessary transportation and packaging, thereby indirectly lowering energy consumption and carbon emissions. According to Xinhua News Agency, Pinduoduo has effectively minimized perishable losses and enhanced direct shipping

efficiency from production sites by leveraging its cold chain system and route optimization.

In advancing sustainable agricultural development, Pinduoduo has hosted the “Smart Agriculture Competition” annually since 2019. The competition invites multidisciplinary teams to apply artificial intelligence and IoT technologies in real-world agricultural settings, addressing challenges such as stable crop yields, quality enhancement, and cost reduction. Several outcomes have been successfully commercialized, providing innovative models for green agricultural development.

Additionally, Pinduoduo launched the 10 Billion Agriculture Initiative in 2021, committing long-term profits to fundamental agricultural research and applied technology promotion. This initiative prioritizes support for seed breeding, pest and disease control, and digital-intelligent agricultural machinery infrastructure, establishing itself as one of the largest dedicated agricultural investments among domestic e-commerce companies. In 2025, Pinduoduo also partnered with the Food and Agriculture Organization of the United Nations to jointly advance agricultural digital capacity building and support the inclusive development of smallholder farmers.

3.2.2 Pinduoduo's social performance

In terms of social responsibility, Pinduoduo has consistently focused on promoting agricultural development and increasing farmers' incomes. The platform maintains a long-term low commission policy for agricultural merchants and facilitates direct access to national markets for agricultural products through initiatives like “Duoduo Farm” and “Harvest Pavilion.” By leveraging live streaming, operational training, and digital tools, Pinduoduo provides small-scale farmers with more convenient sales channels, significantly reducing transaction costs.

Pinduoduo actively supports the development of the “new farmers” community. Through systematic training and resource support, the platform encourages young people to return to their hometowns to start businesses, cultivating a large number of agricultural operators with e-commerce operational capabilities. Xinhua News Agency reports indicate that this model not only boosts agricultural product sales but also expands employment and entrepreneurial opportunities in rural areas. In terms of scientific research collaboration, Pinduoduo funds multiple universities and research teams to conduct agriculture-related studies. For instance, with the platform's support, a team from China Agricultural University has developed new wheat varieties rich in protein and minerals. Such scientific achievements not only enhance the nutritional value of agricultural products but also contribute to the sustainable development of agriculture.

3.2.3 Pinduoduo's governance performance

As a U.S.-listed company, Pinduoduo has established a robust governance framework. The company's board of directors oversees specialized committees including audit, compensation, and nomination and governance, and includes independent directors to ensure transparent and standardized decision-making. Pinduoduo has also published its Code of Business Conduct and Ethics, covering anti-bribery, conflict of interest, data security, and other areas, providing clear behavioral guidelines for employees and partners.

Regarding information disclosure, the company regularly submits its 20-F annual report to the U.S. Securities and Exchange Commission (SEC), comprehensively disclosing its business model and risk management practices. In 2025, the company announced the appointment of Ernst & Young Hong Kong as its new external auditor to further enhance financial governance and transparency. Concurrently, Pinduoduo continues to advance intellectual property protection. The platform collaborates with law enforcement agencies and brand owners to establish integrated online-offline anti-counterfeiting mechanisms, intensifying efforts to combat infringement. Research by the European Union Intellectual Property Office indicates that Pinduoduo has made positive progress in building its intellectual property protection framework.

However, challenges also exist at the governance level. Since 2024, Pinduoduo has faced investor class action lawsuits in the United States over information disclosure issues and regulatory inquiries. These incidents reflect the company's need to further enhance governance transparency and compliance management as it continues to grow.

3.3 The impact of ESG practices on Pinduoduo's corporate value

3.3.1 Debt repayment capacity

Table 3-1 presents Pinduoduo's year-end balance sheet status and annual current ratio from 2019 to 2024. The company's debt-to-asset ratio exhibits a significant and sustained downward trend, plummeting from 67.59% in 2019 to 37.96% by 2024. This is a highly positive indicator, demonstrating that the company's financial structure has become increasingly robust with substantially reduced reliance on debt. This stems primarily from substantial cash accumulation driven by its strong profitability, enabling it to fund growth with internal resources and maintain extremely low financial

risk.

Pinduoduo's current ratio has steadily increased from 1.6 to 2.21, significantly exceeding the industry average. This confirms its exceptional short-term debt-paying capability. The exceptionally high current ratio indicates the company holds substantial cash and cash equivalents, demonstrating strong financial flexibility sufficient to withstand any potential market fluctuations or seize new investment opportunities.

Table 3 Pinduoduo's Year-End Balance Sheet and Annual Current Ratio, 2019–2024

Year	Asset-Liability Ratio (%)	Current Ratio	Year	Asset-Liability Ratio (%)	Current Ratio
2019	67.59	1.6	2022	50.33	1.85
2020	62.13	1.78	2023	46.21	1.93
2021	58.55	1.72	2024	37.96	2.21

3.3.2 Profitability

Table 3-2 shows Pinduoduo's annual revenue from 2019 to 2024. Pinduoduo maintains exceptionally high gross margins, with its revenue primarily derived from online marketing services and transaction commissions, resulting in minimal costs. Although the gross margin has declined from its early peak of nearly 80%, it remains at an astonishing level above 60%, providing substantial room for profitability.

Pinduoduo's profitability has achieved a remarkable V-shaped turnaround and sustained growth. Its net profit margin soared from -23.12% in 2019 to 28.55% in 2024, while ROE surged from -32.06% to 44.92%—truly exceptional. This transformation stems primarily from its core practices in the Social (S) dimension—"inclusive growth" and "reinvesting in agriculture." The former helped secure massive user acquisition, while the latter built differentiated supply chain advantages and a positive brand image, ultimately translating into substantial financial success.

4 The impact of ESG practices on corporate value: a comparative analysis of JD.com and Pinduoduo

4.1 Comparison of ESG practices

As two distinct Chinese internet-based e-commerce logistics enterprises, JD.com and Pinduoduo exhibit certain differences in the content and emphasis of their ESG reporting regarding environmental, social, and governance aspects, as shown in Table 4.

Table 4 Pinduoduo Revenue by Year, 2019–2024

Year	Gross Profit Margin(%)	Net Profit Margin (%)	Return On Equity (%)	Year	Gross Profit Margin(%)	Net Profit Margin (%)	Return On Equity (%)
2019	78.97	-23.12	-32.06	2022	75.90	24.16	32.70
2020	67.59	-12.07	-16.93	2023	62.96	24.24	39.36
2021	66.24	8.27	11.48	2024	60.92	28.55	44.92

Table 5 Comparison of ESG Practices Between JD.com and Pinduoduo

Dimension	JD.com	Pinduoduo
E (Environment)	Full-chain Green Logistics System (Warehousing, Transportation, Packaging)	Agricultural Digitalization + Direct
	"Green Flow Initiative"	"10 Billion Yuan Agricultural Research Initiative"
	"Road-to-Rail Shift" Reduces Carbon Emissions in Long-Distance Transportation	Collaborating with FAO by 2025
S(Social)	"My JD University" Program + Employee Assistance Fund	"Duoduo Farm" and "Harvest Pavilion" Boost Agricultural Product Sales
	Industry-Leading Customer Satisfaction, Uninterrupted Service During Spring Festival	Cultivating "New Farmers" to Encourage Youth to Return to Rural Areas for Entrepreneurship
	Rural Revitalization: Three-Tier County-Township-Village Logistics Network, Empowering "Agricultural Products to the City"	Funding Scientific Research: Supporting the Development of New Wheat Varieties Rich in Protein and Minerals
G(Government)	Three-tier governance structure: Board of Directors—ESG Management Committee—Special Task Force	Issued the Code of Business Conduct and Ethics
	Proactive information disclosure	Regularly filed Form 20-F reports with the SEC to disclose compliance risks
		Collaborated with law enforcement agencies and brand owners to combat counterfeiting, achieving significant progress in intellectual property protection

4.2 Comparative analysis of ESG practices' impact on corporate value

The current ratio is a core metric for assessing a company's short-term debt repayment capacity and financial stability. The data from the two companies reveal systematic differences, closely tied to their chosen business models. As shown in Figure 1, this compares the current ratios of JD.com and Pinduoduo from 2019 to 2024.

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Pinduoduo's current ratio has demonstrated a trend of continuous optimization and robust growth, rising steadily from 1.60 in 2019 to 2.21 in 2024. This metric indicates the company holds current assets significantly exceeding its short-term liabilities, reflecting exceptionally strong short-term debt repayment capacity and ample financial flexibility. This aligns perfectly with its platform-based, asset-light business model. This model requires minimal inventory and fixed assets, concentrating core resources on its technological platform and user traffic to achieve exceptional cash turnover efficiency. The rising current ratio directly reflects its robust operating cash flow generation and conservative financial policies, providing ample “financial ammunition” to navigate market uncertainties and fund strategic investments.

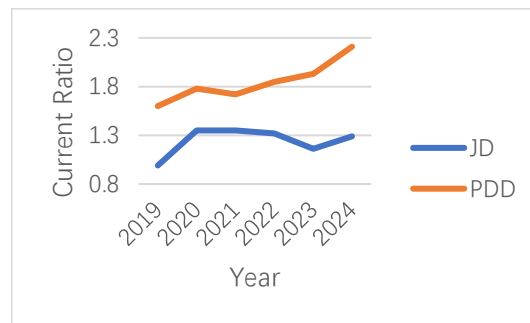


Figure 1 Comparison of Current Ratios for JD.com and Pinduoduo, 2019-2024

Return on equity (ROE) serves as the ultimate metric for measuring the efficiency of shareholder capital returns. The performance of these two companies reveals distinctly different growth stages and profit-making logics. As shown in Figure 2, this illustrates the comparison of ROE between JD.com and Pinduoduo from 2019 to 2024.

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Pinduoduo's ROE trajectory exemplifies a classic exponential growth paradigm. From strategic losses incurred in the early stages to rapidly turn a profit in 2021, the company subsequently achieved explosive growth in profitability. This near-vertical growth curve reveals the powerful economies of scale and network effects inherent in its business model. Once user base and platform transaction volume surpass critical thresholds, marginal costs plummet while marginal revenues surge, driving dramatic profit margin expansion. An ROE of 44.92% not only signifies absolute industry leadership in capital efficiency but also validates the immense potential of its asset-light, high-leverage business model during its profitability phase.

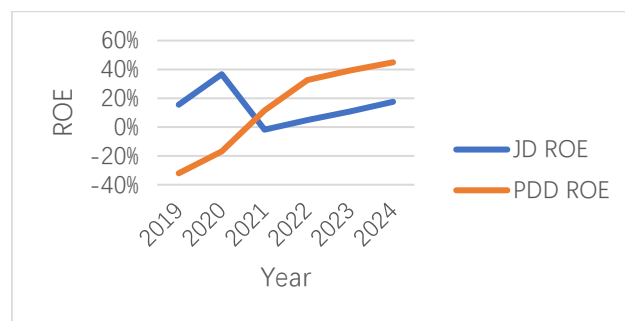


Figure 2 ROE Comparison Between JD.com and Pinduoduo from 2019 to 2024

5 Conclusions and implications

This study examines two representative enterprises in China's e-commerce sector—JD.com and Pinduoduo—as case studies. By analyzing their ESG practices, assessing their impact on corporate value, and conducting an in-depth comparative analysis, it reveals the complex interplay between ESG implementation and corporate value. Based on the

preceding analysis, this paper draws the following conclusions and extracts corresponding theoretical and practical implications.

5.1 There is a significant positive correlation between ESG practices and corporate value

Although JD.com and Pinduoduo differ in business models, ESG priorities, and financial structures, both companies have enhanced their long-term value by improving debt repayment capacity, profitability, and capital efficiency through proactive ESG practices.

5.2 ESG implementation approaches vary by company type

JD.com, as a capital-intensive enterprise, has enhanced operational stability and brand credibility through comprehensive ESG initiatives including green logistics, employee welfare programs, and a three-tier governance system. Pinduoduo, adopting a capital-light model, focuses on agricultural digitization and social inclusion. Its "10 Billion Yuan Agricultural Research Initiative" and "New Farmers Program" enable differentiated competition and co-creation of social value.

5.3 ESG investments can translate into financial performance over the medium to long term

JD.com's environmental and social investments, while increasing costs in the short term, drive long-term profitability improvements through enhanced efficiency and reputation gains. Pinduoduo's agricultural and social investments directly fuel its user growth and supply chain advantages, achieving exponential growth in financial performance.

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