

The ESG Practice and Performance of Fii under the Digital Transformation

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Abstract. With the development of digital transformation, the firm's environmental, social, and governance(ESG) performance become more and more emphasize .However, there is a relationship about digital transformation and ESG performance. Though a view of Foxconn Industrial Interne (Fii) as a case to research its digital transformation and ESG performance. It is found that digital transformation is beneficial to promote firm's ESG performance and ESG performance also conducive to promote the sustainable and higher-quality development by strengthening the management of the supply chain. Through developing the green-clean technical, Fii promote supply chains Green Transformation, built the commission of strategy and sustainable development, increase recycling collection, decrease production cost, taking the sustainable development road. The article is beneficial to firms more attention the relationship about digital transformation and ESG performance. From a sustainable perspective, focus on firms' self-development and construction, this paper provides new evidence on how ESG gives new sustainable development opportunity about firm's digital transformation.

Keywords: ESG performance; digital transformation; impact.

1. Introduction

As digital develops by leaps and bounds, more and more environmental problem is exposed. Digital development not only promote firms transformation and upgrading, but also promote firms ESG development .Abbreviation for ESG are originated in *Who Cares Wins* from United Nations reporting in 2005 .This reporting proposing firms should add environment, social responsibility, firms governance into firms management's Evaluation criteria and it maybe create a positive impact about financial market, personal investment portfolio .In 2024, Chinese government further emphasizing that the importance of building an ecological civilization and developing a green economy, promote firms ESG development .

Yang & Li use empirical research methodology to examining the relationship between the roles of the two by 2010-2021A-share listed companies in Shanghai and Shenzhen [1]. The research found that digital transformation significantly promotes manufacturing firm's fulfillment of ESG responsibilities better. Jia & Zhao use empirical research methodology and collect 2016-2021 A-share listed companies in Shanghai and Shenzhen as research simple to found digital transformation can promote firms's ESG performance implementation and enforcement [2]. Shen & Jiang analyze the 2009-2022 A-share listed companies to research ESG performance impact on firms's creative[3].ESG performance can promote firms's creative, digital transformation play an positive Rolexes performance promotes disruptive innovation more than incremental innovation .Cai, et al.also use empirical research methodology and choose 2012-2022 A-share listed companies in Shanghai and Shenzhen as simple to investigate the relationship about firms digital transformation and firms ESG performance [4].The research found that firms digital can significantly promote ESG performance, firms digital transformation can easing corporate finance constraints, increase analyst attention and then promote firms ESG performance .Zhong et al, collection CSMAR data as simple to found the promote firms ESG practical ability, stimulating the intrinsic motivation of enterprises are also important by using empirical research methodology[5]. Song,et al .though empirical research methodology found digital transformation significantly promote firms environment performance by

2008-2021 Annual Report Data of Shanghai and Shenzhen A-share Listed Companies[6].In short, digital transformation and ESG performance cross-fertilization and cross-fertilization .

Fii as a big High-end Intelligent Manufacturing firm, its ESG performance are make sense in industry. The article aims to found digital transformation have influence in Fii and give some suggestion and reference for other firms.

2. Analysis of under digital transformation's ESG performance and effective of Fii

2.1. Introduction of case firms

Fii established in 2015 and it was listed on the A-share market in June 2018, with stock abbreviation: Fii, stock code: 601138, and is headquartered in Shenzhen, Guangdong Province. Fii main operations is communication and mobile network equipment, cloud computing, industrial Internet, precision manufacturing automation, and as a leading global high-end manufacturing and industrial Internet service provider, Fii's strategic goal is to adhere to the 'data-driven, green development' .The figure 2 is part of the development history of Fii .Star with 2018,Fii have begun to recognize the firms responsibilities in society, publish CSR report for 6years,in 2023 Fii formalize actions in response to the United Nations Sustainable Development Goals to help address global sustainable development issues and explore new development opportunities .

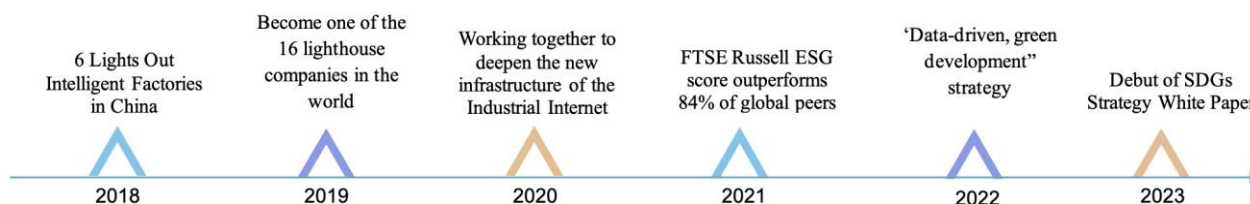


Figure 1 Part of the development history of Fii

2.2. The impact of a company's digital transformation on overall ESG performance.

Technological innovation is core competence of firms development. Fii as a publicly listed company, actively established an excellent research team and having invested enough research capital. At the same time, AI, big data and other technologies are rapidly rise make firms demand for computing power continues to grow .But in machine operation process will create a lot of heat, so the problem of many firms is heat dissipation for machines. Liquid-cooling technology is utilizing the high thermal conductivity and high heat capacity of the liquid as a substitute for air as a heat dissipation medium to dissipate heat for the machine. Fii as the forerunner of liquid-cooling technology, collaborative innovation with cooperative partner in supply chain upstream and downstream, actively promote liquid-cooling technology development and scale up applications, moving AI arithmetic industry towards green and high-quality development. What's more, Fii also offer bigger support to firms digital transformation by Self-developed Fii cloud Industrial Internet Platform. Fii integration of digital technology and different industry, such as intelligent travel, green arithmetic, Industrial Met-averse, High-end Intelligent Manufacturing, Smart Factory, Green Dual Carbon, Smart Home and other seven scenarios. Fii has launched a series of approach about industry digital transformation, promote industry upgrading and creative development in some time .

With the development of ecological civilization today, earning capacity is no longer as a unique indicator to examine a firms's operational capacity .ESG become an important indicator to examine a 'good firms' .As our economy moves towards high quality, firms Challenges faced no longer is traditional marketing, but rather how to keeping a firms going .According to existing studies, firms can though development sustainable strategies to extend firms's life and promote economic benefit in some time .At the same time, resource exhaustion and environment pollution has become a difficult

problem in internationally .It is require firms no only pursue economic benefit, but also taking up social responsibility, more towards green technology .

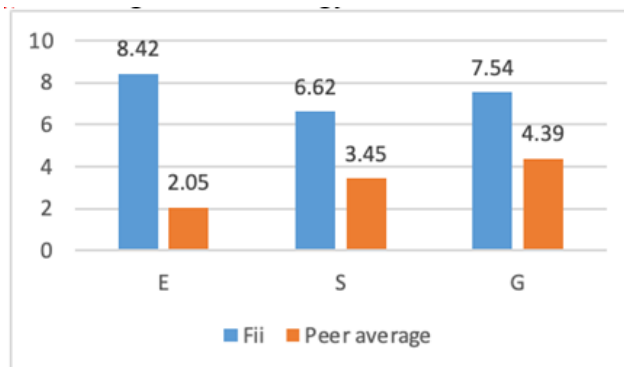


Figure 2 Comparison of ESG score

2.3. The impact of a company's digital transformation on ESG components.

2.3.1 Environmental aspects

To accommodate the green, low-carbon and cleaner transformation of the market, Fii has adopted clean technology as its core development strategy. Fii through three main industry: communication and mobile network equipment, cloud computing, industrial Internet, precision manufacturing automation and a new generation of information technology, new materials, new energy, green and low-carbon technologies to integrate and promote firms development. Fii though focus on nanosecond semiconductor fabrication technology, to raise up arithmetic power and reduced energy consumption. In 2023,Fii continued investment in clean technology, increase of 36.7% compared to other years. As the view of economic benefit, the annual receivables from clean technology amount to \$177,694 million in 2021, \$214,356 million in 2022, and \$195,954 million in 2023,clean technology creative high economic benefit to Fii .From the view of environment, The cumulative number of clean technology patents continues to rise, with an increase in the number of new patents added each year for Fii and it provides motivate to development society sustainable .

The aims to research green product, Fii integrates environmental factors and green attributes into the process of product design, production and use to improve the environmental performance of products throughout their life cycle .To strengthen green product design and development, Fii refer to ESPR domestic and international standards, built up green product’s design organizing plan, publicized on the official website .It increased transparency and accessibility of standards, which to some extent facilitates the monitoring of green development of enterprises .As shown in table 1,Fii lead product green and substantially development though four decision: raw material management, product design, product packaging, and recycled materials, it boosted value chain green development .Fii also built up many digital factories to optimizing battery efficiency for new energy vehicles and advancing the development of new energy transportation technology. Fii builds energy and carbon integration platforms for its clients, which provide Real-time tracing of the carbon footprints of thousands of products through intelligent energy use analysis, unit consumption management, and product carbon foot-printing. Fii has also set up related goals: to realize green receivables (i.e., clean technology-related receivables) accounting for more than 50% by 2050, and to formulate a biodiversity policy and a sustainable site maintenance plan.

In energy management, Fii also use self-technical advantage. Organic combination of source management and smart park management, construction of smart energy management platform and smart dual-carbon management platform. Fii also advancing a diversified renewable energy strategy, Setting specific renewable energy development targets. In 2023, the company achieved a CO2 reduction of 1.358 million tons and energy cost savings of \$190 million through these initiatives .

Table 1. Green product strategy and its initiatives

Green product decision-making	action	efficacy
Raw material management	Prioritize more environmentally friendly raw materials	1. In the field of data centers, it provides energy-efficient data center solutions that significantly reduce the PUE of data centers to 1.05. 2. Compared with traditional air-cooled data centers, it can save energy consumption by 40%, which greatly reduces operating costs.
product design	Efficient Resource Utilization”, ‘Maximized Recycled Content’, ‘Minimized Environmental Impact’, ‘Product Design Recycling’ and “Ergonomic product design”.	
Product Packaging	Replace plastic bags with stickers	
recycled material	Recycled materials instead of virgin materials	

2.3.2 Social aspects

Fii continues to deepen the construction of the professional talent team, and in 2023 launched the intelligent manufacturing ‘four’ training plan: lean, automation, informatization ,intelligence,to satisfy the training needs of all employees by combined online and offline learning model .By the end of 2023, Fii has organized a total of 45 offline talent development training, and the number of participants in online training is up to about 189,000 people .What’s more,Fii following closely the national strategy,though global regulation and strategic investments,to promote competitiveness in global value chain and driving the transformation of its own manufacturing industry to intelligent, networked, flexible.Fii also created a chief digital officer and established an industrial internet office,to pushing Fii’s digital transformation actively, promoting integration of the digital economy with the real economy,make a contribution to national economic and industry development .

The aims to keep safe of employees,Fii make goal as ‘zero injury, zero loss, zero pollution’ and though digital driving,intelligent fusion to minimize or eliminate occupational health risks, strengthen corporate safety management, and lead the company's high-quality development .The aims to ensure people's health and safety and no impact on the environment, Fii has implemented a comprehensive chemical management policy . Not only that, it aims to ensure product traceability and product transparency, and to ensure that each product batch is tracked by recording information on the production process, materials in and out of the warehouse, and production date, IIF uses a traceability mechanism. It not only ensures that product information can be transmitted quickly, openly and effectively, but also enhances the transparency and reliability of the supply chain to a certain extent.

2.3.3 Corporate governance aspects

Under the new development landscape,Fii actively adapting to changes in the industry, proactively develop a comprehensive digital transformation and enterprise upgrade strategy .At the same time, Fii also actively adapting to changes in nation strategy, though digital transformation to enhancing firms supply chain management. In2023, Fii has promoted a supply chain digital scoring system to assess suppliers' ESG performance through their self-assessment of Net Zero Carbon Management, Zero Waste to Landfill Management, Total Labor Performance Management and Green Industry Performance Management. The Fii will evaluate the best and worst suppliers, from which it will provide some counseling to the poorer performers, uncooperative suppliers will be restricted in their use, and high-risk suppliers may be eliminated.

The aims to better fulfill its ESG responsibilities, Fii has established a Strategy and Sustainability Committee. This committee is responsible for researching and making relative recommendations on the company's long-term development strategy, major investment decisions and sustainable development planning and ESG work. While practicing the sustainable development model of ‘EPS+ESG’, Fii also committed to strengthening corporate governance and risk control. Fii

recognizes that worse management of ESG performance may increase operating costs. Fii also needs to understand the needs of relevant stakeholders, disclose relevant financial data, strengthen business processes, and ensure compliance.

In summary, Fii's digital transformation promote firm's ESG performance in some time. Fii focus on clean technology and low carbon product development, built up patent database of clean technology, further strengthening the guidance and labeling of cleaner technologies, promote firms' transformation. Fii though actively action to performing its social responsibilities, caring employees, deepening the talent strategy, enhancing firm's competitiveness. In firms' governance built up specialized teams to carefully monitor the sustainable development of enterprises and strengthen the management of the supply chain, guarantee the development of firms to high quality.

3. The main inspiration of ESG practices of Fii

Firstly, focus on ESG management. Firms should focus on ESG management, need study scientific methodology and relevant legislation, management of enterprises reasonably. firm's management should recognize ESG performance rightly, involvement in related ESG activities actively, make contribution to society. Firms also need to actively respond to national strategies and focusing on the needs of stakeholders, and properly fulfilling ESG responsibilities, leading industries to development and transformation.

Secondly, focus on the flow of absenteeism. The development of the firms needs to be driven by talents, and talents are the core driving force for the development of the firms. Fii should strengthen the training of employees and enhance the cultivation and development of talents. Strengthen the competitiveness of enterprise talents. When the firms labor force is insufficient, firms should implement incentive mechanism to encourage employees to actively participate in the enterprise activities and timely update the relevant benefits and subsidies. What's more, the firms should strengthen the employee care mechanism continually and provide training for skill enhancement and career transition.

Thirdly, firms should focus on safety of information. In parallel with the development of technology, firms need to build up information security management system to improve the basic measures of information security. Avoid attacks by hackers and viruses, resulting in the leakage of corporate information. Enterprises should also continue to carry out emergency drills for phishing emails or ransom-ware viruses, it can enhance the risk perception of enterprises and improve anti-virus capabilities in a certain extent.

4. Conclusion

This article analyzes the Fii's ESG performance, recognized digital transformation can pushing firm's ESG performance in some time. Fii though development green clean technology, driving supply chain to green transformation, built Strategy and Sustainable Development Committee, Fii has become a leading company in the industry. The green product decisions of Fii have set a benchmark for the sustainable development of the entire electronics manufacturing industry, leading the industry to transform into a green and low-carbon direction. In 2022 the investment in energy saving reaches 140 million yuan, reducing carbon dioxide emissions by 153,000 tons, a 300% year-on-year improvement. As of the close of trading on October 22, 2024, Fii reported 26.26 yuan, up for four consecutive trading days, with a cumulative gain of 11.60% during the period. In the long run, Fii's continuous ESG investment and good ratings and other factors have played a positive role in stabilizing and enhancing the company's share price and market value, bringing better returns to shareholders.

What's more, firms should responsibility to social responsibility for sustainable development, though effective ESG performance to achieving emission reductions and energy reductions. This not only help addressing the challenges posed by global climate change, but also a key factor for

enterprises to stand out in the future business competition. Though practicing ESG performance, enterprises not only contribute to environmental protection, but also reap fruitful results in terms of social well-being and corporate governance optimization, laying a solid foundation for their own long-term development and providing a strong impetus for the sustainable transformation of the entire society and economy.

Although this article reveals the relationship between digital transformation and ESG performance through case studies, proves that digital transformation is conducive to promoting the ESG performance of firms a certain extent, but it also has some shortcomings. This article mainly takes one firms as a case study, the sample size is small, difficult to represent all firms .In the process of selecting cases, collecting and analyzing data in this article, individual subjective judgments, values and theoretical preferences are prone to have an impact on the study .Compared with large-scale statistical analysis, case studies may not be rigorous and standardized enough in terms of research design, data collection and analysis methods, resulting in the possibility of no empirical evidence .

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