

Coordination and Conflict: Environmental Sustainability Goals vs. Capitalist Development Goals in Amazon's 2021–2022 Reports

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Abstract—Against the backdrop of escalating global environmental challenges and the United Nations' advancement of the Sustainable Development Goals (SDGs), capitalist development goals are often perceived as conflicting with environmental sustainability. This paper examines Amazon as a case study to explore the potential for reconciling environmental goals with capitalist development goals within corporate practices. Results indicate that while substantial capital expenditures and rising operational costs exert short-term pressure on profit margins, these impacts are partially offset long-term benefits. This demonstrates that environmental sustainability goals and capitalist growth objectives can coexist in harmony. The primary tension stems from the conflict between corporate upfront investments in environmental protection and shareholder return expectations. This study is limited to a single case and relies on publicly available company data.

Keywords—amazon case study, Sustainable Development Goals (SDGs), ecological modernization theory, Corporate Social Responsibility (CSR), Creating Shared Value (CSV), environmental–economic trade-offs

I. INTRODUCTION

Environmentally sustainable development has gained increasing significance amid the growing environmental problems worldwide. Environmentally sustainable development aims to meet the needs of the present generation without compromising the living environment of future generations (Aguilera *et al.*, 2021). In response to the sustainable development challenges, the United Nations proposed 17 Sustainable Development Goals (SDGs) related to energy, climate, resources, and ecology in 2015 (United Nations, 2015).

Whereas, as the current dominant economic system, capitalism's development goals are often considered contradictory to environmental sustainability goals. Because capitalism pursues profit maximization and economic growth, it essentially increases the risk of resource overuse and environmental pollution (Bull & Miklian, 2019). Amazon's operational and strategic decisions are based on the main objectives of profit maximization, rapid growth, and market expansion, which are fully compatible with capitalist development goals. Therefore, this research uses Amazon.com as a case study to explore whether environmental sustainability goals and capitalist development goals can harmonize and coexist in Amazon's corporate practices by analyzing Amazon's sustainability report and annual report.

The objective of this study is to clarify the relationship between environmentally sustainable development goals and

capitalist development goals in the context of Amazon, as well as the feasibility of their coordinated coexistence in corporate practice. The significance of this study is that, through the analysis of Amazon's case, it can provide more enterprises with practical suggestions for environmental protection.

II. LITERATURE REVIEW

Since the 1970s, scholars from various fields linking environmental sustainability and capitalism at different levels to construct relevant theoretical frameworks for discussing the harmonization of capitalism and environmental sustainability (Giovannoni & Fabietti, 2013).

A. Ecological Modernization Theory

The theory of ecological modernization has been gaining acceptance in Western European countries since the mid-1980s (Mol, 2002). It is proposed that in the economic sphere, the theory argues that through the institutionalization of environmental benefits, more ecologically designed and organized processes of production and consumption can exist, thereby enabling the achievement of environmental sustainability in modern capitalist societies (Mol, 2002). On the other hand, Andersen and Massa (Andersen & Massa, 2000) offer a deeper understanding of the goals of ecological modernization theory. They argue that the theory of ecological modernization regards the environmental benefits of economic activities as the most crucial part, and also regards the realization of a win-win situation between environmental sustainability and economic growth as the ultimate goal. Enterprises can use new technologies to reduce the consumption of raw materials and the emission of various pollutants and, at the same time, produce innovative and more competitive economic products.

A. Corporate Social Responsibility

Corporate Social Responsibility (CSR) is the voluntary assumption of social, environmental, and economic responsibility by companies in their operations and production activities. According to the CSR pyramid model proposed in 1999, Carroll initially emphasized four aspects of corporate responsibility: economic, legal, ethical, and philanthropic (Carroll, 2016). Porter and Kramer (2011) suggest that the fulfillment of CSR puts pressure on firms to make financial gains, so firms should focus more on the concept of "Creating Shared Value (CSV)" in addition to CSR. The core of CSV is to integrate CSR into enterprises' core strategies, thereby realizing a win-win situation in terms of economic and social benefits. Overall, the fulfillment of

CSR plays a coordinating role between capitalism and environmental sustainability, which not only helps society achieve environmental sustainability goals but also helps companies themselves achieve long-term economic benefits and growth. This concept also lays the foundation for understanding Amazon's seeking a balance between achieving environmental protection and economic growth.

III. METHOD

By using a case study methodology, this study focuses on Amazon's environmental initiatives and financial performance between 2021 and 2022. By collecting information from Amazon's 2021 to 2022 sustainability reports, this paper assess Amazon's fulfillment of the UN's environmentally sustainable development goals. Furthermore, based on Amazon's 2021 and 2022 Annual Reports, this study evaluates the company's business operations and financial performance during the implementation of environmental protection strategies. Ultimately, Amazon's ability to achieve economic growth while pursuing environmentally sustainable development goals is assessed by comparing the results of Amazon's environmental initiatives with its financial performance in order to determine the balance and contradictions between sustainable development goals and capitalist development goals.

IV. ANALYSIS

A. Amazon's Initiatives and Results in Environmental Sustainability

With environmental sustainability at its core, Amazon showcases the results of several environmental initiatives in its 2021 to 2022 sustainability report. These include efforts targeting several environmental segments: renewable energy use, transportation emissions reduction, packaging and waste reduction, cloud computing services, circular economy, and water management (Amazon, 2022a; Amazon, 2023a).

1) Environmental sustainability in 2021

As of 2021, Amazon has announced 401 renewable energy projects with the goal of powering its operations with 100% renewable energy by 2025, an initiative that further solidifies the goals of SDG7 and SDG13 (United Nations, 2015; Amazon, 2022a). In addition, Amazon is upgrading its global cloud computing services and optimizing the operations of its Amazon Web Services (AWS) data centers to lower its carbon footprint and improve energy efficiency, with the ultimate goal of reducing the environmental pollution caused by its operations (Amazon, 2022a). This initiative enhances sustainable industrialization, which is in line with the goals of SDG9 (Industry, Innovation, and Infrastructure) and SDG13 (United Nations, 2015). In addition, Amazon is innovating in sustainable product design and developing the "Climate Pledge" program, which encourages manufacturers to adopt eco-friendly materials and technologies, as well as helping consumers make greener purchasing decisions, leading to product sustainability and a circular economy (Amazon, 2022a). This supports SDG12 and SDG13 by promoting sustainable consumption and production patterns.

2) Environmental sustainability in 2022

Amazon continues to work towards its 2021 commitment to net zero carbon and renewable energy. By the end of 2022, 90% of Amazon's electricity consumption came from renewable energy sources, and they are making significant investments in new renewable energy projects to further advance its progress toward SDG 7 and SDG 13 (United Nations, 2015; Amazon, 2023a). In addition, Amazon upgraded its 2021 plan to reduce transportation emissions by applying more than 2,600 electric vehicles to the transportation of goods, further solidifying the SDG11 and SDG13 implementation (United Nations, 2015; Amazon, 2023a). Ultimately, Amazon promotes sustainable water management by applying its 2021 optimized AWS data center focus to its water management plan, leading to SDG6 (clean water and sanitation) and SDG13 (United Nations, 2015; Amazon, 2023a). Specifically, Amazon committed to achieving a positive water impact by 2030: it plans to replenish 24 liters of water annually and improve water efficiency in its data centers (Amazon, 2023a).

B. Financial Performance and Market Strategy in Amazon's Annual Reports

This section will detail Amazon's financial growth, investment and expansion, and technological innovation initiatives over the three years based on Amazon's 2021–2022 Annual Report. It provides an essential basis for exploring Amazon's ability to achieve economic growth while pursuing environmentally sustainable development goals (Amazon, 2022b; Amazon, 2023b).

1) Financial performance and market strategy in 2021

In 2021, Amazon demonstrated more substantial financial growth and extensive investment and expansion plans, particularly in the areas of technology and innovation. In terms of financial performance, its total revenue was \$469.8 billion, a 21.7% year-on-year increase from \$386 billion in 2020 (Amazon, 2022b). In more detail, net revenues in 2021 are up 56.8% compared to 2020, and this significant growth is due to upgrades in several business segments, particularly AWS Data Centers, which continues to expand its market share in cloud services through launching new services and solutions for emerging technologies and infrastructure (Amazon, 2022b). In addition, Amazon focused its investments mainly on enhancing the user experience, including investing \$13 billion in self-produced and licensed video and music content and adding premium content to Amazon Prime Video and Prime Music. On the other hand, rising transportation costs due to the continuing development of the New Crown epidemic, tight human resources in the labor market, and disruptions in the global supply chain have led to increasing operating costs for Amazon (Amazon, 2022b).

2) Financial performance and market strategy in 2022

In 2022, Amazon's economic growth trend is not significant due to macroeconomic challenges such as inflation, rising interest rates, and capital market volatility. Amazon's net sales reached \$513.9 billion, a 9% increase from \$469.8 billion in 2021, but its net income decreased by \$2,722 million from \$33.3 billion in 2021 (Amazon, 2023b). Additionally, its operating income fell by 51% to \$12.248

billion, down from \$24.879 billion in 2021 (Amazon, 2023b). On the other hand, despite the slowdown in macroeconomic conditions, Amazon continued its efforts in environmental sustainability, with AWS data centers undergoing yet another innovation in 2022 with more than 3,300 new features and services, including the Graviton3 chip and the Trainium training chip, which reduces its operating costs by 70% (Amazon, 2023b).

C. Balance and Contradiction Between Environmentally Sustainable Development Goals and Capitalist Development Goals

Between 2021 and 2022, Amazon's environmental protection initiatives exerted short-term financial pressure, these investments generated long-term economic benefits for Amazon. This section will explore Amazon's balance and contradictions between achieving environmentally sustainable development goals and capitalist development goals.

1) Contradictions

Based on data from Amazon's 2021–2022 Annual Reports and Environmental Sustainability Reports, this study finds that Amazon encountered contradictions when pursuing environmental sustainability goals and economic growth goals simultaneously. First, renewable energy projects impose high initial investment costs on Amazon, and this considerable capital expenditure in the short term poses the risk of financial strain on the company and affects profitability. Second, Amazon's environmental initiatives to reduce carbon emissions, including the rollout of electric delivery trucks and the optimization of data centers, required high costs for infrastructure maintenance and charging network construction, which increases short-term operating costs in the short term, thereby affecting short-term financial performance. Ultimately, the risk of long-term environmental investments compressing the profit margins in the short term leads to investor concerns about lower shareholder returns in the short term, which reduces Amazon's attractiveness to investors. Overall, the investment in environmental initiatives negatively impacts Amazon's ability to achieve economic growth in the short term.

2) Balance

While advancing environmental sustainability goals, Amazon attained a certain degree of success in achieving economic growth and profit maximization. In fact, investment in environmental initiatives is more of a long-term benefit increase for Amazon. Their annual reports for 2021–2022 all mention considerable investments in renewable energy and plans to use electric vehicles in transportation. Environmental initiatives such as the creation of the Climate Commitment Fund have helped them drive technological change and reduce regulatory liability risks due to changes in environmental regulations, which in turn has increased their economic efficiency and competitiveness. From an objective point of view, Amazon's significant investment in renewable energy and electric vehicles reinforces its leadership position in corporate environmental responsibility because the environmental initiative enhances the company's brand value and market positioning, thereby attracting more environmentally conscious customers and

investors.

Moreover, in terms of operating costs, while the initial investment in renewable energy programs and electric delivery vehicles is significant. However, it reduces maintenance costs in the long run and lowers long-term energy costs, thereby improving operational efficiency and profitability. In addition, through the Climate Commitment Fund, Amazon has driven technological innovation, including continued investment in AWS systems, which has created new business opportunities and boosted its competitiveness in the commercial marketplace.

V. DISCUSSION

Between 2021 and 2022, Amazon has achieved a degree of balance between achieving environmentally sustainable development goals and capitalist development goals, though it confronted numerous challenges and contradictions. This suggests that economic growth and environmental measures can be a win-win situation in some respects, but there are still many complex trade-offs in actual business practice.

Through the lens of ecological modernization theory and corporate social responsibility, Amazon's business practices can be more clearly interpreted. Amazon has successfully demonstrated the core of the eco-modernization theory by optimizing AWS data centers, using renewable energy, and promoting electric delivery trucks to create long-term economic benefits for the company. On the other hand, Amazon's environmental initiatives not only reduce long-term operating costs but also attract more environmentally conscious consumers and investors because of the increased brand value, thus accomplishing the goal of economic growth, which is the same as the concept of "creating shared value" proposed by Porter and Kramer (2011).

VI. CONCLUSION

This study examines the relationship between environmentally sustainable development goals and capitalist development goals. It assesses whether the two goals can coexist harmoniously in corporate practice. The results indicate that Amazon has made substantial progress in advancing its environmental sustainability goals while accommodating capitalist development goals to a certain degree. This study has two primary limitations, related to case selection and data sources, including the analysis focuses mainly on Amazon.com and overly relies on public reports from Amazon, and there is a lack of more objective real-world research to validate the data and conclusions in the report. In future research, the author will incorporate independent social actual research to validate the data and conclusions in the Amazon report to provide a more accurate analysis.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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