

CARBON DISCLOSURE AND SUSTAINABLE BUSINESS PRACTICES IN ONLINE FOOD DELIVERY SERVICES: A CASE STUDY APPROACH

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ABSTRACT

This paper examines the role of sustainable business practices and carbon disclosure in online food delivery services using the SAP LAP approach which has taken form due to the rapid growth of online food delivery services over the years which has led to increase in carbon footprint and also other environmental concerns. This increased footprint has arrived from the traditional methods of packaging and waste management by the concerned bodies which has raised concerns over ethics being followed in these companies. The SAP-LAP (Situation, Actor, Process- Learning, Action, Performance) Approach has been utilized as a case study tool to examine the role of various sustainable initiatives backed by governments and organizations. This SAP-LAP Approach is a framework focused on probing into actual scenarios, the actors in it and actions taken with its impact on the concerned organization. For the purpose of the case study utilized in this paper, the situation aspect delves into the environmental impact of online food delivery, the actors involved are various online food delivery platforms whereas the process takes into account various sustainability measures. The impact of these three has been seen using the LAP framework as evidenced by the findings that indicates that while several commitments had been made by these delivery platforms there have been several challenges that hinder their progress towards a sustainable future. This paper also contributes to the conversation over the formation and implementation of sustainable business practices and models by providing key policy recommendations to enhance carbon transparency and leads to a future driven by net zero emissions and fulfilled commitments.

KEYWORDS: Sustainability, Online Food Delivery, SAP-LAP, Carbon Disclosure, Net Zero Emissions.

Introduction

The rising demand for online food delivery services has accelerated in the past decade, particularly in urban India. This exponential growth, however, has led to significant environmental concerns, primarily revolving around carbon emissions from delivery logistics, packaging waste, and energy consumption. In response, several companies have begun integrating sustainability into their core business operations. Zomato, a pioneer in India's online food delivery landscape, has recognized its environmental responsibility and adopted various carbon disclosure and sustainability initiatives.

This research paper aims to explore the carbon disclosure practices adopted by Zomato, evaluating its efforts through the SAP-LAP framework. The analysis focuses on Zomato's ESG (Environmental, Social, Governance) reports, annual disclosures, and sustainability strategies to understand its commitment to reducing its environmental footprint and contributing to India's sustainable development goals.

This SAP-LAP Framework has been utilized in several domains and is essential for this study. The framework will examine the green initiatives of Zomato which has been taken from its sustainability report in the form of the Scope 1, 2 & 3 emissions.

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Objectives of the Study

- To assess the carbon disclosure practices of a leading online food delivery company.
- To apply the SAP-LAP framework to evaluate the sustainability initiatives.
- To provide policy recommendations for improving carbon transparency in the selected company and the sector.

Literature Review

• Carbon Disclosure and Sustainability Reporting

Carbon disclosure refers to the process by which organizations reveal information about their greenhouse gas (GHG) emissions, environmental impact, and initiatives toward carbon neutrality. According to the Carbon Disclosure Project (CDP), transparent carbon reporting helps investors and stakeholders assess an organization's environmental risks and sustainability practices (CDP, 2023).

Onat & Mandouri et. al., (2025) asserted that carbon disclosure and sustainability reporting are essential in carbon emissions accounting as they not only facilitate stakeholder engagement but also help in the alignment of such policies with the United Nations Sustainable Development Goals (UNSDGs). They used Greenhouse Gases (GHG) Protocol as well as Global Reporting Initiative (GRI) standards for measurement and reporting. Moussa and Elmarzouky (2024) in their article concluded that carbon disclosure enhances sustainability reporting by reducing market uncertainty. Wang & Lou et. al., (2022), investigated the relationship between corporate carbon information disclosure & financing costs with an emphasis on the moderating effect of sustainable development. It was found that sustainability reporting which consists of the reporting of carbon disclosures is crucial for sustainable development as it lowers financing costs & reduces information asymmetry.

• Carbon Disclosure in the Food Delivery Industry

The online food delivery sector has grown exponentially, leading to increased emissions from transportation, energy use in kitchens, and packaging waste. According to Gupta and Tiwari (2022), the industry's reliance on motor vehicles for deliveries significantly contributes to urban pollution and carbon emissions. However, carbon disclosure in this sector is relatively nascent, with few companies adopting comprehensive ESG frameworks.

Carbon Disclosure Practices in the online food delivery industry has been critical in mitigating climate related risks. The reason behind this rationale is that the food sector has been increasingly contributing to greenhouse gases emissions. Transparency in their carbon reporting practices will help cut back some of those emissions and formulate plans and policies for the same.

Zhong & Bai et. al., (2024) in their paper emphasized the need for further research on the impact of carbon emissions from takeaway delivery in China and also form mitigation strategies. It was found at the end of the research that Chinese companies have potential to mitigate 4.39-10.97 MtCo_{2e} by 2035. Arunan & Crawford, (2021) in their paper, focused on quantifying greenhouse gas emissions which was released from food packaging of the delivered food items in Australia. It utilized the Packaging Impact Quick Evaluation Tool. Pullman & Fenske et. al., (2010) in their study highlighted the significance of carbon footprint assessments in the food delivery industry as packaging & transportations majorly contribute in the rise of GHG emissions. At the end of the study, it was observed that with the help of local sourcing, food waste & packaging can be reduced.

• Role of Food Delivery Giants' in promoting Sustainable Practices

Major companies in the delivery sector are implementing initiatives to minimize their environmental impact, both in food production and logistics. For example, Amazon has set goals to reduce its carbon emissions and is expanding the use of electric vehicles and alternative fuels. Similarly, Uber Eats has announced plans to transition entirely to sustainable packaging by 2030 and achieve net-zero carbon emissions by 2040. Another initiative is Trypicnic, a company committed to sustainability that provides tailored meals for offices, schools, and other establishments, helping to reduce food waste (The Human Capital Hub, 2025). Zomato's initiatives, including transitioning to electric vehicles (EVs) for deliveries, reducing plastic packaging, and supporting cloud kitchens powered by renewable energy, signify its commitment to sustainability (Zomato Annual Report, 2023-24). Studies by Singh et al. (2023) highlight that customer preferences are shifting toward environmentally responsible brands, reinforcing the need for transparent sustainability reporting.

- **SAP-LAP Framework**

The SAP-LAP methodology was proposed by Sushil (2000) to analyze the dynamic behavior of business and rapid changes in an organization. It was widely utilized for managerial inquiry, problem solving, and case-based analysis. It has recently been used in various domains. The SAP-LAP framework is a system thinking based holistic and flexible approach that involves two phases, namely SAP and LAP. SAP aids in examining the current state of the case company, recognizing involved stakeholders, individuals, or groups, and understanding various parameters, tools, and processes. The synthesis of SAP leads to the LAP, where 'learnings' help in finding critical factors and key issues linked with SAP. Further, based on the "learnings", it is essential to identify what "actions" need to be taken to improve the status of SAP elements. The "actions" then lead to the intended "performance". In addition, examining the effect of "performance" on SAP elements adds to learnings for further development. In this way, the interplay between SAP and LAP facilitates deeper analysis and helps in improving overall performance. Following this, it has been found that the SAP-LAP framework has immense potential to facilitate a holistic, structured, and in-depth analysis of the case study (Mishra et al., 2024; Ravi, 2014).

SAP-LAP Methodology Reported in Recent Literature

Sr. No.	Researchers (Years)	Primary Objective	Application
1.	Ruchita & Shankar (2024)	To analyse the current condition of the Electric Vehicles (EVs) industry in India.	EV Industry & its infrastructure.
2.	Kabra & Mukerjee (2023)	To propose a practice-based theoretical framework using the SAP-LAP.	Associated with design thinking approach in software development organizations.
3.	Mishra & Singh et. al (2022)	By using case-study approach, digital orientation & data-driven insights related to digital technologies are assessed.	Used in the context of automobile industry.
4.	Gupta & Singh (2021)	To analyse sustainability issues of the case organization.	Used in the context of logistics service providers.
5.	Chauhan & Sharma, et. al (2021)	To integrate literatures associated with Industry 4.0 & Circular Economy.	Used in Industry 4.0 mechanisms in addressing business models associated with Circular Economy.
6.	Kumar & Shankar, et. al (2021)	To examine the complexities of Industry 4.0 implementation.	Utilized in Indian Manufacturing organizations.
7.	Agarwal & Seth, et. al. (2020)	To critically analyse the supply chain of the Indian Agriculture Sector.	Utilized in agriculture sector.

Research Methodology

Research Design

This study adopts a case study analysis using the SAP-LAP Framework to assess Zomato's sustainability practices. The framework consists of the following elements: **SAP** to assess the environmental impact, identify key stakeholders & examine sustainability initiatives. **LAP** analyzes the outcomes, identifies best practices & recommends improvements.

The study relies on secondary data sources, including Zomato's BRSR, industry reports, and academic literature on sustainability in online food delivery services.

- **Case Study Selection:** Carbon disclosure is a crucial aspect of sustainability in online food delivery services. Companies in this sector like Zomato are increasingly adopting carbon accounting mechanisms to assess and report their emissions. The scope of carbon disclosure typically includes three types of emissions which are Scope 1 Emissions (Direct emissions from companies, in the case of Zomato, emissions from delivery fleets and the EVs), Scope 2 Emissions (The Indirect Emissions that arise from purchased electricity which is used in the offices owned by the company and the Scope 3 Emissions (Emissions that arise from food

packaging and logistics governed by the third party involved in the operations). Zomato was chosen for the purpose of the case-study analysis due to the consistency shown by them in reporting the emissions regularly.

Framework Used

The SAP-LAP framework which has been utilized for the purpose of the case study, has been classified on the basis of objective, into two types:

- **Exploratory Models:** These models are specifically designed for case development and enquiry into managerial practices.
- **Normative Models:** These models are used for implementing and formulating strategies, technology upgradation and transfer, etc.

In the case of Zomato, an exploratory model will be utilized which has led to the development of the following structure:

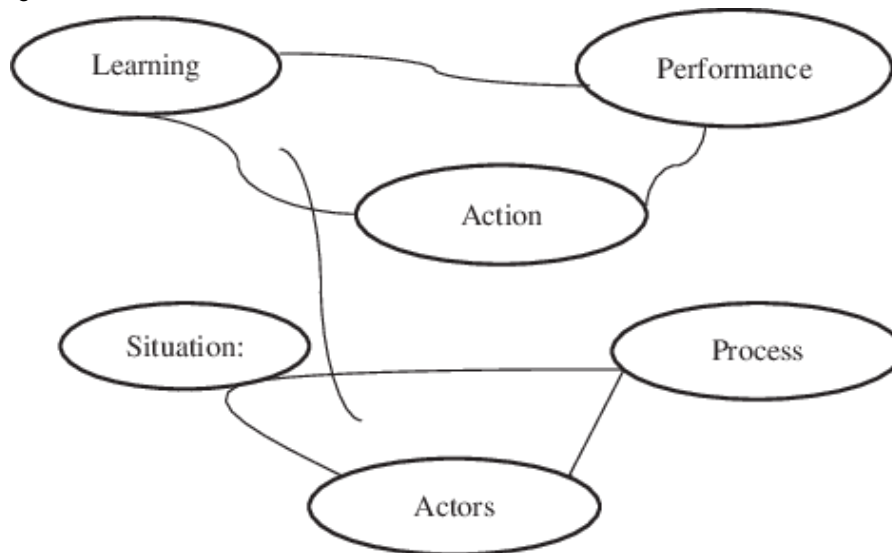


Figure 1: SAP-LAP Framework

Source: Sushil (2001a)

As indicated in the Figure. 1, the LAP Structure is the result of the SAP Structure in which Situation (S) defines the contextual environment where a company is currently operating. Actors (A) includes all the stakeholders related to an organization, let's say when it comes to a food delivery company, it includes the customers, delivery partners, regulators, etc. Processes (P) consists of all the actions taken by a company to implement a policy, in this case, carbon disclosure. Learnings (L) are the insights gained after implementing the said plans or policies whereas Actions (A) resemble the future plans & initiatives. At last, the Performance (P) indicates the outcomes attained after implementing all the plans & initiatives.

Case Study Analysis: SAP-LAP Framework

As we know that Zomato provide services such as food delivery, restaurant reviews & dining-out experiences. This case study examines Zomato's operations using the SAP-LAP (Situation, Actors, Processes-Learning, Action, Performance) framework to analyse its business model & strategic decisions.

- **Situation (S):** Zomato operates in a highly competitive food-delivery environment where players like Swiggy and other cloud kitchens are flourishing. Due to the constant increase in the population of India, the climate related risks are also increasing leading to the preparation of mandates on carbon disclosure. It has pushed companies like Zomato to disclose their carbon footprints in the form of Scope 1,2 and 3 emissions. The challenges have been intense & opportunities massive leading to expansion in Tier 2 & 3 cities due to its sustainability initiatives.

- **Actors (A):** The stakeholders involved in carbon disclosure and related practices of Zomato are the following:
- **Management:** The management is responsible for formulating plans and policies at the business or corporate level. So, when it arrives at the conversations regarding sustainability, the carbon disclosure policies are either formulated by the same management or is implemented by them. They not only handle its implementation but also work in their suitable disclosures.
- **Restaurants:** Restaurants form a major contributor in the success of any food delivery company. This is the reason it becomes very essential for companies like Zomato to partner-up with such restaurants that offer not only hygienic and nutritious food but also takes care of the environment while doing so.
- **Delivery Partners:** Delivery Partners are the ones who actually meet the customers. It becomes very important for them to behave properly and also promote sustainability as their actions decide the fate and goodwill of the company in the minds of the customers. Use of Electric Vehicles has been a remarkable initiative in this regard.
- **Investors and Shareholders:** Investors and shareholders are particularly interested in a company's sustainable performance as it directly impacts the stock or firm's value which in return directly impacts their investments and earnings. In the era of Socially Responsible Investing (SRI), Impact Investing & Sustainable Investment, investors are constantly seeking opportunities to invest in those companies that are socially as well as environmentally responsible.
- **Institutions & Government Bodies:** Institutions & Government bodies are essential in formulating rules and regulations regarding carbon disclosure and also see to it that companies either voluntarily or mandatorily. In India, the listed as well as unlisted companies' disclosure their emissions in a format prescribed by the Securities & Exchange Board of India (SEBI). The prescribed format is BRSR Core for the listed companies & BRSR Lite are the unlisted ones. Zomato uses this format to disclose and report their emissions.
- **Processes (P):** Integration of AI-powered technologies, Customer Loyalty Programs, Zomato Pro memberships, fleet optimization, partnerships with cloud kitchens, etc. have been instrumental in driving the operations as well as the sustainability initiatives of the company. Zomato has also started reporting of Scope 1,2 & 3 emissions along with their comprehensive audits. It has also initiated and implemented Route Optimization Technologies to minimize the distance covered by delivery agents & also help them cover larger distances with the same amount of petrol.
- **Learning (L):** Zomato has evolved from a restaurant delivery platform to an end-to-end food-tech company. It has learned to balance customer expectations with cost efficiency through data analytics & also launched sustainability initiatives. It has also learned from its competitors and has continued its food-focused approach following various food safety and labor regulations while maintaining its agility. It has evolved from not only customer conscious but also climate conscious delivery services and is trying to provide healthier, sustainable & hygienic food to its consumers.
- **Actions (A):** After learning the key issues, Zomato has taken several actions to improve their case on sustainability. Some of the actions taken by them include expanding into newer markets by forming alliances in smaller cities and using newer methods and techniques like Hyperpure to strengthen their supply chain and delivery partner relationships. It has enhanced employee-based training programmes and incentives and has also diversified its services. It has integrated AI and UX/ UI in their operations and also acquired UberEats India.
- **Performance (P):** When it comes down to it, Zomato has delivered smoothly by expanding into new cities, utilizing subscription-based models, facilitating exclusive dining experiences, etc. These activities have led to improvement in the ESG Ratings which has attracted more & more green investors. It has also led to EV-penetration and reduction in plastic usage in deliveries. It has also enhanced brand reputation and customer loyalty, also increased participation by communities in sustainability programs & initiatives leading to shared environmental responsibility.

Discussion and Policy Recommendations

Discussion

Zomato's initiatives, while commendable, highlight both strengths and areas for improvement. The company's transparent ESG reporting aligns with global best practices, and initiatives such as plastic neutrality and EV adoption indicate a serious commitment toward sustainability. However, challenges persist in scaling these efforts across Tier II and III cities, where infrastructure and awareness remain inadequate.

Zomato's reliance on third-party delivery partners poses a challenge in ensuring uniform sustainability practices. Moreover, while its carbon reporting covers key areas, expanding the scope to include Scope 3 emissions from partner restaurants and customer-end waste could improve comprehensiveness.

Policy Recommendations

- **Proper Auditing:** Companies like Zomato need to be properly audited by the concerned authorities and institutions to increase the level of reliability and accuracy in their data as there are several stakeholders that depend on the data provided in their sustainability reports.
- **Partnerships with Renewable Energy Parties:** Zomato needs to have collaborations and partnerships with parties that support sustainability and renewable energy in their operations. This will help them smoothen their operations in a manner that also cuts back their carbon emissions.
- **Awareness Campaigns:** Zomato should conduct awareness campaigns for their consumers for them to know about all the sustainability initiatives being taken by them and how those campaigns benefit them. This will help the company expand its reach in the remote areas as well and understand consumers' point of view.
- **Investment in Research & Development:** The company should invest in newer and renewable technologies and also invest in research related to carbon offset and tracking techniques to improve their carbon management strategies. It should also invest in sustainable development programs and initiatives.
- **Incentivize Consumers:** The consumers who choose green products over the non-green ones should be incentivized in the form of discounts and gift hampers. These consumers should be benefitted so that more and more consumers start choosing green.
- **Standardized Reporting Guidelines:** The reporting guidelines in terms of carbon mandates and reporting are still in its initial phase and is voluntarily applied on the companies. So, it's essential for the concerned institutions and authorities to formulate and mandate guidelines that support reporting of all types of emissions not just 1 & 2.
- **Incentivize the Companies:** The companies that support sustainability should be incentivized in the form of rebates and subsidies by the government to encourage more and more reporting.

Conclusion

While companies like Zomato have initiated various green initiatives, their success depends on strong policy support, industry-wide cooperation, & consumer participation. Transparent carbon disclosure, coupled with proactive sustainable strategies, can drive the transition towards a greener & more responsible food delivery ecosystem. This responsible food delivery ecosystem will promote overall sustainability of a company as well as of a country. Future research should explore innovative solutions such as AI-driven logistics optimization, carbon-neutral delivery hubs, & circular economy practices to further enhance sustainability in this industry. It should also explore the impact of those initiatives on a company's financial as well as non-financial performance.

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