

## PROJECT MANAGEMENT IN ECO-FRIENDLY FILM PRODUCTION

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### Abstract

Globally, the film industry has been associated with cultural influence and creativity, however, it also has many environmental issues. Filmmaking with the help of the traditional techniques is unhealthy to the environment due to excessive consumption of energy resources, waste products, and carbon emissions. Eco filmmaking has hence been a new strategy in reducing the environmental footprint of the industry whilst still achieving global sustainability targets. This paper explores the role of project management in integrating sustainability into moviemaking with regards to SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action). The review of the existing literature will show that the project management models such as Agile, Lean, and PRINCE2 can be adapted to make sustainability permeate through every phase of the film production. The findings refer to the fact that environmental energy-saving strategies, such as using renewable energy, offsetting carbon emissions, digital working processes, and recycling materials, make businesses more responsible towards themselves and the environment and more economical with their funds. Through the discussion, it has become apparent that project managers are extremely significant as change agents who set creative targets in relation to environmental and financial concerns. The study suggests that sustainable project management provides the film industry with an opportunity to evolve into an environmental management paradigm,

which in turn can support the global climate action and sustainable consumption practices directly.

**Keywords:** Project Management; Eco-Friendly Film Production; Sustainable Development Goals; SDG 12; SDG 13; Green Filmmaking; Creative Industries; Sustainability; Climate Action; Responsible Consumption.

## **Introduction**

For a long time, people have praised the global film industry as a powerful way to tell stories, express culture, and have an impact on society. However, behind the scenes, film productions often have a big impact on the environment because they use a lot of energy, travel a lot, waste a lot of materials, and build sets that use a lot of resources. In recent years, there has been a lot of talk about changing how movies are made to fit with global development goals. This is because people are becoming more aware of climate change and sustainability. The Sustainable Development Goals (SDGs) 12 and 13, which stress the need for responsible consumption and production and immediate action on climate change, are an important set of rules for the industry to follow in order to become more environmentally friendly (Meilani, 2021).

This transformation is largely regarding project management. It is not just the project management ensures that the productions are completed on time and on budget, but also ensures that sustainability strategies are applied throughout the whole production cycle, starting with planning of the production and allocation of the right resources before production and waste disposal after production. The environmental impact can be reduced significantly when the film projects are carried out in eco-friendliness ways such as carbon-neutral filming, digitalization, the use of energy-efficient equipment, and environmentally-friendly materials. These strategies can also come in with new standards of responsible production within the industry. Green filmmaking is a relatively new concept that is becoming popular at a global level. Studios, independent filmmakers, and streaming services are focusing a lot more attention on environmentally friendly approaches. These efforts, however, should be accompanied by some structured project management strategies that are both innovative and sustainable. This makes sure that the problem of environmental concerns is not in between the artistic vision and sound-financial viability. Therefore, project managers play a significant role as change agents and they can ensure that sustainability concepts are incorporated in all film production phases.

One of the strongest cultural industries the world has is the film industry. It influences narratives, identities, and opinion on the other side of the border. The creative and social influence of filmmaking can be enormous, but the method of making films can be extremely unsustainable. Traditional film sets consume a lot of energy, materials that are only consumed once, travel, water, and waste, thereby contributing to the emission of greenhouse gases and harming the environment. With the increased attention of people around the globe to the issue of climate change and sustainability, the necessity to use eco-friendly approaches to the methods of film production has become a pressing and indispensable problem. United Nations Sustainable Development Goals (SDGs) offer industries a guideline to follow when they engage in seeking solutions to problems relating to sustainability. According to SDG 12 ( Responsible Consumption and Production ), we are not supposed to waste resources but consume them in a way that does not harm them and to make efforts to fight climate change and its impacts (Keilbach and Spoler, 2022). In this case, cinema industry must share a particular two-fold responsibility: not only it must use the most appropriate methods behind the camera, but it can also impact viewers around the globe by following certain environmental messages in its work. Project management that involves planning, doing and controlling is also an important factor to having a more sustainable movie production. With the environment-friendly approach to the project procedures, the managers can make sure that the idea of sustainability is not identified with the post-consideration phase but the decision-making process. The trade of project managers is superb regarding the mediation between the concerns about the environment and the aspects of innovation and the economic possibilities. Some of the things that they do include selecting lighting systems and virtual sets with low power consumption, creating digital processes and initiating carbon offset programs. In addition, project management systems such as Agile, PRINCE2, and Lean may also be modified to emphasize more on sustainable practices. This provides filmmakers with systematic methods by which they can think of new ideas that would be friendly to the environment.

## **Significance of the Study**

This research is significant in the sense that it augmented the gap that exists between the objectives of sustainable development and the daily functions of the film industry. The impact of film productions on the environment is significant since they consume a lot of energy, emit a lot of carbon, waste a lot of materials, and employ production technologies that

are not environmentally friendly. This paper discusses the contribution of project management to the development of environmentally sustainable practices, using the film industry as an example of how the SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action) can be actively supported. The findings of this research will provide individuals associated with the film industry with practical details on how to incorporate sustainability into the whole life cycle of the film projects. The recommendations offered in this study can assist producers, directors, and project managers to reduce the expenditure, maximize productivity, and enhance their credibility by addressing the growing demand among consumers towards socially and environmentally responsible entertainment (Acharry et al. 2014). To academicians and researchers, the project identifies as an addition to the growing field of literature on sustainable project management, since the theoretical frameworks in the study were applied in a resource intensive and creative industry. Its social relevance lies in the fact that the study asks the question that films (rather than the introduction of sustainable production practices) are cultural instruments and may persuade viewers to adopt eco-friendly practices. In this way, the paper does not only concentrate on the internal processes within the industry but also the overall influence of the industry on the evolution of the shared environmental responsibility.

This study will also be of interest to policymakers and the world industry. There are increasing focus on green production standards, carbon-neutral certifications and sustainability audits in creative spheres by governments and other international bodies. This research can help make future guidelines, push for the use of standardized eco-friendly practices, and help create incentives for sustainable film production (Keilbach and Spoler, 2022) by giving evidence-based insights. The study not only helps filmmakers and project managers, but it also fits in with bigger national and international goals for climate resilience and cultural industries that last. Its results can motivate future partnerships among policymakers, environmental groups, and creative professionals to make eco-friendly filmmaking a global standard instead of an exception.

## **Justification of the Study**

This study is warranted due to the urgent necessity to synchronize creative industries with global climate objectives and sustainable consumption practices. Sustainability efforts often focus on industries like construction and manufacturing, but the film industry has a big environmental impact that hasn't been studied enough. This is because it uses a lot of energy,

relies on disposable materials, and requires a lot of travel. To make sure that the global sustainability agenda includes all sectors that are making the environment worse, this gap needs to be filled. The study is also valid from a project management standpoint as it broadens the application of sustainable project management to the media and entertainment sectors. Film projects are hard because they involve a lot of people, have limited budgets, and have to be done quickly. This study shows how environmental goals can be balanced with creative and financial goals by making sustainability a part of project management frameworks. The study is warranted by its prospective practical significance (Meilani, 2021). The film industry needs to change to stay relevant and competitive as audiences, investors, and government agencies demand more accountability and eco-friendly practices. This study offers practical strategies for producers and managers to adapt to these changing expectations. This study is timely and essential, providing significant insights for the film industry's evolution into a paradigm of sustainability and responsible innovation.

There is a strong need for this study because creative industries need to be in line with global climate goals and sustainable consumption patterns. Sustainability efforts often focus on industries like construction and manufacturing, but the film industry has a big environmental impact that hasn't been studied enough. This is because it uses a lot of energy, relies on disposable materials, and requires a lot of travel. To make sure that all sectors that are making the environment worse are included in the global sustainability agenda, this gap must be filled. From a project management point of view, the study is also valid because it broadens the field of sustainable project management to include media and entertainment (Keilbach and Spoler, 2022). Film projects are difficult because they involve many people, limited budgets, and strict deadlines. This study illustrates the integration of sustainability into project management frameworks, showcasing the alignment of environmental goals with creative and financial priorities. The study is warranted due to its prospective practical significance. The film industry needs to change to stay relevant and competitive as audiences, investors, and regulatory bodies demand more accountability and eco-friendly practices. This study offers practical strategies for producers and managers to adapt to these changing expectations. Consequently, the study is both timely and essential, providing significant insights for the evolution of the film industry into a paradigm of sustainability and responsible innovation.

## **Literature Review**

### **Project Management in the Creative Industries**

Managing projects in the creative industries, especially filmmaking, means balancing artistic vision, technical execution, and financial oversight while working under tight deadlines. Film productions are very dynamic, which means that people who work on them need to be able to change and adapt to the unpredictable nature of creative work. Such a film project often undergoes three phases, namely, the pre-production phase, the production phase, and the post-production phase. A large number of people are involved every step including producers, directors, technical teams as well as distributors. Project managers have a big role in ensuring that these steps align to the general vision, but within the budgets and logistical constraints (Ruseva, 2019).

There is an increasing number of innovative projects that apply such frameworks as Agile, Lean, and PRINCE2. Agile approaches promote the iterative approach, which promotes creativity and opportunity to give changes to scripts, sets, or production design at last-minute changes. Lean principles focus on efficiency, cutting down on waste, and creating value. These are all very important for sustainable production. PRINCE2's structured governance model makes sure that decisions are made in a way that is fair and clear. These frameworks can be combined in film projects to balance the two goals of creativity and efficiency. Also, project management in the creative field isn't just about keeping an eye on operations; it also includes managing people, communication channels, and the expectations of stakeholders. Success of the project managers in this field is founded on how well they manage to balance the ambition of art to the practical constraints. Regarding sustainability, project managers of creative areas are facilitators, who can influence the consideration of eco-friendly practices as the part of the project lifecycle. Project management is also an emerging component of creative work as the film industry transforms to address global sustainability initiatives due to its role in project efficiency, innovation and environmental responsiveness.

### **Environmental Impact of Film Productions**

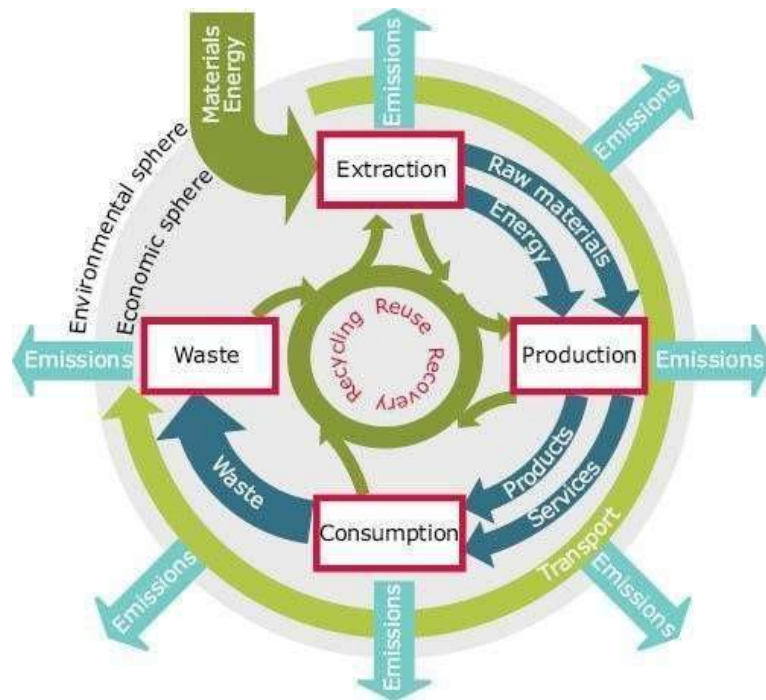
The environmental effect of a film production is huge, which is not perceived to the maximum extent as compared to other industries. The old-fashioned method of making movies consumes a lot of resources in terms of consuming a lot of energy, carbon gas emissions, and wastes. For big sets, you need a lot of wood, plastic, and other materials that

can't be recycled. Most of this stuff is thrown away after the show is over. Transportation and travel, especially for international shoots, make the carbon footprint even bigger. The greenhouse gas emissions from moving crew and shipping equipment are a big part of this. Reports from the industry say that one big-budget movie can release thousands of tons of CO<sub>2</sub>, which is the same amount of carbon that small towns produce in a year (Victory, 2015). Lighting, generators, and climate control on sets all use a lot of energy, which is another big problem. Also, single-use plastics and food waste from catering make the environmental impact worse, showing how the industry uses resources in ways that aren't sustainable. Independent productions, while smaller in scale, encounter analogous challenges when financial limitations hinder the implementation of environmentally friendly technologies.

These effects go beyond production; post-production tasks like digital editing, rendering, and data storage also use a lot of energy. Streaming services have made people want more content, which has made the environment even more stressed. Even though more people are becoming aware, the fact that there are no standardized environmental rules and guidelines in filmmaking is still a big problem. Recognizing these effects has led to discussions about sustainable filmmaking, with many people in the industry calling for carbon calculators, green certifications, and eco-friendly protocols (Doğan and Dalkılıç, 2023). To make changes and make sustainability a part of project management, it's important to know how much traditional film production costs the environment. Without these changes, the entertainment industry could hurt the world's efforts to reach SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action).

### **Eco-Friendly Practices in Film Production**

The rise of eco-friendly practices in film production shows that people are becoming more aware of the industry's duty to protect the environment. These practices, which are often called "green filmmaking," aim to cut down on waste, energy use, and carbon emissions at every stage of production. Some strategies are to use renewable energy sources, set up programs for separating and recycling waste, use sustainable set materials, and promote digital workflows to cut down on paper use. For instance, virtual production technologies and digital distribution have made it less necessary to use physical resources, which makes them good alternatives to more traditional methods (Sharma et al. 2025).



Some studios and production companies have taken the lead in making their businesses more environmentally friendly. Hollywood, the British Film Institute, and several European film councils have created sustainability guidelines and certifications that encourage productions to keep track of and reduce their carbon footprints. Certain productions have been in a position to go carbon neutral through the use of renewable energy within the set and offsetting avoided though through carbon credits. Smaller independent producers are also considering low-cost and eco-friendly methods of film production, such as shooting where they are to reduce the amount of travel or using recycled materials to create sets. Besides being greener, environmentally friendly acts are actually cost-efficient in the long-term since they reduce energy expenses, minimize material consumption and eliminate government penalties. It is also good because sustainable filmmaking improves the image of production companies that is critical since it will appeal to environment-aware visitors and investors. However, it is not always easy to put these kinds of things into practice. The lack of knowledge, high initial costs, and being unwilling to alter the cultural norms are still issues. Nevertheless, film industry experiences a significant cultural transformation due to the increasing number of people who follow environmentally-friendly principles. This demonstrates that creativity and responsibility towards the environment may co-exist and directly contributes to SDG 12 and SDG 13.

One of the powerful methods to ensure that the principles of sustainable development are involved into the movie-making can be despised as project management. Unlike various environmental, social, and economic initiatives, which are ad hoc, project management provides a methodical way of integrating the environment, social, and economic goals in the project lifecycle. These encompass sustainability planning prior to production, using resources prudently in shooting and being responsible in post-production and distribution. Project management frameworks that are sustainability-oriented can ensure that eco-friendly objectives are achieved by filmmakers by tracking and ensuring that said objectives are accomplished. Project managers are the drivers of things in this change. They have a responsibility to ensure that sustainability aligns with budgets, deadlines, and the best ideas, and nothing stands in the path of production efficiency, with environmental concerns (Gareis et al. 2013). To monitor the progress, you may apply such a tool as carbon footprint calculators and sustainability checklists, and environmental performance indicators in the project management processes.

### Why Is Sustainability Important in Project Management?



There is also the mandate to come up with integrating project management and sustainable development. Sustainability promises do not hold words on paper, clear records, risk assessments, and reports anymore, promises are bound and put into practice. Project managers also help society members with different specializations to cooperate with each other by holding a conversation with policymakers, environmental consultants and

production departments to find new environmental solutions. With projects management as a part of the bigger picture of the Sustainable Development Goals, it makes sure that the film productions do lead to a change in SDG 12 and SDG 13 (climate action). In this regard, it is possible to go beyond the short run and action areas of simple action to implement some long-term, systematic change by focusing on making sure the management of the project retains on the practice that is environmentally friendly. Project management is hence not simply a technological tool, it is also a business success as well as a sustainability factoring strategy to balancer creativity into the equation.

### **Methodology**

Qualitative and descriptive approach is used in this paper through the comprehensive review of secondary literature in the form of academic journal articles, industry reports, policy documents and case studies, which address the problem of sustainable filmmaking practices. It was a methodical literature review to determine which topics were thought to recur in this type of research on project management structures, environmental impact of film production, sustainable practices, and the compatibility with the Sustainable Development Goals (SDGs). The article authors embraced a thematic approach to content analysis to synthesize the results on four key dimensions, i.e., project management in creative industries, environmental influence, green practices, and project management in a sustainable way. We have chosen to do so because this will enable us to see the entire range of practices and how project management can transform sustainability into a practical concept in film production. In doing this, the study ensure that theoretical and empirical sides are considered in a comprehensive manner. This allows the study to discover how to make the environmentally-friendly movies in the most optimal manner and issues that set in when attempting to do so.

### **Results and Discussion**

The findings of this paper indicate that project management is highly significant to transform eco-friendly film production into long-term sustainability. As evidenced in the literature, the traditional filmmaking approaches are associated with high environmental tolls, with a high level of carbon emissions, high-energy consumption, and unreasonable material use. A single large-scale manufacturing can emit thousands of tons of CO<sub>2</sub> into the atmosphere, and this means that it is necessary to make modifications that would be consistent with the global climate objectives (Ruseva, 2019). Smaller productions have issues with the disposal of

waste materials, inefficient methods of work, and the inability to apply green technologies as much as they would like. These problems show that the environmental impact of making movies is both big and wide-ranging, which means that the whole industry needs to take action. Because of these worries, eco-friendly practices have started to appear, which is a change in the way the industry works and thinks. Adopting renewable energy, starting recycling programs, using sustainable materials, and starting carbon offset programs have all been shown to be effective at reducing environmental damage. Also, digital workflows like virtual production and paperless systems not only use fewer resources, but they also make things run more smoothly (Sharma et al. 2025). Even though these kinds of practices usually require a bigger initial investment, they pay off in the long run by lowering costs, making it easier to follow environmental rules, and improving the reputation of production houses.

| Theme                                          | Key Findings                                                                                                 | Link to SDGs                                       |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Project Management in Creative Industries      | Flexible frameworks (Agile, Lean, PRINCE2) balance creativity, efficiency, and sustainability                | Enables SDG-aligned project delivery               |
| Environmental Impact of Film Productions       | High carbon emissions, material waste, energy-intensive sets, and travel contribute to ecological harm       | Highlights urgency of SDG 13 (Climate Action)      |
| Eco-Friendly Practices                         | Adoption of renewable energy, recycling, carbon offsetting, and digital workflows reduce footprint and costs | Directly supports SDG 12 (Responsible Consumption) |
| Project Management for Sustainable Development | Sustainability reporting, carbon calculators, and structured risk assessment embed eco-friendly practices    | Integrates SDG 12 & 13 into film projects          |

Project management is recognized as a vital facilitator of this transition. Structured project management frameworks make sure that environmental goals are met at every stage of the production process, unlike ad hoc sustainability initiatives. Agile and Lean approaches are excellent in film projects since they are flexible, reduce waste and engage everyone. Project managers are the change agents, as they introduce sustainability-adding tools, such as the

carbon footprint calculators, sustainability checklists, performance indicators. They do not only ensure that the ecological objectives are within the boundaries of the budget and creativity, but also promote responsibility and transparency with regard to achieving sustainability targets. The two advantages of the integration of sustainability and project management are also mentioned in the conversation, i.e. the responsibility towards the environment and the financial benefit. Movies made in an environmentally friendly way might significantly reduce environmental harm and also make the business more profitable through money savings and enhanced efficiency. However, there are also issues that are dragging the process that include individuals unwilling to alter their culture, absence of standard procedures and independent filmmakers being insufficiently informed on the topic. Film councils, policymakers and eco-environmental groups should collaborate to establish clear standards of sustainability and to provide economic incentives towards eco-friendly operations to overcome these issues. The paper establishes that such environmentally friendly film-making is not merely a fashion in the business sector, but an ethical and even a cultural requirement in the ICT era of climatic change (Gareis et al. 2013). SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action) can be ensured through the film industry by incorporating sustainability in the project management. This congruency means that the industry is more than a cultural influence and a pioneer in ensuring that the creative fields become better towards the environment.

## **Conclusion**

The paper concludes that project management can be a major contributor to the film industry becoming more sustainable. The usual methods of film creation are harmful to the planet, and it is possible to improve the situation with the help of environmental practices. By adopting renewable energy, digital processes, recycling, and carbon offset programs, film production can reduce their environmental footprint and remain financially accountable and responsible in terms of having the audience responsible media. Project managers play very crucial role in enhancing the sustainability of production process since they employ systematic frameworks in ensuring that creative objectives are aligned with environmental and economic objectives. However, expensive start up costs, ignorance as well as the absence of standardized regulations have complicated the uptake of sustainable activities among people. Governments, film councils, NGOs and industry stakeholders must collaborate in order to devise policies, certifications and incentives that would persuade people to adhere to sustainability criteria. The film industry will be on a stronger position to

lead in transforming culture and the environment by applying project management with the principles of sustainability. Environmentally friendly films can also be the worldwide role models in responsible filmmaking by adhering to SDG 12 and SDG 13. This demonstrates that environmental conservation and creativity could be combined.

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