Graphic Design and Environmental Sustainability

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Abstract
The research deals with the relation between Graphic Design and Environmental Sustainability. As the current number of environmental issues grows, designers strive to find ways of including sustainable practices into their designs. This research looks at the contribution of graphic design toward promoting sustainability, the resultant impacts, and the challenges faced by designers, including those related to the adoption of sustainable graphic design. From this research, one can draw innovative and sustainable design practices: how to integrate them into your works and ways through which you can reduce adverse effects of your works on the environment.

Keywords: Sustainable design, Graphic design, Environmental sustainability, Responsible design, Sustainable graphic design.


Introduction
Graphic design has a high impact on the environment due to materials, energy, and resources. Graphic designers, through the creation of visual materials such as advertisements, packages, and brands, contribute to waste production and carbon emissions. Therefore, designers need to consider the environmental impact of their work and adapt sustainable practices. Research in graphic design and environmental sustainability is aimed at understanding the ways in which graphic designers can work in a sustainable manner, thus reducing the negative effects on the environment while improving the social and economic aspects in the field. The study will also aim at raising awareness among the designers and clients on how sustainability and design are important issues (Ndem, 2019).

The place of graphic designers in promoting environmental sustainability and their decision to adopt sustainable design is stressed in this study. In this research, we delve deeply into sustainable designs, tools employed, how a designer or a client can use these tools to achieve sustainability, and the challenges designers face while designing sustainably. Some examples of existing sustainable designs are looked into. The research carried will contribute to the main goal of achieving a more sustainable future by promoting sustainable practices in graphic design. Outcomes of this research would be beneficial to the graphic designers, educators, and clients who would have an interest in sustainability in design. Research can help raise awareness among designers and clients about the importance of sustainability in design and, in turn, identify opportunities for improvement and innovation in sustainable graphic design.
Graphic design, therefore, remains under-researched in its environmental effects, hence making it very difficult to identify how graphic design can make a significant difference in the way people respond toward taking good care of the environment. Besides, what we need to find out is what works best and what problems we might have when we try using graphic design to promote environmental sustainability. There is a huge necessity to create awareness about the importance of sustainability (Napier & Lettis, 2022).

Graphic designers have to face a number of challenges to design in an environmentally sustainable manner. One of the main is the material, since it is difficult to source environmentally friendly ones. Traditional materials like paper, ink, and plastic, etc. do not often tend to be eco-friendly. Designers are left to find alternatives that should preferably be recyclable or biodegradable, often making a tiresome and challenging process. Again, the balance is in play, where aesthetic appeal and sustainability are balanced. This leads to compromises in colour, layout, and other factors. Sustainable sources are mainly derived from recycling, often with specialized equipment, and from different regions as compared to the case of non-sustainable ones. In addition, the packing and shipping are different. All these costs are passed on to the consumer and ultimately your client, who has to pay more. Lastly, trying to communicate the message of sustainability effectively has proved to be very challenging. Regardless of these challenges, committed graphic designers can come up with environmentally friendly designs and come up with visually stunning designs for a more sustainable future (Osman Caydere, 2022).

Methodology

This paper, therefore, explores the present status of sustainability in graphic design, current sustainable practices, problems faced by designers, and opportunities for improvement. The results of the study will benefit graphic designers, educators, and clients interested in sustainability in design, propelling graphic design practices to become sustainable for the greater good of a sustainable future.

Results and Discussion

Type of Material

Billions of trees are chopped down to make paper every year and the rate of deforestation is only increasing. If it’s necessary to use paper, always be sure it is responsibly sourced. An even better solution is using recycled paper. It should be your preferred option with printed designs. This extends the life of the paper, and it requires less energy to produce compared to new paper.

Figure 1. Paper is still a Highly Demanded Material in the Publishing Industry and is also Widely Used in Graphic Design
Use of Ink

Ink has a big environmental impact, but it's often ignored. There is eco-friendly ink that can be used as an alternative instead of the normal ink. Or you can reduce your ink usage.

Figure 2. An Example of the Use of Ink in Graphic Design

Figure 3. An Example of Modern Typeface
Or you can simply use typefaces which need less ink, like Century Gothic.

**Printing**

Printers use huge amount of energy and resources. The carbon emissions are high too. One of ways to make printing sustainable is by using eco-friendly printers. Or you can choose not to print. Using stamps is one of the most sustainable solutions which can replace printers.

![Figure 4. An Example of Eco-Friendly Print](image)

**Digital Graphic Design**

Nearly every design on paper is thrown away. Whether it's in an hour, a day, or a year, it will most likely end up in the bin. Consider going digital and if not, choose recycled paper. Few things should be kept in mind while doing digital Graphic Design, how much energy does your digital equipment require, how much carbon does it emit, how can you make it eco-friendly.

![Figure 4. Examples of Modern Graphic Design](image)
Sustainable Packaging

Sustainable design involves designing packaging with the primary goal of minimizing environmental impact. This can be achieved by using recycled material.

Figure 5. Craft Packaging is a Real Alternative to Plastic

Designing your packaging also could be with an alternative objective.

Figure 6. Minimum Use of Ink: Reuse of Cardboard Packaging
Figure 7. Recycled/Reused Packaging is a New Trend in Design

Figure 8. Plant-Able Packaging

Figure 9. Compostable and Biodegradable Plastic Alternative

Figure 8. Less is More: the Product Packaging Can be Minimalistic and This does not in Any Way Compromise the Quality of the Packaging Design

Awareness Posters

Even today, most people and designers are not aware about sustainability in design. Posters can help create awareness.
Conclusion

The study of graphic design has several outcomes regarding environmental sustainability. The use of sustainable material and energy and waste management, this use is a unique opportunity for designers. The other thing is that the digital designing can apply carbon reduction methods to improve environmental sustainability. Economic and moral values can also be promoted using sustainable design. Designers can easily be aware of various environmental problems and associated activities. Nowadays, resources for designers who wish to adopt sustainable designing practice are readily available. Finally, to promote sustainable designing, designers need to have collaboration and communication between themselves. So, in general, the study suggests that graphic designers can work for environmental sustainability significantly.

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References

