

Green Dark Patterns as a Tool for Ecological Transformation? In Search of a Balance Between Consumer Protection and Environmental Protection

The scientific objective of the project is to answer the question of whether existing EU regulations on **dark patterns** allow for the use of **green nudging** in promoting pro-environmental attitudes while ensuring **consumer** protection and respect for their **decision-making autonomy**. If the answer is negative, as suggested by preliminary research, a regulatory model for **green dark patterns** will be proposed to balance environmental protection and consumer rights.

The starting point is the observation that the European Union is increasingly using nudging techniques in its policies, subtly pushing citizens to make socially desirable decisions that will positively impact their well-being. Examples include default settings, recommended options, or reminders that influence behavior without coercion or financial incentives. Nudging originates from behavioral economics, which studies how individuals make decisions and helps economists develop the most effective ways to motivate them to make efficient decisions. Such solutions are used in many sectors, from healthcare to child safety, but they are critical in promoting pro-environmental attitudes. **Green nudging** aims to guide consumers towards environmentally friendly choices, such as buying products labeled as environmentally friendly, choosing low-carbon delivery options, or reducing plastic consumption. It is a cheap and effective way to support sustainable development and climate policy.

Entrepreneurs also use similar mechanisms to influence consumer decisions, although they do not always do so ethically. In the digital world, the phenomenon of so-called dark patterns has become widespread – interface design patterns intended to induce users to take actions beneficial to the entrepreneur, but not necessarily in line with the consumer's wishes. Examples include hiding important information, default settings that are difficult to change, and intrusive notifications. The European Union has recognized this problem: dark patterns have been given a legal definition, and regulations have been adopted that prohibit businesses from designing interfaces in a manipulative way.

However, my research shows that techniques typical of dark patterns can be used for pro-environmental purposes. I propose creating a new category combining green nudging and dark patterns: green dark patterns. Examples include automatically selecting the “green” delivery option, limiting the visibility of less environmentally friendly products, and persistent messages promoting environmentally friendly choices. Although these measures are part of sustainable development strategies, they can also limit consumer autonomy. The project investigates when such practices are compatible with EU law and how to create a framework that allows for the promotion of environmentalism in a way that is effective and safe for consumers.

This research is undertaken to address the observed need to **promote environmentally friendly** consumer attitudes while balancing the protection of their rights and decision-making autonomy. In accordance with the **research plan**, I will first analyze the phenomenon of green nudging in the digital environment and identify pro-environmental influence techniques used by businesses. I will then develop an operational definition of green dark patterns and their typology, which I will verify in subsequent stages of the research. Next, I will analyze existing and proposed regulations to identify and assess the permissibility of such interfaces. This will allow me to assess whether current models of the average and vulnerable consumer are adequate in the context of behavioral influence techniques in the environmental context. Next, I will look at green dark patterns in the context of the functioning of the EU internal market and analyze how they fit into the implementation of EU environmental and consumer policies. In the next stage, consultations with private sector representatives will allow me to identify the challenges associated with implementing green dark patterns.

The most critical **expected outcome** will be to propose an interpretative and regulatory model for green dark patterns. However, if my research leads me to conclude that no new legislation is necessary, I will focus on formulating recommendations concerning the existing law. The research results will be shared in Poland and internationally through active participation in conferences and scientific gatherings focused on consumer, digital, and environmental law. I will publish my findings in peer-reviewed journals that have national and international reach. At the same time, I am preparing a doctoral dissertation on the issue of green dark patterns.