

Implementation of sustainability and circular economy principles as the key drivers for startup success

by Oleksii Kofanov | Olena Kofanova | National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" | National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

Implementing sustainability and circular economy principles is essential for national, corporate, and personal resilience. In addition, the sustainability movement is on the rise today - Gartner has identified sustainable technology as one of the top strategic technology trends for 2024.

Consumers are becoming more aware of environmental issues and sustainable development, and are more likely to support companies that prioritize these issues. Evidence of this can be found in the NielsenIQ 2023 Sustainability Report, which states that 69% of global consumers feel that sustainability is more important to them than it was two years ago.

At the same time, according to Forbes, the success rate of startups is less than 10%. A complex study conducted by CB Insights shows that 35% of startups fail because there is no market need for their products. So, with increasing consumer demand for green and sustainable products, startup founders also need to pay significant attention to these issues.

However, startup teams are usually small and do not have a professional who can assess the current level of business sustainability and circular economy compliance, making it difficult for them to implement these principles into all business processes, as well as the startup's Minimum Viable Product and Minimum Viable Brand.

Therefore, we propose a unique framework to assess the level of startup compliance with sustainability and circular economy principles using T. L. Saaty's Analytic Hierarchy Process in combination with the GPT artificial intelligence (AI) model. GPT, or Generative Pre-trained Transformer, is a neural network model widely used in AI services today.

One of the most important benefits for the startup team using our framework is the ability to quickly obtain a quantitative evaluation of the business compliance with sustainability and circular economy principles. This allows them to identify areas for improvement and make informed decisions to enhance their business processes and chances for success.

Another crucial benefit is high-quality expert recommendations. By utilizing the proposed framework, startup teams can leverage the expertise of professionals in sustainability and circular economy through AI, receiving valuable insights and actionable advice to guide

their efforts towards greater compliance and integration of these principles into their business strategies.

Implementing sustainability and circular economy practices can set startups apart in the market, appealing to environmentally conscious consumers and investors who prioritize ethical and sustainable business practices.