Shaping Carbon Neutral Policy: Effective Sustainability Management through EFQM Model Implementation – A Case Study

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In the current business environment, achieving carbon neutrality is not only a strategic imperative but also a benchmark for enduring success. This article presents a comprehensive case study that examines the effective integration of the European Foundation for Quality Management (EFQM) model with sustainable management practices in a leading automotive industry company, particularly focusing on the development and implementation of a carbon-neutral policy.

The concept of sustainable development first emerged in a 1987 UN report, highlighting the negative impact of globalization and economic development on the environment. Initially, this approach was met with skepticism by business managers, associating ecological care with increased spending on eco-friendly investments and, consequently, higher operational costs. However, as societal environmental awareness increased, sustainable development and the efficient use of natural and energy resources have become increasingly vital elements of corporate operations. Climate change has created an environment where decision-makers must consider not just economic outcomes, but also metrics related to safety, environmental impact, and social responsibility.

The EFQM Model 2020 is one of the ways to support management focused on environmental issues and sustainable development [1]. The model's authors directly reference the 17 UN Sustainable Development Goals and the Global Compact principles, reflecting a commitment to environmental care and social responsibility. To better understand the EFQM model's structure, it is presented **in Figure 1.**

Figure 1 EFQM 2020 [2]

This study explore the integration of quality management systems with environmental management systems and the role of the EFQM model as a bridge for implementing quality and environmental management. This article analyze the possibilities and potential benefits of using the EFQM model in shaping good practices in an organization as well as in the entire automotive industry.

Two research questions have been defined:
Question 1. **What benefits in terms of sustainable development does the EFQM Model bring to organizations implementing it?**
Question 2. **What experiences of organizations implementing the EFQM model can be identified as a set of good practices?**

The study begin by presenting the current challenges and opportunities in the automotive sector related to emission neutrality. The company has outlined Six Environmental Goals to be achieved by 2050, reflecting a commitment to long-term environmental stewardship. These goals include:

1. **Zero CO2 Emissions Within the Group**: This objective will be accomplished through the development of innovative production technologies, enhancement of product and material engineering, improvement of plant operations, and utilization of renewable/next-generation energy sources.
2. **Zero CO2 Emissions in Product Lifecycle**: The company aims to achieve this by producing materials with lower CO2 emissions, developing heat-insulating interior materials, creating highly efficient engine-related components, and promoting manufacturing processes that minimize CO2 emissions.
3. **Zero Wastewater in Production Processes**: The strategy involves establishing a water circulation system by replacing existing processes with water-less methods, purifying and recycling wastewater, and utilizing rainwater.
4. **Minimizing Natural Resource Usage**: Efforts include promoting designs that are easily disassemblable and recyclable, developing technologies to enable material cycling, and replacing current materials with a broader range of plant-derived alternatives.
5. **Minimizing Waste Production**: The group is focused on developing recycling technologies and achieving 100% material recycling.
6. **Planting 1.32 Million Trees**: As part of reforestation activities, the company is engaging in habitat conservation for endemic species across various regions and countries, protecting forests, and restoring abundant habitats.

These actions form the basis for delving into the framework of the EFQM model, highlighting its adaptability and significance in enhancing sustainable management practices. The core of the study is based on a detailed analysis of how a selected company, a global player in the automotive industry, utilizes the EFQM model to shape its carbon neutrality policy in terms of carbon dioxide emissions.

Quantitative and qualitative data, collected through interviews, document analysis, and performance indicators, provide a multi-dimensional understanding of the model's implementation and effectiveness. The findings demonstrate that integrating the EFQM model into sustainable development management significantly contributes to the systematic and strategic approach required to achieve carbon neutrality. The article highlights key best practices, challenges encountered, and lessons learned, offering valuable insights for other organizations aspiring to deeply embed sustainable development into their operations.

References

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