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Green Economy and Sustainable Development

Drivers and Barriers in the Eco-Innovation. Case of Albania

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Abstract: In development countries like Albania, the new terminology around sustainability as eco-innovations, green innovations, or environmental innovations, for some companies, they are still seen as challenging to implement such technologies, but in other companies that export to the EU, is a must to be part of a larger market for their products. Furthermore, the literature analysis highlights the necessity of determining the obstacles that eco-innovations face when being implemented in developing nations, particularly in areas with abundant natural resources, as in Albania. By examining the effects of these drivers and the innovative attitude of enterprises, this study seeks to determine the elements that either support or prevent eco-innovations in this particular setting. The purpose of this research was to evaluate the drivers and barriers of Eco – Innovation in Albania. The study was conducted with in-depth interviews, firsthand observation, and formal documentation analysis within 20 companies. The findings showed that, despite the area’s emphasis on environmental challenges, there are still few eco-innovation efforts. The companies under investigation were indicating a lack of care for regional issues and a low level of investment in environmentally friendly developments. To sum up, this research adds both theoretical and practical value to the field of eco-innovation studies. First, it examines the factors that drivers Eco innovation in emerging nations and second what prevent them on adopting new technologies for being eco-friendly. In addition, it offers a broad overview of the primary eco-innovation processes as a prerequisite for the development of eco-innovation locally.

Keywords: Eco-innovation; drivers; barriers; Management of Technological Innovation

JEL Classification: O35; O36, O32; Q5; Q56

1. Introduction

In the new terms of governance of being more environmentally, socially, and competitively sustainable company, today the eco-innovation in product and in process is defined as innovations with the environmental impact of production and consuming activities, would be crucial for the companies for their competitiveness among other companies, (Carrillo-Hermosilla, et.al; 2010). Accordingly, pinpointing their primary drivers can assist policymakers in putting into place tools that effectively and

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efficiently encourage eco-innovation in process and in products and assist businesses in gaining and maintaining a competitive position among them (Adams, et.al; 2012).

New technologies of eco-innovation, it always raises the question of why producers and consumers, among other actors, do not appear to have enough incentives to prevent waste and to increase the producing of new eco-innovative products. Due to the significant costs associated with adopting and implementing environmental technology, as well as the potential long-term returns on investment and cost savings associated with eco-innovation, emerging economies are generally faced with resource restrictions. In general, 80% of the cases interviewed in this study were unaware that there were subsidies or “soft loans” financing for eco-technological investments. A small portion of them had applied for a grant and had been approved but only for one part of their investments not at the 100% of the total green investment.

In order to provide valuable insights into how businesses are utilising this eco- innovative process to products eco-innovative goods and services, through new technologies, the research through qualitative analysis and integrated with the body of existing literature has integrated which are the main barriers and driven factors on implementing the new technologies, especially in a development country like Albania. This allows for specific guidance on how future business managers and the vision of shareholders can put these principles into practice to improve the performance of their companies to manage the eco-innovation process by boosting the technological advances’ transparency, control, and manageability in a way that they impact on the environment and consumed less energy and find the way on smoothing the challenges faced by the new legislative and regulatory changes.

This paper tries to understand the main barriers and drivers of eco-innovation in a development country like Albania, that also is in the process of European integration. This mean that is in the process of adapting economic chapters and implementing and adopting them in the way that companies have the same approach as the companies operating in the European Union. The main research question in this research paper is: “Which are the drivers’ factors and barriers of eco - innovation in manufacturing companies in Albania?”

2. Literature Review

The supply chain, in many cases, might provide barrier for companies on implementing eco-innovative technologies. Barriers are frequently associated with the current legal system. Policy tools can also serve as facilitators for the new way of governance considering the three main pillars environmental, social and governance, but sometimes they are as a barrier to companies as the legislative system can be copied but when it comes to the executive system and adaptation in companies there are still many problems. Governments at all levels have the authority to impose laws and regulations that businesses must adopt them. According to specifications outlined in standards created by the European Standardisation Organisations CEN and CENELEC, such requirements can frequently be established at the EU level, (Ormazabal et.al, 2016; Mathieux et al., 2020).

Global data indicates that eco-innovation boosts competitiveness, develops businesses, reduces or stabilises costs, and enhances turnover. Long-term energy price increases could result from eco-innovations that lower energy consumption. As such, participation in the eco-innovation process necessitates a solid understanding of both the short- and long-term advantages, (Kowalska, 2014). Furthermore, the results and the factors vary depending on the field in which eco-innovation is used.

The depletion of natural resources has been observed as a drawback to economic growth driven by excessive consumption, (Chen et.al., 2010). This has created a demand for new ideas and more sustainable practices that support a circular economy during the evolution of the global consumption. Governmental organisations and educational institutions have consequently made sustainable development a top priority by endorsing the triple bottom line approach to performance evaluation, which places equal emphasis on the environmental aspect and social as well as economic earnings, (Vermeir et.al., 2008). The preservation of natural resources is not only a crucial component of sustainable development, but also a matter of survival when we take into account what is going the last years with the environmental degradation, (The 2030 Agenda for Sustainable Development and the SDGs, European Commission, 2018). In addition, numerous research and papers emphasise the significance of regulations in all fields, particularly those set forth nationally.

Regarding the research of Peyravi et.al., 2022, experts have determined that customer needs and the political climate around the circular economy are the two main factors driving the development of eco-innovation methods. This demonstrates that the companies' innovation efforts are grounded in the most recent and emerging market inclinations and trends. A significant pull towards the eco-innovation environment can be generated, dependent on the infrastructure and political climate. Drivers as market and environmental regulatory needs, for example, are interconnected and require coordinated management, an organization's capacity to perform is largely determined by its workforce's credentials, availability of supply and demand information, and cooperation with important institutions and competitors, (Peyravi et.al., 2022).

The main barriers on adopting eco-innovative technologies, described as per literature review are the high costs of eco – innovation technologies, inadequate financing such as grant, “soft loans”, subvention, excessive perceived economic risks from the vision of the shareholders, a lack of qualified employees on adopting new eco technologies, rigid regulations or standards, a lack of market knowledge, organizational rigidities within the company and their mentality, and a lack of technological information all contribute to the problem, (Reid et.al., 2008).

Barriers and facilitators for putting eco-innovations into practice are important because, as noted by Gunarathne 2019, they both serve to quantify these initiatives and draw attention to the positive effects that eco-innovations have on society and the environment.

Freire 2018 goes further farther than other researchers in extending the idea. Eco-innovations are sociotechnical shifts brought about by environmental and social forces as well as decision-makers' perceptions of control over possibilities and needs that encourage business to adopt them.

Drivers and barriers to putting eco-innovations into practice are dynamic elements that need to be continuously monitored because they can act as facilitators or barriers depending on the situation.

Conversely, drivers as opposed to barriers are components that support and enable businesses to adopt eco-innovations.

3. Method

The purpose of this paper is to analyse the barriers and drivers' factors to eco-innovation in manufacturing sector in Albania. It was conducting qualitative-method approach, with a multiple-case study of 20 manufacturing companies in Albania. The analysis unit are medium-sized companies in the manufacturing sector such as companies producing goods, foods, brewery, water, etc. The interview was conduct with semi structured interview with close and open questions. The author for data collection

in this study used an in-depth interview with the managers during the period of March- April 2024. Interviewees were able to talk about the subject, which aided in the gathering of data. The questions formulated took the following actions to draft the interview script: a theoretical analysis and a list of the literature's current scripts. The results of the interviews were later compared with the results in the literature as describe below.

4. Results and Discussion

4.1. Barriers

In some of the interviews they identify the barriers as below:

“One of the problems that companies face is when they have to get permission for solar panels, there is a documentation that needs to be filled out and the institutions do not support them on giving the properly information.” The companies have a problem in the placement of solar panels on the building terrace, they need permission. In many cases there is a lack of government support and incentives. Supported also in previous research from Rizos & Bryhn, 2022.

The often-contradictory legislation makes it difficult in Albania to support companies and to give incentives in case of eco – innovative products and process. While civil society and international organizations are more supportive in these issues.

High cost in implementing green products and process, with high maintenance cost, including the high price of eco - innovative technologies and a lack of support and financing supported from the research of Khan et al., 2022.

Low client awareness in Albania on green products, as in previous research of Govindan et al., 2022, that mention in his study the low customers awareness. Many companies that produce eco-friendly products do not have extensive marketing budgets, resulting in less exposure compared to conventional products. Consumers may not have enough information on about eco-innovative products, or the benefits associated with them. Eco friendly products are more expensive for customers, and in general they refuse to pay a higher price for the added value.

“There is a severe or complete lack of infrastructure for electric cars. This also made it even harder outside of Tirana. There are not enough charging stations to meet the growing demand, particularly in rural and less developed areas. Many existing charging stations offer slow charging speeds, making long trips inconvenient.” Governments can provide subsidies and incentives to encourage the private sector to build more charging stations. The lack of appropriate infrastructure is also supported by Takacs et al., 2022.

Bureaucracy at every level for getting permission to implement green product or green process. Also, in implementing solar panel they need to pay the save of construction company the tax to getting the permission. Existing regulations may not be adapted to accommodate new technologies, requiring extensive modifications. The process to obtain necessary permits and approvals to implement new technologies of eco innovative products or process can delay project implementation.

The inability to execute different recyclable products, is a problem for companies in general. It is a major obstacle for recycling, and waste management because is the responsibility of subjects only. “All subjects in the Tirana – Durres Industrial Road have no way of recycling waste such as paper packaging or plastic”.

In general, they do privately and at a high cost. For example, one of the companies declared that: “A few years ago, there were companies that collect the tons of printers, today there is no information, and no one provides this service in Albania.” The absence of modern waste disposal facilities, such as engineered landfills, in Albania poses significant challenges for environmental management. Supported also from Rizos & Bryhn, 2022 and Hartley et al., 2022, insufficient education on the recycling of construction and demolition waste.

Difficulties on the selection of suppliers and materials. Eco-friendly materials often come at a higher price due to their production processes, limited supply, and higher quality standards. Some sustainable materials might not meet the required technical specifications or quality needed for certain products. Coordinating with multiple suppliers to ensure the necessary raw material and adherence to sustainability standards can be challenging, Huang et al., 2021, Rizos & Bryhn, 2022.

...” It is inevitable to maintain environmental management positions by aligning them with standard business processes because of the value it adds to it and to the social environment. The barriers are different, ranging from the change of the mentality of the stakeholders, to the incentives of state institutions” ...

“Extra training in gaining skills in human resources.” In many cases, in Albania, the employee refuses to adopt a new technology. If the company is going to implement a technology eco-friendly except that they have to train them to gain the awareness of adapting the new technology, the company need to increase their awareness for the benefits on adopting the new technology. The general culture of employees is low on adopting new technologies eco – friendly. Supported from the previous research of García-Quevedo et al., 2020.

“Non-professional controls of the law enforcement agencies. sometimes corruption tendencies from the government institutions”. Sustainability has a positive correlation with innovation but a negative correlation with corruption when measured by employment and work-related characteristics, Troisi R et al., 2023.

“The ban on waste imports is a barrier to providing fuel as the first alternative fuels that can be used in the cement production process, thus ensuring more optimal levels of energy consumption as well as significantly lower levels of carbon dioxide emissions.” (Cement manufacturing company)

“Time Transition from producing glass with gas, to producing with glass with oxygen, because this new process reduce carbon in the atmosphere.” (Glass manufacturing company). Adopting new eco-innovative technologies often involves a complex and phased process, influenced by multiple factors including technological maturity, exploring regulatory requirements, and obtaining necessary approvals, market dynamics, and customer acceptance. Understanding and planning for the time transition involved can help stakeholders navigate this process more effectively.

4.2. Drivers

In general, the investments are cost saving regarding the of buying electric cars, electric powertrains and electric trans pallets. Electric vehicles typically have lower fuel costs compared to gasoline or diesel vehicles. Electricity is generally cheaper per mile than fossil fuels. Electric powertrains are more efficient than traditional engines, converting a higher percentage of energy from the battery to power the vehicle. This leads to lower energy consumption and cost per mile. Electric trans pallets and other electric-powered industrial equipment can increase operational efficiency.

Improving people's lives through energy efficiency in buildings encompasses a variety of benefits that enhance comfort, health, and economic well-being, while also contributing to environmental sustainability.

In some cases, they gain state subsidy of eco innovative products, but the price/benefit ratio is very low. Eco-innovative products often have high upfront costs due to advanced technology, research and development expenses, and limited production scales. Some eco-innovative products are still in the early stages of development and may not yet offer optimal performance or cost efficiency.

Solar panels application is a kind of incentive, where any company can reduce electricity from other sources, reducing costs. By generating their own electricity from solar panels, companies can significantly reduce their reliance on grid-supplied electricity, leading to lower monthly utility bills.

Also, a strong driver are competitors in the same sector. If a competitor is adopting a new innovative technology and has innovative or biodegradable products from nature, it sometimes gives a more positive image in the eyes of consumers, making them more competitive.

The drivers of eco innovation are the fact that a portion of companies interviewed export to the EU. Companies exporting in this study are obliged to adopt EU laws and regulations regarding the production, packaging and labelling of products and are obliged to conduct environmental audits every year.

The part of companies that were interviewed and exported their products to the EU were required to have quality certificates and environmental certificates. The biggest problem is that the Albanian state does not apply incentives for these companies to operate green. They are treated the same as all other companies that may be the most polluting companies in Albania.

5. Conclusion

In summary, this paper provides important contributions concerning national strategy and innovation in Albania, by addressing the barriers on adopting the new technologies and preparing the companies for the global development due to the environmental changes. Addressing the primary concerns related to eco-innovation in the manufacturing sector in Albania involves engaging with various stakeholders to ensure a comprehensive and collaborative approach.

Regulatory framework, a nationwide prevention programme could have a solid foundation thanks to the wide range of eco-innovative initiatives that are now in place in the companies in Albania and the main barriers that they have. Strengthening environmental laws and regulations, ensuring strict enforcement, and providing clear guidelines for eco-innovation practices.

Financial incentives, establishing government grants, subsidies, and tax incentives for companies investing in eco-innovative technologies. Encouraging private investments and facilitating access to international funding. The best incentive is also the lower taxation of companies that have a better approach from eco and environmental technologies.

Technological advancement, promoting research and development in eco-innovation in universities, increasing the transfer of technologies offices among them will increase the adoption of new technologies in eco-innovation in product and technology.

Awareness and education, conducting awareness campaigns, workshops, and training programs. Integrating eco-innovation concepts into educational curriculums and vocational training, but not only in vocational schools but also in the universities.

Infrastructure and logistics, investing in green infrastructure, more chargeable stations for electric cars, or in renewable energy sources, efficient waste management systems, and sustainable supply chains.

Market demand and consumer behaviour, promoting the benefits of eco-friendly products to consumers. Encouraging sustainable consumption patterns through incentives and education.

The companies can conduct and spread eco-innovation, under institutional pressures thanks to their organisational resource capacity and green dynamic capabilities.

Since in certain situations a barrier is also a driver, for implementing eco-innovations technologies the companies need to continuously monitor new legislation and new technologies improvement. The organisation can reduce obstacles and improve facilitators by implementing innovative strategies and planning techniques. This is also supported by Dugonski et.al., 2022.

6. Limitation and future work

In future studies the research needs to increase the number of the interview's manufacturing companies, also, the author could explore internal factors that impacts companies on adopting new technologies and how to allocate and train human resources in the way that they can adopt more friendly and quickly new technologies.

Also, the research should depth in the way how companies interact with companies with foreign ownership that the collaborate in their business environment due to the fact that they should adopt as soon as possible the changes in legislation. Many of the Albanian companies are the branches of foreign companies and some of them have the imposition from their mother company to operate as per the European Union regulators. This will be part of a study in the future work.

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