Achieving eco-innovation through strategic alliances: study case of Renault strategic alliances

Elena Banu [1]
Dorel Paraschiv [2]
Roxana Voicu Dorobantu[3]

This paper is an exploratory research in CNCSIS project TE 328/2010 on the impact of strategic alliances in the implementation of eco-innovation measures, in the automotive sector. The subject is of high interest because the most innovating industries are those who are more technologically intense and also due to the fact that strategic alliances are proving to be a flexible instrument for these companies to create synergies in their endeavor to enhance operational efficiency.

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Introduction

[1]Elena Banu, Bucharest University of Economic Studies, Romania, e-mail: elena.i.banu@gmail.com
[2] Dorel Paraschiv , , Phd, Bucharest University of Economic Studies, Romania, e-mail: dorel.paraschiv@ase.ro
[3] Roxana Voicu Dorobantu , Phd, Bucharest University of Economic Studies, Romania; e-mail: rovodo@gmail.com

Eco-innovation plays a central role in the fast-moving globalized economy, linking environmental quality and economic welfare, which together indirectly constitute main indicators for the quality of life. Eco-innovation has a prime relation to technologies, but goes beyond inventing green technologies, taking into consideration the way in which products are produced, used and recycled.

Eco-innovation leads to the creation of markets in specific industries, in which such innovations cluster. Competition in many high technology industries is fundamentally different from that in more mature and stable industries and eco-innovation is a method for former industries to tackle new opportunities and increase their efficiency (Pleatsikas and Teece, 2011). The most active corporations in addressing the environmental sustainability issues are companies in highly technological intensive sectors. For instance, by observing the sector allocation of companies in the Dow Jones Sustainability Index, one can notice the recurrent presence of companies from industries such as: Oil & Gas, Industrials, Technology and Telecommunications.

From the business perspective, there are numerous methods through which company strategies can incorporate eco-innovation. Innovation is no longer a guarantee of comparative advantage since it disperses throughout the world quickly; knowledge has become quite fluid globally. Therefore, the impact of eco-innovation has to be considered alongside with a strategic focus on economic efficiency and economies of scale. In a sector so intensive in technology, such as the automotive industry, investment requirements are enormous, as well as the risks, particularly in conditions of tight competition. Therefore, the business strategies look to share efforts, investments and risks, and often resort to different forms of 'partnering'.

A theoretical approach to eco-innovation in the context of strategic alliances

Eco-innovation is defined very concisely by The ECODRIVE project as „a change in economic activities that improves both the economic performance and the environmental performance of society, or even more" or as Michael Porter synthesizes, "innovation is the central issue in economic prosperity".

Eco-innovation, with these dual objectives, is promoted through market incentives, positive ones focused on sustainability issues and negative ones, as constraints on production and consumption activities. Moreover, sustainability considerations may have a direct influence on the creation of supply of knowledge through research and education.

Innovation does not present itself in one distinct form that can be easily explored; it is rather a phenomenon that can be identified in different stages of its development. A distinction between three types of innovations can be made (Scarse et al., 2009):

Incremental innovation, which is concerned with modifying and improving existing technologies to raise efficiency of resources, without fundamentally changing the underlying core technologies. Surveys of innovation in companies prove that this is the dominant form of innovation and eco-innovation.

Disruptive innovation, which modifies how things are done or specific functions are fulfilled, without necessarily changing the underlying technological concept itself.

Radical innovation, which involves a change in the technological regime of an economy and can lead to changes in the economy's enabling technologies. This type of innovation is often complex and is more likely to involve non-technological changes and mobilise various agents in the society.

The rise of the importance of sustainability leads to the inclusion of green growth in the agendas of corporate managers. Firms try to

integrate non-financial objectives into their decision-making processes, to revisit the concepts of value and profitability that drive their business models, and to reevaluate the equilibrium between the objectives of short-term profitability and long-term sustainability (Bryson and Lombardi, 2009).

The focus on business models allows for an enhanced understanding of how environmental value can be achieved, turned into profitable products and services, and how it may deliver satisfaction to users. In concrete terms, the analysis of eco-innovation cases can shed light on how environmental values are reflected in a company's propositions for value creation, customer segmentation, use of resources, and the management of cost and revenue flows. By replacing old business practices, innovative business models also offer firms the opportunity to restructure their value chain and generate new types of producer-consumer relationships in a context of a change in the consumption culture and use practices. The business model perspective is therefore particularly relevant to radical and systemic eco-innovation, including how business models and strategies can induce and help diffuse radical eco-innovation and enable systemic changes and transformation.

Operationally, there are many ways in which eco-innovation projects can be implemented. Irrespective of the intensity of the innovative processes, there is a requirement for considerable investment for their implementation and an equal amount of risk associated with this type of investment. Therefore, even if major corporations may have the financial resources and infrastructure to launch eco-innovative products and technologies on their own, most of them, particularly those in high-tech sectors, choose to engage in strategic partnerships or mergers and acquisitions (M&A's).

Concerning the choice of partnership, Ciborra (1991) and Oster (1992) suggest that sectors that require a large degree of learning and flexibility, such as high-tech industries, will seek to create alliances, whereas M&As are dominant in the low-tech sectors where learning

and flexibility is less important. Through analysis of case studies it has been proven that many firms implement eco-innovative projects in co-operation with other firms, local authorities or other stakeholders. A considerable advantage of an alliance in contrast with M&A's is the speed with which one can move from the stage of negotiation to that of useful initiatives on the competitive side and also the fact that one can generate more efficiently economies of scale that result exclusively from the technological innovations, without the need to incur costs associated with the post-acquisition integration stages at all the corporate strategic levels.

Furthermore, as mentioned before, the dominant form of eco-innovation is incremental innovation and alliances help the process of sharing knowledge on existing technologies with the purpose of increasing each other's efficiency, but also building the foundation for new innovative projects.

Case study: Renault attaining eco-innovation objectives through alliances

Renault is a French multinational vehicle manufacturer established in 1899 by Louis Renault and his brothers. The company's first line of production line was created in Billancourt, in 1929. Due to financial problems, the company was nationalized in 1945, which resulted in the purchase and expansion of manufacturing plants by the company. During the 1980s the company enjoyed success and experienced a great deal of critical acclaim and company growth. Renault was privatized in 1996 and the new freedom opened up new horizons for growth and innovations, currently the company being one of the most successful automobile manufactures in the world.

The company's strategic business plan until 2016 comprises some very ambitious objectives with direct impact on eco-innovation, such as innovation policy, control investment and R&D expenditure and excellence of the distribution network in customer relations. From an

environmental perspective, from 1995 onwards, Renault has led an international environmental policy that accounts for the complete vehicle life cycle, from design to the end of life.

Renault Nissan Alliance

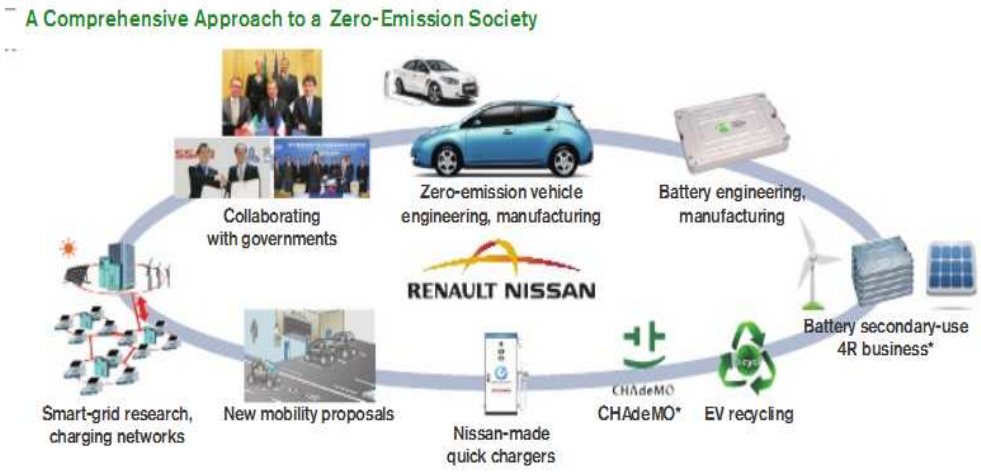
The Renault Nissan Alliance was a strategic partnership created in 1999 between the two automobile manufacturers, the French company Renault and the Japanese company, Nissan. It evolved towards a joint venture when Renault-Nissan BV was created in 2002. Renault-Nissan BV was a strategic management company under Dutch law jointly and equally owned by the two partners. Its purpose was to establish a common strategy and develop synergies within the Alliance. Renault-Nissan BV manages two joint companies: RNPO (Renault Nissan Purchasing Organization), tasked with optimizing purchasing strategy and RNIS (Renault-Nissan Information Services), tasked with optimizing Alliance information systems.

The business strategy, though not having as a core the eco-innovation process, it is focused considerably on this process, as well as part of the business model around which the alliance is built. It has incorporated at its highest management level objectives regarding environment sustainability. The technologies employed are not particular radical innovations of the Alliance, but they are incorporated in their products and then promoted in order to bring the innovative eco-technologies in the area of mass-production. This is a highly important stage in the process of eco-innovation. For instance, in 2007, Carlos Ghosn Chairman and CEO of the Alliance confirmed that Renault-Nissan Alliance has set an objective to produce zero-emission electric vehicles accessible to all and become a leader in that market. To reach this objective the two companies invested 4 billion euros in research engineering and later into the development of these vehicles. They joined forces and brought together their skills and know-how to standardize the components essential to zero-emission

electric vehicle. In 2010 the Alliance presented a complete range of zero-emission electric vehicles for the general public, and other cars will be launched in the coming years. Their Alliance thus, provides common results in the area of technological production, but leaves untouched the aspects regarding the sale and brand management of the products of the two corporations.

In the course of promoting the widespread use of zero-emission vehicles, that produce no CO2 emissions, there is a need to go beyond merely producing and selling zero-emission vehicles, and the companies also focus on putting the needed infrastructure in place and making sure that the vehicles are economical to use, which no single company can accomplish on its own.

The Renault-Nissan Alliance, in addition to developing and producing zero-emission vehicles, are creating partnerships with national and local governments, electric power companies and other partners in a set of industries, in order to promote zero-emission mobility and carry out the plan of the construction of the required infrastructure. As of March 2011, the Alliance has entered more than 90 partnerships around the world, including with the governments of Kanagawa Prefecture and the city of Yokohama in Japan, the government of Portugal and 27 entities (state or local governments and utilities) within the United States.



Source: Nissan Sustainability Report 2011

Renault SITA joint venture

While the Renault-Nissan Alliance is a partnership built around a complex business strategy that includes the objective of environmental sustainability, the Renault-SITA joint venture was created with a specific eco-innovative objective. The two French companies, Renault, the automobile manufacturer and SITA, a French leader in recycling, subsidiary of Suez Environnement, decided to join forces in a joint venture, in 2008. They bought 80% of the capital of Indra Investissements S.A.S (a group of about 230 firms specialized in end-of-life vehicle processing), which was equally distributed between the two.

The partnership was created with a clear eco-innovative objective: the recovery of 95% of the mass of each vehicle by 2015. The project entails an investment of 100 million euros, over a period of 5 years and has a plan to recycle 150 000 cars each year. The two companies have various ways through which they intend to attain their main objective: increasing the reuse rate for products and raw materials in existing processes, developing new procedures, especially in recycling

materials in end-of-life vehicles and working with all participants in the industry.

The Renault-SITA partnership proves to be highly innovative due to its ability to tackle and overcome certain obstacles of reaching a truly environmentally sustainable strategy in the industry. Firstly, it manages to have an integrated approach to material reuse, in the context of a highly fragmented chain value of recycling and reuse. Secondly, the companies have to offer sufficient proof, through tests and verifications, that the final products obtained using recycled materials, are as endurant and dependable as those they have manufactured so far.

Besides the environmental impact of the Renault SITA eco-innovative technological process, the economic aspects have been integrated perfectly into the strategy of their alliance. Secondary materials are cheaper than primary materials, especially since a sharp increase of primary commodity prices has been noticed. Also, there is a considerable improvement made in terms of transportation costs, which reduce the price on the market. All these contribute to economies of scale and economic operational efficiency for the partner companies.

Conclusion

Eco-innovation is a multi-stage process that requires considerable investment and commitment. The paper shows how the issue of creating an environmentally sustainable business is tackled mostly by large corporations in high-tech sectors of the economy, partly because their activities have a considerable impact on natural resources and partly because their competitiveness generally relies on their ability to innovate. It manages to highlight the importance of sharing the economic risks of eco-innovations through the development of such business objectives in the context of a strategic alliances.

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