

Wednesday, April 28, 2010  
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**“Sustainable Value Innovation in Mobility”**

**By Dr. Renato J. Orsato<sup>1</sup>**

Date: Tuesday, April 27 Time: 16:30-18:00 Venue: University of Tokyo

**Abstract**

This seminar presented the roots of the problems currently faced by the auto industry, and the sector has to overcome them by developing Sustainable Value Innovation (SVI) - the creation of differentiated value for customers and contribution to society at both, reduced costs and environmental impacts. The seminar is based on Dr Orsato's recent book “Sustainability Strategies - When does it pay to be green?”

He presented the challenging sustainability strategy. The logic embedded in concept of SVI is uncovered by means of the analysis of several cases within the area of individual motorization. By delving deeply into one single topic, which is more directly related to the global automobile industry, he explored the elements and subtleties involved in deploying SVI strategies.

Concretely, SVI in the automobile industry is Electric Vehicles (EVs) and battery swap station for them (Better Place). Better Place's stations quickly have drivers back on the road with a new battery by removing the old battery from the belly of the vehicle and replace it with a new one.

This business model of Better Place's battery exchange technology is the one of the alternative and sustainable business model of the future car industry.

And also, I think that these rechargeable EVs represent a new frontier of business models such as not only battery swapping technology but also energy-efficient management technology like “smart grid” which is designed to help electric vehicle owners optimize their vehicle recharging needs and better manage their home's energy use.

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<sup>1</sup> Dr. Renato J. Orsato is an Adjunct Professor and Senior Research Fellow at the INSEAD Social Innovation Centre, Fontainebleau in France. As a researcher, educator and consultant, in the past 15 years taught at MBA and Executive Programmes at INSEAD, Lund University (Sweden), University of Amsterdam (Holland), University of Technology Sydney (Australia), and Warwick Business School (England). He worked with public organizations and private businesses in more than 20 countries.

He is the author of Sustainability Strategies - When does it pay to be green? (Palgrave Macmillan, INSEAD Business Press 2009)

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## 1. Purpose to participation in this seminar

My research topic is “Feasibility Study and Economic Evaluation of New Scheme for Sustainable Mobility Society,” especially I’m interested in public bicycle sharing scheme.

When I think about the above issue, it is very important to focus on and create new business models in mobility industries from the viewpoint of sustainability and environmental-friendly.

As Dr Orsato pointed out in some papers, EV and Better Place is good example of solutions to sustainability.

I’m totally agree with the idea and my idea is that public bicycles, especially motorized bicycle, sharing system stations such as Velib in Paris and Bixi in Quebec have to be integrated with EV stations, Better Place and also Car-sharing Stations. I think that it will be future service stations which are substituted for gas stations and integrated with public bus and train stations.

The concept of SVI is essential for creating the new business model, institutions and technology.

My specialty is not about business matters, but the theme of this seminar is very important to me. So I enjoyed joining it.

## 2. Environmental Strategy

As Environmental Strategy, companies often have four strategies, 1.Eco-efficiency, 2.Beyond Compliance Leadership, 3.Eco-Branding, 4.Environmental Cost Leadership.

1. Eco-Efficiency is the strategy focusing on organizational processes. Although many companies in developed countries have made much of resource productivity recently, they have to go further from the view of sustainability and environmental-friendly, which is eco-efficiency.
2. Beyond Compliance Leadership is also the strategy focusing on organizational processes. And besides, focusing on the products and services sold by the company. “Beyond compliance leadership” requires that companies go above and beyond what their competitors are doing now such as eco-investments and to join voluntary environmental initiatives.
3. Eco-Branding is the strategy focusing on the products and services of the companies, and involves finding a point of differentiation based on the ecological characteristics of certain products.

4. Environmental Cost Leadership is the strategy to make selling products with good environmental performance but with an equally attractive price proposition. It means that low costs and low environmental impact of their products and services.

### 3. Sustainable Value Innovation

These four strategies can work independently of each other.

As fig.1 shows, beyond these four strategies, Dr Orsato presents the fifth and most challenging sustainability strategy, which is Sustainable Value Innovation (SVI).

He said that highly innovative organizations can even bypass competition altogether by means of the “Blue Ocean Strategy thinking” developed by INSEAD professors. As noted above, he calls this fifth strategy Sustainable Value Innovation (SVI): the creation of differential value for costumers and contribution to society in both reduced costs and environmental impact.

He showed us the logic embedded in concept of SVI by means of the analysis of several cases within the area of individual motorization.

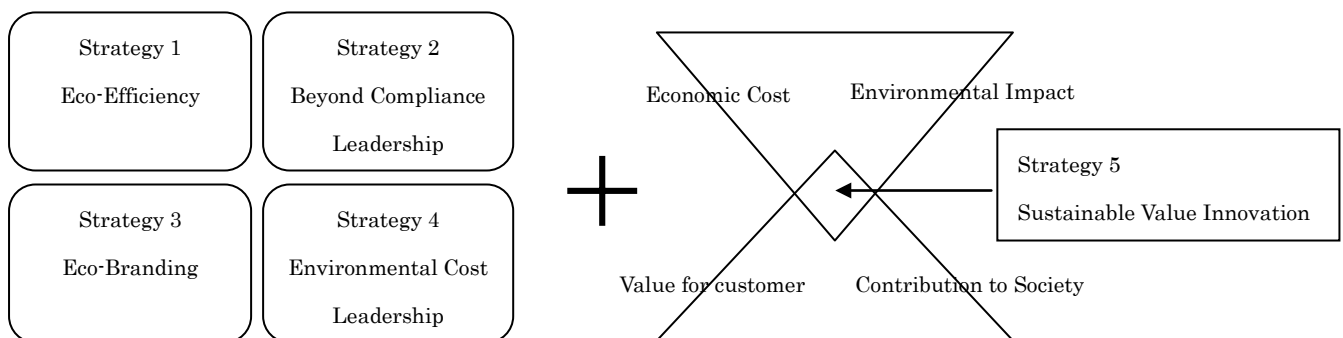


Fig. 1 Environmental and Sustainability Strategies

### 4. Current Automobile Industry

“The automobile industry is not sustainable in its current form.” Paul Nieuwenhuis, Director of the Centre for Automotive Industry Research at Cardiff University in Wales said on the INSEAD web<sup>2</sup>.

Cars with sophisticated mechanism can transport several people and their luggage hundreds of kilometers without refueling. However, on average, cars are parked 96 per

<sup>2</sup> A roadmap to sustainable transport  
 (<http://knowledge.insead.edu/Aroadmaptosustainabletransport090707.cfm?vid=277>)

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cent of the time. Even when they are driven, most people drive them for an average of only 70 kilometers. And most people drive alone.

When we think seriously about sustainability and environment, maybe it's the moment for the car industry to rethink that not everyone needs a car in the world.

To become sustainable, the automobile industry needs to come up with a new business model that focuses on the use of vehicles rather than their manufacture

So far, the car industry proposed solutions which are mainly focused on short-term technological fixes. However, these don't address the long-term problems.

Although we have concretely three current solutions, 1.Smaller vehicles, 2.Hybrid engines 3. Alternative fuels, there are limits to everything. For example, smaller, cheaper, more fuel-efficient vehicles like the Tata Nano still rely on internal combustion engines and all-steel bodies. Hydrogen fuel cells use platinum, a rare metal that some forecast will be depleted in a few generations. Hybrid cars still use fossil fuels.

## 5. New value solutions in mobility

Dr.Orsato introduced us examples of new value solutions in mobility such as Car-Sharing and Better Place.

Car-Sharing is a business model of car rental. If people join a member of Car-Sharing, they can rent cars for short periods of time from Car-Sharing stations. Urban car sharing is often promoted as an alternative to owning a car where public transit, walking, and cycling can be used most of the time and a car is only necessary for long trips or moving large luggage.

Better Place is venture backed company based in California which serves a battery swapping system for EVs. Better Place has implemented a battery-switch station allowing drivers to exchange their car's depleted battery pack for a fully recharged one in under a minute.

Better Place wants to make the world a better place by eliminating our addiction to oil by 2020. The business concept of Better Place is simple. Instead of customers buying gasoline from a gas station, Better Place sells them batteries for EVs. Of course, before doing that, it is necessary for people to shift automobile-user to EV-user. Now, most people seems to still disagree that many people become to use EVs soon, because there is a lot of problems to solve, such as cost of EVs, Infrastructures for EVs and battery technologies. However, it is important for us to look and imagine further future and vision like "what should we do for sustainability?" New point of Better Place's business model is based on the vision. That is "What will we need next after EVs-use is common

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for many people in order to change this situation more friendly and environment-friendly?”

## 6. Conclusion

Now we are facing the big issue “Environmental deterioration” such as the Climate Change and the Global warming. The cause of the global warming is identified to be greenhouse gas emission (mostly Carbon Dioxide: CO<sub>2</sub>). In human societies, the way of life today is completely dependent on abundant supplies of energy. CO<sub>2</sub> emission is so closely correlated with energy consumption that energy conservation is a significant part of mitigating global warming. Transport systems, especially cars, use a large amount of energy. Transport sector, therefore, have potential to reduce CO<sub>2</sub> emission. In this seminar, from the view point of companies’ business strategies especially in automobile industries, I learned that they need well-known 4 environmental strategies + 1 sustainability strategy “Sustainable Value Innovation.”

I really agree with the above opinion.

And moreover, I would like to add 3 points, 1.non-motorized mobility, 2.Welfare, especially for older people, disability people and parents with their babies, 3.Renewable Energy for local production for local consumption. Although I will discuss the 3 points in other paper later as my research, I mention only a few things below.

First, Sanyo Electricity introduces motorized bicycle and parks with photovoltaic's panels as public bicycle sharing system in Setagaya-ku, Tokyo. I think that this would be integrated with such as Car-sharing and Better Place: As I noted before, future service stations which are substituted for gas stations and integrated with public bus and train stations

Second is about renewable energy. Especially when we do local activities in local areas, we would use more and more renewable energy like solar power. Besides, because new technologies such as “smart grid” and “Vehicle-to-grid” are becoming the latest topic, we have to integrate private transport into renewable energy policy. As Poul H. Andersen et. al (2009) said,

“This integrated solution carries many other associated benefits, amongst which are the possibility of introducing vehicle-to-grid (V2G) distributed power generation; introducing IT intelligence to the grid, and creating virtual power plants from distributed sources.” (Poul H. Andersen, John A. Mathews, Morten Rask 2009)

I think the above 2 points are also helpful for Sustainable Value Innovation.

## 7. Postscript

It was the first time to go to the Kashiwa campus, University of Tokyo. Kashiwa is the new city which has the concept “Sustainable city.” When I arrived at Kashiwa station on the Tsukuba Express, I found that there are some challenging projects supported by Urban Design Center Kashiwa-no-ha (UDCK).

First, it is a bicycle sharing. Second is an energy provider service. You can see it pictures below.

Unfortunately, because it was a rainy day when I joined this seminar, I didn't use the public bicycle. It seems to be useful, because it takes about 15minutes on foot and 10 minutes by bus to go to the campus. I really wanted to use the bicycle.

I can see that Kashiwa City, universities such as University of Tokyo and companies are trying to build a sustainable city in corporation with each other.

It was a good opportunity to join this seminar and study sustainable value Innovation in Mobility in this sustainable city.



Fig. 2 Pictures

(Details on UDCK H.P. (<http://www.udck.jp/index.html>))

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