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How activism matters for creating the electromobility 2.0 industry?

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Abstract

We are currently witnessing the re-introduction of EVs into the market, the increase in R&D expenditures by battery manufacturers, the emergence of new mobility players who do not belong to the traditional auto industry, as well as the activism of lobbyists defending the development of a clean, collaborative or smart mobility. All of this begs again the question: are EVs the signs of a new emerging industry?

This research is founded on a review of existing literature on business strategy, so as to identify those elements which are necessary to enlarge firm boundaries in an emerging industry, namely those linked to reputation and activism to empower. Our paper then analyses two business cases: Tesla Motors and Better Place.

Emerging industry, business models, Tesla and Better Place, Electric vehicles

1 Introduction

For a sustainable mobility in the future, we need to design a low-carbon and intermodal system that meets the demands of both urban and suburban areas. In this context, cars as we know them could radically change – and the companies who build them need now to review the products and services they offer.

Therefore, we are currently witnessing the re-introduction of EVs into the market, the increase in R&D expenditures by battery manufacturers, the emergence of new mobility players who do not belong to the traditional auto industry, as well as the activism of lobbyists and entrepreneurs defending the development of a clean, collaborative or smart mobility. All of this begs the questions: are EVs the signs of a new emerging industry? How firms seek out their own boundary in the emerging electromobility industry?

This research is founded on a review of existing literature on business strategy, so as to identify those elements which are necessary to build an emerging industry, namely those linked to reputation and activism. Our paper then analyses two business cases, Tesla Motors and Better Place, that are similar in their revolutionary objectives for the automobile industry, but have thus far employed very different strategies with very different outcomes in terms of stakeholder confidence in their ability to meet their objectives

2 Theoretical framework

While the 20th century allowed individual mobility and the internal combustion engine to flourish, the 21st century may be that of self-modal, low-carbon, 2.0 mobility. Does this evolution call for a new and specific industry?

2.1 Context

At the turn of two centuries, we're in a phases where different forms of mobility exist at once.

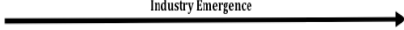
However, none of the new offers are economically viable and sustainable in the long term whereas researchers in management speak of a second industrial revolution and policy paradigm shift [1]. In this context, researchers are developing scenarios where different actors (incumbents and new entrants) conquer the economic space. They assume that in this time of great complexity and uncertainty, the ultimate success of each of the actors depends on their ability to implement collaborative strategies between all the stakeholders of a 2.0, carbon-free, intermodal and collaborative mobility system: those manufacturers and suppliers who have historically dominated the automotive market along with governments and the businesses large and small who feed goods, resources and skill sets into a new value proposition for an emerging industry.

2.2 What is an emerging industry?

Following [2] Santos and Eisenhardt (2009), we define an emerging industry as a business environment in an early stage of formation. This stage is characterised by undefined or fleeting organisational structures, unclear or missing product definitions and lack of a dominant logic to guide actions [2: 644]. According to Aldrich and Fiol (1994: 647) [3], an emerging industry appears when entrepreneurs succeed in mobilizing resources in response to perceived opportunities.

Multiple stakeholders impact the development process of an emerging industry. Each of them acts at different stages in many ways. The theoretical framework proposed by Teyel (2013) [4] synthesizes the required steps.

Table 1: framework for understanding emerging industry [4]

	Industry Emergence 			
Technology (e.g. Dodgson, 2000; Nairn, 2002)	Research	Prototype	Viability	Deployment
Markets (e.g. Rogers, 2003)	Innovators	Early Adopters	Early Majority	
Business Models (e.g. Teece, 2010)	Search	Licensing	Product Models	
Industry Dynamics (e.g. Maletta, 2006)	Market Definition	Standard Setters	Consolidation	
Government (e.g. Spenser et al, 2005; Hung and Chu, 2006)	Science/Technology	Procurement	Regulations and Standards	
Investments (e.g. Lamoreaux and Solovoff, 2007)	Government Funding	Angels/Vc/Public Offering	Public Equity	
Production (e.g. Klepper, 1997)	Prototyping	Pilot Production	Scale Production	
Supply Networks (e.g. Choi et al, 2001; Li et al, 2010)	Sparse	Formation/Collaboration	Consolidation	

2.3 What shapes an emerging industry?

Some scholars oppose two theoretical frameworks: the entrepreneurial/individual view versus the communal/institutional approach.

According to the entrepreneurial/individual view, the emergence of an industry is the result of entrepreneurial adventures and voluntaristic individual orientations. Since Schumpeter's contribution (role of entrepreneurs, creative destruction processes), scholars on entrepreneurship emphasize the key role of entrepreneurs by focusing on their activism [5] (Rao, 2004). The notion of activism refers to efforts to promote or impede changes. This theoretical approach gives all the arguments to those who want to see Steve Job as the shaper of the current IT industry.

The communal/institutional approach [6] (Barnett, 2006) sees the emergence of an industry as the result of communal strategies and collective platforms. Researchers who analyse firm boundaries and networks strategies advocate this approach which refers to the pioneering work of [7] Astley and Fombrun (1983), [8] Pfeffer and Salancik (1978), and [9] Powell (1990). It gives the theoretical arguments to those who want to see communal activism for the creation of common standards and platforms (with their positive network externalities effects) as the shapers of smartphone or tablets industries.

Despite their very different theoretical position, these two approaches share a common notion that

is activism. On the one side, the entrepreneurial activism stimulates disruptive innovations, gives leadership signals, and creates the cognitive references in a nascent industry. On the other, communal activism determines industry and firms frontiers and structures, transforms rivalry, and forces to design collaborative business models [10].

By exploring how economic actors with limited resources and potentially high dependence on established incumbents shaped established boundaries to create nascent markets, as well as achieve dominance in them, [2] Santos and Eisenhardt (2009) offered to reconcile these supposedly separate frameworks. Their research provided a theoretical model of entrepreneurial action for constructing markets in 3 steps: 1) claiming the market, 2) demarcating the market, and 3) controlling the market. The authors suggested six propositions:

- Proposition 1. Firms that proactively use identity-claiming mechanisms are more likely to become the cognitive referents in distinct markets.
- Proposition 2. Firms that proactively use demarcating alliances with established firms are more likely to face lower levels of competition.
- Proposition 3. Firms that proactively use controlling acquisitions of entrepreneurial rivals are more likely to have higher market share.
- Proposition 4. Entrepreneurs that intertwine boundary processes are more likely to (a) become the cognitive referents in distinct markets, (b) face lower levels of competition, and (c) have higher market share.
- Proposition 5. Firms that use soft-power tactics to shape boundaries are more likely to achieve (a) cognitive dominance (become the cognitive referent in a distinct market) and (b) competitive dominance.
- Proposition 6. Firms that, over time, proactively combine claiming, demarcating, and controlling boundary processes are more likely to sustain near-monopoly positions in constructed markets.

Our objective is to use this framework to describe the activism, empowerment and evolution of two entrepreneurial firms in the emerging market of electromobility: Tesla Motors and Better Place.

3 Case studies

3.1 Tesla

Tesla Motors is more than the "hobby" of Elon Musk, a rich entrepreneur who has made it his mission to fight against global warming. It is first and foremost a company founded by the creator of an on-line bank (X.com which later took over and developed PayPal), and the designer-producer of a space transport services company (Space X). Tesla Motors is an automotive company which was founded in 2003, and so came as a new entrant into a century-old industry. Instead of attacking the automotive industry head-on, its first steps in the industry were highly collaborative. Using a Lotus chassis, Tesla's first car – the Roadster – was a modest experiment for the company to get to know both the technicalities of production, as well as the appetite of its target niche market for its technically superior car. Tesla subsequently acted as a supplier and designer for other automotive incumbents such as Daimler and Toyota, and received investments from both. Even if it has only sold some tens of thousands of cars throughout the world, it is now worth more than \$30 billion on the financial markets. This valuation is considered to be "obscene" by those investors who want to defend the experience and sustainability of the industry's historic manufacturers, in other words, those who made the automotive industry the most powerful industry in the world, with more than 80 million products sold every year and the considerable socio-economic ripple effects it has had. However, investors who are more innovation-oriented see this valuation as "fair": investor John Bhakdi, a specialist in high-tech innovation and CEO of i2x Innovation Capital tweeted that: *"comparing Tesla with General Motors is like comparing Google in the year 2000 with the Yellow Pages"*. Above and beyond the debate on the value of Tesla Motors, the question raised by the success of this company is the issue of the relevance of its passionate activism for the construction of an electromobility 2.0 industry.

While the company's initial strategy was to become a car manufacturer, it seems to have moved into different directions to diversify the risk of being outcompeted on its car sales. To name but a few examples, the company invested \$5 billion in the largest battery factory in the world to

become a battery supplier; it has a disruptive distribution policy which bypasses traditional circuits; it spends considerable amounts installing superchargers and offers free energy supplies to Tesla owners; and it has opened up its patents for use by other car companies to spur their investment in electrical vehicle market.

The Tesla case fits with the [2] Santos and Eisenhardt's framework. First his founder, and then the entire organization, proactively use identity-claiming mechanisms such as stories are more likely to become the cognitive referents in distinct markets by creating templates, stories, and leadership signals. This echo proposition 1. Regarding proposition 2, Tesla proactively used alliances with established firms to establish its competitive advantage. Even if recently the alliance with Toyota ended, Tesla used it at the right time when the start-up wanted to show its credibility as a car manufacturer. Tesla's decision to open up its patents may seem to go directly against proposition 2 and 3 of Santos & Eisenhardt, as it effectively lowers entry barriers in the car market. On the other hand, the supercharger network and the battery factory may indicate that Tesla is seeking its monopoly power elsewhere in the value chain, and that it opens up its patents in the car market to speed up the growth leading to battery and electricity purchases.

3.2 Better Place

Better Place was also founded by a rich entrepreneur who claimed that the conversion of ICEs would push a new Industrial Revolution. Shai Agassi's vision was inspired by the desire of making "the world a better place" by addressing all of the known hurdles to EV at the same time in a holistic business model that would be implemented in one go. Launched in 2007, Better Place was dedicated to offer battery-charging, but especially battery-swap services for EVs. Although the battery swap concept was an old one (early proposed in late 19th century), Agassi believed that only such a holistic and systemic change could spur the development of the EV industry: "a paradigm shift" claimed Deutsche Bank analysts. The approach was to separate the car from the battery and to handle all battery issues in its network of battery-switching stations. On the basis of just the idea and a vague business plan, Shai Agassi was able to get the full support of the Israeli government to deploy

the concept in Israel, and raise almost \$400 million to implement it from scratch.

In the following years, some of the best engineers were hired to develop the concept, while Agassi went on the road to get partnerships from car manufacturers. It has been reported that Agassi's demeanour in the negotiations with incumbent car manufacturers threw people off, and was very antagonistic. In the end, Renault-Nissan committed to developing the cars for the Better Place system. Both technical as well as sales developments, however, knew many hiccups, draining the company's cash and delayed developments without any sizeable results. In the course of 6 years, more than \$900 million was raised and invested in demonstration projects and charging station for finally only 1400 cars sold in Israel, Denmark and the Netherlands. Six years after, the company was in bankruptcy and recovered only \$450 000 in assets. Some see Better Place as a tragicomic case study of the limits of innovation. Others think that Better Place was never going to make it because they wanted to lock in their customers without considering the incumbents in the future EVs value chain. Above and beyond this debate, the question raised here is once again the issue of the relevance of the activism done by this company for the construction of the electromobility 2.0 industry.

The Better Place case also fits with the [2] Santos and Eisenhardt's framework. His founder proactively used identity-claiming mechanisms and quickly became a cognitive referent in the industry. Unfortunately, "his arrogance and overall poor judgment" (dixit the expert and blog's author Chafkin) cost failures with major partners as GM, BMW, Mercedes and finally Renault-Nissan. As Renault-Nissan was developing the cars that enabled the use of Better Place's network, its collaboration was key. When Better Place lost Renault-Nissan as its partner, investor confidence in the company was destroyed and thereby its ability to raise the necessary cash for future development. Even if Better Place initiated very promising alliances (proposition 2), the firm never went further than MoU and could not create the conditions for a sustainable competitive advantage. Regarding the other propositions, this case study shows that the activism of Better Place was locking its partners in its system, without giving them enough incentives that would help them benefit from Better Place's development as well. . As such, incumbents in the automobile industry felt that Better Place's revolution was rather

against them, than with them, and they ditched their support for the project. Better Place could not leverage on the individual activism of its founder to create the conditions of communal activism, necessary for its survival.

4 Conclusion

The cases of Better Place and Tesla show that the EV industry and the automobile industry are currently inseparable and that any start-up wanting to survive in the EV space will have to take the dominance of automobile incumbents into account. In line with [2] Santos and Eisenhardt (2009) and [8] Pfeffer & Salancik (1978), this may require innovative companies to co-opt incumbents in their revolutionary process. In addition, it is clear that the investment community believes in the transition towards EVs and that it is willing to commit exuberant amounts of capital on the basis of revolutionary ideas. A tinkering strategy which is focused first and foremost on sales, and diversification of risks, seems to be necessary, however, to continue to get the support for their activist role.

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