Charging China: Life-cycle dynamics and comparative advantage in the Chinese market for charging stations [working title]

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Introduction

Innovations need support. A net of charging stations is what supports electric mobility: the thickness of the net will arguably determine whether electric propulsion sticks or falls through the cracks. In this sense, makers of charging stations have a pivotal role in the emergence of new mobility concepts.

Recently, China invests strongly in this sector. Go to an international trade fair on electronics and you see stall upon stall with Chinese makers of charging stations for e-bikes and electric cars. This reflects the explosive growth of the market for charging stations in China. The new investment plan of the Chinese government projects to subsidize charging stations by $16 billion (Gallucci 2014).

We see broad diversity in product offerings. Literature on new markets suggests that most of these firms will go bankrupt over the next few years, as the market gets sorted out and a select few players pull ahead, who have figured out how to produce an emerging dominant design most cost effectively (Utterback 1994; Abernathy, Clark 1985; Suárez, Utterback 1995). Like watching a real-life experiment, looking at the early fluid phase of the product life cycle can give interesting insights into what makes or breaks product success and how firms’ capabilities relate to their competitive advantage.

We will explore in this paper what type of firms enter this new markets and how their product offerings relate to perceived comparative advantages of Chinese firms.

Scholars have argued for links between strengths that firms draw from their country environment and success in producing certain goods, notably that “a fit between country characteristics and product attributes creates competitive advantage of a given product in a given country” (Fujimoto 2007, p. 56). Looking at Chinese firms, a source of competitive strength is seen in producing “labor-intensive modular architecture goods”, with firms buying licensed or copied parts and focusing on efficiently mixing and matching generic components to produce motorcycles, TVs or other digital consumer goods (Fujimoto 2008). While this observation seems to hold up well for the current state of many Chinese products and industries, for rapid evolving markets and product designs as we see for charging stations, we wonder about stability, path-dependence and trajectory of development.

Notably, we want to explore whether (1) we can see signs of a dominant design emerging in the market for charging station and what may determine product features of this design, whether (2) the current market structure conforms to the perceived generic comparative advantage of Chinese firms in labor intensive modular architecture goods and (3) whether we can see signs for market differentiation and movements of producers to more integrated or closed forms of architecture. Linking the first two points, we also want to explore (4) whether there are differences between Chinese firms targeting the domestic and those targeting international export markets.