Business model innovation in an ecosystem context. An application to the EV ecosystem.

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Overview

Traditional ways of mobility, mainly based on Internal Combustion Engines Vehicles (ICEV´s), are contributing to rapid climate change. To mitigate these effects, environmental regulations and technological advancements point towards electrification. The Electric Vehicles (EV´s) path to market domination, will challenge the dominating business practices of the established auto industry and other new players, that have previously operated isolated from each other, at the intersection between the traditional auto industry, the charging infrastructure, and its integration into the electricity sector. Since industry boundaries are being crossed, EV´s innovation interface must now be addressed in an ecosystem logic, where value chains are reconfiguring into value ecosystems. However, at this early stage, viable business models for EVs have yet to be determined. Therefore, participants in the emerging EV business ecosystem are compelled to revise their existing business models, to address these new models of value co-creation and value co-capture, to seize the potential of this reconfiguration. Business Models for EV´s need to be analyzed throw the lens of its ecosystem.

Methods

This paper aims to define an approach for business model innovation, considering the changing dynamics and the interconnected nature of the EV ecosystem. To do so, a BMI framework is constructed considering the interactions of value resulting from introducing new innovation concepts: servitization and business ecosystem; underlying its complexity, the multiparty interdependence, and the alignment of the stakeholders, in order to define an ecosystem strategy for value creation and capture under this paradigm. Based on theoretical and methodological basis, the framework is developed as a descriptive model in the form of a "canvas", for the systemic design and its evaluation.

Results

The EV ecosystem considers the evolution of the EV value chain into a Business Ecosystem. The current EV value ecosystem focuses on three main elements: the battery and the vehicle; the infrastructure enabling grid connection; and the data and energy services for the user. Considering this, an ecosystem map with a generic representation of the main actors within the new EV ecosystem and the innovation interface for potential services is presented. Then, the proposed BMI framework is applyied for the case of charging infrastructure in public areas with public access and the mapping of the ecosystem, that includes the main flows of value between stakeholders is presented.

Conclusions

This paper proposes a structured framework for the design and analysis of innovative business models with the consideration of the EV industry as an ecosystem. This tool offers a practical contribution concerning the exploration of new and different shares in value creation and capture within the multiple participants around the electric vehicle, in order to give certainty to the individual stakeholders on the configuration of business models that can yield sustainable profits. Few tools exist for the analysis of firm strategies in ecosystems; therefore, the ecosystem mapping can be used as a visual tool to understand the relationships and interdependencies between the different firms that make up the ecosystem.

Key Words: business models, business ecosystem, EV ecosystem, value chain.