The role of incumbent car manufacturers in the interacting TISs of low and zero emission vehicles

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Research question

How do incumbent car manufacturers influence the interacting TISs of low and zero emission vehicles?

Figure 1. Influence of car manufacturers on TISs

TISs – System Functions

SF1: Entrepreneurial activities
SF2: Knowledge development
SF3: Knowledge diffusion
SF4: Guidance of the search
SF5: Market creation
SF6: Resources mobilization
SF7: Legitimacy creation

Car manufacturers

Innovation strategy:RD&D - commercialization

Political strategy:Corporate Political Activities

Preliminary findings

1. Car manufacturers have very broad R&D&D portfolios; a little bit more focused political strategies; even more focused commercialization activities.

To illustrate: OM’s R&D&D portfolio comprises aICEVs, HEVs, PHEVs, NEVs, EVs, and HFCVs; their corporate political actions support aICEVs, HEVs, PHEVs, NEVs and HFCVs; they commercialize aICEVs, HEVs and PHEVs.

2. Strong relation between the innovation strategy and the political strategy of car manufacturers.

Car manufacturers lobby for regulatory support for the innovations they are investing in, while opposing regulatory support for other innovations.

3. As a consequence of the previous, car manufacturers through their corporate political actions oppose regulatory support for some TISs while advocating support for others.

Car manufacturers attack political support for innovations they perceive as a threat.

To illustrate: in the early 2000s, car manufacturers advocated HFCVs as an alternative for the EVs they opposed, see Figure 2.

4. The innovation and political strategies of car manufacturers become more diverse over time, see Figure 2.

5. Strong competition breaks the industry front of opposition towards zero emission vehicles. There is strong competition not only in the innovation strategies of car manufacturers, but also in their political strategies.

To gain competitive advantage, car manufacturers compete for public support for their innovations. In doing so they commit to different innovations and break apart the closed industry front that committed to incremental innovation (aICEVs) and from which they used to oppose low and zero emission technologies until the early 2000s.

6. In line with Wesseling et al. (BSE) the data support that the more profitable car manufacturers focus on commercializing the less radical innovations (more radical innovations on the right in Figure 2).

References


Discussion

Are these findings applicable to other sectors and transition processes?