7.1 Mobility Services

7.1.1 New Mobility Services

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This section is an introduction to new mobility services. It prepares the analysis, conducted in the next section, of the advantages and disadvantages related to the introduction of electric vehicles in these new mobility services. The goal is to understand the concepts of collaborative economy, functional service economy, and information economy, in order to analyze the reconfigurations that occur today in mobility services.

Introduction

Mobility systems are constantly evolving, under the combined influence of changing trends in both mobility supply and demand.

On the demand side, there are first of all changes in residential locations. On the one hand, a growing proportion of the world's population is concentrated in cities. On the other hand, these cities have a strong tendency to sprawl, which results notably in longer travel distances.
Changes in lifestyles are also taking place, particularly associated with the enrichment of populations and opportunities offered by urban life. Cars no longer seem to be a priority acquisition among young urban adults, whereas smartphones are gaining in penetration almost everywhere in the world.
Still on the demand side, there has also been a change in consumption patterns, with the recent emergence of trends towards organic farming, short food supply chains, and collaborative consumption. Some examples include private rental platforms such as Zilok, or long-distance carpooling platforms such as Blablacar.

If we now focus on the mobility offer, we can see that the mobility systems of developed countries, which have long been based on thermal passenger cars, have recently experienced developments in terms of vehicles, players, and services in particular. Interestingly, such developments are also taking place, sometimes with a certain time lag, sometimes with a step ahead, in the mobility systems of developing countries.
In terms of vehicles, there is first of all a diversification of vehicle types that make up mobility, from skateboards to private cars, the range of motorized and non-motorized vehicles is diversifying, and now includes self-balancing scooters, monowheels, scooters, bicycles, motor scooters, motorcycles, and so on.
Still regarding vehicles, another ongoing diversification is that of the energies used for the propulsion of motor vehicles. While the transportation sector still relies for more than 95% of its global energy needs on oil-derived products, alternative vehicle offers are emerging, and seem to be able to develop, based on energy resources such as electricity, natural gas, biogas, and hydrogen. Electricity is also an energy carrier today present on a range of products, from self-balancing scooters to trucks.

Current technological developments in vehicles are not limited to the type of vehicle or its energy. There is also more and more talk of connected vehicles, which improve service to the user, satellite-assisted navigation or hands-free telephone sets for example, and improve monitoring of these products by the manufacturer. And recently there has been talk of partially or fully autonomous vehicles that will be able to assist the driving, or make it possible to do without drivers completely.
Some developments most of you will have noticed concern the actors of the changes at play, many of whom come from the digital sphere. No one had ever heard before 2006 of the carpooling operator Blablacar, or before 2008 of the luxury electric car manufacturer Tesla, or before 2009 of the aggregator of passenger cars with drivers Uber.
Finally, regarding services, we see the rise of shared modes, such as carpooling, whereby several people share a car on the same journey at the same time, car sharing, whereby several people share a car on different journeys at different times, and bicycle or parking sharing.

To understand the forces at work in the evolution of mobility systems and services, let us look at a series of concepts and terms whose definitions are not yet stabilized. First of all, collaborative economy and the nebula of its variations, which include sharing economy, crowdfunding, crowdsourcing, collective purchasing, asset pooling, then functional service economy and its corollaries, service economy and servicization, and finally information economy and its rising variation, platform economy, often associated with the two-sided market. Let me shed some light on these three families of concepts, because it is at the intersection of these three families that we will find what makes the growing success of shared modes.

Collaborative economy

It consists in the transformation of the production and consumption of goods, products or services, through collaboration between several actors.
It can take many forms, such as involving vertical collaboration between actors at different levels of the value chain, for example regulators, product manufacturers, service providers, or end-users, to organize the redistribution of production activities, resources, information, risks, costs, and benefits among these actors. But it can otherwise involve horizontal collaboration between actors at the same level of the value chain, for example end-users, to organize the sharing between these actors of experience of ownership or of use of goods. Horizontal collaboration between actors at a given level of the chain generally requires intermediation. It can be carried out by another level of the chain, for example commercial or government intermediation, or within the level concerned.
Vertical collaboration is generally based on the principle of integration and pooling of resources within a production chain. One of the best-known models is crowdsourcing. In the field of mobility, an increasing number of traffic information services rely on feedback gathered by users for users. This is notably the case of the Waze application.
Horizontal collaboration can be based either on the principle of redistribution of the resources used, or on the principle of grouping by community of interest for the sharing of experience or for consumption. One of the best-known models is

rental between individuals. Car sharing in particular, notably represented in France by Ouicar, Drivy, or Koolicar, and carpooling between individuals, the best-known long-distance service being Blablacar, are its direct variations in the field of mobility.

Functional service economy

It is the transformation of production and consumption activities through substitution of purchase and sale of products by purchase and sale of services based on the use value of these products. This substitution can be accompanied, in the context of the development of collaborative economy, by a mutualization of the service between several users.
In the field of mobility, functional service economy leads for example to replace the purchase of a car by the purchase of a long-term rental service contract, usually between 1 and 4 years, as is the case for most vehicles acquired by businesses in France. The combined influence of functional service economy and collaborative economy leads, in the field of mobility, to replace the purchase of a car with the purchase of a car-sharing subscription, and pay-as-you-go for access to a shared vehicle.
The transition to functional service economy transforms the perception of the product-service by consumers and producers. Consumers generally gain in terms of cash flow, of visibility on the overall cost of their consumption, and of rapid access to technological advances. In return, they participate in the performance of the service through its use, and are thus induced by contract to a reasonable use. Producers see their internal organization, processes and business models severely affected by the transition to a collaborative economy. If they remain the owners of the product throughout its use, they are encouraged to design this product according to performance criteria different than those that previously prevailed.

Information economy

It consists in the transformation of production and consumption activities through the use of new information technologies. These transformations can be supported by digital platforms that not only collect and create abundant information, but also generate value from this information, for example by ensuring the matching of a diffuse demand, that of individuals in search of taxis, vehicles with drivers, or carpooling, with a diffuse offer, that of taxis, vehicles with drivers, and potential carpoolers.
These platforms make possible the massification of networking, all the more effective if positive network externalities are involved, i.e. if the value of the good or service increases with the number of people subscribing to it. These platforms also provide real-time exchange of information and enhancements to the functions offered, such as geolocation, quality and trust ratings, secure payments, and so on.
In view of the scale gains they allow, the new information and communication technologies, especially digital platforms, play a central role in the recent diffusion of new mobility services.

Conclusion

In summary, it is possible to represent shared modes as the result of the encounter in the field of mobility between collaborative economy, functional service economy, and information economy, the first playing on the mutualization of certain costs and benefits, the second on the valorization of products for their use and not for their possession, and the third on the change of scale allowed by new information and communication technologies. I will see you in the next video to study the advantages and disadvantages of electric vehicles in new mobility services.