

# Harvard Business School Disruptive strategy - Final paper

## Recommended actions for public transport to outcompete private cars

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November 2023

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### 1. Summary

How can public transport outcompete private cars? This is a key question facing the public transport industry today, with large implications for the ability of communities and the world to build vibrant local communities, reach climate and sustainability goals, and reduce citizen and government spending on transportation.

This assignment first provides a general overview of the public transport industry in Norway, its organisation and the massive potential for disrupting the very expensive structure of everyone owning their own car. From there I move on to analyse the current situation within the industry through the theoretical lenses of innovation theory. In the final section I offer six concrete recommendations to managers and decision makers in the industry on how public transport can position itself to outcompete private cars.

### 2. A brief introduction to the public transport industry in Norway

In brief, the public transport industry moves people around using trains, tramways, buses and boats. Increasingly, the scope of public transport companies is expanding to include new shared mobility services, such as e-scooters, city bikes, car sharing etc., with autonomous vehicles providing a potential new disruption moving forward.

Countless studies have documented the important role of public transport in reducing climate and air pollution from private car use, and limiting excessive land use from urban sprawl. A recent study from the Norwegian Environment Agency ranked modal shift from private cars to public transport as one of the most efficient measures to cut CO2 emissions.

The industry is publicly regulated and funded by a mix of ticket revenues and government subsidies. In Norway, the most profitable regions are funded approximately 50 percent by ticket revenues, typically the major cities, while more rural parts of the network generate less than 20 percent of its revenue from ticket sales.

The organisation varies from country to country, but a typical model is to have regional Public Transport Authorities (PTAs), frequently a limited company, who is granted a monopoly by law to organise train, bus and boat services. The PTAs in turn offer public tenders on different sections of their networks to Public Transport Operators (PTOs), who compete for contracts by quality and financial parameters.

Although public transport is an efficient, environment and people-friendly way of transporting people particularly in cities, it faces stiff competition and is frequently out-competed by the private car. In 2018, only 10 percent of the Oslo region used public transport as their main mode of transport for leisure travel, rising to 24 percent for work travel. For Norway as a whole, the corresponding figures were 6 percent for leisure travel and 11 percent for work.

In 2022, Norwegian households spent 252 billion Norwegian kroner on transportation, corresponding to 15 percent of their disposable income. Only 8 billion of these were spent on purchasing public transport tickets, while appx. 200 billion were spent on private cars. These figures show the massive potential for disruption and economic efficiency gains in the transportation sector, both from a household point and a societal point of view.

### 3. Situation analysis

In this section I offer important insights from innovation theory, and use these to analyse the current situation in the public transport industry, before moving on in the next section to offer specific recommendations for future course of action.

#### The job to be done framework

A useful framework around which to build a strategy is the concept of a job to be done. Rather than thinking of a company as a provider of specific products and services, the



framework suggests framing the company's purpose as helping customers to carry out a job they need to be done. In order to understand the job to be done, one needs to look closely at the customer's daily life. To get the job done perfectly, a company needs to

provide the relevant experiences in purchasing and using the product, integrate these in the right way, and provide a clear purpose brand to immediately be thought of by customers as the one to "hire" for a job.

For the public transport industry, this means that our business is not operating bus or train services, or selling tickets across different modes of transport. I would argue that our job to be done, is providing the *"Freedom to easily and cheaply get to anywhere I want, when I want it"*.

To carry out this job perfectly, public transport companies should offer experiences such as simple travel, access to frequent travel options with short waiting time, competitive travel time, and short distance from where you are to a bus stop or train station. I would also argue

that the feeling of community, of travelling together, as well as a sense of doing the right thing from an environmental point of view, are relevant experiences.

The experiences should be integrated in a way that allows hassle-free combination of different modes of transport, a feeling of safety and comfortably being taken care of while getting to where you want to go. Finally, the purpose brand should communicate that we quickly and easily fix your mobility needs when they arise.

The public transport industry currently faces challenges on all these levels, with a lot of room for improvement.

### **Public transport's main competitors**

The public transport industry faces three main competitors:

- *The private car.* Cars offer customers a guarantee of always having access to simple transportation, integrated in a way that allows easy access to most places, as well as a defined purpose brand built over years by large marketing budgets. However, they are very expensive, time-consuming to use in rush hour traffic, polluting, and expensive to park. Most cars are idle 90 percent or more of the time, indicating a massive performance surplus that has the potential to be disrupted.
- *Global technology companies or Mobility as a Service (MaaS) companies.* Companies such as Google provide map and travel advisory services based on massive data collections. They provide a strong experience of easy access to travel options, as well as a feeling of personal integration across modes of transport, companies and even countries. Similarly, Mobility as a Service companies such as MaaS Global have been anticipated to help customers with a seamless travel experience across different modes of transport. So far they have not proved to be a real competitor to public transport companies anywhere in the world.
- *New autonomous taxi companies.* These services are already available in certain markets, and offer a completely new low-cost business model representing a major challenge to the public transport industry. With the cost of the driver off their books, autonomous taxi companies are able to provide taxi services at a much lower cost. However, the challenge from a societal point of view is that an unregulated market for autonomous taxis will duplicate many of the downsides of the private car.

### **The public transport industry architecture and its implications**

At this point it makes sense to introduce the strategic architecture of the public transport industry. From theory, industry architecture can be understood on an axis ranging from *interdependent* on the one hand, to *modular* on the other. Industries and products are typically interdependent in early stages, with complex interfaces complicating interaction across different sections of the value chain, while at a more developed stage the interfaces become simpler and modular.

The right company strategy to pursue differs depending on the industry architecture. In an interdependent industry architecture, companies need to make good-enough products, and therefore to integrate forward to control the different interfaces. In a modular architecture, it makes more sense to specialise on carrying out the parts of the value chain most in line with a company's performance defining components.

I would argue that the public transport industry architecture is interdependent. Currently the main challenge is simply that integrated mobility services are not available or good enough.

### **Understanding the type of innovation required to outcompete the private car**

From theory, there are generally three types of innovation:

- *Sustaining innovation.* Makes good products better, improves product margins and typically targets the most profitable customers. Incumbents in an industry are generally superior.
- *Low-end disruption.* Offers good enough performance, targets over-served customers and utilises a low-cost business model. They typically profit from the fact that customers are unable to use the full potential of technological advances. Entrants tend to succeed in low-end innovations.
- *New market disruption.* Targets non-consumption, are able to make money at much lower prices per unit, and often perceived as offering lower performance from an existing market point of view, but higher performance from a new user point of view. Entrants also tend to succeed in new-market

Developing public transport and shared mobility services that are attractive enough to outcompete large segments of private car usage, can be understood as both a low-end disruption and a new market disruption. If we approach the question as "how to get current private car customers to switch to public transport", it would be primarily a new-market innovation. Framed as "how can public transport compete within the mobility market", however, it can be understood as a low-end disruptive innovation.

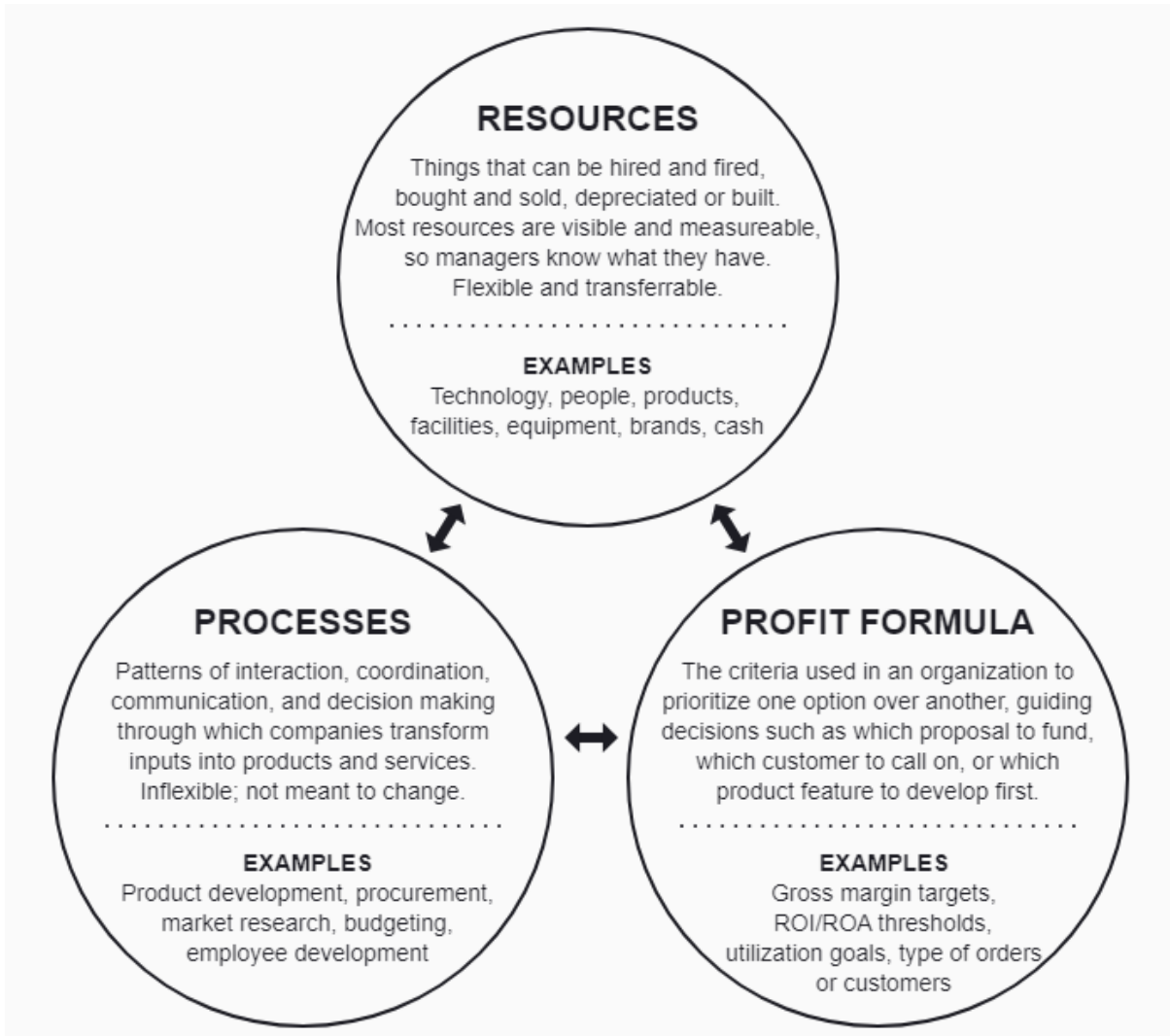
As often is the case, the actual position is likely somewhere in the middle, with the following implications:

- Rather than focusing on developing premium services to outcompete the car, the challenge for public transport is likely to develop services that are "good enough". Current car users are definitely "over-served" customers, since they spend huge amounts of money in having a car available which they use only 5 % of the time. If the job to be done is well understood and served in a better and cheaper way, disruption will happen.
- To succeed, public transport companies need to develop a lower-cost business model and/or be able to deliver services at a much lower price per unit than current public transport operations

### **The resource allocation process in public transport**

The profit formula in public transport traditionally tends to be a combination of production targets such as total passenger volumes or production costs per passenger, and by growing market share particularly by winning customers from the private car.

Developing new shared mobility services such as e-scooters, shared autonomous cars, car sharing etc. has a different profit formula from running high-volume bus and train networks in rush hour. The cost/profit per unit might not necessarily be lower, but as a public service it



requires different metrics of success. For instance not only the number of kilometres driven by the fleet, and sheer number of passengers, but the number of customers who sell their car.

A strong core with most of the money and activities, and risk that too much experimentation can be detrimental to the core offering.

Since we're a publicly funded business it also might be that the benefits of succeeding with an emerging business is lower, and that the resource allocation process is (even) more aligned towards protecting the core.

#### 4. Strategic recommendations

##### Risk of following the current course of action

Thus far public transport companies have had limited success with integrating new shared mobility services in their transport offering. The overall numbers also indicate that even though public transport is quite popular in cities, the private car remains the preferred mode

of transport in most places. Norwegian households spend large amounts of their disposable income on private cars, and there are clear indications that they are being over-served.

The risk of the current course of action is of course that our competitors win. Currently, the private car is already the winner. Technology companies could come in and win the customer interface, but with an interdependent industry architecture, I don't find this very likely. The largest potential disruptive threat is from new autonomous taxis, who might be able to perfectly carry out the job of offering easy and cheap access to transport when you need it.

However, as a publicly funded industry, the largest risk we face is not bankruptcy, but rather that we fail on delivering on the immense potential we have for providing public goods in cities, and saving and generating taxpayer value for money.

**List of recommendations**

To strengthen the innovative capacity and ability to compete against the private car, I offer five recommendations based on disruptive strategy theory:

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| <p><i>#1: Increase understanding of the job to be done and building new business cases</i></p> | <p>The public transport industry has developed a strong culture for putting the customer at the centre. Still, the focus is arguably still too much on current customers and increasing usage of traditional services. In order to provide disruptive solutions that can be a game-changer in the mobility market, the public transport industry needs to improve its precise understanding of the job customers need to get done.</p> <p>I would recommend focusing on better understanding the reasons why current car users stick to the car despite its high costs, as well as former public transport users who have switched back to the car. A guiding star is the experience of GM OnStar, who realised that their strategy was off course when talking to customers who left them.</p> |
| <p><i>#2: Clarify the profit formula</i></p>   | <p>The profit formula is an essential tool for managers to guide the company's everyday priorities through the resource allocation process.</p> <p>Currently, the profit formula is heavily based on total passenger volumes and revenues, making the companies heavily biased towards current high-volume bus and train lines. To foster and implement new innovations, the profit formula for public transport needs to be updated and made independent of specific modes of transport, and total passenger volume.</p> <p>The formula and criteria to use when prioritising should rather be the extent to which people have access to necessary public mobility services when they need it, and/or declining ownership and/or usage of private cars.</p>                                    |

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| <p><i>#3: Clarify the Purpose Brand</i></p>   | <p>Today, public transport companies often also refer to new shared mobility services as part of their value proposition. This is however a complicated message, splitting services into traditional public transport on the one hand, and new shared mobility services on the other. Both from a customer point of view, and from an employee perspective, this leads to ambiguity about what is to be prioritised, particularly when combined with an ambiguous profit formula.</p> <p>A key task is therefore to clarify the purpose brand of the public transport industry into one, integrated offer, based on a closer understanding of the job to be done.</p>  |
| <p><i>#4: Integrating forward in order to create good-enough services</i></p>                               | <p>Since the public transport industry has an interdependent architecture, companies need to integrate forward to create good-enough services to actually compete with the private car.</p> <p>As a heavily regulated industry, an important way to do this is to advocate for new legislation granting a larger role to public transport companies to also regulate new shared mobility services in a similar way to how the regional bus and train markets are currently organised (see section 1).</p> <p>Furthermore, trial and error is also of critical importance. Public transport companies should join forces with suppliers of e-scooters, car sharing, or even taxi, to test strong integration of new services into the public transport offer.</p> <p>Also, given the complexity and technological challenges of developing new good-enough services, the publicly funded companies should join forces and cooperate as much as possible and pool their resources.</p> |
| <p><i>#5: Strike the right balance between protecting the core and promoting disruptive innovations</i></p> | <p>One of the most challenging parts of being a manager is to strike the right balance between running the core business, while at the same time allowing room for new innovations to grow. Developing the core typically requires a deliberate strategy, while fostering new innovations requires an emergent strategy process.</p> <p>These two need to be combined at the same time. Just as in most other businesses, the public transport sector is that the cost structure and volume of travels required to compete easily determines the outcome of the resource allocation process.</p>   |

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|  | <p>I recommend considering setting up a separate unit or even subsidiary company in order to develop new and more comprehensive mobility products directly targeted at disrupting the private car market. At the very least, managers should be aware of the complexity of developing disruptive services within a company.</p>  |
| <p><i>#6: Develop business case for how cost per unit can be lowered by offering new services at a higher volume</i></p> | <p>A key feature of both low-end and new-market disruptions is to develop new low-cost business models and/or much lower prices per unit.</p> <p>I would recommend developing a business case for how the cost per unit of transportation services can be lowered by offering (new) mobility services to current car users, from a company, customer and societal point of view.</p> |

### **Implementation issues and risks**

I have commented on some of the risks and uncertainties above, but in my view the largest implementation risk is if the profit formula, processes and resources of current public transport organisations allow for the development of services to disrupt the mobility market. According to theory, it is almost impossible to disrupt oneself, since the profit formula and processes of a company almost always will try to force it into a sustaining innovation to the existing product.

A key question is to what degree the innovations required to outcompete private cars also disrupt the current public transport core business. In my view the job to be done requires a range of experiences such as traditional bus and train lines, that in turn are integrated with new mobility services.

Simply speaking, the strategy needed does not imply disrupting the public transport business, but the private car business. Still, it is important for managers to be aware of the challenges in combining a deliberate strategy for the core business, while allowing for emerging strategies to develop the new innovations that will lift public transport to new heights.