

Cutting the Profitability Gordian Knot

Take Quantum Leaps AND Incremental Steps to Survive in the Urban Public Transport Value Chain



The public transport industry is going through a significant paradigm shift as the market displays increasing demand, flat capacity development, and squeezed margins. A number of fundamentals suggest that the urban public transport value chain and competitive landscape may change significantly in the coming years. In this viewpoint, we share our thoughts on operational and innovation excellence as key elements to excel and be a winner in the public transport industry.

Several reshaping market trends must be mastered going forward

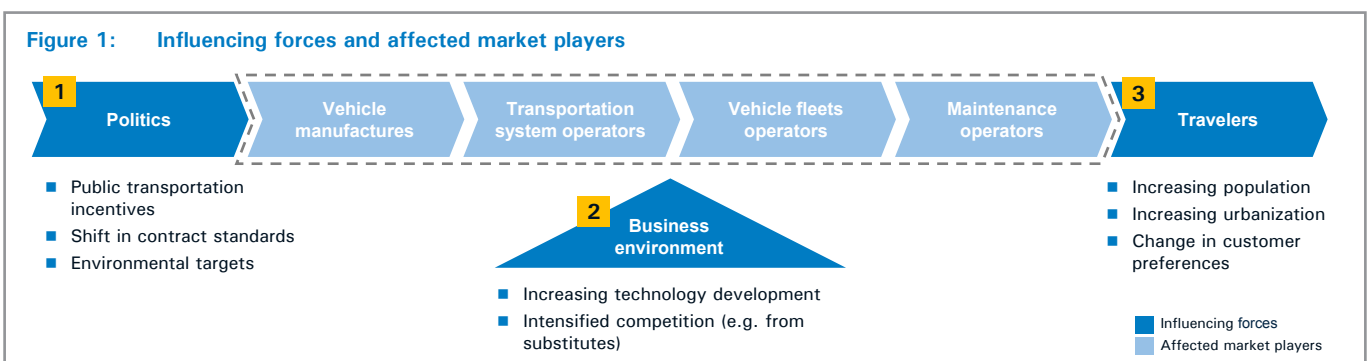
What challenges will the public transport industry players face and what trends will significantly shape the industry going forward? The urban public transport value chain is influenced by three main forces: Politics, the business environment (technology and competition in particular) and travelers (Figure 1). These forces are currently simultaneously applying significant change pressure on the industry.

Politics define the guidelines and procedures of the public transport industry and have a major impact on its development. Market players must adapt to the corresponding changes and in this viewpoint we highlight three of the major ones. Firstly, incentives to increase the use of public transport, e.g. congestion charges in London, Milan, Stockholm and Singapore, oblige market players to handle higher demand. Secondly, the move from gross cost contracts to incentives based contracts by several Public Transportation Authorities (PTAs) could radically

change the market conditions, as it fundamentally affects the players' revenue streams and risk sharing. Thirdly, politics sets the environmental targets that industry players must meet.

The business environment includes technology and competitive trends. Recent technology developments (e.g. increasing smartphone and application penetration) enables vast system innovation opportunities for the public transport industry players; however, it also puts pressure on being innovative in order to stay competitive and efficient. Low profitability explains the limited influx of new market players, while competitive intensity increases in terms of internal rivalry between existing players combined with increased competition from substitutes (e.g. commercial traffic, car sharing, bike sharing).

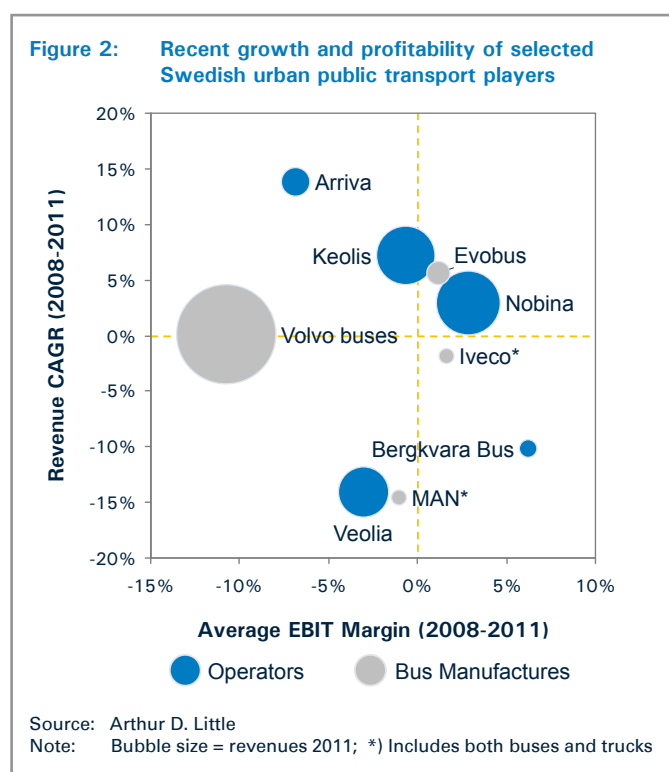
The third main force of influence is travelers, who profoundly affect the requested capacity and service offers of the industry players. Firstly, there is increasing demand for public transportation services due to growing population density and urbanization. Secondly, there is an ongoing change in customer



requirements and preferences. Today, in addition to commuting time, frequency, punctuality, seamless journeys, accurate traffic information and low prices, travelers also require environmental awareness, a higher degree of flexibility and more appealing service offerings that fit into their evolving lifestyles.

Low margins and attractiveness put further pressure on operational and innovation excellence

The above trends imply major challenges and require action if one is to gain and not lose. A major consequence is the need to further improve margins and attractiveness as well as one's own position; in many cases to "keep the head above the water".



Public transport industry players display low margins, varying between -11% and +6% (Figure 2). The squeezed margins originate from a classic cost/revenue issue. The cost of delivering public transport is increasing throughout the value chain - due to capacity constraints, maintenance and transferred costs from PTAs - while revenues in terms of ticket sales and subsidies have not increased at the same pace. One reason is because intensified competition has forced market players to lower their proposed prices when bidding for tenders. Debt crises and government budget deficits also have a direct impact on the industry's revenue streams. Furthermore, the attractiveness of public transportation is decided by the service offerings and their related service levels. However, it is fair to say that neither the offered services nor their related service levels meet today's customer requirements and that the industry lags behind other markets in terms of innovation to increase customer experience and satisfaction.

The industry appears to be in need of continuous measures to improve margins and service attractiveness. Innovation of operations (how we do things) and services (what we offer) are now far more critical to master than in past decades, when influencing forces and competitiveness were much less challenging.

Quantum leaps AND continuous improvement are needed

Alongside quantum leaps and out of the box solutions, equipment manufacturers, vehicle suppliers, and service providers need to ramp up continuous improvement of service levels, cost efficiency, and productivity. Arthur D. Little helps leading players throughout the value chain implement efficiency improvements, percentage point by percentage point, year by year. We assist clients in the urban public transport industry to run productivity improvement programs in order to stay ahead of competition; to be faster, leaner, better, more flexible, more attractive as employers and financially stronger. This enables our clients to seize opportunities when they arise, ahead of competition.

Efficiency improvement addresses costs as well as service levels. Service level improvement strengthens the attractiveness of a company towards its end customer (e.g. the travelers and their elected representatives). It encompasses for example, shortening commuting times, increasing travel frequency, improving punctuality, convenience and comfort and securing accurate and real time traffic information. The measures address today's increasing customer requirements and will be reflected in future incentives based contracts proposed by PTAs.

Enhancing productivity is about increasing the amount of output produced per unit of input (e.g. labor, capital and intermediate goods). Arthur D. Little executes these assignments with rigorous data analysis, experience based hypotheses and interactive root cause analysis (people out in the field tend to hold deep knowledge regarding problems and potential solutions; hence their participation is crucial for successful implementation). In this way, we have helped global leaders go from break-even to healthy profit margins within two years. In practice, this is about labor value add, asset management, fleet management and fare collection.

Cost reductions will continue to be an important focus area for public transport industry players, mainly because the demand for public transport increases faster than tax income and subsidies, combined with many politicians being reluctant to increase prices. As mentioned in the prior sub-chapter, the cost of delivering public transport is constantly increasing, displaying for example, a total cost per vehicle kilometer increasing above the Swedish inflation rate. For vehicle manufacturers, costs reductions are vital as only minor economics of scale can be obtained due to different vehicle requirements in different cities.

Hence, whilst service levels and productivity improve, the costs of delivering public transportation must decrease in order to boost the profitability of the public transport business.

However, operational excellence will not be sufficient in order to stay competitive going forward and radical changes will need to be made. This implies increasing the total value of urban public transport and changing some of the fundamentals about how profits are distributed along the value chain.

Far-reaching creativity must be the answer to new value creation

The current profit pool of the public transport value chain is not large enough even for the existent industry players. Yet, new value creation can be accomplished by expanding the current value chain and including new profit generating elements. There are three generic value chain expansions that need to be considered:

1. Capturing profits upstream and downstream in the value chain
2. Capturing profits from value chain substitutes
3. Integrating profit generating elements from other value chains

In recent experience, we have driven upstream and downstream value chain expansions across a variety of industries, transferring market players from single product and service offerings towards customer ownership. One business-to-business example can be found in the mining industry. Ventilating underground mines is highly energy consuming, though instead of optimizing single products, suppliers start to improve the complete ventilation process and deliver comprehensive ventilation solutions. This leads to a more

efficient ventilation process as well as new supplier revenue streams. Any producer of energy consuming equipment may learn from such an approach. The medtech industry is another example where we have noticed recent intensification of value chain expansion. Today, customer requirements force medtech players to expand their product and service offerings upstream and downstream the value chain to include more service, maintenance and consulting. Furthermore, Apple's successful expansion into content provision is a well-known business-to-consumer success story. The passenger ferry industry moved from being a pure transportation provider to an entertainment industry decades ago; and the aviation industry has evolved in terms of integrating retail, relaxation, food and beverage into its transportation offering.

Value chain expansion does appear in the urban public transport industry, at least within the business-to-business relation between equipment providers and operators. An example of this is the Volvo Buses Bus Rapid Transfer (BRT) solution in South America. Over time, Volvo Buses' in South America have transformed from being a vehicle provider to a BRT specialist partner, offering tailor made buses and transportation services. Although the urban public transport industry provides several other examples of market players overtaking profits from substitutes as well as integrating profit elements from other value chains (Figure 3), there is still major improvement potential in mastering innovation excellence and making the business case sustainable. Offering services for own account through value chain expansion, taking full responsibility for actual service delivery and risk associated with using the service, and ensuring "one face to the customer" are likely to be success factors going forward.

Figure 3: Selection of value chain expansion examples within urban public transport

Overtaking profits from substitutes (cars)

Connexion (Rotterdam, Netherlands)



- New form of collective PT using small automated electric buses on-demand
- Considered to be a "last-mile" solution, covering the distance between the last conventional PT stop and the final destination

Wi-Drive (San Francisco, United States)



- Provides eco-friendly first class busses equipped with workstations for PC, WI-FI, LCD-screens, and free breakfast
- Pick up travelers at specific routes and drop them off at their workplaces

Integrating profit elements of other value chains

Tesco Home plus (Seoul, South Korea)



- Virtual supermarket in subway with the walls serving as virtual shelves displaying the top 500 groceries
- Aimed towards travelers in order to capture this highly attractive, but generally not targeted customer group

Deutsche Bahn (Germany)



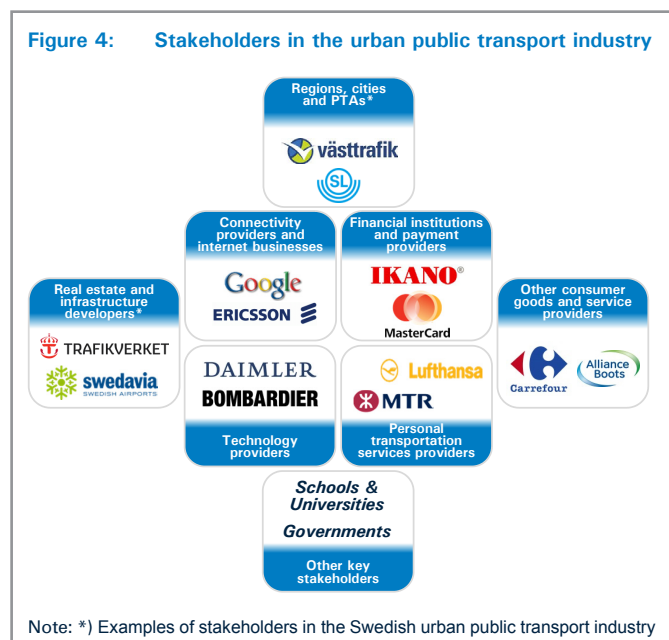
- Bike hiring service provided by DB
- Comfortable & convenient alternative to the car in inner city areas
- Purpose of providing travelers with a mobility service to ensure a seamless arrival to their final destination

Conclusion: Take the lead towards system innovation

Success in the urban public transport industry is likely to require system innovation at an ever increasing pace. We define system innovation as collaborative innovation between multiple internal and external partners with different agendas, where success depends on collaboration, partnership and risk sharing – with partners you are not used to collaborating with in order to enable multi-stakeholder partnerships, leading to system innovation and new mobility business models, the public transport industry must increase its attractiveness and ROI. By excelling in operational and innovation excellence, market players can increase their profit pool, attract internal and external partners for partnerships, and take the lead towards system innovation. Even more importantly, in addition to this, stakeholders must dare to initiate collaboration with partners they do not usually collaborate with. Each player in the value chain has its own unique insights into the needs and desires of the customer (the traveler); including needs the traveler is not yet aware of. These insights are what each stakeholder must dare to capitalize on and bring to the table. Each stakeholder who can contribute has a reason to participate in system innovation and should do so before someone else does.

To conclude, kindly examine the figure below (Figure 4) and ask yourself the following questions:

1. What customer insights do the different stakeholders have?
2. What data and knowledge do the different stakeholders possess that could be used to refine the customer insights?
3. How could the insights of other stakeholders generate exciting ideas, if combined with our own knowledge of and contact with the customer?
4. How much deep creative interaction do we have with these stakeholders today?



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Arthur D. Little

As the world's first consultancy, Arthur D. Little has been at the forefront of innovation for more than 125 years. We are acknowledged as a thought leader in linking strategy, technology and innovation. Our consultants consistently develop enduring next generation solutions to master our clients' business complexity and to deliver sustainable results suited to the economic reality of each of our clients.

Arthur D. Little is proud to be working with the leaders of all steps in the public transport value chain, and we would be excited to have a dialogue with you on the topics mentioned in this paper.

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