THE TRANSFORMATION OF THE TAXI INDUSTRY: THE CASE OF TEO TAXI, MONTREAL-BASED TAXI SERVICE

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‘We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, and complexity, the transformation will be unlike anything humankind has experienced before (Schawb 2016)
TAXI INDUSTRY

- Centralized Taxi Industry: For example in Montreal, Bureau du taxi de Montréal

Decentralization
DISRUPTIVE TECHNOLOGY

- Oil vs electricity
- Living wage & life work balance VS traditional taxi
- Policy and society change
- Modernity vs traditional
- Technological driven & Constant innovation
CITIES ARE FACING MAJOR CHALLENGES

- Almost constant traffic congestion
- Steady increase in the number of vehicles, cars and trucks
- Expensive road maintenance and construction costs
- Air pollution:
  - More than 5.5 million people worldwide are dying prematurely every year as a result of air pollution, more in China and India (according to the Global Burden of Disease project, 2016)
The True Cost of Owning a Car

- **PRIVATE CAR OWNERSHIP IS DIMINISHING OUR COLLECTIVE WEALTH**

- If walking costs you $1, society pays 1¢.
- If cycling costs you $1, society pays 10¢.
- If taking the bus costs you $1, society pays $1.30.
- If driving your car costs you $1, society pays $9.30.
TRADITIONAL TAXI

- Taxi owner’s permit: issued via a quota system. Each permit is assigned to a specific vehicle.
- In Montreal, a taxi owner's permit costs $200,000.
- A taxi driver's permit and 150 hours of training required by the Bureau du Taxi de Montréal.
- 2 types of drivers: those who own a taxi permit and those who rent a permit ($600/week).
- An intermediary company provides: dispatch service, tablet, machine for card transactions.
Supply & demand issues

Difficult working conditions
- 100,000 km/year
- 10- to 16-hour days, 6 days/week

Insufficient income
- Daily income before expenses is $175 to $200
- Equivalent to ≈ $8/hour after expenses
Montreal: 1 taxi per 417 residents
Toronto: 1 taxi per 800 to 1,000 residents
New York City: 1 taxi per 600 residents

19 taxi companies
4,436 regular taxi permits
11,000 drivers
Around 30% of drivers own a taxi permit
Dependence on fossil fuels:
- The industry produces 100,000 tons of greenhouse gases every year
- Fuel costs are eating into profits

Technologically behind:
- Aging infrastructure
- Safety issues
- No technologies to optimize distribution
Case study of TÉO
Series of open-ended Interviews:
- With the CEO
- Chief Technology Office
- HR
- Taxi drivers (both Téo and non Téo)
Regular taxis are fuel-powered:
Average fuel consumption: 14 L/100 km x 100,000 km/year

Compared to electric taxis:
  at $0.80/L = $11,200 per year in savings
  at $1.50/L = $21,000 per year in savings
Minimal maintenance costs: $300/year (Téo)
$6,950 subsidy from the Quebec government for every electric vehicle purchased

Higher purchase price, but greater savings down the line
In November 2014, Alexandre Taillefer unveiled a plan for a taxi service like no other: Téo.

5 key objectives:
- work with the industry (compliance with regulations)
- build an all-electric taxi fleet
- develop a top-notch app
- use IT to optimize fleet management
- offer drivers decent working conditions
As part of a pilot project:
- Allow taxi permits to be assigned to more than one vehicle
- Lease taxi permits
- Hire professional drivers with a taxi driver’s permit: trained by industry standard
- No intermediary company: Teo provides dispatch service, tablet and all other related services are all in-house
ELECTRIC TAXI FLEET

- 100% electric
- Connected at all times
- Silent and non-polluting
- Free Wi-Fi for customers
- Fast charging (30 min.)
- Dedicated charging stations
USING TECHNOLOGY

Reliable, user-friendly app

Precise real-time data

Increased security for driver and passenger:
   a) real-time vehicle tracking
   b) in-car camera

Automatic payment via the app: no cash

Automatic tax calculation

The user knows the driver, Teo has information from the passenger through the application
Ongoing data collection: wait times, vehicle occupancy rates, cancellation rates, average hourly income, charging levels, wear and tear per kilometer, etc.

Data analysis to optimize the fleet

- Reduced wait times
- Increased coverage density
- Enhanced vehicle performance
USING TECHNOLOGY

CLIENT

APP

Selection of service

Receipt

Driver evaluation

Position (long./lat.) = street address

Credit check and preauthorization

FRAXION:
Fleet distribution

OPENFLEET:
Charging levels, charging stations

FLEETCARMA:
Vehicle data

B2BILLING:
Billing, sales taxes, tips

SERVICE CENTRE

DRIVER

TAB

Permit

Vehicle

Sends driver profile and ETA

Real-time location of taxi on map

Ride accepted and completed

Taximeter

CLIENT

DRIVER
- Dynamic digital signage (2 on-vehicle displays)
- 1 dedicated tablet for customers with informative, entertaining content

- All the technology is in-house
WHAT’S SO INNOVATIVE ABOUT TEO?

- Changing the conversation:
  - From fuel to electric
  - From minimum wage to living wage, life work balance
  - Challenging the traditional taxi business model,
  - Challenging the legitimacy of Uber, advocating for better legislation: Conform, pay taxes or leave

- Influencing the competition to do better:
  - Other taxi companies are considering hybrids cars
  - Customer service will improve with the competition
  - Diversity of offer
TÉO: A BOLD PROJECT

- 2018–2019:
  Expansion in 5 cities, including: Montreal – Quebec City – Toronto

Plans to export the Téo model