THE UNIVERSITY OF SYDNEY

INFO5992 Understanding IT Innovations

Tutorial 03 Summary

Disruptive Innovation by Low Speed (Neighbourhood) Electric Vehicle (LSEV)

Q1: What are the advantages and disadvantages of LSEV? Why does LSEV make sense for people living in developing nations and regions with high population density?

Advantages:

- **Cost-effective**: LSEVs are often cheaper than traditional cars, making them a more affordable option for many people.
- **Energy-efficient**: LSEVs are designed to be more energy-efficient than traditional vehicles, which can help reduce greenhouse gas emissions and improve air quality.
- **Manoeuvrability**: LSEVs are smaller and more manoeuvrable than traditional cars, making them easier to navigate through narrow streets and congested traffic.
- **Local production**: LSEVs can be manufactured locally, creating job opportunities and boosting local economies.

Disadvantages:

- **Limited speed**: LSEVs are designed for low-speed travel, typically no more than 25-35 miles per hour, which may not be suitable for long trips or highway travel.
- **Limited range**: LSEVs typically have a limited range, often between 30-50 miles per charge, which may not be sufficient for some people's needs.
- **Limited carrying capacity**: LSEVs are typically smaller than traditional cars and may not be able to carry as much cargo or passengers.
- **Safety concerns**: LSEVs may not be as safe as traditional cars, especially in the event of a collision. They may also be more vulnerable to theft or vandalism.
- **Charging infrastructure**: LSEVs require charging infrastructure, which may be limited or non-existent in some areas, making it difficult for people to recharge their vehicles.

LSEV can make sense for people living in developing nations and regions with high population density for several reasons:

- **Cost**: LSEVs are often more affordable than traditional cars, making them an attractive option for people in developing nations who cannot afford expensive vehicles. LSEVs also require less maintenance, which can further reduce costs over time.
- **Efficiency**: LSEVs are designed to be more energy efficient than traditional vehicles, which can be beneficial in regions where fuel prices are high. They can also be charged using renewable energy sources, such as solar or wind power, which can help reduce greenhouse gas emissions and improve air quality.
- **Accessibility**: LSEVs are smaller and more manoeuvrable than traditional cars, making them ideal for navigating through narrow streets and congested traffic in densely populated areas. They can also be used for short-distance trips, such as commuting to work or running errands, which can help reduce traffic congestion and improve overall mobility.
- **Local production**: LSEVs can be manufactured locally, creating job opportunities, and boosting local economies. This can be particularly important in developing nations where there may be limited access to imported vehicles.

Q2. Why are LSEV manufacturers engaged in both low-end and new-market disruption?

LSEV is a low-end disruption because it serves over-served customers; it is also a new market disruption because it converts non-consumers to consumers.

For low-end market:
"Some rural consumers are overserved because they don't need vehicles with very high acceleration, top speed, and safety standard, all they need is just travel tools which can work well on small roads in the countryside and easily to refuelling."

- Basic functionality at a lower cost than a typical car
- Targeting customers who don't need all the features or full performance but would like to get a lower cost.
- Customers are happy to buy an inferior product (in performance) but it meets their needs
- Upgrade for people who currently can only afford to use bicycles, farm vehicles, motorcycles, etc.
- LSVE manufacturers were targeting the low end of the market with a small-scale, low-cost business model.
- The manufacturers earned profits at low price points, while having the opportunity to make improvements as they obtained customer feedback and explored new practices.

For new-market disruption:
"They are targeting nonconsumers the ones who cannot afford a traditional car, so they can embrace a new alternative, do not have a car but want to enjoy the benefits of a car, people that do not want to pay so much for a car licenses, insurance and high expenses: The new market being developed by LSVEs is the market that does not care about safety or licenses or insurance and just wants to travel from one place to another."

- Attracted buyers who have never owned a car before or are not willing to buy.
- LSVE engaged in new-market disruption by primarily providing products to nonconsumers who may not have considered purchasing a vehicle before.
- Attracting nonconsumers with features that could not provide by existing cars (e.g., anywhere parking and charging, and lower cost to maintain).
- LSVEs offer an affordable commuting option for people living in suburban areas around metropolises, saving them money compared to public transportation fees.

The innovation targets nonconsumption or overserved consumers: LSEV manufacturers forged their business model at the low end of the market. Prior to the advent of the LSEV market, many people in rural China travelled via a variety of vehicles like bikes, motorcycles, and even three-wheel farm vehicles. This is because conventional four-wheel vehicles were far beyond their financial reach. By targeting these low-income consumers, LSEV makers didn't have to compete head-to-head with leading automakers; they only had to compete against nonconsumption.

Q3. Why is TESLA engaged in neither low-end nor new-market disruption?

Not serving low-end customers: TESLA focuses more on the improvement of traditional passenger vehicles. High-tech luxury features are researched and implemented on TESLA's products instead of producing a new product according to a new technology that other companies have not invented and commercialised. High-end customers are attracted by these features, which help the company to earn more profit. This strategy results in TESLA getting far away from the low-end disruption, which relies on offering products and services to the overserved customers.

- Tesla is targeting high-end, existing mainstream and overserved customers.
- Tesla's early-stage products are high-performance and high-cost, aimed at becoming a luxury car brand
- Tesla cars are not attractive to customers who just want a basic product (but with inferior performance) that is good enough for what they need
- Tesla's price is still unaffordable by low-end consumers who cannot afford the vehicles from traditional manufacturers

Not serving noncustomers: TESLA attracts consumers who are car buyers in the first place, only the existing business is reinforced, and the unserved customers are still not able to find a product that they want on the market. Therefore, TESLA doesn't convert nonconsumers into consumers.

- Electric vehicles were already an established market when Tesla entered the industry
- EVs are a replacement/alternative for existing combustion-engine vehicles, not appealing to a different group of consumers.
- Tesla does not create a new market for electric vehicles but competes with existing automakers in an established market

For both customers:

- Tesla is more of a sustaining innovator than a disruptive innovator
- Tesla attracts investors and works with existing automakers to develop and build high-end luxury bridge cars that can be sold at a high profit.