


Electric Vehicles – A Value Proposition for Emerging Markets. The Case of Kuwait

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Hypothesis

- I) What is the post covid-19 value proposition for EVs car-dealers which needs to be formulated for the Kuwaiti market, given the current environment of ultra-low gasoline/petrol prices, lack of EV charging infrastructure and absence of a governmental support program for EV adoption?
 - II) What are the fears, concerns and reservations Kuwaiti drivers have towards EVs that will restrict their decisions in buying EV in the near future?
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Find the Unknown about EV in Q8

Governmental Action
Lowest fuel prices
Handful of charging station

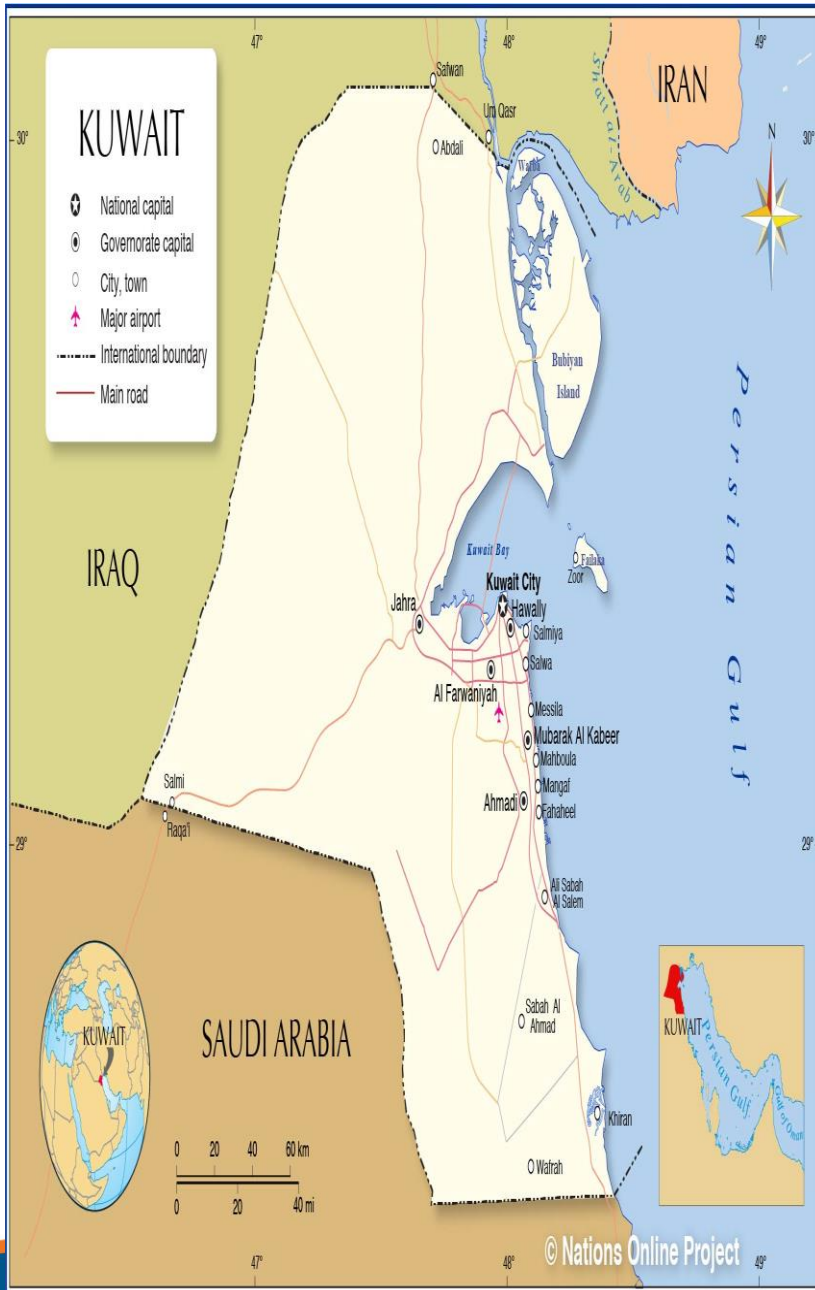
Expats cannot buy EV due to landlords' restrictions

Ground clearance supper important

More	<p>Known Unknowns</p> <p>We know there are things we can't predict</p> <p><i>Do research to decrease the amount of uncertainty; try to capture as assumptions and create contingency for others</i></p>	<p>Known Knowns</p> <p>Things we are certain of</p> <p><i>You should share and be transparent; capture as assumptions</i></p>
	<p>Unknown Unknowns</p> <p>We don't know what we don't know</p> <p><i>Experiment more and these will become known unknowns for future projects</i></p>	<p>Unknown Knowns</p> <p>Other's know but you don't know</p> <p><i>Other's should share and be transparent; capture as assumptions</i></p>
Less	<p>Knowledge about impact</p>	
	Less	More

World Laggards in EVs
Norway sold 800 times more EV in 2021

Biggest EV user - 4th car of 45-60yo super rich Kuwaiti men, Speed and luxury lover but not too environmentally conscious



Demographics

- Populations 4.4 million
 - 1.1 Kuwaitis – 3.3 Expats
- Cars 2.1 millions
 - 1.1 m Kuwait – 0.5 m Expats
- No Taxes
- Gasoline Prices 28C USD
- Electric Prices 3.3 C USD
- Water Free
- CO2 22 ton/cap
- Max Temp 2021 world wide – 53.4C

Literature overview

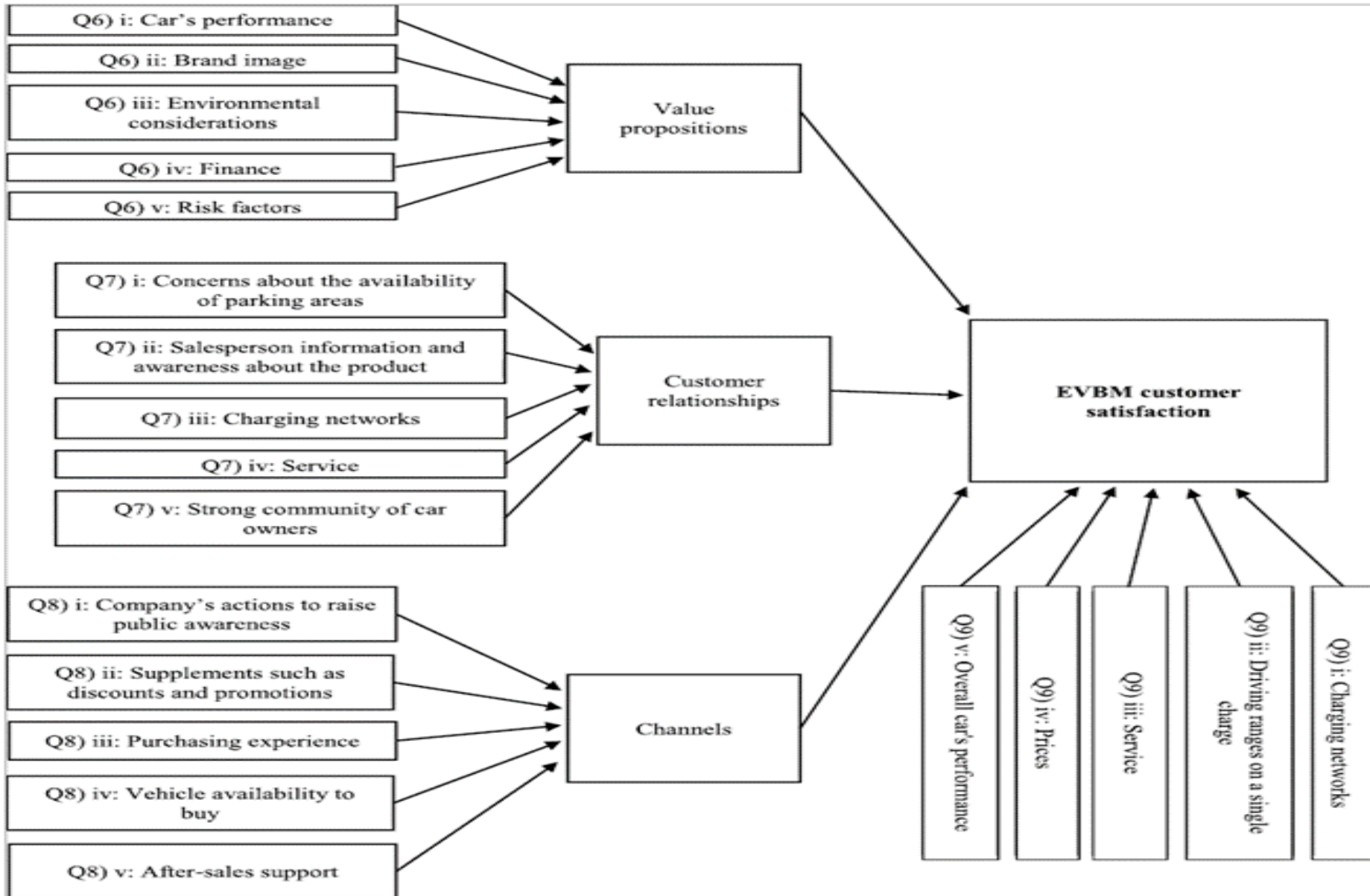



Figure 1: EV Customer Satisfaction Model - Source (Benzitara, Luca & Doiko 2021)

Functional-Practical / Instrumental Value	<p>How functional and useful a product or a service fulfills a customer's desired goal to bring a solution to their problem in the widest sense. This can be extended by process simplifiers in the form of more efficiency and effectiveness. This can be expressed in EV as high safety standards, low maintenance and simplicity to operate.</p>
Symbolic / Expressive Value	<p>Value is derived by psychological meanings associated with a product. For example, companies that develop a strong brand name focusing on style or image that sends a message about the customer's lifestyle often to gain social acceptance or gain social status. To "Be Cool" among people they seek acceptance from. EVs are good for the environment.</p>
Experiential/ Hedonic Value	<p>The extent to which a product creates a good experience for a customer and appeals to his or her hedonic consumption based on sensory pleasure – How customers "love" some of the features such as super-fast acceleration, soundless engine and how the technology makes the user feel like an astronaut before a lift-off.</p>
Cost / Sacrifice Value	<p>It focuses on value for money. Therefore, companies that act as price minimizers offer value based on lower price. How perceived benefits will outweigh the sacrifice in terms of time and effort given up by acquiring and keeping the product and service in addition to monetary values given up for getting and keeping the product and service, capital cost (CAPEX) and operational cost (OPEX).</p>

Table 2: Types of value that form a business value proposition source Smith and Colgate (2007)

Discussion

- 5 Focus group of total 21 people Divania style
 - 15 individuals – short interviews
 - In or around car shows
 - 6 Car dealers of EV – PHEV
 - 2 EV owners in Kuwait
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EVs in Kuwait – 68 Unit sold

- Porsche Taycan – Full Options
 - 35 unit sold Faster than Ferrari
 - 200.000 USD 45+ Men
- Mercedes EQC
 - 28 unit, quite, low maintenance
 - 70.000 USD Q8 Women 25-35
- Jaguar I-Pace
 - 5 units, Fast, hydraulic system
 - 90.000 USD, 30-45 Men



PHEV – 18-20Kw Battery


- Audi Q5 – 30 units sold
 - 60.000 USD – same customer as EQC
- Audi 7 – 20 unit sold
 - 76.000 USD – Torque loving
 - Conservative family men
- Volvo X90 – 18 unit sold
 - 105.000 USD - Torque loving
 - Conservative family men
- BMW i8 – 17
 - 200.000 USD – same as Porsche



3 Kind of Customers for EV&PHEV

- Rich Speed and Tech Lovers, 45 + Men
- Young women (men), environmentally concern, but most like, soundlessness and low maintenance.
- Conservative professionals family men 50+ how love the torque only electric motor can give


Common Fears of Kuwait Drivers that Prevents them to Change over to EVs.

- 1. Not safe - battery can catch fire and Explode
 - 2. Very Low Range per charge – Stuck in the heat.
 - 3. Battery Charging impossible
 - No fast charging station, home charging not allowed
 - 4. Too low – speed bumps and potholes will ruin the battery, and not parts or service available
 - 5. Not environmental – gasoline derived from Gas
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Common Fears of Kuwait Drivers that Prevents them to Change over to EVs.

- 6. No cost benefits as Oil is cheaper than water
- 7. Top speed is too low to attract the raisers
- 8. Cost much more than equivalent ICE car
- 9. Kuwaiti heat will destroy the batteries
- 10. Kuwait is an oil economy and should support their products


Obstacles to EV-ation

- Lack of public charging station (low fuel price)
 - Only Kuwaiti real estate owners can home-charge
 - No governmental incentives
 - Neither financially nor facility wise
 - Cost 20% higher price
 - Battery fear in the extreme heat
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Solutions

- Education about safety, environmental benefit of EVs and charging cost
 - Increase open public charging stations
 - Import and VAT discount (when applied)
 - Increase the gasoline price
 - Give facility priority to EV
 - Priority lanes
 - Free parking facilities
 - Research on heat resistant battery and efficient AC
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Further Studies

- 500 participant quantitative study to validate the fears and concerns
 - 10 participants deep qualitative interviews to current EV owners
 - Qualitative interview to all Car Dealers in Kuwait about 3-5 years plan to introduce EV
 - Europeans, American, Japanese, Koreans and Chinese
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- 2007-2013 Director of Operations Carbon Recycling International- Synthetic Fuel – Listed in Norway
- 2005-2017 Managing Director of Startup Iceland and Seed Forum Iceland – Startup Investor Relations
- 1999-2005 Head of Division for National Budget and Strategy Office – Industry Relations
- 1996-1998 Director of Marketing Hugrun Scientific Instruments (Now Vaki)