

# Cartesian Practice Case Study

## Stolen Vehicle Recovery System Provider



# The Premise

In this practice case, we will give you an opportunity to see the types of questions we ask in case interviews and what we're looking for

## Premise



### Our client provides Stolen Vehicle Recovery (SVR)

- SVR uses a GPS transmitter to determine the stolen car's location
- Our client sells the transmitter and service for notifying police
- They run a US business and are looking to expand internationally

### Examples of SVR Providers:



This online case is not intended to mirror precisely a 30-45 minute in-person case interview, but rather is meant to probe the same type of thinking and analysis we expect from you. So please, don't worry if this takes you longer. Take your time thinking through the questions. We hope you find the exercise helpful.

# Question #1

## Question

**Brainstorm a list of characteristics that could make a country attractive to our client**



*When ready, click to the next page*

# What Did You Come Up With?

Brainstorm a list of characteristics that could make a country attractive to our client



## Sample Responses

- High number of vehicles
- High average vehicle value
- High vehicle theft rates
- Consumer openness to purchasing foreign goods/ SVR
- Underlying connectivity infrastructure to support SVR
- Limited/no regulatory barriers
- Limited competition/market penetration by other players
- Likely cooperation with local police

# How Did You Do?

## What We Are Looking For

- **Analytical thinking:** How well can you retain and process new information?
- **Ideation:** Are you able to generate more than three or four ideas?
- **Business Rationale:** Can you infer why a business makes certain decisions? Are you able to make the connection between market characteristics with business incentives?
- **Communication:** Are you able to organize your thoughts and convey them cogently with poise?

## Tips

- Ask for clarification if you are unsure of the question and relevant details
- Try different tactics for idea generation
- Take cues from case-giver/interviewer
- Be concise to start, but be ready to elaborate if asked
- Try not to get intimidated if the interviewer keeps asking you for more ideas
- Do not over-focus on business school frameworks or business jargon

## Question #2

### Question

- What factors would influence a consumer's willingness to pay for SVR service?
- Can you identify which factors are most impactful on the consumer's willingness to pay?



*When ready, click to the next page*

# What Did You Come Up With?

- What factors would influence a consumer's willingness to pay for SVR service?
- Can you identify which factors are most impactful on the consumer's willingness to pay?



## Sample Responses

- Consumer characteristics
  - Value of car to consumer
  - Risk aversion (worry about theft)
- Value of SVR
  - Likelihood of police recovery
  - Likelihood of recovery with SVR
- Cost of SVR
- Market characteristics
  - Theft rate
  - Current price of competitive offerings

# How Did You Do?

## What We Are Looking For

- **Ideation:** How well are you able to shift perspectives and come up with ideas from another angle?
- **Business Rationale:** Can you infer why a business makes certain decisions? Are you able to make the connection between the behaviors of consumers with business incentives of business?
- **Structure:** Do you respond in an organized fashion? How well do you identify key information and prioritize ideas?

## Tips



- Simplify the problem: *“If I were approached to buy this product, what would be most important in my purchasing decision?”*
- Feel free to take a moment to structure your thoughts on paper before answering the question
- It’s okay to start work from specifics to generalizations or vice versa
- Take cues from the interviewer



# Question #3



## Question

- Below is some data relevant to SVR service in the US and Brazil. Working from this data, would you say that SVR service is more valuable to a consumer in Brazil or in the US?
  - › Assume that you are a consumer evaluating a 1-yr subscription to SVR service

	 US	 Brazil
New vehicle sales (annual)	12M	3M
Average vehicle value	\$24,000	\$20,000
Vehicle theft rate	0.5%	1.0%
SVR theft recovery rate	92%	84%
Police theft recovery rate	42%	34%
Average vehicle lifetime	8 years	10 years
Monthly price for SVR service	\$20	\$8

*When ready, click to the next page*

# What Did You Come Up With?

	 US	 Brazil
New vehicle sales (annual)	12M	3M
Average vehicle value	\$24,000	\$20,000
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## Sample Response

### Benefits

- Expected Loss
  - US:  $\$24,000 \times 0.5\% = \$120$
  - Brazil:  $\$20,000 \times 1.0\% = \$200$
- Improvement in Vehicle Recovery
  - US:  $92\% - 42\% = 50\%$
  - Brazil:  $84\% - 34\% = 50\%$
- Improvement on Expected Loss
  - US:  $\$120 \times 50\% = \$60$
  - Brazil:  $\$200 \times 50\% = \$100$

### Costs

- 1-yr subscription
  - US:  $\$20 \times 12 = \$240$
  - Brazil:  $\$8 \times 12 = \$96$

### Value of SVR

- Benefits - Costs
  - US:  $\$60 - \$240 = -\$180$
  - Brazil:  $\$100 - \$96 = \$4$

# How Did You Do?

## What We Are Looking For

- **Quantitative Facility:** Are you comfortable with numbers? Can you do the math quickly and correctly?
- **Problem Structuring:** Are you able to extract useful information? Can you take the factors discussed previously and understand how and where they fit into the calculation?
- **“Big Picture” Thinking:** Do you proactively sense-check when you arrive at an answer? Do you take a step back and evaluate your answer in a broader context?

## Tips

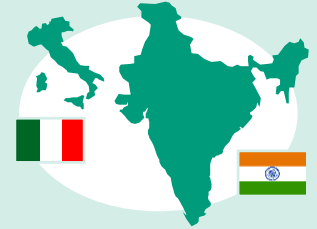
- When given hard numbers, assume you are being asked to do math
- Try to setup an equation. Don't be afraid to take out your pencil and paper. Being able to quickly size an opportunity using a “back of the envelope” approach is an essential skill.
- Being precise is less important than having sound reasoning and rationale for your assumptions and approach.
- Ask for guidance if you get stuck
- Expect follow-up questions that you may not be able to answer

# Question #4

## Question

**There are two countries at the top of the list:**

- India
  - Large automobile population
  - Average income of car-owners is low
- Italy
  - Smaller automobile population
  - Average income of car-owners is higher
- Both
  - Comparable crime rates
  - Have strong established SVR competitor



**What would you want to know about our client to help you choose one country over the other?**

*When ready, click to the next page*

# What Did You Come Up With?

What would you want to know about our client to help you choose one country over the other?



## Sample Responses

- Where is the client's current business based?
  - Manufacturing operations
  - Product distribution
  - Culture of business practices
  - Relationships with specific countries
- Is the client a price leader?
- Are there regulatory/connectivity factors that would impact our client's ability to implement the solution in one country vs. other?

# How Did You Do?

## What We Are Looking For

- **Understanding of Economics:** Can you derive the economic implications of business strategies?
- **Issue Identification & Synthesis:** How well can you quickly understand business drivers and think more broadly about strategic implications? Can you apply general business thinking to identify the key drivers that might motivate a business?

## Tips

- Do not over-focus on business school frameworks or business jargon
- Be concise to start, but be ready to elaborate if asked



BOSTON

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KANSAS CITY

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LONDON

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NEW YORK

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PARIS