Case 27: High Q Plastics

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CASE COMPETITION
SILVER MEDAL WINNER

Case Question

- Our client, High Q Plastics, is an automotive parts supplier in the U.S. They primarily manufacture and sell plastic injection-molded parts, such as grills, door handles, decorative trim etc., to automotive customers.
- The client has two primary revenue sources: large automotive OEMs, and aftermarket. The client has recently seen declining profits, primarily due to increased price competition from new overseas competitors in China. Annual profits have declined from $50M to $20M over the past few years.
- *What is the reason behind declining profitability? How can High Q improve profits? Can they reach $100M in profits by 2014?*

8
Quants.

5
Structure

Comp. Als
Creativity
Ops.

Case tracker

- **Industry:** Industrial Goods
- **Level of Difficulty:** Medium
- **Case Format:** Improving Profitability; Cost Reduction
- **Concepts Tested:**
  - Competitive Analysis
  - Creativity
  - Operations

Fit Questions

Spend first 15 min on fit

- Tell me about your greatest challenge, and how you overcame it.
- What is the best way to deal with a difficult client who does not agree with your recommendations?

Guide to interviewer

- The interviewee should examine the following MECE questions about the competitive dynamics of the industry:
  - *Industry*: What is the sales volume trend? What is the % of demand and growth of OEM vs. aftermarket segment? Is one of these segments more profitable than the other?
  - *Competitors:* Who are they? What is their relative market share? What are their prices vs. our clients'? What is their cost structure vs. our clients'? Do they have a technology or quality competitive advantage relative to our client?
  - *Revenue:* How have our clients' prices changed in recent years? Have they declined across all customers and products?
  - *Costs:* What trends is our client seeing in their cost structure? Increasing labor or material costs?

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Clarifying answers and case guide

Clarifying answers to provide

Industry Characteristics/Market Economics

- Automotive sales overall still growing steadily, driven by emerging markets
- Automotive manufacturing is leaving the U.S.

Client Characteristics

- Client is currently one of the leaders in this category
- Client has U.S.-based manufacturing
- Revenues have been slowly declining over last 5 years
- Client's products are of a higher quality than most Chinese competitors' products

Competitive Dynamics

- Automotive OEM customers are looking to reduce cost, driving increased price competition among parts suppliers

Questions and Hand-out Guide

1. What key questions would you ask an industry expert in order to better understand the reasons behind High Q's declining profits?
2. The CEO of High Q wants to know if$100M in annual profits is achievable by 2014. What would you need to know in order to determine this? What data would you ask for?
3. What ways can you think of to increase revenues? What ways can you think of to reduce costs?
4. Our client is planning on implementing lean manufacturing across all 4 of its U.S. plants, in order to provide cost savings and increase profits. *Hand out exhibit 1.*
   - The client is expecting to produce 80% of 2010 volumes in 2014. They are also planning on reducing prices by 10% due to increased competition.
   - Lean manufacturing implementation across all plants will provide an additional 20% savings in raw material, and 30% savings in labor.
   - What is the change in profits the High Q CEO can expect from 2010 to 2014, based on this information?
5. High Q 's CEO has also asked us to take a look at competitive dynamics among the automotive OEMs, in order to predict any increase in profits from increased sales. Hand out exhibits 2 and 3.
   - Based on the information given, what do you expect High Q will see in additional profits due to Toyota's predicted 30% increase in market share in truck and SUVs?
6. Please summarize your findings to the CEO, including any other potential opportunities to increase High Q's profits over the next few years.

Solution and recommendations

Solution & Recommendations

1. The interviewee should examine the following MECE questions about the competitive dynamics of the industry:
   - **a)** **Industry:** What is the sales volume trend? What is the % of demand and growth of OEM vs. aftermarket segment? Is one of these segments more profitable than the other?
   - **b)** **Competitors**: Who are they? What is their relative market share? What are their prices vs. our clients'? What is their cost structure vs. our clients'? Do they have a technology or quality competitive advantage relative to our client?
   - **c)** **Revenue:** How have our clients' prices changed in recent years? Have they declined across all customers and products?
   - **d)** **Costs**: What trends is our client seeing in their cost structure? Increasing labor or material costs?
2. In order to understand if $100M in profits by 2014 is achievable, you would need to know the annual qty of units sold, the selling price, and the clients' fixed and variable costs. Profit = Q*(P-VC) – FC
3. The interviewee should come up with 2-3 ways each for cost reduction and increasing revenues:
   - **a)** **Reduce Cost**: find alternative material sources, invest in process automation to reduce labor, consolidate multiple manufacturing sites to reduce SG&A costs, relocate close to customers to reduce transportation costs.
   - **b)** **Increase Revenue:** segment customers to determine sensitivity to price, increase marketing in aftermarket segment, negotiate long-term contracts with OEM customers.

Solution and recommendations (2)

Solution & Recommendations

4. The interviewee should use the information provided in **Exhibit 1** to calculate the following profitability for each plant in 2014, and walk the interviewer through the calculation steps. It is important to first note that revenues, labor, and material will decrease by 20% due to the reduced quantity output from each plant, plus the additional 20% savings in material and 30% in labor. Overhead costs will not change.

*all figures are in $ million USD.

	Plant A	Plant B	Plant C	Plant D
Revenues	72.0	72.0	72.0	72.0
Labor	11.2	22.4	33.6	16.8
Material	35.2	25.6	12.8	22.4
Overhead	20.0	15.0	15.0	30.0
Net Profits	5.6	9.0	10.6	2.8
Total 2014 Profits				28.0
Additional Profits				**8.0**

From this calculation, the interviewee should reference back to question 2. Even with the lean manufacturing implementation, High Q is still a long way from the CEO's goal of $100M in annual profits, and this is therefore not a realistic target. A strong interviewee should note the importance of aligning a client's expectations.

Solution and recommendations (3)

Solution & Recommendations

5. The interviewee should be able to use the information provided in the Exhibits to calculate the following revenue growth. Rounded answers ($13 or $14M) are fine.

	2010	2014
U.S. Auto Market	16,000,000	
U.S. Truck & SUV Sales	3,200,000	
Toyota Truck & SUV Sales	320,000	1,280,000
High Q's Toyota Qty. Sold	224,000	896,000
High Q's Toyota Revenues	$ 4,480,000	$ 17,920,000
Additional Revenue		**$ 13,440,000**

6. The interviewee should concisely summarize the overall goal of the case (to increase High Q's declining profitability due to new, low-cost competition), and main findings from each question, and a recommendation (yes, High Q should implement the lean manufacturing initiative). The interviewee should also generate a list of additional opportunities that were not explored in the case, including:

   a) Consolidation of the 4 manufacturing plants (especially Plant D, with its high overhead costs)

   b) Pursue growth in the aftermarket segment of their business

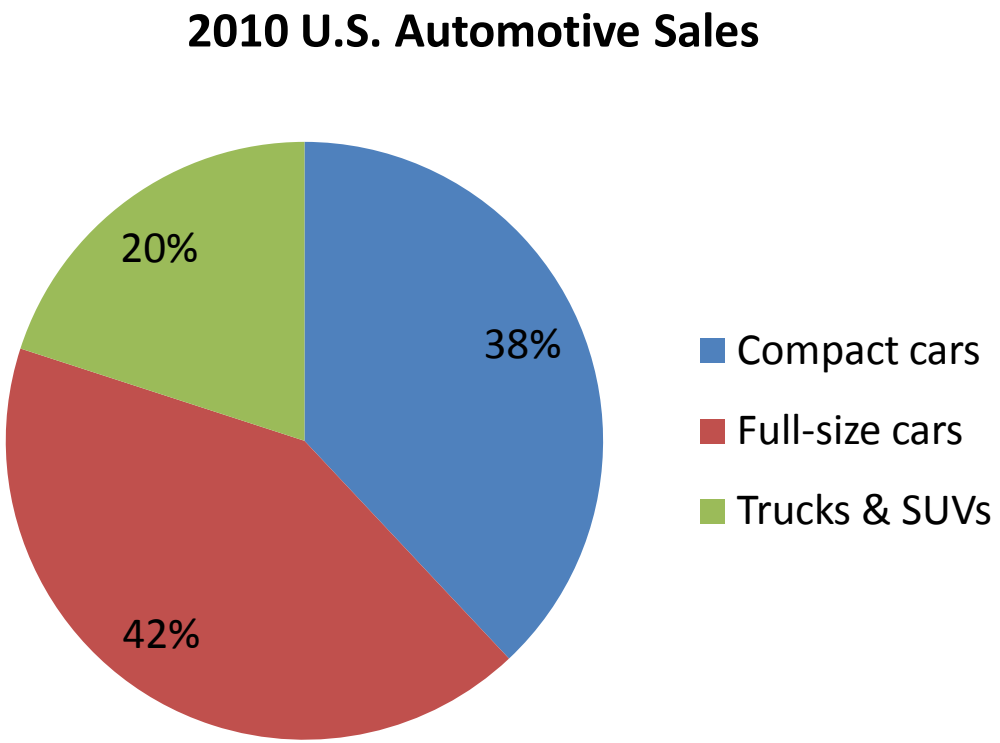
   c) Diversify their business into plastic injection-molded parts for other industries (outside of automotive), with less price competition

Exhibit #1: High Q's 2010 Financials, By Facility

*all figures are in $ million USD.

	Plant A	Plant B	Plant C	Plant D
Revenues	100	100	100	100
Labor	20	40	60	30
Material	55	40	20	35
Overhead	20	15	15	30
Net Profits	5	5	5	5

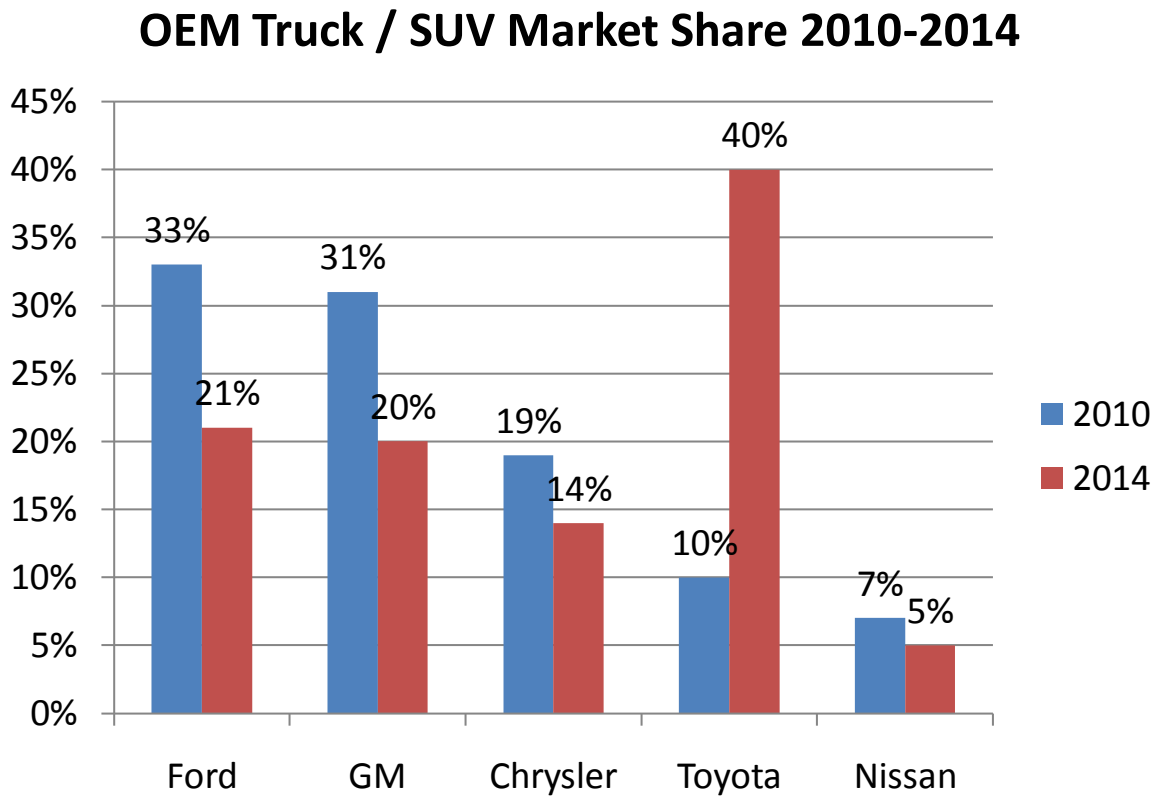
Exhibit #2: 2010 U.S. Automotive Market



***Additional Information**

2010 U.S. Automotive Sales = 16 Million vehicles

Exhibit #3: U.S. Automotive OEM Market



***Additional Information**

High Q supplies 70% of Toyota's business

Avg. Price of High Q products sold to Toyota = $20