



case W92C49 April 19, 2012

Supplier Selection at Casturn Systems (B): Strategic Implementation of Electronic Reverse Auctions

Introduction

Despite two unsuccessful attempts to implement electronic reverse auctions as a standard approach within the Transmission Division's Global Supply Management group, Miguel Haro, director of Control Systems was determined to give auctions a final but strong push. Two University of Michigan Master's students, part of the Tauber Institute for Global Operations, had been in residency at Casturn and were going to be back from their diagnostic study of the supply chain the next day. Haro asked them to set up and pilot a process that would answer all the questions that he and his team had about successful implementation of electronic reverse auctions.

Haro noted that GCM Jeff Blake had recently started to market test a screw machine commodity part, and had collected quotes from numerous screw machine suppliers. Could this be the set of parts that the Tauber team used to finally prove that auctions could be successful at Casturn?

Blake was open to the idea, but had concerns that auctions were not appropriate for his commodity group, noting, "The screw machine commodity itself has a diverse range of parts with varying levels of complexity and value addition. For some of these complex parts (strategic materials), I'm not even sure that we even have more than one capable supplier to make an auction applicable. And some of my more commoditized parts (standard materials) with many capable suppliers are for legacy programs that have been around for over a decade. Is it even worthwhile to run all of these long-standing suppliers through an auction?"

Blake was worried that another unsuccessful application of auctions could permanently strain relations with his supply base: "If we run another set of auctions where Casturn does not move forward with part resourcing to the auction winner, it will certainly be a hit to my credibility with the suppliers and make it very challenging to maintain auctions as a sustainable re-sourcing tool."

Despite these concerns, Haro decided that he was going to put all his weight behind the initiative and ensure it succeeded even if it was only to answer all the questions about how to run auctions.

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©2012 Damian Beil and Izak Duenyas. Richeek Maitra, Master of Supply Chain Management, University of Michigan Ross School of Business, and Anthony Tricozzi, Master's of Industrial and Operations Engineering, University of Michigan, prepared this case under the supervision of Professors Damian R. Beil and Izak Duenyas. This case is for class discussion rather than to illustrate either effective or ineffective handling of a business situation. All names and data have been disguised for confidentiality.

Once the Tauber team arrived, Blake provided them with all of the quote data that had been obtained from the market test. He had been able to identify several suppliers and was relatively confident about their capabilities (data located in **Exhibit 1**).

Because the suppliers had only quoted for part manufacture and packaging, the team knew that eventually, if a re-sourcing business case were to be made, they would need to compare all quotes from a total-landed cost (TLC) basis. Casturn's third-party logistics provider agreed to provide estimates of shipping costs for the expected package sizes, along with duty rates; the costs are shown in **Exhibits 2** and **3** as a percentage of piece price.

After factoring in the logistics costs and duty rates with the competing supplier quotes, the team felt they had accurate TLC numbers to determine which suppliers would be appropriate to invite to auction. However, additional factors arose that they had not taken into consideration.

"The incumbent bids need to be adjusted," said Blake. "If my incumbent supplier gives me a piece price concession today, that savings will hit the books immediately. On the other hand, if we move forward with a more competitive quote from a challenger, Casturn will not realize that savings until at least a year from now, after we begin the stages of the re-sourcing implementation."

The Engineering department, which was already concerned about the suppliers clearing technical evaluations, was also concerned about the cost of validating the parts for the competing suppliers. "It doesn't make sense for us to chase after \$15,000 worth of savings for a part if the validation testing alone could cost \$20,000," said Head of Product Testing Suresh Venkataswamy.

To aid in the analysis, the Engineering department provided the team with estimated validation costs for technical evaluation for each part (see **Exhibit 4**). Based on interviews and previous data, the students also constructed a table that showed the probability of a supplier passing technical evaluation as a function of their scorecard rating (see **Exhibit 5**). Given these additional factors, the students set out to build their business case for what auction events to hold for which parts.

Haro added a final thought, "After our past missteps with electronic reverse auctions, we really need to build a convincing business case to approve running any future auctions at Casturn. Any mistake will certainly erode remaining support for auctions as a sourcing tool at Casturn."

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Exhibit 1
Results of Screw Machine Market Test

PART NUMBER: 23400897			
Part Type: Spool Annual Volume (Units): 575,000 Casturn Plant Location: Western Europe			
INCUMBANT SUPPLIER: SWISS PRECISIONTEK Incumbant Location: Western Europe Current TLC / Unit: \$1.42			
Challenner	Challenger	Bid	Scorecard
Chattenger	Location	(Dollars/unit)	Rating
Smith Precision	North America	1.75	А
HNC	Eastern Asia	1.22	А
F. Decolletage	Western Europe	1.98	С
Zhang	Eastern Asia	1.30	В
Lifang	Eastern Asia	1.39	В

PART NUMBER: 24800873

Part Type: Pin Annual Volume (Units): 1,250,000 Casturn Plant Location: North America INCUMBANT SUPPLIER: R. BURGER Incumbent Location: North America Current TLC / Unit: \$0.32			
Challenger	Challenger	Bid	Scorecard
Chattenger	Location	(Dollars/unit)	Rating
Browne	North America	0.19	В
Xi Lifao	Eastern Asia	0.24	В
Zhang	Eastern Asia	0.25	В
HNC	Eastern Asia	0.29	В
F. Decolletage	Western Europe	0.39	С

PART NUMBER: 24200675A			
Part Type: Sleeve Annual Volume (Units): 600,000 Casturn Plant Location: Western Europe Incumbent Supplier: Croquet Incumbent Location: Western Europe Current TLC / Unit: \$3.25			
Challonger	Challenger	Bid	Scorecard
Chattenger	Location	(Dollars/unit)	Rating
HNC	Eastern Asia	2.10	В
GlobalTools	Eastern Asia	2.45	А
Bangalore Machining	South Asia	2.60	В
Richner	Western Europe	3.15	А
Zlotski Tech	Eastern Europe	2.89	С
Comcastings	North America	2.95	А

Exhibit 2 Logistics Cost Factors

			DELIVERY TO	
		North America	Eastern Asia	Western Europe
Σ	North America	3%	9%	7%
:RO	East Asia	9%	4%	8%
Ϋ́	Western Europe	7%	8%	4%
VER	South Asia	9%	7%	8%
ILI	Latin America	5%	10%	9%
D	Eastern Europe	8%	8%	4%

	Duty hates			
			DELIVERY TO	
		North America	Eastern Asia	Western Europe
Σ	North America	0%	15%	0%
-RO	East Asia	3%	0%	5%
×	Western Europe	0%	15%	0%
VER	South Asia	3%	15%	5%
ILI	America	0%	15%	9%
D	Eastern Europe	3%	15%	0%

Exhibit 3 Duty Rates

Exhibit 4

Validation Cost

Supplier Location	Validation Cost (Dollars)
North America	15000
Western Europe	21000
Eastern Europe	35000
South Asia	28500
Eastern Asia	24500
Latin America	32700

Exhibit 5

Probability of Clearing Technical Evaluation

Scorecard Grade	Probability
А	0.95
В	0.8
С	0.65
D	0.4

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References

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