

Reddington Transmissions Limited

Derick Wiseman, the CEO of Reddington Transmissions Incorporated a US-based company that manufactured transmissions for automobile applications was at the crossroads in a challenging environment. With operations in Europe and Asia Pacific and with the twin pressure to keep the cost under control and satisfying the customers, he was considering a proposal from Sanjay Agarwal (Sanjay), head of India operations to bring the manufacturing of TLS 4105, the transmission for trucks to India from its global manufacturing hub in Germany. Sanjay argued that this move would reduce the cost, a part of which can be passed on to the customers. Heiko Genzlinger, his German counterpart was apparently not excited about this idea and had his own concerns of the possible redundancy in the plant as the proposal of Sanjay would mean shifting about 40% of his plant capacity to India. Derick Wiseman discussed the issue with Andrew Harrison, the CFO and asked his help to understand the financial implications.

Background

Ricardo, an automobile engineer and motor enthusiast was ambitious to start his own business venture. Sensing the opportunity to capture the increasing craze for racing, he established, Speedway Team Company which manufactured racing cars in 1909. The company soon established its reputation in the automobile space as a manufacturer for machining parts and tools for the airplane engine used mainly during world war during 1915. Impressed with the expertise of the company in aviation engineering, Ginseng Mordid, the automobile giant, bought the company after the death of Ricardo in 1928. Ginseng Mordid used the engineering marvel of the company into yet another new field, military vehicles. The new division of the company developed a transmission combining range change, steering and braking and was renamed, Reddington Transmissions Incorporated (RT Inc).

The 1970s was an important decade in the history of RT Inc when it began to focus on civilian vehicles. The company designed and developed the first ever automatic transmission for heavy duty vehicles. Consequently, the company established its manufacturing operations in United States, Europe and Australia. It had separate divisions for military and civil vehicles transmissions. The company adopted lean manufacturing principles in the 1990s and implemented Reddington Production Systems, a cellular manufacturing system and reinvented itself.

Key markets and Products

Very soon the company expanded its market operations in twelve countries across four major regions of North America, Europe, Africa and Asia Pacific. The company set up 100% subsidiaries in these countries as per the local laws. Amongst these regions, Asia Pacific (APAC) was growing manifold with a huge demand for the company's products in emerging economies. This compelled the company to take a strategic decision of setting up a plant in India catering to the automobile market in 1994.

Reddington India Private limited (RIPL) began its operations in 1995 near Oragadam, the industrial hub in the outskirts of Chennai, South of India. It

was a 100% subsidiary of Reddington Transmission Inc. and had a manufacturing capacity of 7000 units and 500 employees. Involved in the production of transmissions for public transport vehicles and buses, the plant had reached several milestones in the value metrics of Quality, Volume and Safety under the leadership of Sanjay. Sanjay joined the company as a graduate engineer and rose through the ranks because of his acumen in the field. He was instrumental in bringing six sigma projects to improve process efficiency and also had clear focus on cost. Sanjay was hailed as a true intrapreneur as his consistent efforts made the Indian operations grow as the low cost producer and become a global hub for exports to APAC region.

During early 2011, Kevin Menzes (Kevin) took over as the product vice president in the Asia Pacific division of RT Inc. Kevin with his excellent marketing acumen devised strategies to make the presence of Reddington Transmission products in the Asia Pacific Region. Sanjay, who was reporting to Kevin, meticulously executed the strategies and the demand volume in the Asian Pacific Region, which was hitherto lacklustre started showing improvement and grew at a healthy 20% year on year.

The products of Reddington Inc., were considered superior in the technology used and quality and commanded a premium of about 20% than its nearest competitors. One of the popular products of the company was TLS 4105, the transmission for trucks. It was the key product under the division, civilian vehicle transmission headed by Ms. Katherine. Developed in-house, this product was used in heavy-duty trucks in road and mining. This was manufactured in the company's state-of-the-art plant in Bavaria, Germany headed by Heiko Genzlinger (Genzlinger). The plant exported about 80% of the product manufactured to the other units of the company in US, Europe, South America and Asia Pacific. The rest of the units were sold to third parties directly by the German plant. Genzlinger was a leader with proven track record and received bulk of his incentive based on a metric EVA (Economic Value Added)¹. The Bavaria plant was working at more than 90% of the capacity due to its robust demand.

Owing to the strategies implemented by Kevin, the demand of TLS 4105 grew the highest in APAC region. The proportion of the APAC share increased to 30% overall compared to a meagre 9% in 2010. This in turn was a major contributor to the revenue growth in this region.

From Bavaria to Oragadam- The Production Facility Decision

Sanjay met Kevin in the APAC leadership summit in August 2012 in Perth. During the luncheon session with Kevin on the budget for the next year, he quipped, "Kevin, one of the best ways to improve our EVA is by reducing material cost. Take our core product TLS 4105 whose demand has seen a steady increase. We are sourcing this all the way from Bavaria facility and end up paying a lot for this. The variable labour and the freight charges are high which we can save if we use our Indian facility to produce this product.

¹Economic Value added is a measure of excess dollar value created by investment over its weighted average cost of the financial instruments. It is calculated as Net operating profit after tax-(Weighted average cost of capital multiplied by the total capital employed)

Our Oragadam plant continues to be known as LCP (low cost producer) and we can leverage this facility and start the export to APAC region from India”.

Kevin replied, “Sanjay, your idea is brilliant. But we need to make a proposal to our CFO, Andrew explaining the cost advantages and the revised financials. After all, our company wants to make good profits. Could you present the proposal to me sometime next month?”

Sanjay appointed Shriram, a business analyst in the Oragadam plant to prepare the presentation of the proposal to Kevin and the team. Sanjay knew Shriram’s clear understanding of costing and business analysis. According to Shriram, the facility had to invest initially to build capacity to produce TLS and classified the initial investment as Capital, Start-up and R&D which were to be made from 2014 to 2017 in tranches. The capital investment included the investment on Assembling, Testing &Painting; Ramping up the warehousing; investment on supplier tooling and MIS(Exhibit 1). Sanjay presented the expected volume of TLS from 2014 to 2019 with the inputs from Civilian Transmission (Exhibit 2).Sanjay asked Shriram, “We need to highlight the cost saving we can achieve as low cost producer than our Bavaria counterpart and hence can you please make a comparison of production costs of Orgadam and Bavaria? The unit of currency should be in US dollar to help the management for easy comparison”. Shriram replied, “The period from 2014 to 2017 is the investment phase of the project and we are expected to mature by 2019 by which the fixed costs due to the investments are expected to stabilise”. He continued, “We can depreciate the capital investment in straight line for the 10 years planning horizon”. He presented the cost structure from 2014 to 2019 (Exhibit 3) in both the locations. Shriram observed, “I expect the volume to stabilise by 2019 and by this time we can localise most of our materials which will reduce our material cost by \$46. Our investment also gets commissioned by then and here is the cost leverage our Oragadam plant can have over the Bavarian plant” (Exhibit 4).

Sanjay was excited at the cost comparisons.“You mean to say, Oragadam plant can produce TLS at 29% cheaper! I think Kevin will certainly lobby to bring this to India. Let us have a conference call to present this to Kevin”,said Sanjay enthusiastically.

Shriram had also prepared a table on the cost of capital to help in easy reference (Exhibit5). During the conference call, Kevin asked a volley of questions on the vendors’ credibility, quality assurance etc., which Sanjay and team handled confidently. Their earlier record of high metrics on quality helped the team present their case strongly. After due deliberations, Kevin finally decided to take this proposal to Andrew

After discussing with Kevin the new proposal, Andrew further deliberated with Katherine, the vice president of Truck Transmission division about its viability. Katherine thought it was a good idea to speak to Genglinzer,the plant head of Bavaria unit about shifting the APAC volume to India. On her monthly visit to Bavaria, she discussed the comparative cost table that was presented by Sanjay’s team. Genglinzer took a day to study the proposal after which he observed,

“Katherine, I am not sure if proper homework has gone behind the claim that India can produce TLS 29% cheaper. They have not considered the working capital requirement that goes with any new product development. It is generally 3.5% of product costs in the first year and may go down to 1.5% and it should be at this level at least for the next two years. I am not sure about the freight and period costs differences. Did you see that the projected cost differences start from 2019 and what level of prices has been used there? India is a developing country with a higher inflation than Germany. My next observation is the period cost per unit in Bavaria, which I feel is unrealistic. If we shift our APAC volume to India, our capacity will go down by 35% and not all our period costs would reduce as much due to our past capacity investments. Look at the small set of data my control department has prepared. Not all fixed costs can be reduced if we shift our volume (Exhibit6). I would say the analysis does not consider the redundancy cost in Bavaria and am afraid our EVA would fall if the proposal goes through. So, Katherine, I doubt if Andrew is going to approve the financials”.

Katherine had a conference call with Kevin and Andrew and explained the view of Genglinzer. “Your plan is ambitious, but did we consider the redundancy in the operations of Bavaria plant”? She continued, “Could you give me the project level sensitivity of this project for volume, raw material and labour inflation?”

Katherine and Andrew appraised Derick, the CEO of the contentions put up by both the German and Indian plant heads on the conference call. Derick said to the CFO,

“Andrew, I want to improve the overall after-tax profit of the company. You know we are in 35% tax bracket. Our shareholders want us to beat the industry standards in profitability. The analysts are always betting on the operating profit margin we report every quarter. You see, I also have to address the concerns of Genglinzer and the enthusiasm of Sanjay. Give me the relevant numbers from your accounting systems that will help me get the clarity”.

Andrew was on the job to present the numbers.

EXHIBIT 1

Investment required (in US dollars million)

Product/ year	2014	2015	2016	2017	Total
Capital		18.4		1.2	19.6
Assembly Testing and Paining		13.4			13.4
Warehousing		2		1.2	3.2
Supplier Tooling		2.8			2.8
MIS		0.2			0.2
Start up	0.8	5.2	0.2		6.2
R&D		1			1

Source: Compiled by the case author

EXHIBIT 2

Expected volume of TLS Asia Pacific

Product/ year	2015	2016	2016	2017	2018	2019
TLS (Truck transmision)	12705	14452	10000	11783	12509	13286
TLS (3rd party)			5911	5579	6132	6734
	12705	14452	15911	17362	18641	20020

Source: Compiled by the case author

EXHIBIT 3

Total cost analysis from 2014 to 2019

Bavario

	2014	2015	2016	2017	2018	2019
	Amount in \$million					
Material	58.8	67.0	69.8	66.8	71.2	76.2
variable labour	4.2	4.8	5.4	5.8	6.2	6.6
variable overhead	3.0	3.4	3.6	4.0	4.4	4.6
Freight	8.6	9.8	10.8	11.8	12.8	13.8
Duty	3.4	4.0	4.8	5.2	5.6	6.0
Product cost	78	89	94.4	93.6	100.2	107.2
Period cost	9.5	10.4	11.9	13.0	13.9	15.4

Oragadam

Material	58.8	67.0	69.8	66.8	71.2	75.3
variable labour	4.2	4.8	5.4	5.8	6.2	1.0
variable overhead	3.0	3.4	3.6	4.0	4.4	3.2
Freight	8.6	8	7.8	7.0	4.0	3.0
Duty	4.8	4.8	4	2.3	1.8	1.0
Product cost	79.4	88.0	90.6	85.9	87.6	83.5
Period cost	7.0	7.2	7.0	6.5	4.2	3.8
star up	0.8	5.2	0.2			
R&D		0.1				

Source: Compiled by the case author

EXHIBIT 4

Cost comparison of producing one unit of TLS 4106 at mature year 2019

(in US dollars)

<i>Element of cost</i>	<i>Bavario</i>	<i>Oragadam</i>	<i>Variance</i>
Material	3806	3760	46
Variable Labor	330	52	282
Variable Overheads	230	162	70
Fright and Duty	988	200	788
Period Costs	774	190	584
TOTAL	6134	4364	1770

Source: Compiled by the case author

EXHIBIT 5

Cost of capital

Component	cost	Weight
Equity	11%	0.8
Debt	6%	0.2

Source: Compiled by the case author

EXHIBIT 6

Period cost break up of Bavario plant per unit in 2019

Amount in \$	
Discretionary fixed cost per unit	386
Non discretionary fixed cost per unit	388
Total period cost per unit	774

Source: Compiled by the case author