Operations Management

OM 01

MMS-I

Roll No.
Total No. of Questions : 4
Duration (hrs) : 3

Total No. of Printed Pages: 4
Maximum Marks : 60

23-12-2009

Note : 1. Attempt all questions.
2. Marks against each question are indicated.
3. Statistical Table can be used wherever required.

Marks

Q. 1 **RICHARDSON AUTO ANCIALLLARY : CHARTING A NEW DIRECTION** 20

The strategy diamond proved very useful when it was applied by the new executive team of Richardson Auto Anciallary (RAA), a distinguised manufacturer of components used in braking and suspension systems for passenger cars and light trucks. In recent years, RAA had struggled as the worldwide auto industry consolidated. Its reaction has been a combination of disparate, half-hearted diversification initiatives, alternating with across-the-board expense cuts. The net result, periodically, was not good, and a new management team was brought in to try to revive performance. As part of this turnaround effort, RAA's new executives developed a new strategic intent by making critical decisions.

RAA executives committed to expanding beyond their current market scope of North American and European car plants by adding Asia, where global carmakers were rapidly expanding. They considered widening their product range to include additional auto components, but concluded that their unique design and manufacturing expertise was limited to brake and suspension components. They did decide, however, that they should apply their advanced capability in antilock-braking and electronic traction-control systems to develop braking products for off-road vehicles, including construction and farm equipment. As an additional commitment, executives decided to add a new service, systems integration that would involve bundling RAA products with other related components, from other manufacturers, that form a complete suspension system, and then providing the carmakers with easy-to-handle, preassembled systems modules. This initiative would allow the carmakers to reduce assembly costs significantly, as well as to deal with a single suspension-system supplier, with substantial logistics and inventory savings.

The management team identified three major routes for achieving RAA's presence in their selected areas. First, they were committed to organic internal development of new generations of leading-edge braking systems, including those for off-road vehicles. To become the preferred suspension-system integrator for the major, auto manufacturers, executives decided to enter into strategic alliances with the leading producers of other key suspension components. Finally, to serve carmakers that were expanding their operations in Asia, RAA planned to initiate equity joint ventures with brake companies in China, Korea, and Singapore. RAA would provide the technology and oversee the manufacturing of leading-edge, high-quality antilock brakes; the Asian partners would take the lead in marketing and government relations.

The company was already a technology leader, particularly in antilock-braking systems and electronic traction-control systems. These proprietary technologies were seen as centrally important and would be further nurtured. Executives also believed they could establish a preeminent position as a systems integrator of entire suspension assemblies. However, achieving this advantage would require new types of manufacturing and logistics capabilities, as well as new skills in managing relationships with other component companies. This would include an extensive e-business capability that linked RAA with its suppliers and customers. And finally, as one of the few brakes/suspension companies with manufacturing presence in North America and Europe – and now in Asia – RAA executives concluded that they had a potential advantage – what they referred to as "global reach" – that was well suited to the global consolidation of the automobile industry. If RAA did a better job of coordinating activities among its geographically dispersed operations, it could provide the one-stop, low-cost global purchasing that the industry giants increasingly sought.

RAA's executives approached decisions about their presence very deliberately. They felt urgency on various fronts, but also realized that, after several years of lackluster performances, the firm lacked the resources and credibility to do everything all at once. As is often the case, decisions about appearance were most important for those initiatives where the gaps between the status quo and the strategic intent were the greatest. For example, executives decided that, in order to provide a clear, early sign of continued commitment to the major global auto manufacturers, a critical first step was to establish the joint ventures with brake manufacturers in Asia. They felt just as much urgency to gain a first-mover advantage as a suspension-system integrator. Therefore, management committed to promptly establish alliances with a select group of manufacturers of other suspension components, and to experiment with one pilot customer. These two sets of initiatives constituted stage one of RAA's strategic intent. For stage two, the executives planned to launch the full versions of the systems-integration and global-reach concepts, complete with aggressive marketing. Also in this second stage, expansion into the off-road vehicle market would commence.

RAA's analysis hinged on securing premium prices from its customers, by offering them at least three valuable, difficult-to-imitate benefits. First, RAA was the worldwide technology leader in braking systems; car companies would pay to get access to these products for their new high-end models. Second, RAA would allow global customers an economical single source for braking products; these would save customers considerable contract administration and quality-assurance costs – savings that they would be willing to share. And third, through its alliances with major suspension-component manufacturers, RAA would be able to deliver integrated-suspension-system kits to customers – again saving customers in purchasing costs, inventory costs, and even assembly costs, for which they would pay a premium.

RAA's turnaround was highly successful. The substance of the company's strategy was critically important in the turnaround, as was the concise strategy statement that was communicated throughout the firm. As the CEO stated :

> We've finally identified what we want to be, and what's important to us. Just as importantly, we've decided what we don't want to be, and have stopped wasting time and effort. Since we started talking about RAA strategically, we have been able to get our top team on the same page. A whole host of decisions have logically fallen into place in support of our comprehensive strategic agenda.

Analyse systematically the strategic intent behind the successful turnaround.

Q.2 A disturbed Vice President (Operations) of New Wave Airlines was upset with his Project Manager due to lack of clarity for opening a new office in Navi Mumbai. Project Report indicates unacceptable time and cash for this assignment. 15

You join the New Wave Airlines as a Manageement Trainee and Vice President calls you and asks you to figure out as to what is the minimum time required to open a new office ? He is further concerned that this should be achieved without spending the crash cost. If so then what is the minimum cost New Wave Airlines has to incrur ?

You systematically start collecting the data which is follows :

	Time (Weeks)		Cost (Rs.)	
Activity	Normal	Crash	Normal	Crash
1 – 2	18	6	12000	36000
1 – 3	24	9	9000	18000
2 – 4	21	12	8400	12000
3 – 4	36	24	27000	33000
4 – 6	9	3	30000	39000
5 – 6	15	6	14700	21000
3 – 5	21	9	5400	15000
5 – 7	33	15	19800	36000
6 - 7	30	18	12000	25200

Can you facilitate the decision making by resolving the above issues.

Q.3 A Quality Assurance Engineer is wanting to implement Quality Management System in his company. One of the requirements of QMS is the implementation of Statistical Quality Control. He decided to take the sample of 200 nos. everyday and check the defectives. He collects the data as follows :- 15

Production Day	1	2	3	4	5	6	7	8	
No. Defective	10	5	10	12	11	9	22	4	
Production Day	9	10	11	12	13	14	15	16	17
No. Defective	12	24	21	15	8	14	4	10	11
Production Day	18	19	20	21	22	23	24		
No. Defective	11	26	13	10	9	11	12		

Having collected the data, he got perplexed whether he would get ISO 9001 certification.

Can you guide him to decide if the process is under control ?

Q.4 The office of the company is air conditioned by Centralised AC Unit having Compressor Motor capacity of 10 KW and Cooling temperature upto minimum 22°C with auto switching sensor arrangement for setting the temperature from 0 to 50°C. Office runs for 12 hours a day with the air conditioned temperature of 22°C. Temperature is maintained by auto switching sensor as above by cutting off the compressor motor intermittently. 10

A new A/C operator changes the setting of the A/C to 15°C

1. **What are the environmental elements involved in above operation ?**
2. **What are the various aspects generated ?**
3. **What is the impact ?**
4. **Give two suggestions to avoid the impact ?**
5. **Name the natural resource in the above operartion?**

=xox 2