Cisco systems inc: the viking challenge

1. The Viking Challenge

Cisco Systems Inc. is developing new generation “ edge” router Aggregation Services Router (ASR) 9000. The project code name, Viking, certainly symbolize the unprecedented challenge the company opts with this product. This is one of the most complex new product introductions, Cisco ever did, but that was not the biggest challenge for the company. Cisco wants to launch this router in a very small time frame i. e. in approximately 1. 5 years in comparison to standard 3-5 years for this kind of product.

To take on this challenge company heavily relies on its standard new product introduction (NPI) protocol. This integrated system led by a product development team ensures most efficient communication and collaboration among all the stakeholders involved in the project including technical experts, contract manufacturer, supply chain partners and customers. Cisco management added one more layer of complexity to an already very challenging problem by deciding that manufacturing of ASR9000 router will take place offshore from the inception. This is first time such a complex product will be developed outside the USA.

This multilayered challenge will not only assess competencies of the Cisco’s established NPI process but also test its capabilities to manage its supply chain and global operations.

2. Analysis

Cisco is undoubtedly a front-runner in the very competitive world of networking equipment. To maintain its leadership position, Cisco needs to

develop innovative products and technologies all the time. By 2007, its two core product categories, routers and switches are responsible for approximately 65% of the revenue generation for Cisco. Complex networking product like core router CRS-1 and branding campaign “ The human network effect” helps Cisco to become one of the biggest companies in the world.

2. 1 Why rush?

Cisco anticipates that its new generation product ASR900 will be critical to satisfy the fast growing needs of global internet market and eventually increase its revenue. This router could be customized and improved to meet the internet service provider’s demands. Hopefully, once fully developed this router will provide an edge router platform for the next 10-15 years and allow Cisco to continue as leader in this market. According to market researcher Dell’Oro Group Cisco’s competitor like Juniper increasing its presence in edge router market. Cisco realized that to compete with Juniper it has to develop a router more capable and faster than Juniper’s MX960 as soon as possible.

Demand of video networking was increasing at faster pace than expected because of YouTube and video-on-demand downloads. Cisco anticipated that within 12 months it needs to meet the demand of internet service providers of more bandwidth at lower prices to maintain its market share.

2. 2 The Outsourcing Compulsion

Increased bandwidth was not the only demand in the aggregation router space. Cisco must develop better capacity machine with reduced cost in a

competitive and cost-challenged market. Cisco management realized that to get the best quality product at lowest cost possible company not only need to innovate the product design but also need to optimize its supply chain. Maintaining low cost was also important for growth of global business. Developing nations were the fastest growing market for Cisco’s business. Keeping developing countries market in consideration, it is necessary to manufacture a router with best quality but at a cost which is acceptable globally.

Generally Cisco develops complex products with contract manufacturer in USA. This gives Cisco, the opportunity of close monitoring and making adjustment in design and other features of new products based on the feedbacks on prototypes provided to strategic customers for test run. Development of close relationship with clienteles, involvement of customers in early stage of product development and customization of product according to their needs was Cisco’s strategy to satisfy these important customers. Only after a product mature and did not require any further improvements, it get transferred to manufacturing facility overseas. This way of product development was costly, cumbersome but safe and generally satisfies strategically important customers. If Cisco changes this practice and develops a product with offshore manufacturer since inception, it will surely save a lot of time and money but there are certain risks involved with this choice including losing control over whole process.

2. 3 Operating Cisco’s global supply chain

Efficient operation of supply chain was one of the requirements for any global company to be successful. Cisco realized this very early in its life and in 1990s started creating a flexible and integrated global supply chain. Generally Cisco leads and controls this supply chain. Cisco focused on its core competencies like product design and outsourced almost all of its manufacturing. Cisco consolidated its manufacturing and supplier base to acquire better and cost efficient opportunities. During this process contract manufacturers and vendors get evaluated on various standards such as their manufacturing capacity at various locations, their after sale support system to assist in debugging broad range of Cisco products and their management capabilities to adjust quickly and perform efficiently with ever changing circumstances during new product introduction. In 2005 Cisco launched Manufacturing Excellence (MX) initiative to increase the competence of its extended supply chain by implementing some major improvements. Ultimately Cisco wants to follow a “ pull” manufacturing model named “ Cisco lean” instead of currently practiced “ push model” to operate its global supply chain. In pull or “ just in time” model, product will be built only after customer actually ordered it. Cisco lean will function on actual demand rather than predictions and will help value chain to be more cost efficient by reducing inventories.

3. Alternatives

After considering and analyzing all the necessities, opportunities and challenges Cisco had in the Viking project, following three alternatives seems probable for Cisco leadership.

Alternative 1- Early development of ASR 9000 router in USA with experienced contract manufacturer, once prototype pass the tests by strategic customers then transfer manufacturing at a low cost location in Thailand.

Alternative 2- Early development of ASR 9000 router in USA then transfer manufacturing to Foxconn in Shenzhen, China.

Alternative 3- Develop and manufacture ASR 9000 router with Foxconn, China at Shenzhen and Honk Kong plants.

3. 1 Alternative 1 Evaluation

This option is safest choice available for Cisco. If Cisco decides to choose this alternative it can avoid a lot of technical risk with the Viking project. Jabil will be ideal partner for the project because it has a manufacturing plant in Thailand and can easily manufacture routers at lower cost. This option is in line with current strategy of developing prototypes with close monitoring. This alternative provides best opportunity to test the prototypes with strategic customers, fix the problem and make the suggested modifications. Changes will not be required in any three stages of standard NPI method.

But this alternative will not be able to satisfy growing needs of global internet market within anticipated time of 12 months. Competitor can take this opportunity to increase their presence in edge router market. Cisco can try to increase the efficiency of the manufacturing machinery and supply chain and can decrease the cost associated with ASR 9000 router. But it is not clear that cost reduction in this option will be significant. Company will

lose the opportunity to grow in the networking sector and might lose the market share to competitors.

3. 2 Alternative 2 Evaluation

Early development of ASR 9000 router with contract manufacturer in USA is a proven track of success for Cisco and similar to alternative 1, do not involve any technical risk. This alternative provides wonderful opportunity of close monitoring of product modification in early stages of development. This alternative presents prospect of getting best of both worlds. Company will obtain benefits from proven technical advancement of partner in USA and fundamental discipline of low-cost manufacturing of Foxconn in China.

Although this alternative provides better chances of cost saving than first alternative but will almost take same amount of time to execute and thus face risk of losing market to competitors. Technology transfer in phase three (Deployment) of NPI from partner in USA to Foxconn will be another big challenge for Cisco. This stage will require a very efficient management and collaboration among all stakeholders to save money and time. Cost savings comes in later stages with this alternative but with risk of managing multiple partners in crucial stage of new product introduction process.

3. 3 Alternative 3 Evaluation

If Cisco wants to develop ASR 9000 router within 12 months at globally competitive prices involvement of Foxconn since the Viking project commencement is the best alternative available for the company. Following considerations were in favor with this decision.

1. Being the largest contract manufacturer of the world, Foxconn has the resources to develop ASR 9000 router at low cost within anticipated time and with desired quality as it is evident by the line of product it produce for companies like Apple and Sony.

2. Foxconn vertical integration with final assembly plant in Hong Kong makes it easier for Cisco to communicate and manage the supply chain. It also gives opportunity for faster and integrated emergency response, if required.

3. Foxconn wants to prove that it has the capabilities to build higher end product. Viking project is the first priority for the company and it will devote best resources to the project.

4. To fulfill the future demands of developing world Cisco need to develop more contract manufacturer with level 3 qualification. Once established, Foxconn will be a long term partner for Cisco.