

Real-World Challenges to a Multinational Project Team: Building a Manufacturing Facility in India

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SYNOPSIS

Bausch & Lomb invested in a \$13 million joint venture in India to produce and market high quality eye care and optical products in India and adjacent countries. The project concentrated initially on the support and development of the soft contact lenses business. The author describes some project challenges that are common to developing countries, such as: complex governmental procedures, low manufacturing expertise, cultural differences, and distinct management practices. The case depicts the scope, time, quality, risk, and communication management of the project. The endeavor was completed under budget and meeting all the deliverables for product cost and quality.

LEARNING OBJECTIVES

From this international case and through its discussion, the students will gain a further comprehension of:

- project's critical success factors
- team work, team members
- project management ethics
- project quality management.

DISCUSSION QUESTIONS AND POSSIBLE ANSWERS

1. The author stresses the importance of designing and building the facility to produce products and systems in accordance with international quality standards. Project quality management is a key element in the success of any project. Define project quality management and the processes involved in it.
 - a. *PMBOK Guide*, Section 8, Project Quality Management, states: "Project Quality Management includes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It includes 'all activities of the overall management function that determine the quality policy, objectives, and responsibilities and implements them by means such as quality planning, quality control, quality assurance, and quality improvement within the quality system.'" —From another

source: The International Organization for Standardization. 1993. Quality—Vocabulary (Draft International Standard 8402). Geneva, Switzerland: ISO Press—the major processes are:

- "Quality Planning—identifying which quality standards are relevant to the project and determine how to satisfy them.
- Quality Assurance—evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.
- Quality Control—monitoring specific project results to determine if they comply with relevant quality standards and identify ways to eliminate causes of unsatisfactory performance."

2. The case states: "Team members were selected by the project manager for their expertise, their flexibility toward foreign cultures and their ability to work as part of a multinational team." Under what circumstances might a team member be removed from the project?

a. H. Kerzner, in *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*, Chapter 4, Organizing and Staffing the Project Office and Team, suggests that employees must be removed from the project due to:

- disobedience of rules, orders, policies, and procedures
- disregard of the established formal authority
- personal agenda above company loyalty
- non acceptance of a trade between technical, budget, and schedule issues
- incompetence.

3. The author notes that Bausch & Lomb's style of management was quite different from the typical style in Indian firms. Discuss the importance of recognizing and managing cultural differences on large projects.

a. Culture is a set of behaviors, beliefs, and customs that determine a society's "way of life." An organization also has a culture with its own set of preferred behaviors. The organization's culture will be framed by the country's cultural preferences. For example, in many foreign nations women are not yet accepted in the work force and therefore may not be accepted as members of a project team. Bausch & Lomb's participative style contradicted the typical autocratic style that was characteristic of most Indian firms. This required Bausch & Lomb to carefully select project team members to be certain that they were flexible in dealing with foreign cultures. Project managers must be careful to consider how certain behaviors and management preferences might be viewed by foreign stakeholders. A training course that focuses on the culture of the foreign country in which the project is to operate may be appropriate for the project team.

b. If international students are present in the classroom, the instructor might ask them to highlight differences between the United States' culture and their own.

4. The author notes that a number of external risks were unpredictable. These became important strategic issues for the project. Define and discuss a process for managing "strategic issues."

a. Strategic issues can be any factor or force that can significantly affect an organization's future strategies and tactics. Project owners must be

aware of the possible and probable impacts of strategic issues, and project managers must focus project resources on dealing with them. Strategic issues can be cultural, political, environmental, social, financial/economic, organizational, legal, technological, or competitive. How should strategic issues be managed?

- b. Four key steps are important to managing strategic issues: issue identification, issue assessment (judging the importance of an issue in terms of its impact on the project), identification of action, and implementation of actions. (Adapted from Cleland, David I., *Project Management: Strategic Design and Implementation*, 2nd ed., Chapter 7, Strategic Issues in Project Management.)
5. Project managers are sometimes challenged with major bureaucratic obstacles in an endeavor. This fact can generate ethical dilemmas for the project manager (i.e., looking for short-cuts). Read PMI's Code of Ethics for the Project Management Profession (see Appendix A) and discuss its impact on your own work.
- a. In addition to other points, the Code of Ethics for the Project Management Profession (see Appendix A) states: "Project Management professionals shall maintain high standards of personal and professional conduct and obey the laws of the country in which work is being performed." Students should give examples of how this and some of the other requirements play a role in the decisions that they make.

ADDITIONAL DISCUSSION POINTS:

Students should select a project management situation from their work or school experience. They should then identify three or four key strategic issues for that situation, assess the impact of the issues on the project, and list possible actions for dealing with them. This can be a completed project, an ongoing project, or an upcoming project. Remind students to identify stakeholders as they identify the strategic issues.

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INTRODUCTION

Bausch & Lomb Inc. chose to establish a \$13 million joint venture in India for the purpose of producing and marketing high quality eye care and optical products in India and adjacent countries.

The Indian market was viewed by Bausch & Lomb as an opportunity to satisfy the demands of a large emerging middle class population in a country whose total population of 850 million people is the second largest in the world.

In recent years, India has been moving toward a more open economy encouraging multinationals to form joint ventures with local firms. To promote foreign investment, the Indian government has reduced tariffs on imported raw materials.

This was Bausch & Lomb's first venture into the Indian subcontinent. Supported by the staff of a prominent eye institute in Hyderabad and teamed with Bausch & Lomb eye care professionals, training of Indian eye care practitioners (ophthalmologists and optometrists) began immediately to support the development of the soft contact lens business there.

It was necessary to overcome major obstacles to complete the manufacturing facility. Bureaucratic paperwork, different management styles, high import duties, lack of available electric power, water, sewers, and limited communications networks created uncommon problems. These issues challenged the multinational project team in the Indian environment.

Bausch & Lomb's style of management is participatory with heavy emphasis on team work. This contrasts with the more autocratic style prevalent among many Indian firms. "There are clear demarcations between management and lower level employees. Discussions via labor unions are common; overtly expressed dissatisfaction is rare" (1).

While this presentation will describe project experiences in India, the lessons learned are applicable to most developing countries.

Unlike countries in the former Soviet Union, India has remained a closed economy for decades. This presented several unknowns to the team requiring mid-course corrections during the project.

Approved in early 1990, a multinational project team was quickly formed, and an Indian architectural and engineering firm (Tata) was selected. Actual production started in June 1992, seventeen months after groundbreaking. The

project was completed under budget, meeting all of the deliverables for product cost and quality. Recent local press reports refer to this plant as the "jewel in the crown" for the state of Rajasthan, India.

SCOPE

For project objectives to be met, production needed to start within seventeen months from approval date, and total capital costs needed to be within the approved \$13 million budget. All products produced needed to meet Bausch & Lomb's international quality standards.

Detailed construction drawings and specifications were developed by Tata to Bausch & Lomb's concept drawings and performance specifications. A complete detailed work breakdown structure was prepared by the project team for each product line with planned construction completion dates.

Reporting of cost, schedule, and technical performance status occurred monthly by each product line team member with key issues and action steps noted.

Team members were selected by the project manager for their expertise, their flexibility toward foreign cultures, and their ability to work as part of a multinational team.

Once the project team was formed in mid-1990, a successful four-day design conference was held in Europe to finalize technical details impacting the design of the 70,000-square-foot manufacturing facility. Fifteen technical representatives from Bausch & Lomb Inc., the joint venture (Bausch & Lomb India Ltd.) and Tata participated. Basic facility parameters were established including all utility capacities, space requirements, product work flow, plant expansion strategies, etc.

From this conference came the realization that the project was under-capitalized. Original assumptions needed revision. Equipment originally planned for India manufacture now needed to be imported at increased cost due to lack of Indian manufacturing capability for specialized equipment. Over \$2 million in new costs were offset by selective reductions in optional equipment, favorable reductions in duty rates, and by subcontracting one product line (enzyme tablets).

Plant capacity plan was met and is capable of initially supporting sales for projected fifth-year volumes with designed-in expansion capability to double capacity in later years.

TIME MANAGEMENT

To meet the planned completion targets, a fast-track approach was implemented for building construction. The nearly \$2 million in additional costs (noted above) for scope changes were required to compensate for the lack of available power, water, and effluent treatment as well as account for lack of locally available specialized equipment.

Importing special-purpose equipment proved to be not only costly in money (100+ percent duty), but also in time. In many cases, up to three months were required to clear India customs. Paperwork needed to be impeccable—otherwise a long delay could be expected.

Even though the team experienced custom clearance delays as well as delays in commercially available power for the plant, production still started seventeen months after groundbreaking. This was achieved by training at other Bausch & Lomb plants and by a phased production start-up utilizing imported semi-finished products.

QUALITY MANAGEMENT

We learned quickly that it was essential to import high precision, sophisticated special purpose equipment. Locally, the state-of-the-art for most equipment is 1940s technology. This is especially true in the machine tool sector. Much of our precision equipment was imported from Germany, Hong Kong, and the United States.

A key part of this project included designing and building the manufacturing facility to produce products to worldwide specifications and developing systems in accordance with ISO-9002. This international standard is aimed primarily at preventing and detecting any nonconformity during production and at implementing systems to prevent recurrence. While new to many Indian businesses, ISO-9002 is gradually becoming a goal—particularly for those who wish to export goods.

No less than forty government inspections are required annually for the new plant. Conformance to local codes and standards is expected—particularly from multinationals.

Legal contracts appear to be less important in India than in the United States. This is due largely to the cumbersome legal system at present. However, specific contracts were established for the architectural and engineering work and the civil contractor. Fortunately, no major problems arose during the execution of these contracts.

Prior to beginning production, each process was validated and each product was subjected to standard product qualification testing to ensure that all performance parameters were met. Once these validations and qualifications were successfully completed, a start-up audit was conducted, and approval was then given from Corporate Quality Assurance to begin production.

Quarterly product/process audits are performed for the facility by Bausch & Lomb representatives from the United States and Europe.

RISK MANAGEMENT

Producing a high-quality product in India is a risk in itself.

Facility construction techniques are highly manual, slow, and of poor quality. The only major piece of construction equipment at the site was a small concrete mixer. All other tasks were performed manually. Over 300 laborers were at site during the peak construction period. The joint venture acted as the general contractor, as is the custom in India.

External risks that were unpredictable were:

- changes in government regulations, such as duty rates, excise taxes, etc.
- unavailability of basic services such as water, electric power, telecommunications, and specialized vendors
- lack of skilled manpower—particularly in areas such as computer skills, mechanics, electricians, etc.

- bureaucratic serendipity—government approvals to import equipment took months with the prospect of rejection.

COMMUNICATION MANAGEMENT

Previous projects in the international sector were staffed with a project manager and technical support team based at its United States headquarters and a joint venture team at site.

Once the project was under way we learned that this would not be adequate for a project of this complexity in a Third-World environment where changes occur daily. We then stepped up our on-site support to maximize the number of technical personnel from Bausch & Lomb.

The plant is located 75 km from New Delhi. No fax communication is available, and local phone communications are unreliable. No international phone or communication is possible so all must be handled through the office in New Delhi. Couriers carry messages daily from the New Delhi office to the plant.

In response, the project team members spent up to three weeks per trip each quarter in India to meet the start-up schedule. Product line engineers from Bausch & Lomb worked on a rotating schedule to maintain technical coverage at the plant site. For each product line there was at least one engineer present to respond to immediate needs and to communicate with other team members via fax or phone from New Delhi. This worked well and avoided long stays in India.

The prize was the satisfaction of a very difficult job well done by a world-class multinational project team.

FACTORS FOR SUCCESS

- Hold a technical design conference to finalize design parameters and identify risks. Detailed engineering work can then begin.
- Select an in-country architectural and engineering firm that understands local culture and has experience with similar work.
- Select a good joint venture partner who knows local laws, understands the market and how to deal with the bureaucracy.
- Organize a competent, well-motivated team and recognize it for its contributions.
- Pick a good scheduling system that is user-friendly. While we chose Project Workbench, there are a number of good PC-based systems available on the market today.
- Select a good plant location, and design the facility for logical expansion.
- Get marketing to commit to a sales forecast. While easier said than done, this is critical to capacity planning.
- Know and test assumptions. Have a contingency plan. What will sink the project if an assumption is altered mid-stream?

LESSONS LEARNED

1. A separately funded three-to-six-month project planning phase is essential to:

- adequately define critical project assumptions
- fully develop accurate project costs
- understand the culture and environment of the plant location
- develop a realistic and achievable schedule.

Feedback from other multinational firms, local accounting organizations, and even the American Embassy is very helpful in preparing project assumptions.

2. To be successful with projects in developing countries we learned that it was necessary to have a full-time Bausch & Lomb project team on-site consisting of a project manager, financial controller, a facilities engineer, and at least one engineer from each product area. Daily decisions are required by the team involving approval of architectural drawings, meeting with contractors, and to ensure that design and construction standards are met. The potential loss of project control is too great without this day-to-day on-site support.

3. Effective and timely training of local plant management and manufacturing personnel is essential to project success. Even though we spent approximately 10 percent of the project budget on training, it wasn't sufficient. With the technology transfer of four product lines we should have budgeted closer to 20 percent—especially given the fact that many had to travel to plants in the United States and Europe to receive product-line training.

4. Plant capacity was designed to support projected business levels for the fifth year of operation. A better approach would have been to increment the capacity as market demand developed, thus improving plant utilization and lowering depreciation costs.

5. While a 10 percent contingency was budgeted, we learned that for developing countries such as India with several unknowns, a 20 percent contingency would not be unreasonable. Changes in government regulations impacting duty rates, regulated commodity pricing, etc., occur routinely and often have an adverse impact on project budgets.

CONCLUSION

This project proved that it is possible to produce high-quality products in India to international quality standards. Accomplishing this required significant training, high-quality equipment, a positive attitude, and support from our Indian joint venture partner.

With the support of the total project team, the project came in \$400K under budget, despite equipment delays at customs and delays in commercially available power.

Today this plant manufactures products that meet worldwide quality standards.

REFERENCES

1. Craighead's International Executive Travel, Darien, Conn., USA.

Study Questions

REAL-WORLD CHALLENGES TO A MULTINATIONAL PROJECT TEAM: BUILDING A MANUFACTURING FACILITY IN INDIA

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