Everest: Failure in Information Technology project at Ford Motor Company

Executive Summary

This report analyzes the implementation steps of a new procurement system being put in place by Ford, with help of Oracle. Everest was introduced to replace then existing procurement systems that involved a number of legacy systems. There used to be more than 25 systems in the procurement department, and with the completion of Everest, all these systems were to be integrated into one brand new system.

However, the system failed after repeated cost escalations and failing deadlines. Rest of the report analyzes reasons for the same and also discusses what could have been done differently.

Background of the company

Ford Motor Company is an American MNC that sells automobiles as well as commercial vehicles. It owns the brands Ford and Lincoln and has stake in companies Aston Martin and Mazda. Ford is second largest amongst US-based auto manufacturers and fifth largest in the world (Truth About Cars, 2011). The company reported USD 136 billion of revenue in 2011 and employs 164,000 people worldwide (Form 10K, 2011). The company operates around 90 plants across the world.

Ford introduced the concept of assembly lines and large scale manufacturing of vehicles. Henry Ford, founder of Ford Motor Company, is credited with pioneering the modern automotive industry.

Background of the Project

Information Systems requirement of an automotive manufacturer is very complex. They have to deal with a myriad of dealers, suppliers, vendors and partners. To address this need within manufacturing and commercial ambit, Ford implemented a third party system, Covisint, to facilitate sharing of information with the suppliers. The system provided the following functionality:

- Inventory optimization
- Production models to anticipate built to order workflow
- Supply chain integration

System's web based interfaced meant that suppliers across the globe could manage transactions in requisitioning, reporting, ordering and bidding. Though the system was working for Ford, the company needed to improve efficiencies in communication across various parts of its supply chain systems. There was a need to seamlessly integrate global suppliers with Ford throughout the purchasing process. With multiple systems, there was a dire need to standardize processes across various activities.

Ford joined hands with Oracle to address various issues and decided on the following scope of the project, which was named Oracle:

- Automation of the procurement process including quotation requests, payment status, shipment notice and purchase orders.
- Replacing the existing IT systems that were non-integrated and making them a part of overall integrated system.
- There would be one web based centralized system to serve multiple tiers of partners and suppliers. This would allow the company to deliver global IT solutions, contain IT costs, leverage operational synergies, collaboration and knowledge sharing.
- Change is various processes were to accompany the development of new IT infrastructure. Rather than keeping the process same and optimizing single tasks, the company decided to streamline their processes in order to boost productivity.

The project was started in 1999 with a budget of USD 200 million. It was decided to roll out Everest in phases – both by functionality and by site. IT systems in Europe and North America were to be replaced by 2003 and in the rest of the world by 2004. Following objectives were identified for the project:

- Improvement in operational efficiency of various technical and business processes
- Improve business visibility by streamlining procurement systems and feedback systems to upper funnels.
- CRM management was a part of the project, with an objective of improving customer relationship
- Streamlining and better management of the product system and various processes in the manufacturing plants.
- Control and monitor expenses in production and distribution
- Reduce manual and system errors
- Get and share timely and accurate information
- Better visibility of inventory, reduction in distribution costs and global reach of the products.

With Everest project, not only new systems were being implemented, but new processes were being designed as well. Ford decided to make BPR a part of this project in order to gain maximum benefit out of this. Because of this complexity, the team consisted of employees from various departments and different skill sets. Apart from specialists from the partner Oracle and IT specialists, the team consisted of employees from various business teams there were to be affected by the project.

Ford undertook the project with a combination of technology and clean sheet.

In August 2004, Ford announced that it is pulling the plug off the Everest project. Ford spokesman Paul Wood announced to the media "*We completed an evaluation of all the production and nonproduction procurement systems and made the decision to transition back to the proven, current system"* (Songini, 2004). Oracle said about the pullout "*Oracle continues to support Ford on its back-to-basics strategic initiatives and IT projects. Given our desire to honor a nondisclosure agreement in effect, it would be inappropriate for Oracle to comment on any specifics*." (Songini, 2004)

Management and IT Capabilities of Ford and Oracle

This section analyzes the project management and IT capabilities of the two partners involved with the project Everest: Ford and Oracle. Oracle was the technology partner, while employees of Ford were managing business processes.

Corporate and IT organizational structure at Ford

At Ford Motor Company, major decisions are centralized. Functions of most areas are controlled centrally and all major decisions are approved by the central management. All activities in plants are also undertaken according to the standards set and managed by a central team.

IT organization at Ford is also centralized, as per the culture. Reasons for doing this are operational synergies; cost containment of IT systems, delivery of quality global solutions and innovation through knowledge sharing and collaboration. There are multiple directors responsible for specific responsibility within IT organization and these directors have an organization below them. This structure allows IT organization to benefit from shared services and also maintain central control of

service delivery, budget and strategy. The management group at Ford consists of diverse and capable leaders and planners. Then CIO and SVP for Corporate Strategy, Marv Adams was responsible for all aspects of IT and development of strategic vision at Ford. This twin role shows that IT was considered to be a very important part of the organization. It also made sure that all IT projects were well connected with the company's broad strategy. Overall, the company was quite mature both in terms of planning and management as well as use of IT in various systems.

However, the application architecture at Ford consisted of a large range of legacy systems. Since the Ford Motor Company grew a lot through acquisition, the infrastructure emerged over time and hence lacked integration. There are different software vendors, architecture standards, different system languages, data mismatch and different processes for updation. Also, most software systems ran on different machines. This led to barriers in communication and loss of business knowledge.

It becomes clear that though there were capable leaders in Ford and their business processes were decent, their IT infrastructure suffered from lack of integration.

Oracle's Business Suite

For Everest project, Oracle's Supply Chain Management system was used as a base. This suite automated and integrated all supply chain activities, including manufacturing and distribution to design and procurement. Data model that was to be unified gave a single and accurate view of the complex supply chain process. The package also included the family of CRM systems. These would enable manufacturing based on real time demand. This would strengthen the feedback loop from market to production and would help Ford in better planning by translating consumer trends into pricing and product availability.

Oracle's supply management system was capable of streamlining the processes and interaction with suppliers. Following were the benefits of the system:

- Makes the production and planning more responsive to the market demand
- Rapid response to interruptions in supply chain along with management alerts for various exceptions

- Reduction in material costs by efficient planning and automated order placement to key suppliers
- Improvement in inventory turn, thereby making production process more efficient
- Reduce cases where off-contract purchases are required

Literature Review: Why IT projects fail

There is a scope of failure in IT projects due to the suppliers, project team as well as other stakeholders. However, the most prominent reason emerges out of faulty project management process and alignment of IT systems with organizational culture (Tilmann & Weinberger, 2004).

Various researchers have identified the following primary causes for failures in complex informational technology projects:

- **Poor planning**: Planning for complex IT projects is sometimes not meticulous because of time pressures and the fact that implementation starts before properly defining the scope of the project. IT projects consist of critical paths and many activities can start only when they earlier ones are finished. Any deviation from the critical path due to poor planning can lead to huge delays and even failure of the entire project (Fichter, 2003)

  There is an inherent risk involved with every major IT project, and not doing a risk calculation during planning process can result in a failure. New technologies and process imply new risks and all these have to be incorporated into the planning process in order to ensure smooth execution.
- **Unclear objectives and goals:** Proper definition of goals and objectives are essential for success of any project. The goals have to be SMART - Specific, Measurable, Attainable, Relevant and Timely. For example, before implementing a computerized CRM system, it has to be clearly defined how such a system is going to improve customer care. Defining goals and clear requirements usually takes a lot of time and communication among various

teams. Sometimes project managers lack the experience of inter-team communication, leading to unclear and ambiguous goals (Fichter, 2003)

- **Change in objectives during the project:** Many a times, an IT project keeps on growing in scope. These projects suffer from two problems: scope creep and feature screep (Grossman, 2003). Scope creep refers to unexpected and uncontrolled changes in requirements and user expectations as a project progresses. Feature creep, on the other hand, refers to repeated addition of features of the project, with an assumption that small additions is not going to have significant impact on schedule or costs.

  Project managers at times have pressure to accept these or may lack understanding of impact of these small changes that get cumulated and affect the entire project. Frequent changes in the scope and features impact the entire schedule and often leads to ultimate failure.
- **Unrealistic resource or time estimate:** Mistakes is estimation of time or resource is one of the most common mistakes. There is a difference between time and duration of completion of a project. While time refers to the number of days/weeks it would take for the project to be completed without interruptions, duration refers to the time taken with interruptions. Using time to plan the project is a common mistake since there are bound to be various interruptions during the implementation phase.

  Assumption of linear approximation is another frequent mistake. Doubling the number of people on a project would not cut down the development time by half (Grossman, 2003).
- **Lack of user involvement and executive support:** Research conducted by Jenster & Hussy (2005) highlighted that absence of user involvement and lack of executive support are one of the most common reasons of IT project failures. Project managers are responsible for interactions between the IT and business teams. It is essential for this communication to be smooth in order to make sure that the IT systems fulfill the demands of the business.

Major IT projects change the work life of a lot of individuals and hence it is essential to get their buy in and get them to participate. People are wary of change and may resist implementation of a project.

- **Lack of teamwork and communication:** Complex IT projects and systems require large amount of work and analysis, and there are multiple sub-teams working on different parts of a project. Lack of communication amongst these teams and absence of team work is a sure recipe of failure.
- **Lack of appropriate skills:** Technology keeps changing at a rapid pace and for a complex project involving multiple technologies and spread across a long time, it might become difficult to estimate the skill set required. A complex project requires project managers who have sound technical skills as well as planning and management skills (Glaser, 2004)

Overall, solid management along with technical skills to oversee the project are essential for success of a complex IT project. These are the main reasons of failure of IT projects. Next section analyzes which of these reasons were responsible for the failure of Everest project at Ford.

What went wrong with Everest

Following are the major reasons that led to the failure of Everest, the project that was supposed to change the way Ford handles procurement.

- **Escalating costs:** The cost of the entire project was initially estimated to be USD 200 million. However, as the implementation progressed, cost kept escalating and various published reports pegged that Ford spent as high as USD 400 million before abandoning the project.
- **Lacking ease of use:** There was clearly lack of planning with the Everest project. The new system did not make things easier for the end user – the suppliers. They were forced to enter through the old web interface, then they had to go through five screens only to discover that the data was not present. Also, Ford had both new and old systems running in parallel and the suppliers had no incentive to move to the new system from the existing one

with which they were familiar. Even the suppliers who shifted to the new system had to go back to the old one for few specific data points. Lot of functionality was missing from the new system.

- **Integration challenges:** Amongst other things, this issue was because of lack of perfect communication and teamwork amongst various teams working on sub systems of Everest. Various components of the project – security, app servers and Customer Relationship Management systems did not integrate seamlessly with each other.
- **Questionable choice of partner:** Oracle has been in past criticized for its integration problems. With such a large project involving multiple teams, integration was a key to successful implementation of the project. Choice of Oracle as the software platform was questioned by some analysts.
- **Unrealistic goals:** Various analysts have pointed out that the goal of the entire project was too ambitious to be achieved in one go. The project aimed to integrate multiple legacy based procurement systems, standardize processes and methodology in all the production plants and rationalize Ford's supplier network.

Failure of this project caused not only the actual investment made on the project, but the company also lost a big opportunity to gain advantage of the efficiencies that successful implementation of this project would have brought.

Interventions to ensure success of the project

As discussed above, there were multiple flaws in the planning and execution of the Everest project. Prevention of these flaws would have made the project easier to implement and successful. Following are the intervention steps that could have made the project successful:

- **Prioritization of solutions and phase-wise implementation:** Ford followed a big bang approach for the whole project and tried to solve all the issues at one go. What was instead needed was a planned and phase wise approach for the entire project. Rollout for end users and procurement

initiatives got lost in the big bang approach. Instead, the problem should have been broken down in parts and more critical functions should be performed earlier. Rest of the problems should have been solved one by one after stabilization and testing of the earlier part of the project.

- **Getting end users to adapt the new system:** As discussed in the previous section, there were two reasons that prevented suppliers to adapt to the new system: lack of incentives and complex to use new system for suppliers. It was essential to plan and address these two before start of the project. Any project that does not keep in mind interests of its end users is bound to fail. The project should have involved roll out of an easy to use web interface to suppliers where they could access all the data easily and at one place. Also, once launched the new system should have been self-sufficient, eliminating the need to go back to the old system. Apart from this, suppliers should have been given incentives to move to the new system. These incentives could have been monetary or in terms of favoritism towards suppliers migrated to new system.
- **Proper timing and planning for the project:** It seems that the roll out of the project was stimulated by web revolution that was going through during 1999, when the project was launched. There should have been better planning and analysis of business need. It would then have been easier to determine how web could help meet those needs for Ford. The planning and timing should have been dictated by the internal factors, rather than the external factors.
- **Better choice of software platform:** Ford decided to customize and implement an off the shelf system for its needs. This system did not have functionality related to automotive industry. As a result, it wasn't able to offer Ford any specific business processes. This meant that the customization and integration effort became too huge. It was needed to choose a platform more suited to automotive industry and Ford's own business processes. Even

while going with Oracle's ERP system, better planning with higher cost and time allocation for customization should have been undertaken.

- **Getting the assumptions validated:** For such a huge project, it was essential to get various assumptions validated. Ford should have hired a separate IT consultant to go through the planning process and get its assumption validated. A better idea of complexity in terms of time, money and effort could have prevented failure of the project.

Clearly there were flaws in planning and execution of the project. It was too ambitious and wanted to do a lot of things at once. Selberg and Austin (2008, pp 3) derived following learning from Ford's debacle

Ford was very determined to make the Oracle ERP system work and threw lots of money and talent at the problem; however, the effort still failed. Many companies have been or will be where Ford was - faced with a very complex problem and no easy answers. To reduce both the likelihood and severity of failure in SoS projects, there is a strong need for techniques that will enable reductions in SoS complexity and enable managed evolution.. While there may be little help for existing systems of systems, it is important to add architectural features into the systems of systems design that facilitate evolution during the migration of old systems or in the creation new ones, thereby avoiding Ford's predicament.

Conclusion

There has been many failures related to implementation of complex IT systems and Everest at Ford is one of them. The failure could have been avoided by prioritizing the steps and better planning. However, these past failures need not be an indication of the future projects. These past failures serve as an important lesson and can act as a guiding factor for future projects. Project managers can increase the probability of success by paying attention to all the tasks in the critical path and assess the risk and resulting back up plans accordingly. They should take into account various delays that might happen and accordingly assign resource related to time, money and personnel. Getting continuous support of top management is also absolutely

essential for success of a major project. These steps coupled with good project management would reduce the risk of failure of an IT project.

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