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Managing Outsourced Support for ERP Systems

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ABSTRACT

A case study of a manufacturing enterprise that is assisted by an IT services vendor in implementing and supporting its ERP system across different countries it operates in the Asia Pacific region brings out the important facets of managing outsourced support for ERP systems. The importance of identifying the roles and responsibilities of stakeholders is an important first step. Preliminary results indicate that the success in supporting the ERP system is dependent on formalizing service level agreements, establishing rules to manage geographically split teams with streamlined point of contacts between different stakeholders.

INTRODUCTION

Enterprise Resource Planning (ERP) systems are an important component of the IT application landscape of multinational enterprises. This has led IT organizations in multinational enterprises and IT services vendors explore effective means of managing support for ERP systems. IT services vendors with a strong presence in offshore outsourcing have taken outsourcing a step further and come up with innovative ERP support models that leverage the Global Distributed Model (GDM) model that they have successfully used in custom software application development.

This paper describes how a core team of employees in the Asia Pacific headquarters of the manufacturing enterprise acting as the "head" (that is knowledge repository about the ERP system) and a team from the IT services vendor acting as "hands and legs" (supports the system mainly from India) work. This context is different from the typical software application development work that follows a structured software development lifecycle since ERP support is typically like IT consulting engagements with little custom software application development.

LITERATURE REVIEW

Studies on outsourcing and ERP were analyzed to understand outsourcing in the context of ERP systems. It appears that some multinational enterprises are at least at Stage Three of the Sourcing of IT Work Offshore Stage Model (Carmel and Agrawal 2002). At Stage Three the focus is on cost reduction and where non-core activities are increasingly outsourced. Global outsourcing and offshoring represent a significant shift in the way organizations manage and staff their business activities and empirical studies reveal that enterprises which consider themselves successful at global outsourcing have achieved significant improvement in organizational effectiveness (Elmuti and Kathwala 2000). Though stage models for maturity of an enterprise in using an ERP system have been proposed, they have not explicitly taken outsourcing as a variable while strategic use of IT, organization sophistication, penetration of ERP system, and vision are some of the variables considered in determining stages of maturity models (Holland and Light 1999).

Kaiser and Hawk (2004) describe cosourcing as a model where the enterprise and its IT services vendor meld their human resources to accomplish the IT work. Some determinants of success in cosourcing include defining and developing the appropriate in-house IT competencies, building trust with the IT services vendor but avoid building a binding relationship, and fostering mutual understanding of ethnic and corporate cultures. Most studies on ERP systems and outsourcing seem to deal more with implementation rather than support. A study by Willcocks and Sykes (2000) records external consultants becoming the trusted advisors to business function on ERP and the implementers of the system. They suggest a proactive role for IT organizations in ERP systems implementation. Other studies focus on how enterprises can plan for implementing better (given the context of high failure rates) do not include outsourcing models in ERP implementation or support (Markus et. al. 2000). Though Bingi et. al. (1999) identified managing external consultants well as a critical factor in successful ERP implementations; they do not refer to outsourcing or a globally distributed consultant team that is prevalent in the current context. In spite of its growing importance, there appears to be a dearth of studies on how ERP systems are support is being outsourced and this paper address the question how to manage outsourced ERP support.

METHODOLOGY

The contemporary nature of the research on globally distributed ERP support and researcher's lack of control over the events makes case study an appropriate research methodology (Yin 1994). The data for the case study primarily comes from multiple in-depth semi-structured interviews with project managers and sponsors associated with the ERP support at a multinational manufacturing enterprise (ManufCo) and the IT services vendor (VendorCo) carried out over a five month period. Data is also obtained from internal reports maintained by the ManufCo and VendorCo. The dominant mode of analysis of the case study used in this research is explanation-building (Miles and Huberman 1994).

OUTSOURCED SUPPORT FOR ERP SYSTEMS

The case study reveals the relationships between different entities in ManufCo and VendorCo (shown in Figure 1) and the important facets of globally distributed support of an ERP system. First and foremost it is important to identify the mandates and mark the roles and responsibilities of the various stakeholders. Only when there are clearly defined roles and responsibilities service level agreements (SLA) definition and enforcement become meaningful. In this case, the ERP operations group in ManufCo is the knowledge repository of the ERP system and has sole ownership and decision making responsibility for enhancing the ERP system blueprints. There is continuous interaction model between VendorCo consultants and ERP operations group in carrying out enhancements to the blueprint. There is also a high degree of interaction and knowledge transfer from the ERP operations group and the VendorCo consultants providing second level support.

The underlying premise of having two levels of support is that the users are more comfortable to approach a "known face" and talk in the "same language" (both figuratively and literally!). And pass on only complicated issues to the level two supports that is a paid service. The key users who are colleagues of the users in the same office location provide level one support. The first level support forwards issues that it cannot solve to second level support. The key users are often those with a good understanding of the ERP system and English language. This makes it easier to communicate with the VendorCo consultants providing second level support. VendorCo consultants need to be in contact various groups in the Asia Pacific IT organization of ManufCo that manage the networks and host the ERP application. VendorCo consultants also need

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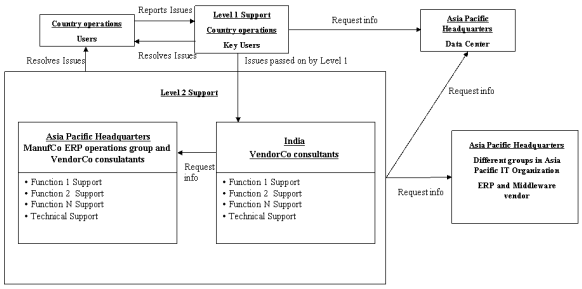
Figure 1. Relationships between different entities in ManufCo and VendorCo



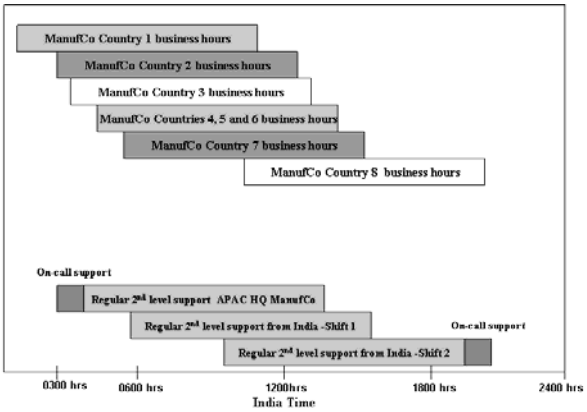
to be in contact with the vendor of the ERP system and the Middleware on a need basis who in this case are located in the same country that is the Asia Pacific headquarters of ManufCo. The key feature of the second level support is that it is based in two different locations and works across time zones to provide support to multiple Asia Pacific country operations of ManufCo as shown in Figure 2. In effect the second level support for the ERP system is offered between 0300 hours and 2100 hours India time. This covers business hours of all country operations of ManufCo in the Asia Pacific region except maybe an hour at the beginning of the work day for Country 1. On call support is the mode where the consultants are accessible on the phone but not necessarily at their office.

The reasons for distributed support organization are three fold. Firstly, the second level support needs to have a presence in the location where the ERP operations and the different IT groups of ManufCo's Asia Pacific operations are since they have an almost daily interaction. Secondly, there are some countries that can conveniently be serviced from the Asia Pacific headquarters in terms of time zone differences. Lastly, ManufCo has a policy where it is difficult to access its IT systems without being located in its office premise. Thus VendorCo has only a limited access to the IT systems from India while its consultants working from the Asia Pacific headquarters of ManufCo have full access. However VendorCo's consultants are twice as expensive when they operate out of a non-India location. This is the reason why 70 to 80 percent of the consultants are located in India where they work on non critical support issues and enhancements to the blueprint. The support organization is measured on performance with respect to the SLAs that are agreed upon between the ERP operations group and country operations and between the ERP operations group and VendorCo.

EVALUATING OUTSOURCED SUPPORT FOR ERP SYSTEMS

Evaluating support for the ERP system is based on performance with respect to SLAs. The ERP operations group and country operations agree on SLAs that are negotiated every year. The SLAs define priority status of issues raised by the users and response and resolution times. They also define the local interfaces and programs supported for the country operations. Costs in the SLAs are approved every year by a representative senior management group of all countries that use the ERP system and the ERP operations group. Twice a year invoices are charged to countries based on the costs of the SLAs. SLA based reporting is done on a weekly and monthly basis based on data derived from the application that VendorCo uses to manage second level support. The reports include support statistics like status of open issues based on module of the ERP system for each country operations supported and by priority of issues, status of high priority issues by country operations supported and backlog of issues by each major module supported. SLA adherence is monitored by issues closed in last one month by priority, country operation and module, trend of issues opened by country operation and module, trend of issues closed by country operation and module, year to date enhancements completed by country operation and module and backlog trend analysis. By the feedback from the business users in the country operations it appears that they are satisfied with the support on the ERP system. According to a user:

Figure 2. Level Two Support Straddling Geographies and Time Zones



"The <ERP system> is useful since it has streamlined the process and replaced the 70 or 80 MS Excel sheets that we were using in the past. I like the second level support and response that I get from the team in Asia Pacific headquarters. They seem to know the <ERP system> and what we are talking about. Some of them have also been involved in implementing the system here."

The success of a geographically distributed organization supporting an ERP system assumes good datacom infrastructure between the different locations. Access issues arising out of corporate policies like the one not to provide access to its systems from a non ManufCo's premise need work-around like stationing a small team in the premise that has full access and by providing mirror views of the system in India. The success also depends on having formal SLA contracts between different stakeholders that define the service levels and responsibilities to all concerned like those between ERP operations and different country operations of ManufCo and between ERP operations and VendorCo. Time zone related issues need to be managed by working in multiple locations and/or shifts like how VendorCo operates a couple of shifts from India. Language issues can be mitigated by making the lead users the one point contact with the external support team.

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