Teaching Tip
GlobePort Faces Global Business Challenges – Assessing the Organizational Side of Information Systems Projects

Biswadip Ghosh, Ph.D.
Computer Information Systems
Metropolitan State College of Denver
Denver, Colorado 80217, USA
bghosh@yahoo.com

ABSTRACT

Published studies have reported that Information System (IS) projects succeed or fail based on how effectively the organizational issues were understood and addressed in the specification, development and implementation stages of the project. This is particularly true in the design and delivery of Inter-Organizational Systems (IOS) that can affect the power structure among several stakeholders and impact their established business relationships. Systems analysts act as the "facilitator" for IOS projects, and the need to effectively leverage a variety of stakeholders who have a diversity of interests and expectations to build a global view of the problems to be solved by the system and get all the stakeholders "on-board". This case study presents a business problem of global scope that touches multiple organizations and functional areas. GlobePort's inadequate information systems for product registration in one of their product distribution channels[1], that involves business partners – distributors and resellers, has created problems in several areas of the company, leading to excessive administrative costs, poor customer service and impact to their financial performance. The global scope of GlobePort's dilemma requires a thorough analysis of the organizational issues that can confound any technology solution. Several frameworks from existing IS research literature are presented to develop the student's critical thinking and analysis capabilities in performing problem definition, stakeholder analysis and organizational feasibility. Students are called upon to analyze the problems and propose an IOS solution for GlobePort's situation.

Keywords: Systems analysis and design, Globalization, Information quality, Requirements analysis and specification, Process improvement

1. GLOBEPORT NETWORKS

GlobePort Networks is a leading multinational networking product design, development, manufacturing and servicing company. GlobePort is a market leader in the business of manufacturing and servicing of networking equipment, networks and network based applications (such as call centers, telephony applications). The company designs and manufactures a variety of communications hardware and software platforms and multiple applications – such as CRM (Customer Relationship Management), conferencing solutions and other telephony based applications. The company also resells other manufacturer's products and solutions. GlobePort has a large services business and organizational capabilities to support an end-customer's entire end to end networking solution. The services business is an important part of GlobePort's overall operations. Upwards of 50% of GlobePort's revenue (nearly $2 billion a year) and 115% of GlobePort's profit (approx $250 million) comes from the Services business. The service experience starts with consulting and design services, which work with end-customers to analyze needs. GlobePort offerings continue into integration and implementation of the solution. Subsequently GlobePort sells service contracts to the end-customer (large multinational customers such as multinational banks, as well as to smaller regional business customers such as hospitals, universities) on the basis of the product elements installed for the end-customer's service location. A service contract entitles the customer to extended service beyond the product warranty period. Service entitlements include help desk support, break fix support and maintenance, systems administration, network monitoring and management reporting activities.

2. INDIRECT CHANNEL ISSUES

GlobePort sells product and service through both a direct sales channel as well as an indirect (via distributors and resellers) sales channel. The indirect channel was used primarily in the international markets to exploit the existing local business practices of system resellers around the world and the established relationships between those distributors

and resellers in those markets. GlobePort did not have the cultural capabilities of all these different local resellers and wanted to use them to build their global business model. The later consisted of a hierarchy of local retailers, solution providers and service providers under large regional distributors. Consequently, GlobePort allowed customers to order through either the direct or indirect channel, as some multinational companies had centralized purchasing organizations and wanted to deal directly with GlobePort for all their multiple global sites. In the indirect channel, GlobePort qualified the distributor and sold their product to the distributors. The distributors then qualified their local resellers and allowed the resellers to sell the product to end-customers.

There is a major difference between the two channels related to the service delivery experience as well. The direct channel customers received service from GlobePort, who maintained a few regional centers of excellence (e.g. at Singapore, London, Budapest, Casablanca, Buenos Aires and Denver) to deliver the field service. The alternative service delivery approach used in the indirect channel was to allow the end-customer to receive the service from the local reseller's service personnel. The resellers sold the products packaged with service offers to end-customers. The local resellers had the customer relationships and the local man-power to service the customers. It was difficult for GlobePort to maintain that kind of local operation throughout the world. Hence it was a win-win for GlobePort, who prided themselves in packaging and providing service to their customers and not just selling a "box" as their main competitors in the networking equipment industry.

But developing the capability of these resellers to service sophisticated networking products was a challenge for GlobePort. The resellers could handle the routine stuff just fine, but complicated scenarios would often come up that the reseller's service technicians had no idea how to resolve. Further, GlobePort had a portfolio of trouble shooting tools, a knowledge base built over the years and a highly skilled services workforce that was used in the direct channel. So, GlobePort had started to allow the business partners (resellers) to call in to GlobePort and use these service capabilities for a flat fee calculated based on the valuation of each end-customer sale. The resellers tried their best to avoid paying these service fees to GlobePort. The resellers did not disclose every product sale and only used a few accounts to call in service questions, so as to pay a lesser fee to GlobePort. Consequently, providing this service to the resellers was costing GlobePort significant money. Kelly Rogers, a service delivery director in the services organization at GlobePort states: "*Last year alone, there were 14,100 reseller calls to GlobePort's technical call center personnel and the time taken to clear them required over 514,000 hours of work. Assuming a loaded cost of $100 per hour for an expert GlobePort technician, this equates to a net $52M of service that GlobePort technicians performed on behalf of resellers around the world. The resellers have realized that we are too accommodating and will field any and all questions. They do not even try to solve the problems before calling us*".

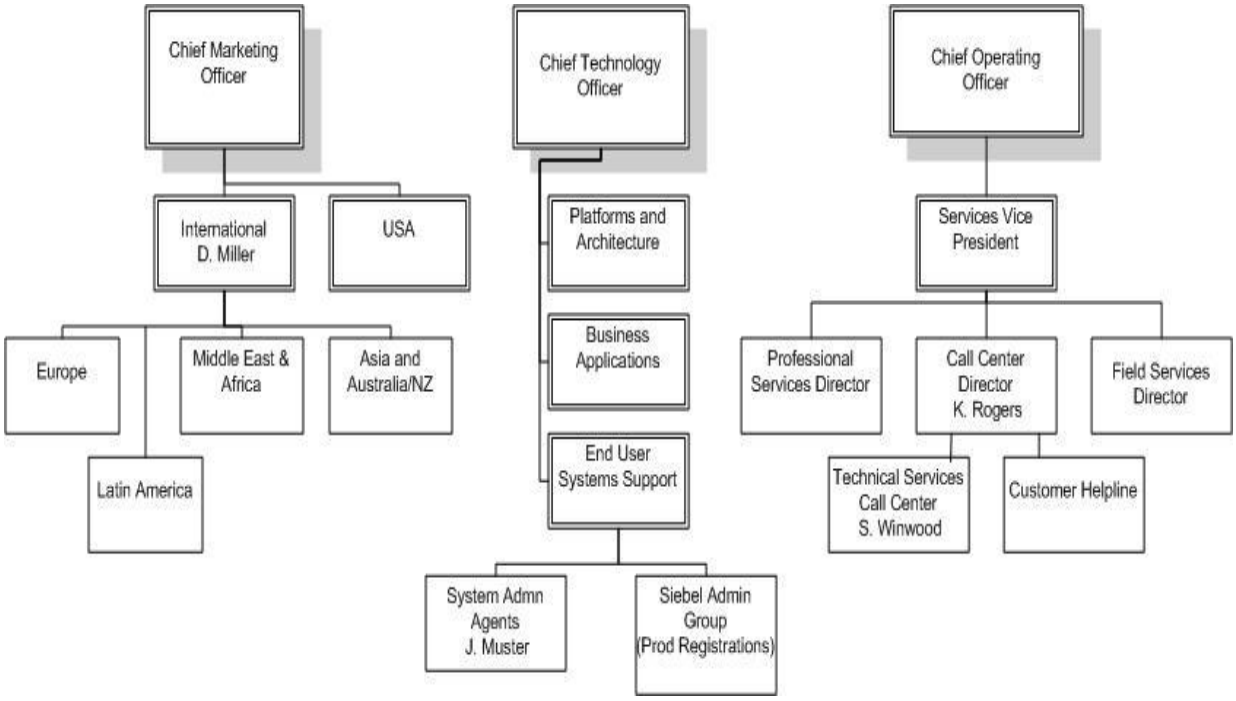

Figure 1: GlobePort Organizational Chart (Relevant Sections)

Lisa Dupre, an information systems analyst with GlobePort was assigned the job of analyzing the problems and potential system improvements. She set about to collect the facts using the principles of participatory analysis and design (Bodker, Kensing and Simonsen, 2004). She adopted a problem analysis methodology which consists of listing the problems that are evident in a given scenario and identifying all possible causes, consequences and stakeholders impacted together with continuous feedback from those stakeholders.

Lisa found out that resellers received a competitive benefit in the marketplace by not paying the service fees. Consequently the resellers were able to under-bid competing quotes from GlobePort's direct channel sales people. Lisa Dupre met with Don Miller, Vice President of International Markets (Figure 1) at GlobePort Networks who quipped, "*The current charging structure enables our Resellers to compete against us on price as they do not have to include in their pricing any Installation and Services costs. Some have openly boasted of this fact. A recent example illustrates the point. Telephonica, Spain had a renewal value of $49,000, and a business partner bid $37,000. One of my channel mangers in Spain, assessed the charge of a per site offer including full blown Services would have been nearly $10,000 which is almost the full difference between our bid and our resellers. So we are effectively subsidizing our business partners to compete against us. This year to date the erosion of our customer base in Europe to local resellers has been running at 8% or equivalent to $27M per annum. And that is just in Europe, What about Brazil, China or India and other large markets? The service contract with the end-customer needs to be sold by us. Why do we allow the reseller to sell service contracts, when they can't even provide the service by themselves? We are being eaten alive*."

3. GLOBEPORT'S OPERATIONAL PROBLEMS

Don Miller's comments turned out to be just the tip of the iceberg in the operational problems faced by GlobePort in delivering service to end-customers in the indirect channel. The current product registration processes established by GlobePort for the indirect sales channel left a lot to be desired. Typical product ordering, installation and registration processes at GlobePort involved two major steps – a "pre-registration" step (that is part of the sales-order quote generation process) and the "final" registration step, which involves recording the configurations (logins, IP addresses, keys and accessibility) and installation details of product units for a specific end-customer location so that service can be delivered on those solution elements (installed units of product at an end-customer's site). Lisa realized that the pre-registration tasks were rather adhoc, iterative, local reseller dependent, and would be very difficult to embed into the SAP[2] system that GlobePort runs to support their sales and accounting processes. In this pre-registration step for the direct channel, the SAP "Sold-To" number is used to track who bought the product and the "Functional Location (FL)" number is created in Siebel[3] to represent the end-customer location, where product units have been installed for future service delivery. In the direct channel, the pre-registration step is done inside GlobePort's SAP system, but in the indirect channel this step was being done in a given reseller's sales and quoting system. In the direct channel, the final registration process can utilize the data from the pre registration process rather efficiently as the SAP "Sold-To" number corresponds to a real end-customer. This information is used by a web-based custom product registration application developed by GlobePort's IT department, the RT tool (Registration Tool) to create the solution element (installed product) records in Siebel and then populate those records with product configuration, login and remote accessibility information.

However, in the indirect channel, the pre-registration step was not completed fully inside GlobePort's SAP system and the final registration step became impossible to complete, resulting in incomplete configuration data in GlobePort's systems (SAP and/or Siebel). Later, when the reseller (or the end-customer) called in to GlobePort's technical service call center and help-lines, without those records, the product units and configuration information had to be entered manually by a group of SAP/Siebel system administrators so that the service technicians at GlobePort's call center could provide the service. Likewise, if an end-customer calls in for service and the information was not present in Siebel, then the call center technician had to work with the SAP/Siebel system administrators to create the correct records in Siebel to allow them to deliver the service.

In the indirect channel, the resellers made it a point to try and hide "their" end-customer specific details from GlobePort. This prevents GlobePort from entering the end-customer information into their SAP system and product elements continue to be under the distributor's SAP record or sometimes they get moved to under the reseller's SAP record. Consequently, critical information needed for remote service delivery such as IP addresses, dialup numbers, connection strings, logins and passwords were not being recorded in the Siebel system. It is only when (i) an end-customer calls GlobePort for a service issue or (ii) a reseller needs help with a service scenario or (iii) a GlobePort technician in the field or in a call center needs to access a solution element at an end-customer location and determines that the solution element does not exist in the Siebel database, does the process of "final registration" begin. This is too late in the game, as the solution elements may have been at the end-customer's location for months/years without GlobePort knowing about it in their SAP and/or Siebel systems. Moreover, at the time of the service call, typically several people are on the call in real time and customer dissatisfaction grows with every second. The current registration tools and the registration process have fostered the reliance on the group of SAP/Siebel system administrators to complete the steps in the registration process. The group of system administrators create records in SAP and/or Siebel as needed to allow the customer to be serviced. This is because the SAP and Seibel systems are not accessible to resellers or end-customers to enter the product information directly. Often the reseller's finalized sales order data has to be sent in via fax, email or phone calls from the reseller before it can be entered by a GlobePort system administrator (Figure 2).

As Lisa found out, "*In indirect channel registrations that involve GlobePort's business partners, registration data is collected by the resellers and are faxed or emailed to*

GlobePort, since the reseller did not have access to these internal GlobePort systems. GlobePort's system administrative staff then spends additional time to add/update these records into two databases- (1) a SAP system for sales, dealer commission and volume discount tracking and financial accounting and (2) the Siebel database for product configuration and services information used for service delivery. Even with web based tools (made available in some regions) to help automate the submission of extracts of sales data from their systems to GlobePort, resellers were "forgetting" to submit data to hide their end-customer information from GlobePort". Consequently there were significant data quality issues in GlobePort's SAP and Siebel systems.

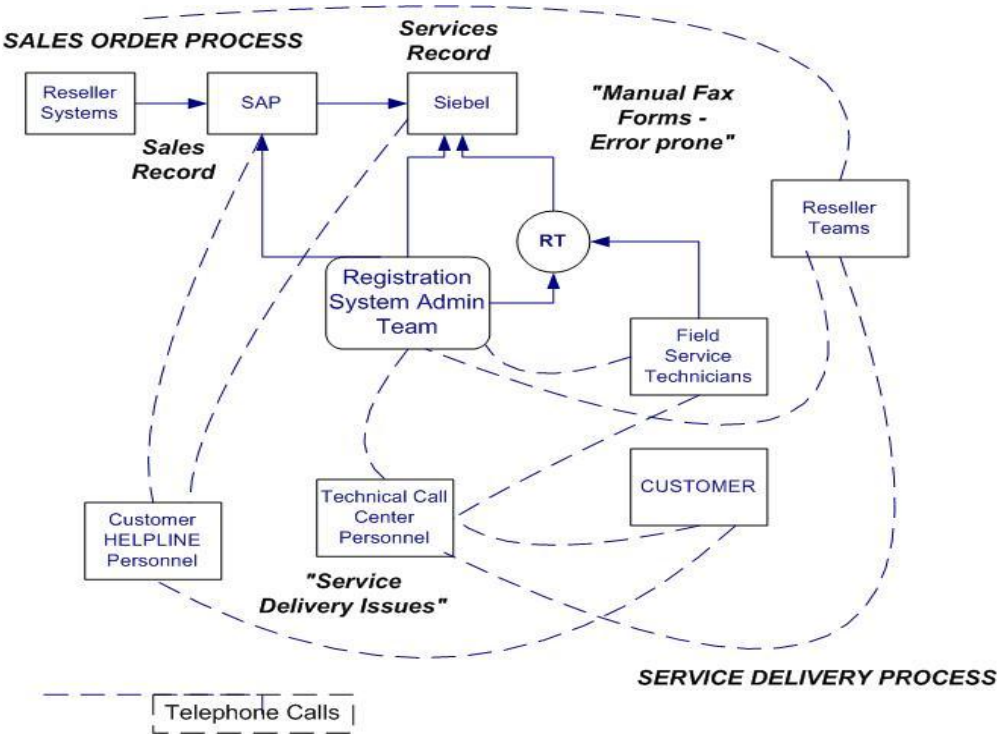

Figure 2: Operational Problems in Product Registration

There are multiple dimensions of data quality among which are the intrinsic and accessibility dimensions (Wang and Strong, 1996; Strong, Lee and Wang, 1997). The intrinsic dimension indicates that there are actual factual problems with the data, such as inaccuracies and duplication. The accessibility dimension represents issues with timeliness and accessibility to the data and its entry into an information system. In a typical registration at GlobePort, a long list of physical product elements need to be added to the SAP record for the end-customer and separately the Siebel record is also populated with the product elements with their configurations. A typical sale can involves 50-100 product elements, such as multiple routers, interface cards, terminals, etc. Consequently, these manual processes performed by the registration system administration team to create and/or update records in SAP and/or Siebel cost money and the timeliness and accessibility dimensions of data quality are compromised as it can take up to 48 to 72 hours to complete the entry of the registration data into the databases. The physical product installation data can be missing if one or more of these records do not exist in SAP and /or Siebel. Inaccuracies in the data can result from products not having moved from the reseller's account to an end-customer's account. Since product serial numbers are not currently being stored in either the SAP or the Seibel system, duplication of product installation records in Siebel can happen where multiple records are created for the same physical product, indicating more than one installation location and/or multiple service configuration (logins, passwords, remote connectivity configuration) information for the same physical product.

And all this manual work is costly, as Julian Muster from the Systems Administrative group reports, "*Currently on average 1 hour 45 minutes is used up in each registration due to the fax/emailing of forms and subsequent manual entry of data. The rate of such registration cases is around 1800 per month. This equates to 3150 hours a month or 394 staff days. At a labor rate of $68.8K a year for a systems administrator, the total cost savings would be 18.75 (headcount) X $68.8K a year = $1.29 million a year. The costs are actually much higher, as these registration requests are often coming from service technicians, who are on site and not able find the solution element in the Siebel database, or an end-customer calling into the Helpdesk and the helpline technician can't find the installed solution element in the Siebel system*."

This complicated and time consuming registration process coupled with the poor quality data cause resellers and end-customers to shun registering their products, yet calling and getting service from GlobePort. The resellers get

their volume discounts based on SAP data, hence they were recording the sales under their own Sold-To in the SAP system and just utilizing a prior (an existing) customer's location "FL" with current service entitlement to get service issues addressed by GlobePort. To put their best foot forward for the end-customer, GlobePort's service personnel end up providing service without collecting necessary fees since service entitlements cannot be verified in real time. In addition, the service technician would spend 30-60 minutes on a call with the system administration team to have them enter the physical product element and configuration information into the Siebel systems (sometimes under the "wrong" service account using the reseller's claimed customer on the service call) to deliver the service for the call. GlobePort's extensive portfolio of servicing tools such as expert systems for remote diagnostics, data capturing probes for network monitoring and analysis and reporting capabilities all interfaced with the Siebel system to get product configuration information in order to run.

There are also other complications in the services domain. All physical product elements sold through GlobePort's indirect channel were not the same. Moreover, some of the solution elements were being resold multiple times in the marketplace. In certain installations, new product with active warranty was being mixed with old "gray market" product that had an expired warranty. However, the later never was entered into SAP or Siebel and thus GlobePort had no way to track whether it was new product or grey market product. When a service request came in, the GlobePort service technician would simply enter every solution element as "new" thus resetting the service entitlements clock. They have no way to be able to enforce any kind of "gray" market policy with the SAP and Siebel systems they have in place as the serial numbers of product elements are not being stored and tracked as product moves to distributors, resellers and to end-customers. Steve Winwood, a service manager at GlobePort suggests, "*Since we have been remiss in keeping detailed product records in the past, customers have received service on equipment that was not under service contract or warranty without paying for it appropriately. We need the SAP and Siebel systems to support the recording of serial numbers for all product elements, then it will lead to additional revenue for our business*".

4. INFORMATION SYSTEMS LANDSCAPE

Over the years, GlobePort has also deployed information systems to support some of their registration process steps (Figure 3). The RT (Registration Tool) web based application handles the update of system records in the Seibel database to enter the configuration and product connectivity/login. RT can access the database record in SAP to get the information about the solution element that was installed and then creates and updates the Siebel database record, by storing the TCP/IP port and IP address, logins and passwords that are used for remote connectivity into the products. The plethora of resellers in different countries and nationalities have posed a difficult problem for GlobePort in trying to build better processes in collecting product information from the indirect channel resellers. They have their own established in-house sales processes and systems that do not interoperate well with GlobePort's processes and systems – SAP and Siebel. Many long standing vested processes exist in each region and regional business customs are embedded in these systems and processes. Moreover, each resellers is invested in their own systems and uses their systems for selling other manufacturer's products along side GlobePort's products.

Language barriers and cultural barriers abound. Resellers are reluctant to share their customer information for fear of poaching. Some resellers, such as in China and India, have elaborate pre-sales processes, where they create model configurations and generate their own product and servicing quotes which is different from GlobePort's recommended pricing. For example, the distributor in Brazil has developed a web based system that is used by their resellers in the region. It provides a web-based tool for entry of product level details of the installation. The system collects a list of equipment, such as the number and type of routers, where they are located, number of ports and software configurations. If this data could be interfaced to GlobePort's systems, then it could be used in the final registration process and a re-entry of all the data would not be needed. However, it is reported that resellers create the initial service contract quote on a barebones installation that creates a quite lower quoted price, leading to sticker shock when the more accurate invoice is generated after GlobePort gets the entire sales order. This raises the charge for the service contract and results in the loss of service contracts as the customer does not want to pay GlobePort the higher amount for service. Distributors in the Middle East have systems to track their resellers and the end-customers. Each reseller has to apply for pre-sale approval to sell a particular set of product units to a particular end-customer. The distributor must perform extensive background checking to approve the reseller and/or end-customer and/or a new installation site before allowing the reseller to proceed with the sales process. While these functions are not part of GlobePort's product registration process and tools, the distributors and resellers are demanding that GlobePort include such functionality in any solution they propose. Additionally, another web based tool is used by the distributor in Australia to register software products (such as messaging, call center reporting applications). This tool reportedly collects information from an end user customer, reseller or a GlobePort associate and feeds that data to a GlobePort associate via email. This data is then entered into Siebel by the GlobePort system administrators often before the service delivery need arises.

Lisa realized that something must be done, as the resellers were taking customers away from GlobePort as "*we do not keep proper records of own installed product base".* These resellers are offering discounted service contracts for multiple sites after registering a single site and paying for only one site (or half a site). End-customers are also switching to service from reseller (since the reseller can charge a much smaller service contract fee than GlobePort) and are not renewing their service contracts with GlobePort, opting to get the cheaper service from the resellers. Consequently, call volume from reseller's service technicians into GlobePort's call center and helpline was increasing adding to their operational costs.

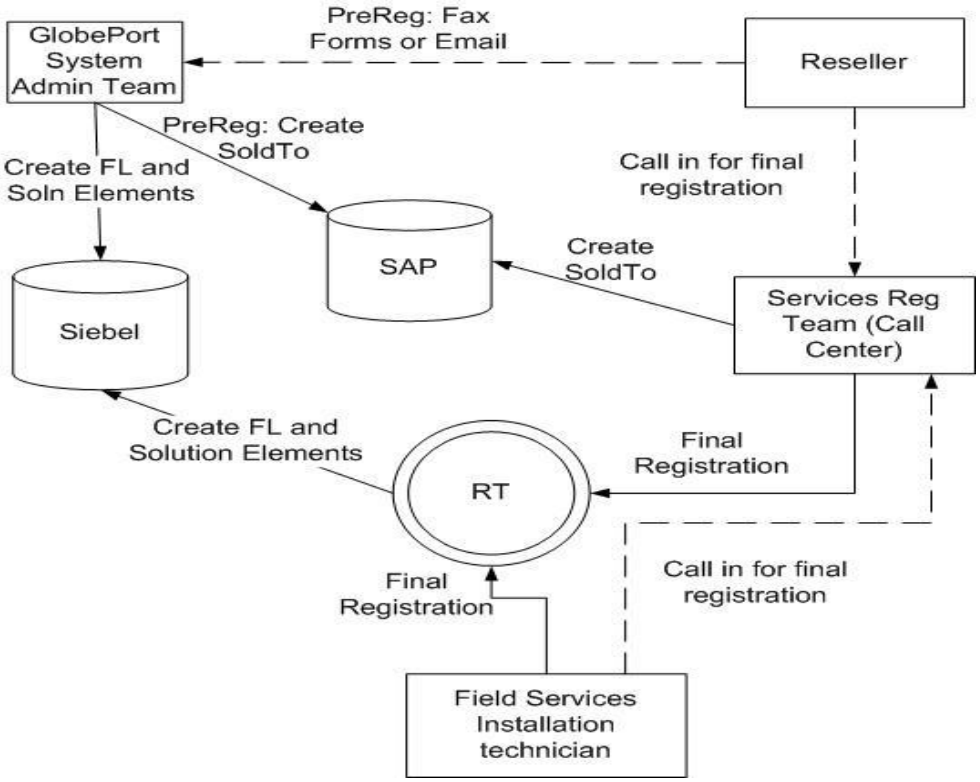

Figure 3: Flow Diagram Showing Current Information Systems

5. CONCLUSIONS

The complexity of Information Technology (IT) projects are determined not by what you can easily see (the technology), but what is hidden and less apparent – the organizational issues. It is critical to analyze systems from the business perspective and in the context of the "components of the work system such as the work practices, the participants, information and technology" (Alter, 2006). The analyst must build a basic understanding of the organizational environment in which the system exists. Information Systems projects involving Inter-Organizational Systems (IOS) can be an even more complicated endeavor, particularly from an organizational standpoint due to the diversity in the environment, infrastructure, strategies and roles of the many stakeholders. These IOS stakeholders have to be engaged early on to understand the problems and the requirements of a solution at a global level Lisa would need to keep in mind the typical reasons why the stakeholders might not participate in this process and withhold information from her (Rost and Glass, 2009). Such resistance to an IOS can originate from factors such as communication issues, the potential to impact the balance of power between the participating organizations as well as the user's fear of change. Stakeholders have different perceptions of an IOS and how it fits into their business models both at the operational and strategic levels. Working with multiple organizations to elicit and define system requirements depends on the effective engagement, and participation of the project stakeholders – potential system sponsors, user subgroups, system builders and administrators. When a system touches multiple organizational and functional units, cross-functional communications and coordination difficulties arise as each stakeholder in each department has their own goals, vested interests and speak their own specialized language (Safayeni, et.al., 2008). The affected organizations typically have different levels of interest ("the operational need") in a given IOS and a different level of power ("the capacity to influence") over the implementation of the IOS (Boonstra and de Vries, 2008). The potential to impact the balance of power between the participating organizations as well as the user's fear of change can doom an IOS even at the inception phase. Published studies on IT project risk factors include poor requirements elicitation caused by a lack of sufficient user involvement (Cerpa and Verner, 2009). In this study of 70 failed software projects, 72% of them included poor requirements elicitation as one of the causes of failure. The lack of participation from the business side and top management are noted to significantly increase the risk for IT project failure (Schmidt, et.al., 2001; Simonsen, 2007). Further, some of the underlying reasons for poor requirements elicitation were (i) inadequate time spent by the systems analysts with the stakeholders, (ii) stakeholders having unrealistic understanding of the problems and (iii) unclear expectations of the solution.

Lisa realized that to overcome the cross functional communication issues, all units would need to understand the global problems collectively. To define and have a suitable solution accepted by all parties, she would need to get all the groups aware of the global problems that each of them were experiencing and how it was costing GlobePort big bucks. However, to come up with a feasible solution in this IOS landscape, Lisa needs to carefully draw the boundaries of what functionality the system would address and what would reside outside it (Alter, 2006). Moreover, Lisa needs to adopt Agile methods, which have been seen to effectively counter issues with communication, work culture, time zones, trust and management in a large global inter organizational information systems project (Bose, 2008). She was sure that the current situation was leading to unhappy end-customers all over the world. "*I must document the global business problems so everyone can clearly understand what is going on and get these different organizations to support the project vision and objectives that I define. The resellers might not care about GlobePort's financial problems, but they must care about the end-customers."* Lisa exclaimed!

6. QUESTIONS

1. Analyze the business problems faced by GlobePort and list the objectives for any candidate solution.
2. Who might be the stakeholders of such an information systems project? Analyze the stakeholders using the power/interest framework and identify imbalances that might create project barriers.
3. Describe the technical components – in terms of data, process and interfaces - of a solution along with organizational components (procedures, process and policies) to solving these problems. Propose some alternative solutions and compare.
4. Perform a systems feasibility analysis and discuss the feasibility issues (base and project level[4]) for an Information systems project.
5. Propose a possible project breakdown and project management approach that leverages the benefits of Agile methodology.

7. ENDNOTES

1. Subsequently this distribution channel will be referred to as the "indirect channel" in this manuscript.
2. www.sap.com Enterprise Resource Planning (ERP) Systems were used in the Production, Sales and Accounting functions at GlobePort.
3. Popular Customer Relationship Management application currently owned by Oracle, Inc.
4. Yun and Caldas (2009).

REFERENCES

Alter, S. (2006), "Pitfalls in Analyzing Systems in Organizations." Journal of Information Systems Education, Vol. 17, No. 3, pp. 295-302

Bodker, K., Kensing, F. and Simonsen, J. (2004), "Participatory IT Design. Designing for Business and Workplace Realities." MIT Press, Cambridge, MA.

Boonstra, A. and de Vries, J. (2008), "Managing Stakeholders around inter-organizational systems: A diagnostic approach." Journal of Strategic Information Systems, Vol. 17, No. 3, pp. 190-201.

Bose, I. (2008), "Lessons Learned from Distributed Agile Software Projects: A Case Based Analysis." Communications of AIS, Vol. 2008, No. 23, pp. 619-632

Cerpa, N. and Verner, J.M. (2009), "Why did your Project Fail?" Communications of the ACM, Vol. 52, No. 12, pp. 130-134.

Rost, J. and Glass, R. (2009), "The Impact of Subversive Stakeholders on Software Projects." Communications of the ACM, Vol 52, No. 7, pp. 135-138.

Safayeni, F., Duimering, P.R., Zheng, K., Derbentseva, N., Poile, C. and Ran, B. (2008), "Requirements Engineering in New Product Development." Communications of the ACM, Vol 51. No. 3, pp. 77-82.

Schmidt, R. Lyytinen, K., Keil, M. and Cole, P. (2001), "Identifying Software Project Risks: An international Delphi study." Journal of Management Information Systems, Vol 17, No. 4, pp. 5-36.

Simonsen, J. (2007), "Involving Top Management in IT Projects." Communications of the ACM, Vol. 50, No. 8, pp. 53-58.

Strong, D.M., Lee, Y.W. and Wang, R.Y. (1997), "Ten Potholes in the road to Information Quality." IEEE Computer, Vol. 30, No. 8, pp. 38-46.

Wang, R.Y. and Strong, D.M. (1996), "Beyond Accuracy: What Data Quality means to Data Consumers." Journal of Management Information Systems, Vol. 12, No. 4, pp. 5-34.

Yun, S. and Caldas, C.H. (2009), "Analyzing decision variables that influence preliminary feasibility studies using data mining techniques." Construction Management and Economics, Vol. 27, No. 1, pp. 73-87.

AUTHOR BIOGRAPHIES

Biswadip Ghosh is an Assistant Professor in Computer Information Systems at Metropolitan State College of Denver. Dr. Ghosh received his Ph.D. in Computer Science and Information Systems from the University of Colorado. His research interests include healthcare information systems, knowledge management, business process outsourcing and end-user training. His teaching areas are enterprise systems (SAP), MIS, systems analysis and computer networking. He had worked in the

telecommunications industry for over 19 years on Multimedia Messaging solutions and media storage architectures and global service delivery processes and expert systems. He has consulted for over 4 years for the Department of Veterans Affairs on health information technology (HIT), clinical database, analytics and decision support systems. His research has been published in AIS, IEEE, ACM and IFIP sponsored conference proceedings and journals such as MIS Quarterly executive, International Journal of Technology Management, IEEE Transactions on Information Technology in BioMedicine, IEEE Networks, and Information Systems Management.