

# Real-life case studies of offshore outsourced IS projects: Analysis of issues and socio-economic paradigms

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## Chapter XII

# Real-Life Case Studies of Offshore Outsourced IS Projects: Analysis of Issues and Socio-Economic Paradigms

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## Abstract

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*The primary purpose of this chapter is to present descriptive real-life case studies of different offshore-outsourced custom software development projects (that the author has actually worked for). The first case study discusses the practical issues in two fixed-term/fixed-price custom software development projects that were offshore-outsourced. The second case study discusses the practical issues in the offshore-outsourcing of a time and materials custom software development project to multiple vendors, which involved simultaneous insourcing, onshore-outsourcing and offshore-outsourcing. Furthermore, the observations and issues from these case studies are analyzed by comparing them with the paradigms of socio-economic theories that have been adopted extensively in the academic IS outsourcing literature (namely the agency theory, transaction cost theory, innovation diffusion theory, social exchange theory, and power-politics theory).*

## Introduction

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Companies worldwide are under increasing pressure to cut costs. The price of associated software is often the deciding factor on whether to upgrade to newer and better alternatives.

Every company wants to use the best software — not just to beat the competition, but sometimes to remain in the competition. The lure of low costs and the desire for high software quality has forced companies in advanced economies to look across the horizon.

Case study-1 discusses the issues in two fixed-term/fixed-price custom software development projects that were offshore-outsourced. Case study-2 discusses the issues in the offshore-outsourcing of a time and materials custom software development project to multiple vendors, which involved simultaneous insourcing, onshore-outsourcing and offshore-outsourcing. The two case studies explain two very different approaches to offshore outsourcing of custom software development, and attempt to be of practical significance to managers and software professionals by analyzing the issues involved. The case studies provide insights into the practical and real life strategies adopted by managers to solve issues and problems in offshore-outsourcing and hence will be of value for the readers.

The observations and issues from these case studies are further analyzed by adequately comparing them with the paradigms of socio-economic theories that have been adopted extensively in the literature to study IS outsourcing. To achieve this objective, extensive literature review has been provided both in the introductory sections of this chapter and also in the later sections where the case-studies are related to the theories and paradigms. Hence, an earnest attempt has been made by the author to relate the practical real-life experiences of working in offshore-outsourced projects to the paradigms in the academic literature. This chapter can also be used for instructional purposes for teaching cases in offshore-outsourcing of custom software development projects.

It is assumed that the reader has sufficient knowledge about the fundamental concepts of insourcing, outsourcing and offshoring, and hence before we review the literature for socio economic theories and before we analyze the case studies, we proceed to only briefly describe the reasons behind the growth in offshoring of IS work, and also the primary factors that influence the choice of whether to insource or outsource.

### Discovering New Lands: The Move to Offshore

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Overall there is a bright outlook for offshore sourcing of IS functions. Carmel and Agarwal (2002, p. 73), note the following:

*Our assessment is that growth will continue in sourcing IT work offshore for a number of years to come. While the growth rate slowed somewhat in 2001-2002, corporate pressures to reduce costs remained strong. However, putting a figure on the global offshore picture is difficult. Adventis, a research firm, estimates that U.S. firms will spend*

*some \$7 billion on third-party offshore IT work in 2002. Narrower figures give more guidance: Forrester, a U.S. research firm, found that 44 percent of U.S. firms with more than \$1 billion in revenues performed IT activities offshore in 2001, and Forrester estimates that percentage will grow to 67 percent by 2003 (for comparison purposes, a Fortune 1000 firm has \$1.2 billion in revenue). Note, though, that these estimates do not include offshore sourcing to wholly owned facilities. Furthermore, offshore sourcing is but a small slice of the global market in IT outsourcing (both domestic and offshore), which is estimated to be more than \$100 billion (and again, this figure does not include insourcing).*

In the same vein, Dibbern, Goles, Hirschheim and Jayatilaka (2004, p. 90) note the following:

*Even the popular press (Business Week, 2003; USA Today, 2003) have reported on this issue noting that as much as 50% of IT jobs will be offshored to India and other off- and near-shore destinations in the next 10 years. Such change it is argued is nothing more than the natural progression of first moving blue-collar work (manufacturing, textile production, etc.) overseas followed by white-collar work.*

*Offshore sourcing of IS will continue to grow for the following reasons:*

1. **Modular design of certain IS tasks:** Modular design of certain IS tasks (e.g., software production) aid the offshore sourcing phenomena due to reduced transactions costs (cost of coordinating work activities between two or more parties) and because synchronization, communication, travel, supervision, feedback, and enforcing of contracts are easier (Carmel & Agarwal, 2002, p. 66).
2. **Modern technologies:** The latest technologies allow management and coordination of work across geographic distances (Carmel & Agarwal, 2002, p. 66). The Internet has greatly helped the phenomenon of IS sourcing, by allowing interested parties to easily share information. Communication technologies such as emailing, teleconferencing, videoconferencing and instant-messaging allows better coordination in spite of the geographic distances.
3. **Technical, managerial and quality capabilities:** The technical and managerial capabilities of both offshore vendors and offshore subsidiaries of onshore firms have improved (Carmel & Agarwal, 2002, p. 66). For example, India is reported to have over 150 software development and maintenance firms that have attained the Software Engineering Institute's 'Capability Maturity Model' (SEI CMM) level 4 or level 5 (Dibbern et al., 2004, p. 90).
4. **High cost savings:** Lower cost of offshore outsourcing in comparison to domestic outsourcing (primarily due to lower salary levels of offshore personnel) is a big driver behind offshore outsourcing (Carmel & Agarwal, 2002; Sobol & Apte, 1995; Apte & Mason, 1995, p. 1252).
5. **Skilled labor pool:** There is sizable supply of qualified labor in many offshore destinations like India (Carmel & Agarwal, 2002; Apte & Mason, 1995, p. 1252).

6. **Scalability:** The sizable supply of qualified low-cost personnel allows offshore vendors to have a certain number of personnel in the “*waiting mode*”, that is, waiting to be assigned to projects, and are used to quickly ramp-up projects when the need arises. Having a number of personnel in the “*waiting mode*” for being assigned to projects is also known as “*bench strength*,” and allows the vendor to respond to client requirements in a very short cycle.
7. **Fastest time to market by working round the clock:** Potentially all 24 hours of the day can be devoted to any task, by globally distributing the work across multiple time zones. This for example can lead to a faster cycle time for software production (Apte & Mason, 1995, p. 1252), allow continuous monitoring of critical IS functions and infrastructure, and allow 24x7 operations (needed for customer service, etc.).
8. **Entry to large markets with high growth potential:** Many of the favorite locations for offshore sourcing like China and India are also large and growing markets. It might be strategically important to establish an early presence in such developing countries which have a higher growth potential than the relatively mature developed countries (Apte & Mason, 1995, p. 1252).

However there are some concerns about offshore sourcing which include problems of communication and coordination, cultural differences, lack of trust, difficulties in arranging visas/work-permits, offshore-unit’s lack of domain knowledge, lack of control over quality and schedule, possible violation of intellectual property rights, unclear government attitude towards cross border data flow and trade-in services, inadequate infrastructure in the vendor’s home country, and possibility of an unstable economic, political, or social environment (Carmel & Agarwal, 2002, p. 68; Sobol & Apte, 1995, p. 271; Apte & Mason, 1995, pp. 1252-1253).

## The Choice between Insourcing and Outsourcing

Costs (as indicated by relative efficiency in carrying out IS activities) and strategic importance have been the primary drivers behind the decision on whether to insource from an internal IS department or to outsource to a vendor. The *strategic importance* and the *relative efficiency in carrying out an IS activity in-house* determines the choice between insourcing and outsourcing (Apte & Mason, 1995, p. 1258; Dibbern et. al., 2004, p. 33):

- *Insourcing* is the best option when both the *strategic importance* and the *relative efficiency in carrying out the IS activity in-house* are high.
- *Outsourcing* should be preferred when both the *strategic importance* and the *relative efficiency in carrying out the IS activity in-house* are low.
- The option would be to either build a *strategic partnership* or to *invest* in acquiring the necessary capabilities, when the *strategic importance* is high but the *relative efficiency* is low.
- The establishment of a *profit center (subsidiary)* to offer IS functions in the marketplace should be considered when there is *high relative internal efficiency*.

## The Socio-Economic Theories

Since this book deals with the socio-economic perspective, the economic theories and social/organizational theories and the relevant literature will be later used to analyze the case studies. We briefly describe the *economic* theories such as *agency theory* and *transaction cost theory* and also the *social/organizational* theories like *innovation diffusion theory*, *exchange theory*, and *power-politics theory* that have been applied in IS outsourcing literature (Dibbern et al., 2004, pp. 99-102). The adoption of these theories in the relevant IS outsourcing literature, and their linkage with the case studies to be presented, will be adequately dealt with in a later section that comparatively analyzes the practical case-studies with the academic paradigms in literature.

### Agency Theory

The *agency theory* or *the theory of ownership structure* considers the firm to be a complex process in which the divergent interests of individuals are brought into equilibrium within a legal framework of contractual relations (Jensen & Meckling, 1976, p. 311). This is illustrated in Figure 1.

Jensen and Meckling (1976, p. 308) define an *agency relationship* as: “a contract under which one or more persons (the *principal(s)*) engage another person (the *agent*) to perform some service on their behalf which involves delegating some decision making authority to the agent,” and have further introduced *agency costs* as the sum of *monitoring costs*, *bonding costs* and *residual loss costs* incurred by the *principal*. It is assumed that there is always divergence and conflict of interests between the *principal* and the *agent*, which can be limited by the *principal* by establishing appropriate incentives and by incurring costs. In the IS outsourcing scenario, the principal may be assumed to be the client, while the agent may be assumed to be the vendor.

*Monitoring costs* are incurred by the *principal* to restrict the aberrant behavior of the *agent*, and includes efforts to measure, observe, and control the behavior the agent.

Figure 1. Agency theory: Principal agent relationship

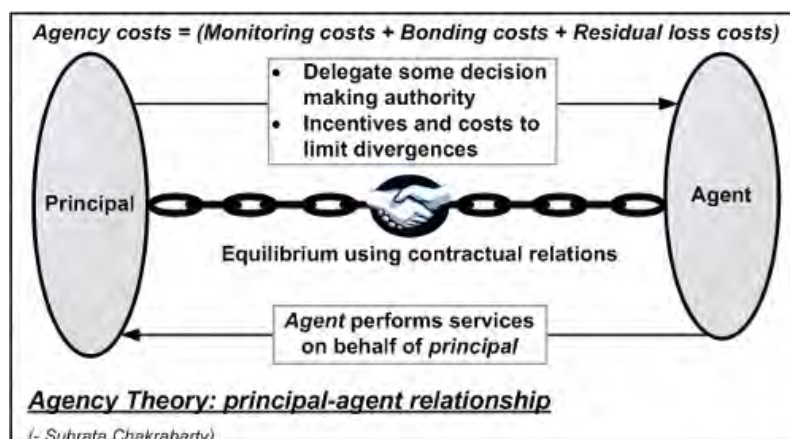
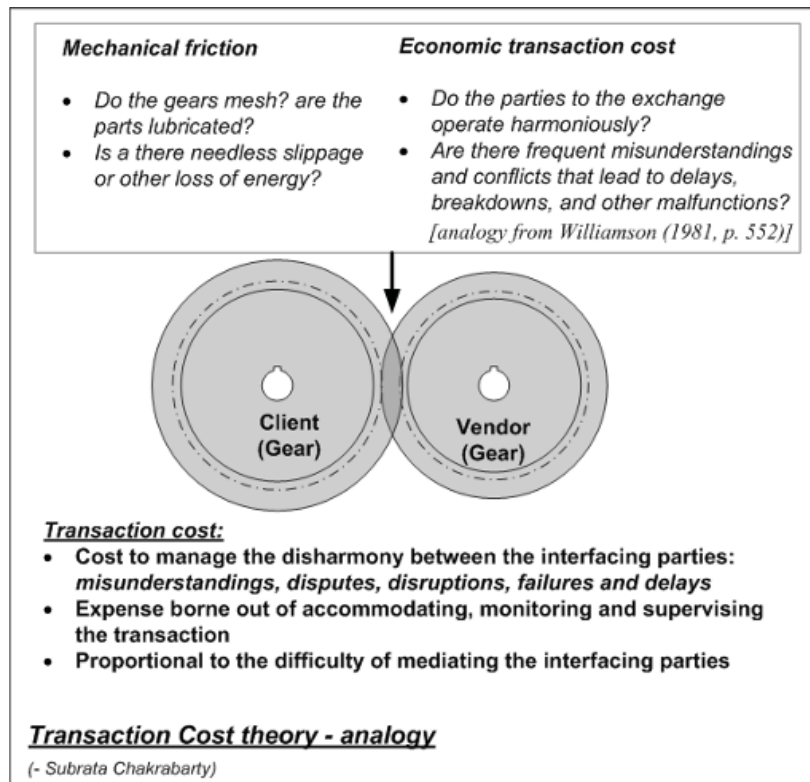




Figure 2. Transaction cost theory: Analogy



*Bonding costs* are incurred by the *principal* to guarantee that the *agent* will not act in a disadvantageous or harmful way, and in the case that the *agent* does take such aberrant actions the *principal* will be compensated. *Residual loss costs* is the monetary equivalent of the reduction in welfare experienced by the *principal* due to divergence between the *agent's* decisions and those decisions that could have ideally maximized the welfare of the *principal* (Jensen & Meckling, 1976).

### Transaction Cost Theory

When goods or services are transferred across a technologically separable interface such that one activity phase terminates and another begins, a “transaction” is said to have occurred (Williamson, 1981, p. 552). Hence, a transaction involves transfers or exchanges between parties (for example, clients and vendors in an outsourcing relationship) across an interface. A transaction occurs smoothly if the interfacing between the involved parties is trouble free. However, if the parties operate in a non harmonious manner, with misunderstandings, disputes, disruptions, failures and delays, it results in a “*transaction cost*” to manage the disharmony between the interfacing parties. The *transaction cost* is the expense borne out of accommodating, monitoring and supervising the transaction between parties, and is proportional to the difficulty of mediating the interfacing parties.

Williamson (1981, p. 552) gives the analogy of meshing of gears, which certainly helps in the understanding of costs due to “frictions” (see Figure 2) between clients and vendors in an IS outsourcing relationship:

*In mechanical systems we look for frictions: do the gears mesh, are the parts lubricated, is there needless slippage or other loss of energy? The economic counterpart of friction is transaction cost: do the parties to the exchange operate harmoniously, or are there frequent misunderstandings and conflicts that lead to delays, breakdowns, and other malfunctions?*

### Innovation Diffusion Theory

Organizations, countries and various social systems have to often incorporate innovative new technologies or processes. The IS outsourcing process has been considered to be an innovation, which needs to be adopted, and diffused (Loh & Venkatraman, 1992b; Hu, Saunders, & Gebelt, 1997). *Adoption* of innovations involves the conscious decision to accept and use such new technologies and processes, and *diffusion* involves the process of spreading them into the social system (Daft, 1978, pp. 195-197; Rogers, 1983, as cited in Dibbern et al., 2004, p. 19). This is illustrated in Figure 3.

### Social Exchange Theory

Blau (1964, as cited in Dibbern et al., 2004, p. 19) defined *social exchange* as the “voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others” (see Figure 4). The IS outsourcing relationship can be considered to be a social exchange between clients and vendors.

Figure 3. Innovation diffusion theory

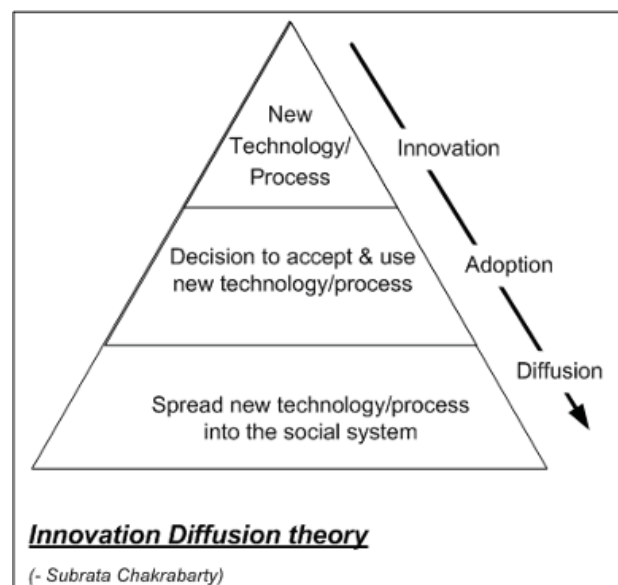
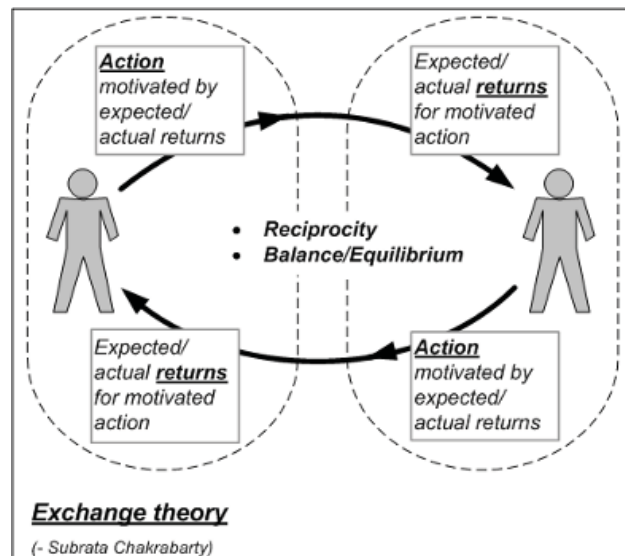




Figure 4. Exchange theory



Emerson (1972, as cited in Dibbern et al., 2004, p. 19) noted the following social exchange attributes, which are highly applicable to the outsourcing scenario where the clients and vendors are the parties involved in the social exchange:

- **Reciprocity:** A mutual exchange as a result of the need to reciprocate the benefits received.
- **Balance:** There is an equilibrium or equality in distribution due to mutual dependence between each of the actors in an exchange.
- **Cohesion:** When one or both actors in the exchange run into a conflict involving the exchange.
- **Power:** The amount of monetary influence one can exercise on the other.

### Power Politics Theory

Markus (1983, pp. 442) states the following about power and politics:

*Intraorganizational power is an attribute of individuals or subgroups, such as departments, within the organization; it can be defined as the ability to get one's way in the face of opposition or resistance to those desires. There are a number of ways by which an individual or subgroup can come to have power in an organization, including personal characteristics, such as being an expert or being charismatic, but position in the formal structure of the organization often provides greater access to specific power resources and the legitimacy required to use them.*

Organizations have people that wield *power*, that is, they possess a controlling influence and the qualities needed to get things done as per their wishes. The presence of entities

with differential *power* in social relations results in *politics*. Exercising *power* often involves maneuvering social relations to gain control and *politics* is the process of exercising *power* in human decision-making. Not surprisingly, power and politics play a big role in IS outsourcing relationships.

## **Case Study-1: Offshore Outsourcing of Fixed-Term, Fixed-Price Custom Software Development Projects**

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This real-life case study gives descriptive accounts of the business scenario, personnel distribution and project life-cycle for two custom software development projects that were offshore-outsourced by a client.

(Though this is a real life case, the actual names of the firms and projects have been replaced with fictitious names.)

### **Business Scenario, Relationship Issues and Strategies**

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#### *The Stakeholders*

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'Vendor' is a large India based CMM level-5 software service provider. 'Old-Client' was a small UK based telecommunications company. 'New-Client' is a relatively larger telecommunications company based in both UK and U.S.A. that acquired 'Old-Client'.

#### *The Information Systems to be Custom Developed*

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'Vendor,' had developed a "sales and commission management" software system for 'Old-Client' in Year-1, which was very well received by 'Old-Client' and an excellent relationship was established between the two.

'New-Client' later acquired 'Old-Client' and other companies, and had therefore ended up with diverse software systems from different companies (see Figure 5).

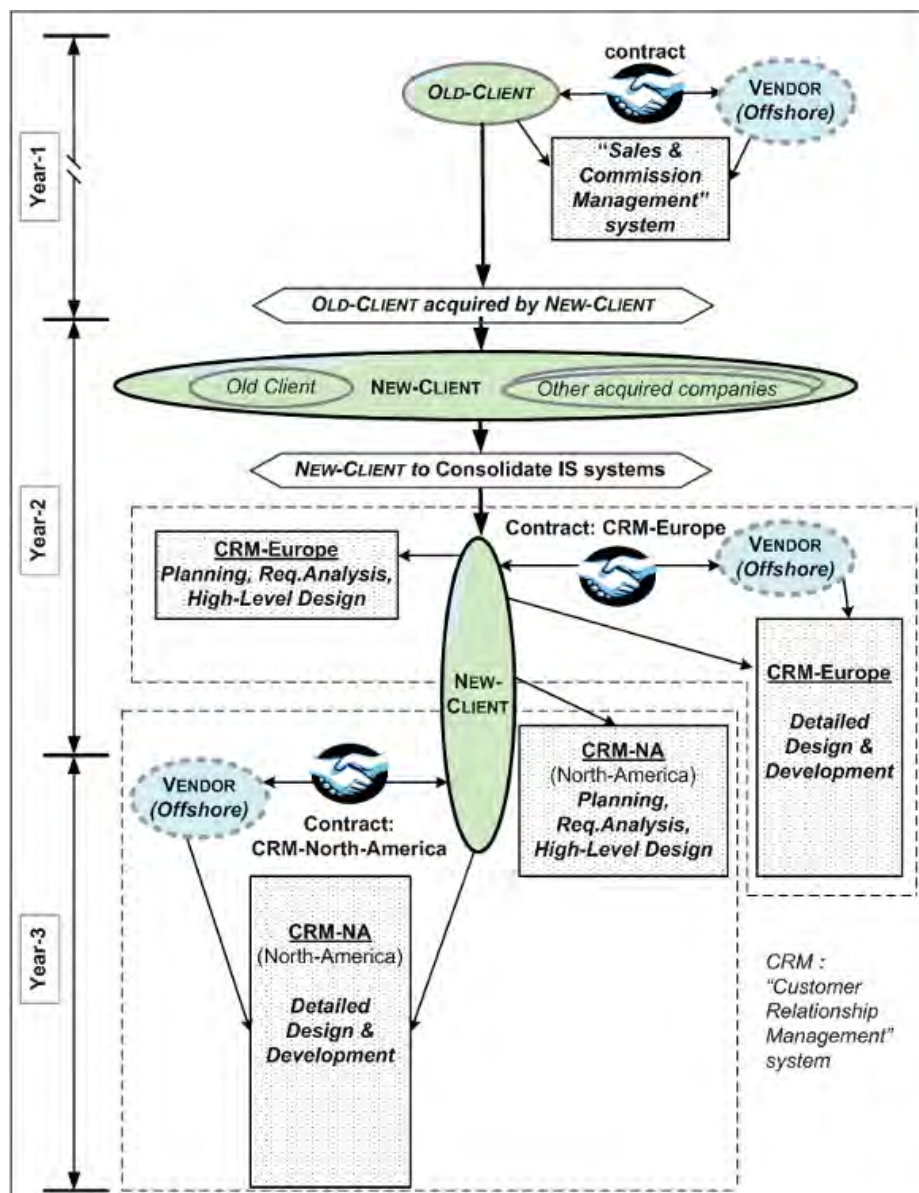
'New-Client' decided to consolidate its various customer care related IS applications. Parts of the initiative were two projects - (1) *CRM-Europe*: a new Customer Relationship Management (CRM) software system needed for their Europe operations and (2) *CRM-NA*: a new CRM software system needed for their North America (NA) operations.

Each of the CRM systems were designed to replace the current legacy systems and to provide a Web-based front-end for call centers having customers in Europe and North America respectively. For each continent, the respective CRM system would be used to maintain customer data, track all customer interactions and provide a standard look and feel.

The guiding principles were data consolidation and application consolidation. To provide users with rapid access to better quality data, efforts were made to consolidate multiple data sources into one database. Interfaces were developed for the few other databases that had to remain independent and could not be consolidated (for example, it was decided to keep the billing database independent of the consolidation program). The CRM software would call these interfaces to read/write data from/to these few remaining independent databases. Similarly, to give users access a reliable one-stop application, the multiple legacy applications would be replaced the CRM application software.

Each of the new CRM systems were deployed in a three-tier architecture where data was stored on the database server, the application containing business logic was stored and run on the application server, and access to information was provided from an user-interface (Internet browser) that runs on desktop machine.

Figure 5. Case study-1: Offshore outsourcing - Business scenario

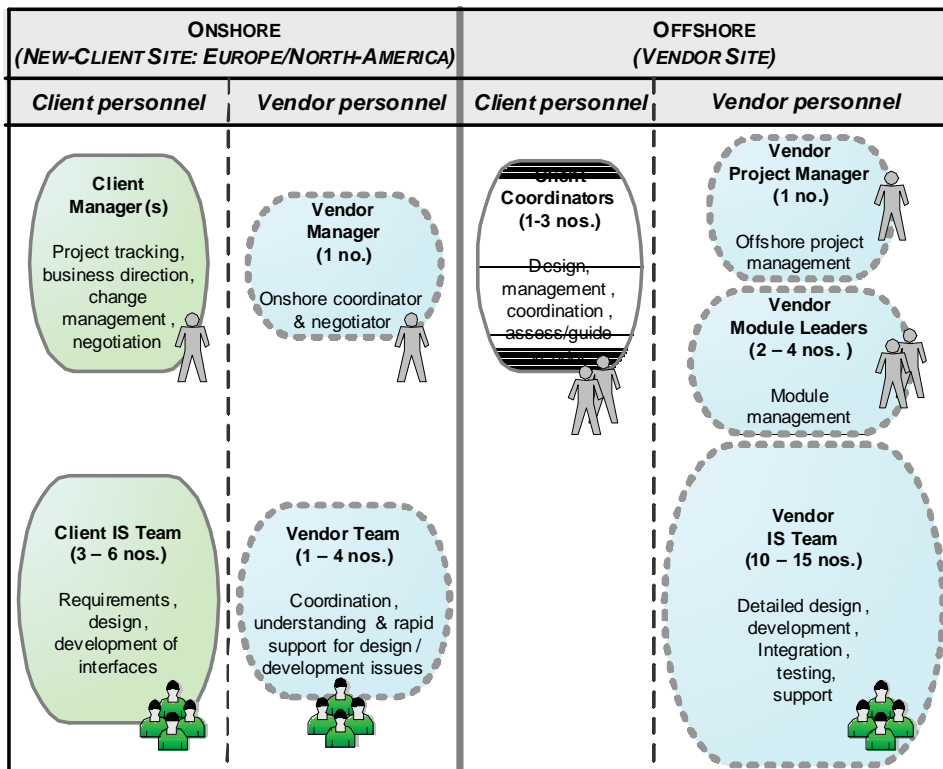


*The Contractual Negotiations and Relationship Building Issues*

After going through a bidding process, ‘Vendor’ signed a contract with *New-Client* to develop the new *CRM-Europe* software system. The fact that ‘Vendor’ had done a good job for ‘Old-Client’ was one of the positive factors that helped *Vendor* bag the deal. This new relationship between ‘Vendor’ and ‘New-Client’ was not always comfortable primarily due to the very strict deadline for project completion, and the client’s inexperience with offshore-outsourcing. The project was however delivered within budget and in time by cutting down on a few difficult but relatively unimportant functionalities (reducing scope of the project), and went *live* into production during the early part of *Year-3* (see Figure 5).

For the contract for *CRM-NA*, there were extensive negotiations between ‘New-Client’ and ‘Vendor’. The ‘New-Client’ contended that the new *CRM-NA* system should be cheaper since the ‘Vendor’ could re-use much of the code already developed for the *CRM-Europe* system that had similar business functionality, and similar look and feel. However, the ‘Vendor’ contended that though the overall look and feel of the user interface was similar, the database schema was drastically different and larger, the number of validations and error checks were much higher, the number of interfaces were greater, and the business functionality was much more complicated for the proposed *CRM-NA* project. ‘Vendor’ further added that though a lot of helpful domain knowledge was gained from the Europe scenario, there is no valid case for re-use of code due to the mentioned factors. The deal was finally signed at price higher than that of *CRM-Europe*,

Figure 6. Case study-1: Offshore outsourcing: Personnel distribution



but it was much lower than what the vendor had estimated for *CRM-NA*. On a mutually positive note, '*New-Client*' offered a more realistic deadline for project completion, when compared to the stringent *CRM-Europe* deadline.

This second project executed by '*Vendor*' for the North American operations of '*New-Client*', was a more complicated system with a different database schema. Both '*Vendor*' and '*New-Client*' had learned their lessons from their experience and this time the mutual relationship was very comfortable. The project was delivered well within budget and in time, with additional innovative functionalities that made '*New-Client*' very happy with the performance of '*Vendor*'.

All the contracts signed by '*Vendor*' were of the "*fixed-term, fixed-price*" (Currie, 1996, pp. 232-234) kind, where the deadlines were set, and the price for the entire project was fixed. However if there was a change in the scope of the project (change in design/requirements) then the vendor could charge additionally for it in proportion to the additional effort required.

From the client's point of view, an advantage of "*fixed-price, fixed-term*" contract is that the cost is known and agreed even before the project starts. However, the disadvantage is that the project can get tied down to the contracted price and any change, for whatever reason, may require a time-consuming negotiation with the vendor where every change can increase the time & money required to complete the project. All such changes are formalized in a written "*Change Order*" or "*Change Request*" document.

## **Personnel Distribution Issues and Strategies**

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The personnel distribution for both *CRM-Europe* and *CRM-NA* projects were similar. The total number of personnel required for *CRM-NA* was only slightly higher than that for *CRM-Europe*, and we consider both these projects in unison (see Figure 6).

### *Personnel Distribution at Client Site*

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At the *client site (onshore)*, vendor personnel are present to coordinate effectively with the client personnel. The *client managers* track projects, give direction to future business strategies, negotiate, and handle both technological and organizational change management. In the context of the CRM projects, the *client's IS Team*, that is, the client's internal IS department gather and structure requirements, design systems, and develop interfaces. The *onshore vendor manager* is the principal coordinator and negotiator. The *onshore vendor team* takes pains to understand the client needs, communicates the client needs to offshore, and provides rapid support for design & development issues.

### *Personnel Distribution at Vendor Site*

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At the offshore vendor site, the *project manager* has *module leaders* reporting to him. The offshored project is broken down into smaller manageable modules and each module is managed by a *module leader*. The *vendor's IS team* is similarly distributed within each of these modules, where they take care of tasks like low-level (detailed) design,



development, integration, testing and post deployment support. The project *manager* and *module leaders* coordinate with the client and vendor personnel at onshore and offshore, to make sure that the project is right on track.

### *Personnel Interaction and Movement*

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Sometimes the client may decide to send its *coordinators* (who are generally mid-level managers) to the vendor's offshore site for a few weeks or even months. This is different from the usual client visits to offshore that last only a few days. The *client coordinators* spend time discussing the high-level design with the vendor personnel, keep track of the project progress, and proactively assess and guide the vendor to ensure smooth project execution. Sending such *client coordinators* to offshore for weeks and even months are actually rare. However in this scenario, the *client coordinators* were more than willing to come & stay at offshore, since the offshore country also happened to be their country of birth.

## **Project Life-Cycle Issues and Strategies**

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Though the project life-cycle for both the *CRM-Europe* and *CRM-NA* projects were similar, the outcomes were different. The *CRM-Europe* project was successful in terms of meeting the budget and time, however it was a failure in terms of keeping the client happy and matching their non-budget & non-cost expectations. The *CRM-NA* project was not just successful in terms of cost of time; it also delighted the customers with its smooth execution, value additions to the software and the overall feeling of bonhomie. We will first discuss the similar aspects of the both the project life-cycles and then discuss the intricate differentiating factors between the two projects.

### *Requirements Analysis and Design*

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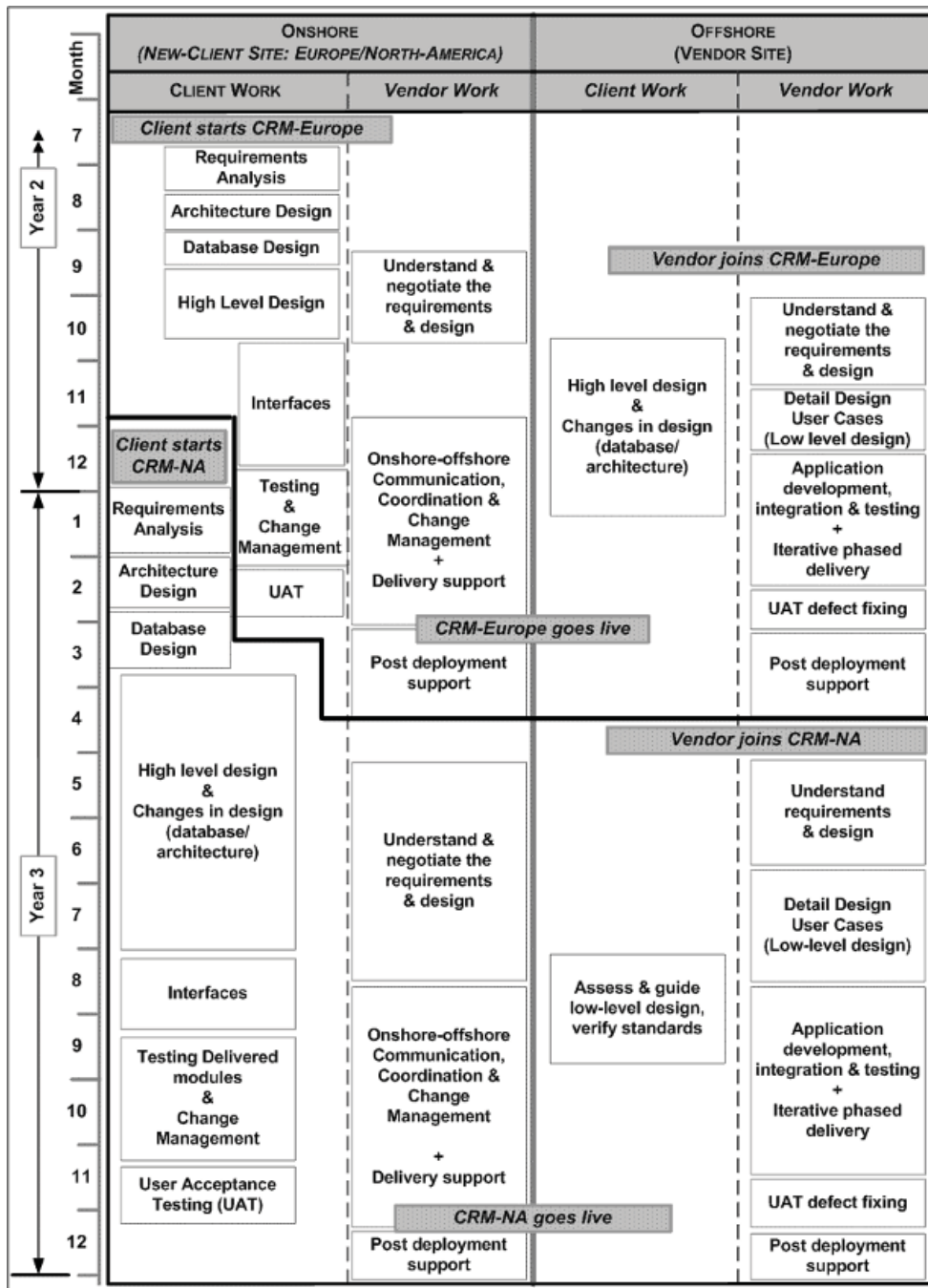
'*New-Client*' always tried to complete the requirement analysis, architecture design, database design and high level application design before engaging '*Vendor*'. If done properly, this an excellent practice since it shows that the client is sure of what it wants.

The life-cycles for the projects executed are shown in Figure 7. As soon as the vendor enters the project, it sends its personnel to the client site (onshore) to understand the requirements and design, and if anything is found undoable then they are encouraged to negotiate and offer alternative solutions. Design documents are also sent offshore, where the *offshore vendor personnel* study them in depth, and ask for clarifications to the vendor personnel at onshore, who in turn discuss the same with the client personnel if needed.

Once the *offshore vendor team* has significant comprehension of the requirements, architecture, database design, and high level application design, it starts to work on the low-level (detailed) design documents that delve deep into the design and sometimes even go to the extent of specifying the programming logic to be adopted.

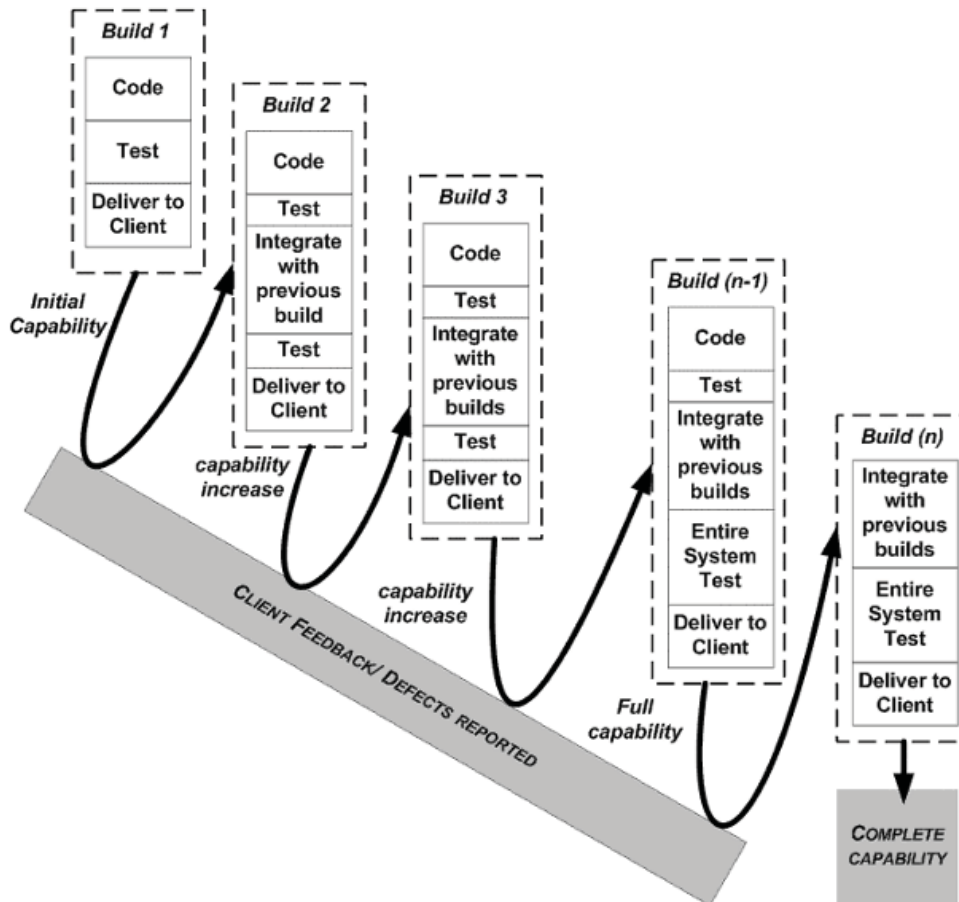


Figure 7. Case study 1: Offshore outsourcing - Project life-cycle



Meanwhile, the *client's IS team* works on the interfaces that will be used by the application to be developed by the vendor, and this involves the design, development, testing and documentation of the interfaces. These interfaces will be used by the CRM software to read from and write into various other databases used by the client's multiple systems, and also to send commands to various network devices. Around this time, *client coordinators* may go to the offshore vendor site, to discuss the design, assess and guide the *offshore vendor personnel*.

Figure 8. Case study-1: Offshore outsourcing - iterative delivery



### *Programming, Integration, Testing and Delivery*

After the low-level design has been completed, the *vendor* starts the process of programming, integrating and testing. The vendor delivers the system to client in an iterative fashion that comprises of intermediate phased deliveries or *iterations*; that is the system is segmented into “*builds*” and each *build* is delivered in a phased iterative manner (see Figure 8). This way the client can continually test and give feedback on the system being developed, and also keep track of the project progress. This also allows the client’s IS team that was developing interfaces for the CRM system to test the effectiveness of their interfaces. Delivering important system functionalities in early iterations is an effective risk management strategy by the vendor. Hence, instead of having just one final delivery of completed code, the delivery of tested code is made iteratively to the client. Each such iterative delivery of code activates some significant aspect of the software being developed, which can now be tested by the client.

Once the vendor finishes coding and testing the entire application, it is delivered to the client for user acceptance testing (UAT), where the prospective users of the system test it and report defects and desired changes. Once the vendor addresses all the issues reported during UAT, the application is ready to go live into production. After the

deployment of the system, vendor teams at both onshore and offshore, work on the real time problems being reported by the users.

## **Successful vs. Very Successful: A Comparative Analysis of Issues**

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As we know, the CRM-NA project was more successful CRM-Europe in terms of the extent to which it pleased the customers with its smooth execution, value additions to the software and the overall feeling of bonhomie. The reasons for these are intricate, and are not apparent on the surface of these two projects.

### *Maturity of Relationship Over Time*

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The *CRM-Europe* project started off with the client's considerable mistrust & apprehensions about offshore-outsourcing, primarily borne out of their inexperience in handling such scenarios. 'New Client' was motivated to go for offshore outsourcing primarily because of its sudden need for high quality skills to develop the system at a low cost, and was inspired by the good experience of 'Old-Client'; however, the mistrust & apprehensions existed. After the *CRM-Europe* project achieved its budgeted cost and time goals, the client became more comfortable with the process of offshore-outsourcing, which in turn had a positive affect on the execution of *CRM-NA*.

### *Defining the Project Scope and Requirements*

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The scope of *CRM-Europe* project was not well defined. The requirements could be interpreted many ways. Often, a seemingly innocuous requirement had more hidden requirements within. The client's interpretation of the desired need was often a flashy complicated one, while that of the vendor was a simple easy-to-code one. The client found it difficult to state what it exactly wanted, and the vendor in its efforts keep the client happy often accepted such vague requests without protest. However, when matters reached a stage where the vendor could no longer accommodate such requests without incurring substantial extra costs, resultant negotiations got messy. The client would negotiate based on its flashy (costly) interpretation of a requirement, while the vendor would negotiate based on its easy-to-code interpretation of a requirement. Another problem was that the *seed data* provided by the client to test the system being developed were of a different format in comparison to the *actual confidential data* used by the client. This led to the system functioning erratically in a real time testing environment. Comparatively, the scope of *CRM-NA* project was well defined with fewer hidden requirements. For the *CRM-NA* project, the vendor insisted for a more formal and documented protocol to negotiate *change requests* and possible multiple interpretations of requirements, and also requested the client for prototypes, extensive data models, and quality seed data at the earliest possible stage of the life-cycle.

## *Verification of Requirements and Design*

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In *CRM-Europe*, the vendor would blindly assume the client's requirements and design to be perfect and carry on with the development only to discover flaws at a much later stage. But in *CRM-NA* the vendor would spend considerable time early on (before coding) to find possible flaws the client's requirements and design. This approach of searching for flaws in the client's design at an early stage, led to a relatively risk free execution of the project.

## **Lessons Learned and Trends**

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Both the offshore-outsourced projects were successful, and the degree of delight associated with the success increased with greater experience, maturity and better management from both the client and the vendor. In "*fixed-term, fixed-price*" projects, where the deadlines, the price and the scope for the entire project is fixed, it is important to use maximum rigor in defining and verifying the requirements and design. All procedures and processes need to well planned and executed with the cooperation of all stakeholders.

The "*fixed-term, fixed-price*" offshore-outsourcing of projects is a preferred option when the client is very sure of its costs estimates, schedule estimates, and project requirements and can effectively document the same in its contract and project requirement/design documents. As the software project cost and schedule estimation methodologies and tools improve, and as software architects gain more experience with confidently defining and documenting project requirements, the usage of "*fixed-term, fixed-price*" contracts for offshore outsourcing may increase.

## **Case Study-2: Offshore Outsourcing of Custom Software Development to Multiple Vendors Under Time and Materials Contract**

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This real-life case study gives a descriptive account of the business scenario, personnel distribution and project life-cycle of a custom software development project that involved simultaneous insourcing, onshore-outsourcing and offshore-outsourcing.

(Though this is a real life case, the actual names of the firms and projects have been replaced with fictitious names.)

## Business Scenario, Relationship Issues And Strategies

### The Stakeholders

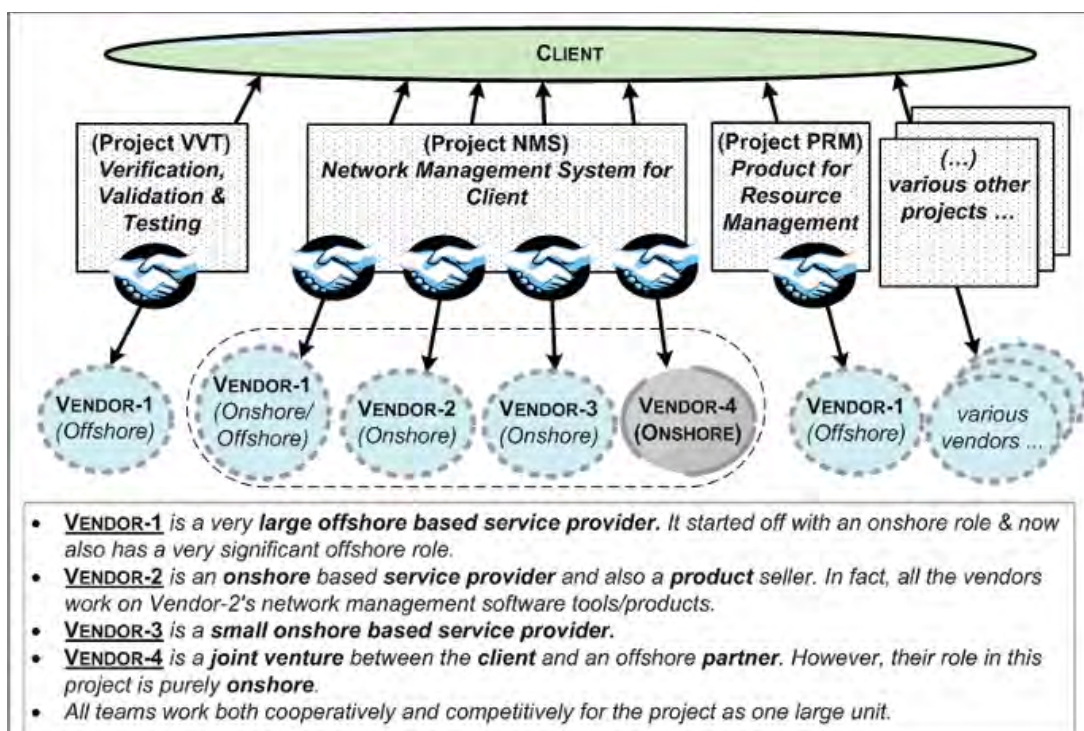
'Client' is one of Europe's leading providers of telecommunications services. Its principal activities include local, national and international telecommunications services, broadband and Internet products and services.

*Vendor-1* is a very large offshore (India) based CMM level-5 service provider. As stated earlier, it started off with an onshore role & now also has a very significant offshore role. *Vendor-2* is an onshore (Europe) based service provider and also a product seller. In fact, all the vendors use *Vendor-2's* network management software tools/products. *Vendor-3* is a small onshore (Europe) based service provider. *Vendor-4* is a joint venture between the 'Client' (in Europe) and an offshore partner (in India); however, their role in this project is purely onshore. All teams work both cooperatively and competitively for the project as one large unit.

### Relationship Building Between 'Client' and 'Vendor-1', and the IS Projects

The business scenario is illustrated in Figure 9. 'Client' started its engagement with *Vendor-1* with two projects: *NMS (Network Management software System)* and *VVT (Verification, Validation and Testing)*.

Figure 9. Case study-2: Offshore outsourcing - Business scenario





*NMS* was an ongoing evolutionary project where *Vendor-1* was the new entrant, while the three other vendors (*Vendor-2*, *Vendor-3* and *Vendor-4*) were already working for the same project. The *NMS* project had started and the first version had gone live into production around three years before *Vendor-1* entered the project at onshore. ‘*VVT*’ was a new project with *Vendor-1* as the sole vendor, and it involved the verification, validation and testing of the various software technologies & applications being developed by the client.

The first project to be offshored by the client to *Vendor-1* was *VVT*, and expectations were high as future business deals were at stake. Despite tough times, the *VVT* project led the way in enhancing the “offshoring” image of *Vendor-1*, and gave the client the confidence to try *Vendor-1*’s offshore capabilities even further. For *NMS*, *Vendor-1* initially started the engagement by sending six of its software professionals to the onshore client-site, and soon the client’s positive experience in offshoring *VVT* project gave it the confidence to try offshoring of *NMS* project, too.

*Vendor-1* was the only team in the *NMS* project that grew, and also increased its work portfolio to include various levels of development, design and testing. In a matter of nine months the total number of offshore *Vendor-1* personnel for *NMS* increased from 0 to 25, while the total number of onshore vendor personnel (inclusive of all vendors) remained stagnant. For the *NMS* project, the total number of offshore personnel was now greater than the total number onshore personnel.

Encouraged by the offshoring experience with *Vendor-1*, the client then decided to try offshore-outsourcing of some of its product development work too. *PRM*, a *Product for Resource Management* that was conceptualized by the client was offshore-outsourced. *Vendor-1* will carry out development work at offshore over the next three years to productize *PRM* for the client. The client will give the necessary domain knowledge, requirements and design to the vendor. The client will then sell it to the market, by capitalizing on its own esteemed standing in the telecom industry. *Vendor-1* has created an enhanced visual experience of the *PRM* prototype and also worked on redesigning the *PRM* database.

In this case study we will concentrate on *NMS* project, which is an interesting case of simultaneous insourcing, onshore-outsourcing and offshore-outsourcing.

### *Contractual Specifications*

All the contracts signed by the client for the *NMS* project were of the “*time and materials*” (Currie, 1996, pp. 232-234) kind, where the project is seen as a continuum and is open to change, with the payments being made at pre-specified time intervals on the basis of the amount of vendor resources being used by the client. For example, the vendor bills the client for each of its software professionals on the project on an hourly basis, irrespective of the scope of the project work.

From the client’s point of view, an advantage of a “*time and materials*” contract is that the task details can be worked out as the project progresses, and unforeseen changes are an expected part of the process. However, since the final costs are proportional to the utilization of vendor resources by the client, there is very little opportunity for the client to negotiate a bargain or a package deal.



## Personnel Distribution Issues And Strategies

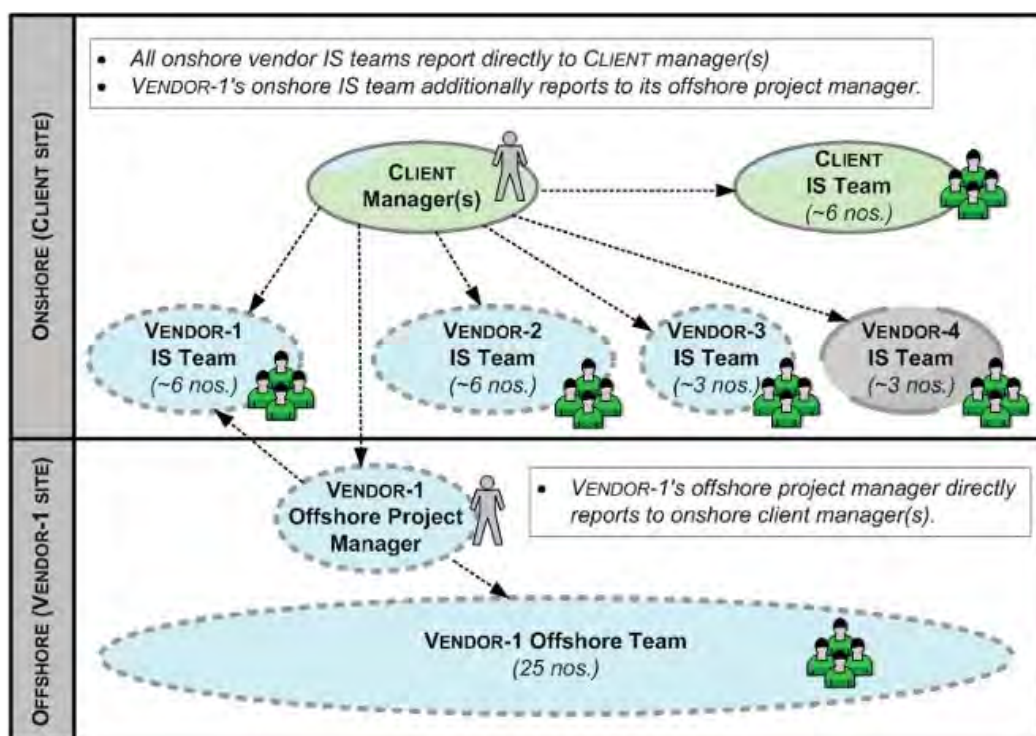
### Reporting Structure at Onshore and Offshore

As shown in Figure 10, the vendor teams at onshore report directly to the client manager. Also, *Vendor-1's* offshore project manager leads the team at offshore and directly reports to the onshore client manager(s).

### Cooperation and Communication Issues within Vendors

There is a significant challenge here for *Vendor-1*, who is a new entrant in the NMS project. The *Vendor-1* personnel have to work with other established competitors like *Vendor-2*, *Vendor-3* and *Vendor-4*; all fighting for the same piece of cake, and all working together in a team! *Vendor-2* & *Vendor-4* personnel are onshore based vendors and consider the *offshoring* trend to be a serious threat to their own growth. As discussed earlier, *Vendor1's* offshore team was the only team in the NMS project that grew, while all the other vendor team sizes remained stagnant. There is also a concern that at some point the vendor team sizes at onshore may actually be reduced, and both existing & new work may be sent offshore to take advantage of the availability of low-cost-high-quality skills. Hence consciously or unconsciously other vendors are often non-cooperative towards *Vendor-1*.

Figure 10. Case study-2: Offshore outsourcing - Personnel distribution



### *Issues with the Client's Multiple-Vendor Sourcing Strategy — Introducing Competitiveness*

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In fact, the client induces such competitive spirit among the vendors as a shrewd tactic. By inducing such competition among vendors, the client manages to derive maximum effort and dedication out of the vendors, who all want to prove themselves as the best to get more business from the client. Also, this strategy of having multiple vendors working together for a project prevents the client from being overly dependent on any one vendor. However such competition can also have negative consequences. The competitive atmosphere among vendors motivates them to sometimes be selfish and non-cooperative. The vendor personnel may not always act with the best interests of the project in mind. There is often a desire to show the other vendors in bad light, while trying to gain maximum self credit for at every conceivable opportunity. This causes serious teamwork issues within the NMS project unit, and client management often steps in to douse the fire, and tries to make the competition among the vendors more positive than negative, for example, the client appraises a vendor's performance on its cooperative attitude and teamwork skills. Vendor-1 on the other hand, is trying to gain maximum cooperation from other vendors by simply being highly polite, highly cooperative and professional, and has been quite successful at it.

## **Project Life-Cycle Issues and Strategies**

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### *Issues with the NMS Project*

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Large systems like NMS have a long lifetime. The telecom industry is changing fast with newer technologies being adopted at a rapid pace. The NMS system must evolve continually to meet the changing requirements. The NMS system has been changing dramatically during its lifetime in response to the rapidly changing telecom environment, and hence the latest evolution of the NMS system has little resemblance to its first version.

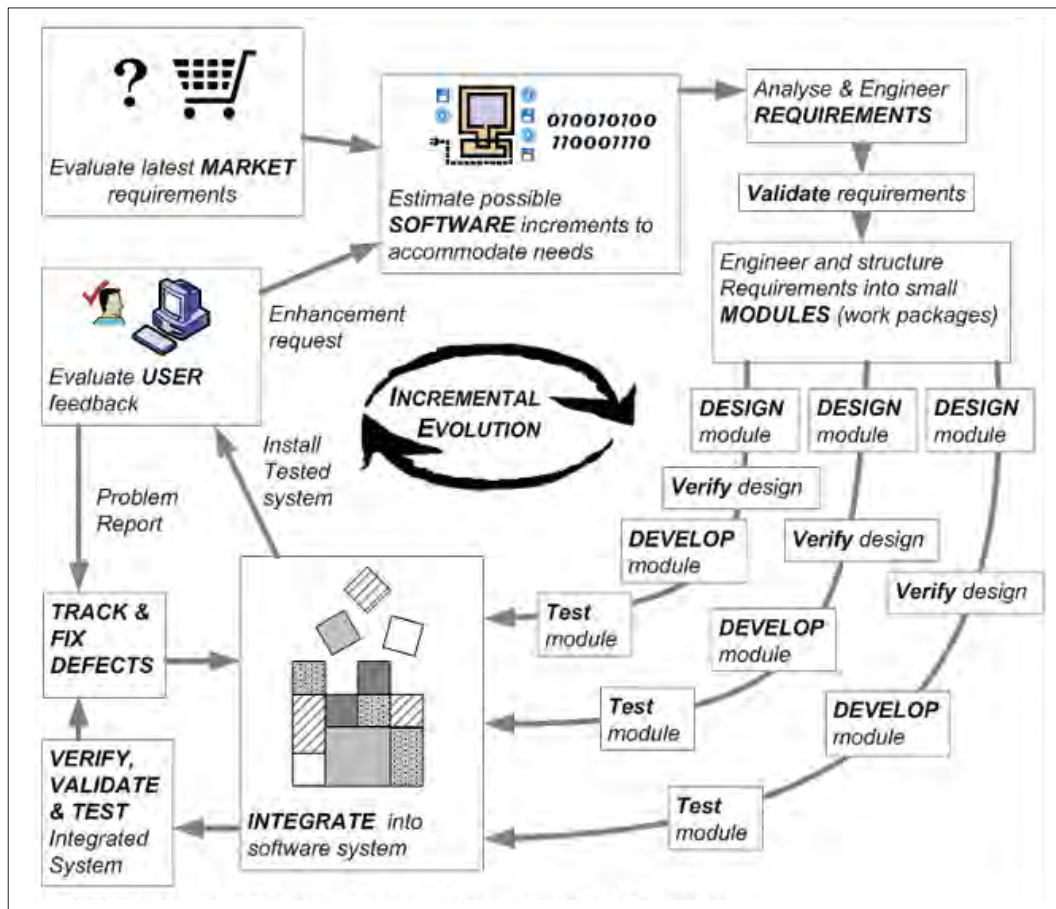
### *The Evolutionary Approach to Custom Software Development*

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As shown in Figure 11, the *market* and *user* needs are first evaluated, and the possible “increments” that need to be added to the software are estimated. The requirements for the increments/enhancements are analyzed, engineered, validated and then structured into small *modules* or *work packages*. Each such *module* or *work package* can be considered as small a mini-project that needs to be designed, have its design verified, developed, tested and finally integrated into the NMS. The NMS with the latest module integrated is now verified, validated, and tested, and defects (if any) are reported.

Each reported defect is tracked, and the latest NMS system is installed only after the defects have been fixed. The users can operate the NMS system with the new features

Figure 11. Case study-2: Offshore outsourcing - Project life-cycle



(i.e., the modules), and report any problem back to the testing team, or request further enhancements.

## Lessons Learned and Trends

Companies sometimes form relationships with multiple vendors as a risk mitigation measure (Chaudhury et al., 1995; Cross, 1995). The client has taken up the challenge outsourcing to multiple vendors, inducing competition among the vendors, encouraging cooperation amongst competing vendors, and not being too dependent on any particular vendor. They have been successful at it.

Also, as a new entrant, Vendor-1 convinced the client of the possible low-cost-high-quality advantages of offshoring by its good performances and hence managed to turn the tide in its favor.

The “*time and materials*” contracts combined with the incremental-evolutionary model of offshore-outsourcing custom software development projects is a preferred option

when the client is not very sure of its costs estimates, schedule estimates, or project requirements. The client has the liberty to change the requirements, cost estimates, schedule estimates as and when the market or the users demand a change, and implement them in the evolving software system as modularized increments. In a volatile business and technology environment where market, customer and end-user needs are unstable and can changeable, the time and materials contracts combined with incremental-evolutionary model of software development are a feasible offshore-outsourcing option.

## **Comparative Analysis of Issues in Case Studies with Socio-Economic Paradigms in Literature**

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### **Offshore-Outsourcing is a Feasible Alternative**

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As explained in the earlier section “discovering new lands — the move to offshore,” offshore outsourcing does have many advantages despite the many hurdles it faces. The real life case studies (the CRM-Europe/NA and NMS projects) highlighted that despite various difficulties, offshore outsourcing does work. In both the cases, various problems had to be overcome by the vendor:

- Communication, coordination and cultural issues were sorted out, and these improved over time
- Degree of mutual trust increased over time, especially since the vendor was able to prove its worth to the client
- Though the vendor was initially a bit weak in client specific business knowledge, with the support of the client the vendor was able to quickly to grasp and gather new knowledge

The client also took various initiatives and derived various advantages from offshore-outsourcing in each of the cases:

- By breaking up the bigger tasks into modular chunks, the client was able to distribute and allocate work better. The client also had the flexibility to scale up or scale down the project personnel size depending on the demands of the project, since the vendor could provide manpower on demand.
- Coordination and cooperation were aided by better use of modern communication technologies. It was also accepted that even the best communication technologies cannot beat the effectiveness of direct face-to-face communication, and hence executives from either the client or vendor firms traveled to their respective counterpart’s sites when needed.
- The client got access to a highly skilled workforce at low cost.

Let us now compare the issues and observations from each of the case studies with those in the literature. Combinations of both economic and social/organizational theories have been used in IS outsourcing literature (Dibbern et al., 2004, pp. 99-102).

Gallivan and Oh (1999) had analyzed the economic, strategic, and organizational issues involved in IT outsourcing for four classes of outsourcing relationships: (1) simple outsourcing relationships (one client, one vendor), (2) multi-vendor relationships (one client, many vendors), (3) co-sourcing relationships (many-clients, one-vendor), and (4) complex relationships (many clients, many vendors). The first case study in this chapter that studied the CRM-NA and CRM-Europe projects dealt with simple outsourcing relationships (one client, one vendor), while the second case study that studied the NMS project involved the a multi-vendor relationship (one client, many vendors). As highlighted by these case studies, each of the offshore outsourcing arrangements were very contextual in nature and the nature of implementation varied to a great degree depending on the context. Hence, both client and vendor managers should delve deep into their own individual contexts and carry out extensive planning and preparation before taking up offshore-outsourcing initiatives (Gallivan & Oh, 1999).

Hancox and Hackney (1999) employed four conceptual frameworks of: (1) core competencies, (2) agency theory, (3) transaction cost economics and (4) partnerships, to assess IT outsourcing arrangements in the public and private sectors, and suggested that high transaction costs were a dampener on outsourcing initiatives, and that private firms were more open to outsourcing than public organizations. The case studies in this chapter of course focused on private firms, who were more open to outsourcing risks and were effective in risk management. In the CRM-Europe/NA and NMS projects presented in this chapter, the private enterprises prevented potential conflicts by negotiating resolutions, were committed to derive the beneficial fruits of offshore-outsourcing, and were mutually accountable and responsible. However, the transaction costs and agency costs are dampeners on most outsourcing relationships (Hancox & Hackney, 1999), and this held true for the CRM-Europe/NA and NMS projects too, though the benefits seemed to have overshadowed the numerous difficulties and issues faced.

It would be beneficial to analyze the IS outsourcing literature which have adopted the *economic* theories such as the *agency theory* and the *transaction cost theory*, and the *social/organizational* theories like the *innovation diffusion theory*, *exchange theory*, and the *power-politics theory* (Dibbern et al., 2004, pp. 99-102), and compare and contrast them with the issues highlighted in the case-studies presented in this chapter.

## **Agency Theory**

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### *The Agency Theory and the Case Studies*

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When viewed from the perspective of the agency theory, and as highlighted in the case studies, the outsourcing relationship may be considered to be a complex process in which



the divergent interests of the clients and vendors are brought into equilibrium within the framework of contractual relations (Jensen & Meckling, 1976, p. 311). CRM-Europe/NA projects involved “*fixed-term, fixed-price*” (Currie, 1996, pp. 232-234) contracts, while the NMS project involved the “*time and materials*” (Currie, 1996, pp. 232-234) contract.

These contracts suited the individual contextual scenarios of each of the projects. In the NMS project the task details had to be worked out as the project progressed, and changes and evolution in the system being developed was a necessity. Whereas, in the CRM-Europe/NA projects, major changes in the scope (that is changes in design/requirements) were not expected, the deadlines were set, and the price for the entire project was fixed.

The client-vendor relationships in the CRM-Europe/NA and NMS projects behave like *agency relationships*, where the client can be assumed to be the *principal* that engages the vendor (assumed to be the *agent*) to perform some service, and where the *agency costs* (which is a summation of the *monitoring costs*, *bonding costs* and *residual loss costs*) is incurred by the client (Jensen & Meckling, 1976, pp. 308-310).

### *Comparative Analysis of Issues in Case Studies with Paradigms in IS Outsourcing Literature*

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The agency theory has been successfully adopted to understand IS outsourcing (Dibbern et al., 2004, pp. 99-102). In a conceptual paper, Sharma (1997) presented a framework outlining four types of restraints on potential opportunistic behavior of professional agents: (1) self-control, (2) community control, (3) bureaucratic control, and (4) client control, and suggested that the vendors at times are the more powerful ones in the relationship with clients. In the NMS project, the client certainly had upper hand by cleverly manipulating the competitiveness within multiple vendors. In the CRM-Europe/NA too, the client had an upper hand on account of it being the buyer of the vendor's services and its promises of future business contracts. The vendors in both cases were smart and experienced enough to deal with clients; however, they were never the more powerful ones in the relationship. Hence, though Sharma (1997) believes that vendors at times are the more powerful ones in the relationship, in the case studies in this chapter the clients remain the most powerful.

Sridhar and Balachandran (1997) in a mathematical paper, distinguished an internal employee from an outside vendor on four different informational dimensions: (1) an outside vendor is assumed to be informed of the task environment less often than an internal employee, (2) the principal observes the information set of the internal employee more frequently than that of the outside vendor, (3) the principal is able to control the flow of certain production related information to an internal employee better than to an outside vendor, and (4) the principal may share the details of the outside vendor's contract with the internal employee but not vice-versa. It was further noted that the agency costs and intensity of information required for project execution had a negative impact on the client's willingness to outsource. All the four informational dimensions and the observations of Sridhar and Balachandran (1997) hold true for the CRM-Europe/NA and NMS projects.



Wang, Barron and Seidmann (1997) analyzed the nature of custom software development agreements that can be reached between the user and developers, compared the valued of using internal and external developers, and suggested the inability to measure or predict costs can hamper outsourcing initiatives. In the CRM-Europe/NA projects the costs could be predicted and measured, and hence the “fixed-term, fixed-price” contract was successfully adopted. However, as opposed to the analysis of Wang et al. (1997), the inability to accurately measure or predict costs did not hamper the outsourcing initiatives for the NMS project. The client simply adopted the “*time and materials*” contract for the NMS project which allowed the project task and cost details to be worked out as the project progressed.

Chalos and Sung (1998) presented an agency model in which outsourcing dominates insourcing, where it was argued that a firm outsources to improve managerial incentives resulting from anticipated reduction in overall costs, and to reduce the number of tasks that an overloaded manager executes; however, this approach often ignored the possibility of increase in communication and coordination overheads after outsourcing. The analysis of Chalos and Sung (1998) hold true for the CRM-Europe/NA and NMS projects, where though the big responsibility of executing the large projects were transferred from the client managers to the vendor managers, the client had to still spend time and effort coordinating and communicating with the respective vendor.

## **Transaction Cost Theory**

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### *The Transaction Cost Theory and the Case Studies*

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Adopting a transaction cost theory to an outsourcing relationship, involves the realization that clients and vendors “interface” with each other. It is across this assumed interface that services are delivered by the vendor to the client in the projects CRM-Europe/NA and NMS. In other words, “transactions,” exchanges or transfers between the clients and vendors occur across this interface.

As highlighted by the case studies, the interfacing between the clients and vendors needs to be well planned and executed in order to harmonious. Otherwise, the frictions (misunderstandings, disputes, disruptions, failures and delays) may result in dampening the outsourcing relationship, which would lead to a “*transaction cost*” needed to accommodate, monitor and supervise the transactions (Williamson, 1981).

### *Comparative Analysis of Issues in Case Studies with Paradigms in IS Outsourcing Literature*

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The transaction cost theory has been applied to IS outsourcing by various researchers (Dibbern et al., 2004, pp. 99-102). Jurison (1995) developed a model derived from the two streams of transaction cost theory and modern financial theory, and aimed to assist in the insourcing versus outsourcing decisions (for a particular IS function and in the comparison of competing vendor proposals). They suggested that outsourcing is a

“risk” that may lead to a client’s loss of control over its resources and also difficulties in monitoring the vendor. Loh and Venkatraman (1995) performed an empirical study to show that technical/business benefits from outsourcing favor outsourcing initiatives, while risks due to loss of control over outsourced work, opportunism, and inability to control vendors negatively affect outsourcing initiatives. Aubert, Rivard and Patry (1996) used the transaction cost approach to investigate the influence of asset specificity and measurement problems on the choice of outsourced activities, and on the terms/management of the contract. Heisekanen, Newman and Similä (1996) used a process model approach to observe contract negotiations and to explain the forms and evolution of relations between the involved parties; they suggested that the vendor’s capability to understand the client’s business needs would help in making the relationship more productive. Ang and Straub (1998) simultaneously examined the constructs of production cost, transaction cost, and financial slack to understand what influences the outsourcing decision and concluded a client’s large asset size and high transaction costs in an outsourcing relationship can hamper outsourcing initiatives. Duncan (1998) adopted a resource-based view to examine outsourcing contracts and risk, and believed that a loss of control and access over resources, and the threat of knowledge loss hampered possibilities of outsourcing. Loh (1994) constructed and tested an integrated governance model of IT outsourcing in the cost domains of bargaining costs, influence costs, management costs, and decision information costs and concluded that while possible financial benefits and need for access to skills encouraged outsourcing, there were risks of poor vendor behavior/control and difficulties in resolving contracts. Cheon, Grover, and Teng (1995) synthesized four theoretical models (resource based theory, resource dependence theory, transaction cost theory and agency theory) to develop a contingency model, and indicated that agency and transaction costs hampered outsourcing while a client’s need for access to greater IS skills and resources encouraged outsourcing. Poppo and Zenger (1998) suggested the integration of transaction cost, knowledge-based, and measurement reasoning for make-or-buy decisions in information services and believed that the need for IS skills encouraged outsourcing, though highly client specific assets/knowledge/resources, uncertainty over technologies, and problems in measurability discouraged outsourcing. The observations from the CRM-Europe/NA and NMS project case studies presented in this chapter seem to be agreeable to the above theories about what promotes outsourcing and what doesn’t.

Nelson, Richmond and Seidmann (1996) used field data to support the contention that the two dimensions of software acquisition, that is, custom versus package and insource versus outsource are interrelated at several levels. The CRM-Europe/NA and NMS projects highlight that when project tasks can be modularized, common custom-software development can certainly be outsourced to offshore-based vendors.

Nam, Rajagopalan, Rao, and Chaudhury (1996) explored the impact of organizational, environmental and economic factors on two dimensions of outsourcing decisions: (1) initial outsourcing decision, and (2) intention to continue the relationships, and concluded that the vendor’s need for client specific knowledge and resources hampered outsourcing, while the heterogeneity of IS functions and the strategic importance encouraged outsourcing. This is true for the CRM-Europe/NA and NMS projects, where

the client modularized the bigger tasks into smaller ones, thereby increasing heterogeneity for more effective outsourcing. Further, the lure of future business contracts was a major motivator for the vendor during both the projects. Also, vendor's partial lack of client specific knowledge might have hindered the initial CRM-Europe project, however, with increased experience, maturity and knowledge the CRM-NA project was more successful.

## **Innovation Diffusion Theory**

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### *The Innovation Diffusion Theory and the Case Studies*

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Growth in offshore outsourcing of IS work is a recent phenomena (Carmel & Agarwal, 2002), and this phenomena may be considered to be an organizational or administrative "innovation" process, that is now being adopted and practiced by various clients and vendors. In both the CRM-Europe/NA and NMS projects, *the adoption* of the offshore-outsourcing *innovation* involved the conscious decision by the clients and the vendors to accept and use new processes, and *diffuse* these process their relationship and respective organizations (Daft, 1978, pp. 195-197).

### *Comparative Analysis of Issues in Case Studies with Paradigms in IS Outsourcing Literature*

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The usage of the innovation diffusion theory in IS outsourcing literature led to an interesting clash between the research results of Loh and Venkatraman (1992b) and Hu et al. (1997). Loh and Venkatraman (1992b) treated "IT outsourcing as an administrative innovation," and explored the sources of influence in the adoption of this innovation. Using diffusion modeling Loh and Venkatraman (1992b) showed that the adoption of IT outsourcing is motivated more by internal influence (such as communication with peers and managers of other organizations) than external influence (such as the media). Hu et al. (1997) in a repeat of the Loh and Venkatraman (1992b) study tested four diffusion models: internal influence, external influence, and two mixed influence models, and found no support for the conclusions of the Loh and Venkatraman (1992b) on the primacy of internal influence. The study by Hu et al. (1997) instead suggested that the mixed combination of both internal and external influence helped in the adoption and diffusion of outsourcing, and rejected the primacy of any one (internal or external) source of influence. After assessing these two research studies, one might be tempted to consider the answer to the problem of "primacy of sources of influence in the adoption of the outsourcing innovation" to be inconclusive. The same holds true for the case studies presented in this chapter.

## **Social Exchange Theory**

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### *The Social Exchange Theory and the Case Studies*

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The CRM-Europe/NA and NMS projects involved clients and vendors whose actions were motivated by the returns they expected, and their exchanges were mutually reciprocated and balanced, though power-play was evident (with the client exerting its monetary influence and decision making rights over the vendor). The social exchange theory can hence be aptly used to study offshore-outsourcing relationships.

### *Comparative Analysis of Issues in Case Studies with Paradigms in IS Outsourcing Literature*

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Klepper (1995) and Kern (1997) adopted the social exchange theory for understanding IS outsourcing (Dibbern et al., 2004, pp. 99-102). Klepper (1995) selected the Dwyer, Schurr and Oh (1987) model of partnership development, and applied it on two case studies of IS partnership development to conclude that vendor characteristics and relationship attributes (such as communications, procedures, expectations, and balance of power) influenced outsourcing. Kern (1997) developed a model that is based on exchange theory and contract law, and that captures both the outsourcing relationship's contractual, social, and economic characteristics, and additional elements that have relevance in practice. It was concluded that various exchange characteristics (services/products, information, and financial) and relationship characteristics (vendor behavior and communication) influence the outsourcing process. The observations from the CRM-Europe/NA and NMS project case studies are congenial to the above propositions by Klepper (1995) and Kern (1997).

## **Power Politics Theory**

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### *The Power Politics Theory and the Case Studies*

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The offshore-outsourcing relationships described in the CRM-Europe/NA and NMS projects had client organizations which wielded considerable *power*, and they possessed a controlling influence over the project and the vendor and wanted to get things done as per their wishes. At the same time, the vendors in both cases were large CMM level-5 software services firms, the managers of which had considerable experience in dealing with (both cooperative and uncooperative) clients from all around the world. This differential *power* in the outsourcing relationship resulted in *politics*, where both the clients and the vendors tried to maneuver and gain control over their respective projects (Markus, 1983).

## *Comparative Analysis of Issues in Case Studies with Paradigms in IS Outsourcing Literature*

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The power-politics theory was adopted by Willcocks and Kern (1998) to explore IS outsourcing in the context of a case study, three critical dimensions: what is outsourced, the contract, and the relationship dimension. The observations from the CRM-Europe/NA and NMS project case studies are conformable to the conclusions of the Willcocks and Kern (1998) study, which states that various relationship characteristics (services/products, information, staff, asset and financial exchanges; vendor behavior, communication, trust, cooperation, flexibility and social/personal relations) influence the outsourcing process.

Lee and Kim (1999) used both the social exchange theory and the power politics theory, proposed a conceptual theoretical framework for outsourcing partnership based on a social rather than an economic perspective, examined the impact of partnership quality on outsourcing success, and established the importance of relationship characteristics (such as commitment, trust, business understanding, and risk sharing) in outsourcing. The conclusions of the Lee and Kim (1999) study about importance of relationship characteristics are again concordant with the observations from the case studies in this chapter.

## **Future Trends**

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Offshore outsourcing is taking the benefits and risks of outsourcing to its extremes. With offshore outsourcing one can reach out the best skills at the lowest costs. At the same time the intensity of the outsourcing risks like challenges in coordination, communication and control are being tested to the maximum due to the distance and cultural divergences.

Many vendor companies in India like TCS (<http://www.tcs.com>), Infosys (<http://www.infosys.com>), Wipro (<http://www.wipro.com>), and Satyam (<http://www.satyam.com>) seem to have made an art out of providing offshore-outsourcing services, and are hence giving a tough fight to the traditional bigwigs like EDS (<http://www.eds.com>) and Accenture (<http://www.accenture.com>). In recognition of the offshoring trend, EDS and Accenture have also set up base in countries like India to take advantage of its low-cost and highly skilled professionals.

Successes are being realized not just in offshore-outsourcing, but also offshore-insourcing. *NewScientist*, a premier science and technology magazine did a cover story on India titled “India: The next knowledge superpower”, and one article named “India special: The silicon subcontinent” (Cohen, D., 2005) states the following:

*Some of the biggest names in IT are heading towards Bangalore once more, and this time round its not cheap labour they are looking for. They are hunting down the brightest, most inventive minds in India to populate a swathe of cutting-edge research facilities. The work being done in these labs rivals any in the U.S. and Europe.*



The article goes on to list companies like Hewlett-Packard, Texas Instruments, General Electric, Google, Microsoft, and IBM that have set up research labs in India to take advantage of its skilled professionals.

They come for the cost, and stay for the quality.

## Conclusions

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“They come for the cost, and stay for the quality” seems to be an apt summary for the offshoring and outsourcing trend that is not only growing but also maturing. Offshoring and outsourcing is truly about delivering software that’s value for money.

The case studies provided insights into the practical and real life strategies adopted by managers to solve issues and problems in offshore-outsourcing. This chapter summarized the usage of socio-economic theories to understand outsourcing of IS, and focused on providing and analyzing the issues in the two very different and descriptive real-life case studies that have the common thread of offshore-outsourcing of custom software development . Most of the paradigms in literature resulting from the adoption of socio-economic theories for IS outsourcing research concurred with the observations in the case studies.

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