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Gannon, Brian and Wilson, David W. (2008) Assessing the impacts of IS offshoring: preliminary conclusions questioning the validity of cultural consideration. In: Golden, W. and Acton, T. and Conboy, K. and van der Heijden, H. and Kristiina Tuunainen, V. (eds.) 16th European Conference on Information Systems. ECIS, pp. 386-397. ISBN 9788861293915.

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ASSESSING THE IMPACTS OF IS OFFSHORING: PRELIMINARY CONCLUSIONS QUESTIONING THE VALIDITY OF CULTURAL CONSIDERATION

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Abstract

This paper defines an analytic framework with which to research the impact of IS offshoring on its various stakeholders and applies this to two significant case studies of offshoring in the financial services industry. It presents conclusions on one particular segment of the research programme, namely the extent to which IS offshoring drives cultural change for IS practitioners in offshore locations. It concludes that the resultant impact is notable, but not different in any significant way to that experienced by any IS practitioner who works overseas. Further, the cultural differences between onshore and offshore practitioners tend to diminish quickly as they adapt to new cultural environments.

Key words

Offshoring; globalisation; cultural distance; knowledge transfer; multi-national enterprise

1 INTRODUCTION

The practice of using low cost labour in distant countries to develop and build products for use in developed economies is long established. It is only in the past decade that this practice – known as offshoring – has become widespread for Information Systems (IS) development. IS offshoring has in the past been limited by supply of skilled offshore resources, poor and expensive enabling technology such as telecommunications, and general lack of expertise in the conduct of distributed application development (Ravichandran & Ahmed, 1993). Now it is deployed extensively and is regarded by many as a mature and cost-effective approach to application development and maintenance (Gannon & Wilson, 2007).

In consequence, suppliers of offshore IS services have graduated from simple sourcing models such as providing skilled practitioners to do specific tasks to complex and sophisticated cross-border contractual and resourcing arrangements with their customers. New forms of multi-national enterprise (MNE) have emerged, such as Infosys, originating in developing economies and dedicated to exporting labour and IT-enabled services to developed economies. New project and organisational structures are required to take account of the dislocation of staff, which in turn demands new styles and ways of managing activities. Cultural traditions are often disrupted, both for offshore practitioners who come to reside in an onshore location and for the people onshore who encounter them. The effects of such change is still relatively under-researched (King and Torkzadeh, 2006). The perspectives that do exist present a wide range of opinion, from Farrell (2005) who asserts that offshoring offers huge benefits to both organisations and the economy, to Levy (2005) who presents a more cautious view of the benefits of offshoring.

This research investigates the impact of offshoring on IS practitioners on the people and organisations affected by it. The dimensions of the impact considered are cultural, economic and political, organisational, and operational. In this context the research addresses, amongst other things, the attitudes of onshore practitioners who experience offshore IT development, and the types of skills they will need in the future. Similarly it examines, amongst other things, the changes that may result to the structure and composition of offshore IS companies, and the forms of distributed multi-national organisations that may emerge in the future.

By assessing the impact of IS offshoring on those affected by it, the researcher seeks to develop a suitable theory about the phenomenon that adds to the body of knowledge in this area. Two recent case studies of large offshore application development projects in the financial services industry are used to provide data for the research, and thereby a basis for developing explanatory theory. The researcher was actively involved in both projects, albeit in a peripheral role, and in consequence had access to a wide range of participants.

This paper documents part of a broader study that looks to assess the impact of offshoring on its various stakeholders. Its particular focus is on the cultural impact of offshoring on offshore IS workers. The conclusions from this paper will therefore have relevance for these practitioners, whose careers, work practices and perspectives are affected by this phenomenon. Further research in this programme will examine other impacts of offshoring on other stakeholders.

This paper is structured as follows. In section one, the nature and scope of the research is described. Section two provides an overview of the emerging IS offshore industry, defines some of the terms used in this research and presents a brief review of the literature. This incorporates some of theoretical antecedents and constructs that can be applied to offshoring. Section three describes the research method and analytic framework used. Section four sets out the case studies under consideration, and presents observations that have emerged so far. The final part of the report presents preliminary conclusions.

2 OVERVIEW OF IS OFFSHORING

2.1 Definitions of primary terms used in the research

Offshoring occurs in IS when a company engages resources from another country – most often an economy where the cost of IS labour is significantly lower - to conduct application development and maintenance activities on their behalf. Offshoring can be insourced, where all team members are employees of the same parent organisation, or outsourced to a specialist offshore services supplier. IS offshoring usually involves distributed application development, defined as occurring when teams of geographically dispersed people work as part of a global virtual team across national boundaries (Edwards & Sridhar, 2002). Global virtual teams face challenges not associated with more traditional co-located development (Dubé & Paré, 2001), particularly where the cultures of the participants differ.

The rapid development of the IS offshore industry has resulted in the creation of large multinational enterprises (MNEs), for which offshore IS practitioners typically work. Some offshore MNEs have originated in industrialised economies – recent manifestations of systems integration (SI) or management consulting firms, which typically provide offshore application development as part of a wider portfolio of ‘multi-shore’ consulting, technology and outsourcing services. Others have originated in developing economies and are new firms dedicated to exporting labour and IT-enabled services to western economies – the so-called ‘pure play’ offshore IS providers.

This paper considers both ‘pure play’ offshore IS providers and larger ‘multi-shore’ organisations that have originated in developed economies, and is focused on the offshore IS practitioners who work for these companies. While they may work in developed economies for extended periods, they regard offshore locations as their home base.

2.2 Literature on IS Offshoring

Although there are studies that address specific aspects of offshore development - for example, the role of development methodologies (Ramarapu et al, 1997) – more often scholars describe the rationale for offshore development, its associated benefits, the risks of offshore development and key success factors. Most begin by noting that offshoring is one of the fastest growing phenomena in IS in recent years and that it is an accepted component of modern software development practice. The literature also shows that the primary rationale for companies using offshore services has been the search for cost efficiencies through labour arbitrage.

There is consensus also on the main categories of risk associated with offshore development. McFarlan (1981) describes four categories of risk associated with any systems development project – size and complexity of project, project structure, technology used and user factors (number of user interactions and number of user sites) – and these equally apply to offshore projects (Rajkumar and Dawley, 1998). Ravichandran & Ahmed (1993) identify three special problems associated with distributed software development as language barriers, differences in laws and regulation, and fragile infrastructure. The key success factors in global software development are derived from an analysis of the risks. Thus, four “critical success factors” are defined as maturity of the management team; level of strategy and commitment demonstrated by senior management; maturity of the organisation’s processes; clarity of the objectives and level of preparation (Delmonte & McCarthy, 2003).

There are few studies that look at offshoring from the perspective of the offshore services provider, and little reference to the strategic management, organisation and operation of these companies. Recent research is providing new insights into offshoring as a phenomenon. The related papers by Farrell (2005), Levy (2005) and Doh (2005) highlight some of the emerging social issues associated with offshoring - Levy in particular stressing the tensions and social cost of wholesale adoption of the practice.

It is possible to look at the existing body of research as broadly falling into four categories, determined by the main perspective of the researcher. First, there is the economic perspective, which highlights such factors as the commercial drivers for offshoring, labour arbitrage opportunities, contractual implications and so on. Examples of this viewpoint include Ang & Straub (1998), Lacity & Willcocks (1995), Farrell (2005), and Venkatesh & Krishna (2004) amongst others.

A second point of view is cultural, addressing risks and tensions inherent in distributed software development across political and geographic boundaries. Examples of research that takes this as its primary viewpoint include Carmel and Agarwal (2002), Hofstede (1991), Shenkar (2001), Edwards and Sridhar (2003), David et al (2007) and D'Mello (2005).

The organisational perspective focuses on aspects relating to the skills, expertise and organisational structures required when application development is distributed. Research by Doh (2005), Tolentino (2002), Evaristo et al (2005) and Oshri et al (2007) offer examples of this orientation.

Finally, the operational viewpoint is dominated by consideration of such elements as the processes, methodologies, tools and infrastructure involved in IS offshoring. Harmsen et al (2007), Gopal et al (2002) and Nørbjerg et al (1997) all provide examples of research from this point of view.

Clearly, this categorisation is to a certain extent arbitrary, and there are other ways of looking at the phenomenon. Indeed, much of the research addresses one or more of these perspectives (Carmel and Agarwal (2002), Rottman and Lacity, 2005). However, the objective in defining the categories of literature in this way is to provide a basis for collating and categorising the field data in this research study. Thus, if the framework proves robust – that is, if it facilitates categorisation of the field data and facilitates formulation of concise hypotheses and eventual theory – then it serves its purpose. Moreover, the approach to the analysis of empirical data is based on grounded theory techniques. This requires coding of field data on a line-by-line basis into identifiable concepts, with their associated dimensions and properties ('open coding'). This will constitute an implicit validation of the primary categories identified.

2.3 Theoretical Basis of Research

The wider scope of the research draws on theoretical constructs from various complementary disciplines. Predominant among these are transaction cost theory (Williamson, 1979), which informs the economic perspective of offshoring, and which has generated a substantial body of empirical and theoretical support. Particular interpretations as applied to IS outsourcing decisions are addressed by Lacity and Hirschheim (1993). The field of international business research provides many theoretical antecedents. These include macro-economic theory, such as Coase's (1937) general framework explaining the existence of the firm and subsequent research on why direct foreign investment (FDI) came about (Hymer, 1960; Caves, 1971; Buckley and Casson, 1976). Other researchers developed theory on the organisation of international firms, focusing on relationships and information flows between headquarters and subsidiaries and by the degree of control exercised by one upon the other (Ghoshal and Bartlett, 1990; Perlmutter, 1969; Hedlund, 1986; Prahalad and Doz, 1987; Bartlett and Ghoshal's (1989). A third perspective overlaps with theories of globalisation that take a strategic view of the world as a single market in which to do business (Tallman and Fladmoe-Lindquist, 2002), and rests upon the basic premise that replication throughout the firm of advantageous, intangible, knowledge-based assets is a prerequisite for success (Martin and Salomon, 2003).

More relevant for the subset of the research addressed in this paper is the construct of Cultural Distance (CD) – a measure of the similarity or difference of dissimilar cultures and the related concept of knowledge transfer. This originated from observations of internationalisation in firms, particularly with regard to where and when foreign investment occurred (Johanson and Wiedersheim-Paul, 1974; Johanson and Vahlne, 1977). It is now used more generally as a measure of performance in cross-cultural business relationships (Williams et al. 1998; Shenkar, 2001). The primary assumption is that the greater the cultural distance between participants, the less effective will be the outcome of any initiative between them.

3 RESEARCH METHOD AND ANALYTICAL FRAMEWORK

3.1 Overview

The purpose of this research is to assess the impact of IS offshoring on those affected by it, and thereby to develop a suitable theory about IS offshoring that will add to the body of knowledge in this area. The epistemological approach is firmly interpretive. The researcher shares the view taken by Galliers (1992) that IS comprises computer systems embedded in a social context, and not just hardware and software. Moreover, it is often the social context that gives rise to the most interesting and problematic aspects of IS (Hirschheim and Newman, 1991; Newman and Robey, 1992).

This applies particularly to phenomena like outsourcing and offshoring, which are mainly concerned with commercial, social and organisational arrangements of IS. If this position is accepted, an interpretivist approach is the most logical choice of paradigm, since it investigates the social constructs and arrangements that constitute reality. Further, because an interpretive approach facilitates a process-based description of change in its organisational context, it seems appropriate to the study of the offshore phenomenon, which is heavily process-based and organisationally dependent.

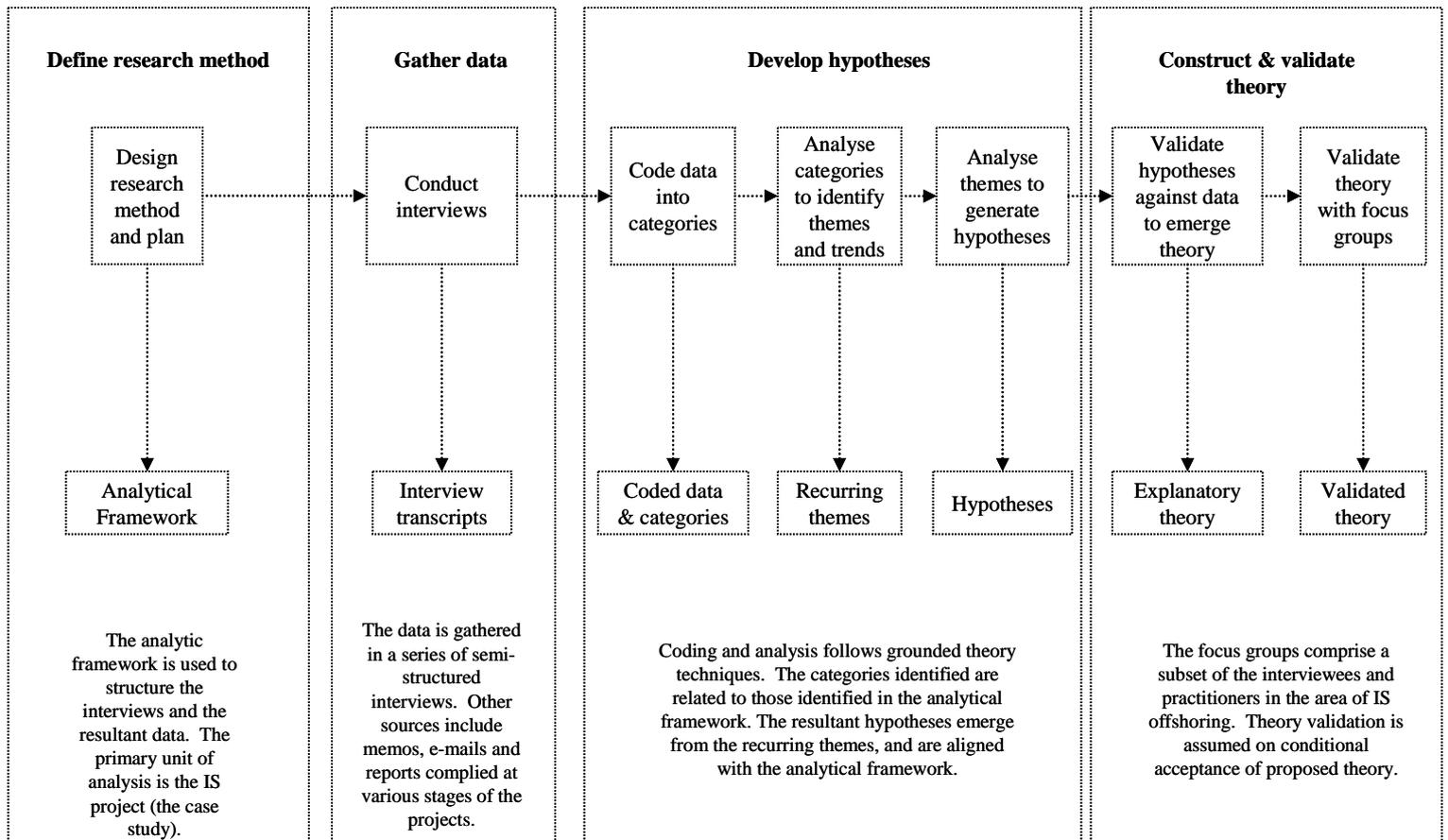
In selecting an interpretive approach at the outset, the researcher does so with the awareness that there are other ways of looking at the problem and does not preclude the use of a multi-method approach at a later stage of the broader research programme.

3.2 Research method

This research comprises a multiple case study approach (Yin, 2002) using grounded theory techniques to analyse the respondent interviews. The reason for using an interpretive case study is because it can potentially distil the experiences of practitioners and thereby develop a theory that is both relevant and grounded (Benbasat et al, 1987). Yin notes that the case study benefits from the prior development of theoretical propositions to guide data collection and analysis, although he is careful to stress that this is not essential. Accordingly, this study is inductive rather than hypothetic-deductive, an approach that is suited to grounded theory analysis. It is acceptable to mix and match research methods in this way, since the research strategies are not mutually exclusive (Mingers, 2001).

The research methodology is illustrated in Figure One. It is a four stage process that involves designing the research method (primarily the analytical framework); gathering the data (primarily through a series of semi-structured interviews); using grounded theory techniques to analyse data and develop hypotheses (and implicitly to validate the analytical framework); and constructing and validating theory that emerges from the data (primarily through a series of focus groups).

Figure One Research design and method



3.3 Description of the analytic framework

The analytic framework developed by the researcher is illustrated in Figure Two and is used to represent the impact of offshoring on categories of stakeholders. Four primary dimensions of impact are considered: cultural, economic, organisational, and operational – and four categories of stakeholders are identified: onshore and offshore IS practitioners, and onshore and offshore organisations. Initially identified during the literature review, these categories are subsequently validated by field data. The purpose of the framework is to:

- allow categorisation of multiple constructs and perspectives identified in the literature and through direct observation;
- help structure empirical data;
- identify the questions that can be asked, and facilitate coherent and concise formulation of answers;
- allow simple and easily navigable presentation of results of intensive and voluminous analysis;
- facilitate the emergence of explanatory theory.

The stakeholders included in the scope of the research overlap on a number of levels. For example, an offshore IS practitioner may spend a good deal of time in an on-shore location, and in this capacity be viewed as an onshore practitioner. There is overlap also between the individual and the organisation that employs him – and some organisational observations may prove simply to be extrapolations of the individual experience.

Validation of the framework takes place at two levels. The first is implicit: the grounded theory techniques used to analyse field data constitute a validation of the primary dimensions of impact and actor groupings. A subsequent validation is explicit, when the framework and resultant theories are presented to the focus groups in stage four of the research process. This latter validation will take place at a later stage of the broader research programme.

Figure Two Analytic framework

	Cultural	Economic	Organisational	Operational
Onshore IS practitioners	The extent to which IS offshoring drives cultural change for IS practitioners in onshore locations	The economic and political impact of offshoring on IS practitioners in onshore locations	Changes in organisation and skills of IS practitioners in onshore locations	Operational impact of offshoring on onshore IS practitioners
Offshore IS practitioners	The extent to which IS offshoring drives cultural change for IS practitioners in offshore locations	The economic and political impact of offshoring on IS practitioners in offshore locations	Changes in organisation and skills of IS practitioners in offshore locations	Operational impact of offshoring on offshore IS practitioners
Onshore IS organisations	The extent to which IS offshoring drives cultural change for in-house IT and multi-shore IS organisations	The economic and political impact of offshoring on in-house IT departments and multi-shore IS organisations	Changes in organisation and skills on in-house IT departments and multi-shore IS organisations	Operational impact of offshoring on in-house IT departments and multi-shore IS organisations
Offshore IS organisations	The extent to which IS offshoring drives cultural change for pure-play IS organisations	The economic and political impact of offshoring on offshore IS organisations	Changes in organisation and skills on offshore organisations	Operational impact of offshoring on offshore IS organisations

4 EMPIRICAL DATA: CASE STUDIES IN FINANCIAL SERVICES

4.1 An overview of the selected companies

Two recent offshore IS projects are used to provide a body of data for analysis. The rationale for selecting two case studies is to allow the continuous comparison of evidence, and to control the conceptual level and scope of the emerging theory (Orlikowski, 1993). At a more basic level, observations made in one organisational context can be compared and contrasted with observations in the second site.

The companies selected have in the recent past implemented development projects using offshore outsourcing. In each instance the offshore outsourcing provider was Capgemini, a global systems integrator headquartered in Paris. Both developments were initially of a similar scale – over 10,000 days of development effort – and both used IBM’s Rational Unified Process (RUP) development methodology, although in different technology environments (Java for the bank; Assembler and COBOL for the insurance broker). Both projects can be described as multi-shore: offshore developers from Capgemini’s Indian operation were located on site in the clients’ offices in the UK and Belgium for at least part of the

project. Both organisations have in-house IT departments and neither had used offshoring extensively before. Thus the projects are philosophically similar (Orlikowski, 1993), drawing on the same basic application development approach of use cases, separation of process and data, and iterative development phases.

The differences between the projects are at a higher conceptual level. First, although the organisations operate in the industry that can be broadly described as Financial Services, one is a UK retail bank (a subsidiary of an international financial services institution) and the other is a global insurance broker (headquartered in the USA with its European headquarters in the UK). The two companies differ in size, structure and culture. The bank is headquartered in the south-east of the England and has a growing, motivated and stable IT workforce. The insurance broker is located in the City of London, and exhibits some of the organisational volatility and pace of change typical in this environment. The most striking difference between the two companies is in their organisational culture: the bank's culture is one that has a balanced approach towards risk, and displays a 'can-do' attitude to business, reflecting its origin as a successful, marketing-driven start-up. The insurance broker, by comparison, operates on a much more traditional, hierarchically-sensitive basis, typified by extended lead times for decision making and a risk-averse approach to business. Finally, one project (Project MARS) involved the development of a package-based system to support a new lending product and the other (Project EUROPA) was a custom development of an existing system used to provide retail brokerage for customers across Europe.

4.2 Results of the analysis

The analysis has so far focused on the cultural impact of offshoring on offshore IS practitioners, where the concept of culture refers primarily to national rather than corporate culture (Hofstede, 1980). Thus, the observations provided in this paper refer primarily to the experiences and impact of offshoring on the offshore participant.

First, there is perhaps an obvious point that emerges from the data: the cultural impact on offshore workers is the same as that for anyone who travels abroad and experiences a different culture and environment. The offshore worker experiences new ideas and concepts; and on return these enrich the wider workforce. The offshore experience therefore has an impact beyond the immediate impact on the person who has gone abroad. One senior manager had this to say about a key difference she noted in returned workers:

"I wouldn't say there would be difference in attitude but definitely they become more mature after working on site and interacting more with clients. In terms of expectation, in terms of handling the problem, in terms of putting themselves in clients' shoes, understanding the problems - I think they become more mature around this aspect."

Commenting on how it was comparatively difficult now to get people to work extended hours, another manager made this observation:

"I think one view I would say like the people from other regions – globally - are coming together, they're coming next to each other, so people are now adapting the right methodology - the right living style from each other. I view that people are getting more exposure to work with the behaviour and way that Western people work and so they definitely feel that there should be some balance between personal and professional life."

This resonates with D'Mello's (2005) views on issues of identity and related tensions, and highlights wider social issues that result from globalisation. A related viewpoint shows how the 'can-do' attitude of the Australian project manager onshore was significant for the junior offshore developer:

So (*the project manager*) asked me, 'Would you have some time for writing a Use Case or helping write the Use Case?' So I remember thinking if I was back in Mumbai I would never have got the chance to, you know, try to help a person writing a Use Case or designing a table or like an Oracle designer.."

Second, almost all of the interviewees noted the challenges associated with the different cultural viewpoints of onshore and offshore workers. However, these tended to diminish over a period of months as people became familiar with cultural subtleties and learned to adapt:

“...for instance, I’ve got a team lead called Bala, who’s a Mumbai team lead who’s here (in the UK). A fantastic guy, but he will never, I guess, he’ll never question one of the things that a UK team lead will say, for instance. It’s just out of respect. And you sometimes do need to tease that out. So if I see him flinching in a meeting, I say, ‘Do you have something to say?’ And, yeah, it’s just picking that out. And now they’ve worked on the project for a while, it’s less of an issue.”

One of the junior developers makes a telling remark, with unconscious humour:

“Generally ...we could never understand English humour at first. You know, definitely we could get along and speak one to one because, you know, people do speak English there (*in the UK*). But humour, it’s quite different or something. We weren’t able to grasp every time what was said in the meeting or something. But slowly, as you stay along and, you know, interact with people... I think the key to understanding is if you interact with different people and other stuff you can slowly get to understand like what they’re actually meaning or something.

Interestingly, there appeared to be more cultural distance between Northern and Southern Europe than between workers from India and the UK. The project manager has this to say about the Polish and Portuguese teams:

“...we had some tension between the J2EE (*Portuguese*) and the Profile (*Polish*) team. Yeah, and I think again, it’s cultural difference. In this case it was, not necessarily the Portuguese, but it’s the Polish thing of being very, I guess, direct. And it also came with the fact that their English is also not, yeah... well, there are a number of, there are a couple of individuals whose English wasn’t quite right.”

Cultural affinity may explain why there is a very definite preference for Indian offshore workers to go to the UK or US:

“Most, to be honest, most of them would prefer US or something because, you know, for instance that’s where the most Indians have been based, more than one million. So most would go and prefer that.”

5 PRELIMINARY CONCLUSIONS

Although the analysis is not yet complete, it is possible to draw preliminary conclusions from this phase of the research programme.

First, regarding the research methodology, the analytic framework is proving adequate both in structuring questions and categorising responses. Similarly, many of the theoretical antecedents are useful in analysing the results. For this cross-section of the overall research, the construct of cultural distance and the related construct of knowledge transfer are the most relevant.

Second, the research confirms that knowledge transfers are now more complex than before. In the project to develop a mortgage solution – relatively straightforward in many respects – there were at least six independent parties involved at any time (onshore client team; onshore Capgemini team; offshore Capgemini team; offshore Profile team; nearshore Omiga team; offshore J2EE team). This demanded multiple layers of interface, and a network of interconnected knowledge flows across project participants and externally with third parties. This validates the assertion that knowledge transfer is not trivial within the firm (Kogut and Zander, 1993) and illustrates a heterarchical information exchange rather than hierarchical knowledge flows (Hedlund 1986). Interestingly, the research shows that there is less need for an offshore partner to have either firm-specific organisational knowledge (consisting of either formalised

or socialized products and processes) or client knowledge (general understanding of a certain industry). (Wieandt, 2007).

Third, from a cultural perspective, many of the observations were perhaps expected. Certainly, many of the ‘traditional’ cultural differences identified by Moore (2006) were observed, such as the ambiguity implied in an Indian affirmative. What is of greater interest is where the views of onshore and offshore practitioners diverge - most obviously in the belief of offshore managers that they are capable of developing direct relationships with onshore clients without the need for onshore colleagues to act as cultural interpreters.

“Yes, they (*UK colleagues*) have to be onsite but I don’t see any reason why an Indian person can’t go on site and do that too. We can definitely find some delivery managers from India going abroad and working with clients, but then the only challenge is that typically it is very senior people who would be doing delivery management role and they are not very keen (to travel).”

This suggests that the impact of cultural difference is diminishing – certainly between UK and Indian correspondents – and that future challenges for offshore practitioners involve ‘skilling upwards’ or moving up the value chain to interface directly with clients.

A final conclusion relating to the risk associated with offshore projects is perhaps the most interesting. This research emphasises the fact that offshore application development projects are prone to the same risks and limitations as application development projects that are conducted entirely onshore by onshore participants. As the project manager of the MARS project put it:

“The biggest risk on an <offshore> project is ... your normal risks on a project, but it’s just amplified.”

In other words, one can get away with things on traditional (onshore) projects that one cannot get away with if the project is offshore:

“No, it’s not very different. We just need to be a little bit more careful about the detail. So some of the things that you’d forget on [traditional] development projects, if you forget in (*off*)shore, you’ll fail. For example ... if the communication isn’t that good on a normal project, you might be able to get away with it. You can’t get away with it on (*off*)shore. If... say your Use Cases aren’t signed off on a normal project - you might be able to get away with it. You can’t do that on (*off*)shore.”

This conclusion raises an important question about the relative significance of the risk of offshoring. In this research, it appears that the risks associated with the fact that the team conducting the development is offshore is of marginal importance compared with the more traditional risks associated with application development.

Further research in this programme will look to validate this conclusion. It will also extend this reasoning to other dimensions identified in the analytic framework to assess, for example, whether the methodologies required to implement offshore projects differ significantly from those required for onshore application development.

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