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Abstract

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Dispersed agency and improvisation during the strategic management of change

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Abstract: This study explores the successful design and global implementation of Enterprise Resource Planning (ERP) in a Multi-national Corporation (MNC). It examines the notion of dispersed change agency and investigates the part played by change teams focussing on the roles, interactions and competencies of change agents tasked with managing ERP change. A processual research methodology was used in the collection of data through participant observation, face-to-face interviews, documentary evidence and telephone interviews. This article draws on data collected as part of the Paris case study and examines how their ERP change strategy was designed and globally implemented in SUND. A key finding centres on questioning conventional notions of leadership in highlighting the importance of dispersed change agency and clusters of competencies in facilitating the improvisation of strategies during processes of change.

Keywords: change, strategy, ERP, processual, improvisation, leadership, change agency.

Introduction

Much of the change management literature highlights the difficulties of managing large-scale change (Andriopoulos and Dawson, 2009). Beer and Nohria (1998) for example, point out how about 70 percent of all major change initiatives fail. In the case of ERP, Appleton (1997) estimates that half of all implementation efforts fail to meet their objectives, with 40 percent being partially implemented, and 20 to 50 percent of initiatives shelved (see also, Martin, 1998). Likewise, Caruso (2007) refers to failure rates of 51 percent, and how 30 percent of ERP projects far exceed their budget and completion dates. Attention is typically given to the roles and activities of particular types of change agents (Tichy, 1975) or the range of activities associated with champions of change – the charismatic change leader (Gilley, 2005). However, Caldwell (2005) argues that whilst managing change is often a team process (see Kotter, 1996) there is a paucity of empirical research in this area (Cummings and Worley, 1997; Mayon-White, 1993; West, 1990). This article thereby seeks to address some of these concerns through reporting on a longitudinal processual analysis of ERP change in a multi-national corporation (which for reasons of anonymity are henceforth referred to as SUND).

Implementing Large-Scale Change and the Role of Internal Change Agents

Large Multi-National Corporations (MNC) are perceived as facing regular problems which relate to their complex organisational structures, cultural diversity, geographically dispersed operations and increasing need to respond to global competition. On this count, Drucker (1999) refers to five external certainties that influence organisational strategy. These comprise: the collapsing birth-rate; shifts in disposable income; different perspectives on performance, growth in global competitiveness; and the growing incongruence between economic globalisation and

political splintering. Internal triggers to change are also acknowledged and these are identified as: technology; people; core business; administrative structures and the culture and history of an organization (Dawson, 2003: 15-26). It is argued that as the internal and external environments become more uncertain, effective strategic decision-making becomes increasingly critical. Kanter (1983) suggests that corporations that succeed in such times are those that have the ability to be masters of change by creating a climate that encourages 'the introduction of new procedures and new possibilities, encouraging anticipation of and response to external pressures' (Kanter, 1983: 65).

Many studies still set out to produce deterministic universal prescriptions for successful change management based on an evaluation of a limited set of situational variables (see for example Dunphy and Stace, 1993). In contrast empirical evidence indicates that implementation of change is seldom simplistic (Alvesson and Sveningsson, 2008; Pettigrew *et al.*, 1992), and that little consideration has been given to organisational history, the content of the change, contextual complexity, the dynamic process of change and the diverse vested interests influencing change strategy (Pettigrew, 1985; Dawson, 1994). As such, there is a need for more in-depth studies on organisational change that can examine these processes overtime, and to consider how organisations may develop strategies to proactively anticipate, harness and activate ongoing change. It is argued here, that an analysis of the roles of change teams will further contribute to our knowledge of how to manage processes of organisational change and that this can best be accomplished through a longitudinal processual analysis of a large-scale change programme.

In considering transformational change in a MNC we investigate how the concerted actions of change teams enable complex and rapid ERP change. Some authors highlight how limited attention has focused on dispersed change agency (Buchanan *et al.*, 2007) and the concerted actions of employees to enable transformational change (Gronn, 2002). This research responds to the challenge identified by Pettigrew (2001), Buchanan (2003) and Caldwell (2003), to gain insight into the complex dynamics of organisational change processes by focusing on the roles of internal change agents operating in teams. The literature considers the range of parties or change agents participating in these processes (Ottaway, 1983; Buchanan and Badham, 2008; Judson, 1991; Galpin, 1996). Despite this, little attention has been given to a more contextual and temporal mapping of the roles, relationships and activities of internal change agents (Balogun, *et al.*, 2005; Saka, 2003; Hartley *et al.*, 1997).

Change agents have been broadly defined by Caldwell (2003:140) as: 'The individuals or teams that are going to initiate, lead, direct or take direct responsibility for making change happen'. A distinction is drawn between internal change agents or employees who are tasked formally with design and implementation of change (French and Bell, 1995) and employees who undertake, and integrate change agent roles into their jobs but are not formally acknowledged as change agents. Surprisingly, the literature offers limited reference to internal change agents and highlights that they may be important assets for any organisation 'in their capacity to disseminate personal learning and promote organisational change' (Hartley *et al.*, 1997:365).

In this paper, our attention is on formal change agency, although the roles and actions of other employees are accommodated in data analysis of the change process. Saka (2003) points to how further empirical studies on internal change agents roles provide an

opportunity to uncover insights into overcoming the barriers to managing organisational change. It also enables us to explore the relationship between the actions of key actors, and the development or improvisation of organisational strategy and structures.

Strategic Change and ERP in an MNC: The Case of SUND

The context for the study is SUND, a Multi National Corporation (MNC) and a leading global provider of technology, project management and information solutions to the international petroleum industry. SUND provides a wide range of products and services from well formation and evaluation through to directional drilling of wells, well cementing and stimulation, well completions and productivity to oil service consulting, software development, information management and IT infrastructure services that support core oil and gas industry operational processes. SUND employs 87,000 people drawn from over 140 nationalities and located in approximately 80 countries. It manages its businesses through 33 Oilfield Services regions which are grouped into four geographic regions, comprising: North America, Latin America, Europe, CIS and Africa, and Middle East and Asia

Examination of company strategy documents indicated that integration of information technology (IT) business systems was a long term key objective of the corporation. Competitors had already completed integration of business systems and it was seen as a means for this corporation to improve the quality and timeliness of decision-making and hence improve competitiveness. Criticality for ERP implementation was emphasised, as a prior attempt at integrating IT business systems, four years earlier, into one software application was perceived to have failed, incurring huge costs to the organisation (the extent of these costs was not divulged). Access to SUND enabled us a valuable research opportunity to examine over time the customisation and global implementation of Lawson's ERP software, which would have major implications for all SUND business operations.

Data collection was conducted over a twenty month period (from January 2003 until August 2004) and in analysing the data particular attention has been given to the roles and competencies of change agents working within teams. The main study covered three subsidiary sites located in Norway, Russia and the UK; here however, we draw on data collected from SUND headquarters in Paris. The Paris headquarters of SUND is located in a modern campus of office buildings in central Paris. Participant observation revealed that the project team leading this ERP change process consisted of approximately one hundred staff drawn from across the MNC. The project team were spread over two floors of one modern building, within a campus of SUND office buildings, and worked in an open plan office environment. Groups of up to four were positioned together without any form of partition separating the desks. Project team member's interactions were characterised as very informal as there were few formal meetings and project team members met to solve problems on an ad hoc basis. Employees were extremely mobile in this environment as they all used wireless enabled laptop computers. Over the course of data collection, subsidiary support team staff visited the Paris headquarters to attend training sessions and to test the ERP that had been customised to meet their subsidiary requirements. Most interaction between the project team and subsidiary change teams took place in a conference room located next to the main reception desk.

The Paris data set was used to analyse SUND's global ERP implementation strategy with particular attention being given to the roles, practices and competencies of two dispersed change teams: the centralised project team and the post deployment team, formally tasked with ERP change. From our analysis of these change teams we identify a typology of roles and competencies from which we discuss the optimum conditions for interaction in the development of effective change agency. In particular, we emphasise how these change teams applied complementary methods and employed specific political tactics to enable improvisation of both the ERP software and implementation strategy that ultimately led to the rapid and successful change in what is a geographically dispersed and culturally diverse organisation.

Strategies for Change: Software Development and Implementation

The ERP change strategy comprised two interwoven strategies: one for ERP software development and another for ERP implementation. Project team Members reported that these strategies involved, firstly design of the broad parameters of the ERP software and secondly, the global implementation and then further development of the ERP software. It was generally accepted by all project team members that the complexity, diversity, geographical distribution of business operations, together with the disruptive nature of the ERP change strategy dictated that decisions regarding choice of software and its parameters and implementation could only successfully emerge by establishing practices to access user software needs. As such, the Paris project team and post deployment team recognised the importance of working with locally based subsidiary teams to effect improvisation in the development of the ERP software.

Early software design strategy was formulated by the steering group, change champion and project team members. The nature or substance of the organisational change process dictated that a priority was the technical mapping of existing business processes, so as to define the parameters and requirements for the new ERP software. The selection of the Lawson software allowed for flexibility and standardisation as the software needed to strike a balance between accommodating a huge range of diverse business processes, while also providing continuity and ease of use.

Project team roles initially focused on a 'gap' analysis between the Lawson business processes and those of SUND, thereby indicating where the Lawson software required customisation. The template of mapped business processes produced for a prior failed ERP software (SAP) reduced the need for employee participation during the initial design. Staff reported that they were aware of this failed implementation and indicated that they were pessimistic of success with this new attempt at implementation. For this reason, project team members were careful not to oversell the benefits of the software and decided that they would not communicate a vision for this ERP process to employees (this was a deliberate strategy). Project team members identified that this fast, driven approach to implementation was supported by the organisational culture in SUND, as it was an accepted way of operating in this organisation.

The devolved nature of the organisational structure, the diversity of business processes, the autonomous power of the regions and their geographical distribution, meant that a staged software development and implementation rollout was required. This followed a pattern of regional sequential implementation commencing with pilots in Norway and Nigeria after which global implementation proceeded in Europe 1, Europe 2, Africa, Latin America, Middle East 1, Middle East 2 and finally Canada and the USA.

The Central Paris Project Team

The central Paris project team had approximately 102 members consisting of internal employees and external consultants (around 30 per cent), with a core team that managed the overall strategy and two further sub-teams that took responsibility for software development and change management issues. Communication within the project team was mainly informal, few formal meetings were held. The weekly meeting of the entire project team was generally regarded as a means of political power posturing within the team. An example of this is indicated in the following core team member's comment:

We have a weekly team meeting on Wednesday where they're meant to give us the latest information on whatever. To be honest, I rarely go to it. When I do go to it, I don't learn anything new or I hear a lot of information that I know is inaccurate. I feel that sometimes it's point-scoring on different groups.

Project team members generally endorsed the informal nature of team communication. They perceived this as a function of the close proximity of the team within an open plan office arrangement over two floors of the corporate headquarters, and that they were familiar with each other. Many of the project team reported that they had worked, socialised or communicated with each other prior to the project. The following comments from project core team members and change management team members support this view:

We know people in each of the core functions so that if an issue crops up within the field we know the person to consult. There is very little formal interaction within the team. – Its very informal. So when the training team goes out to the location and he or she identifies an issue or encounters a query about my expertise, then he or she will direct it to me (core team member).

In contrast, project team communication between the subsidiaries was dominated by the use of e-mails and telephone conferencing. Direct contact prior to implementation was limited by presentations and meetings with senior managers and the designated change agents from the subsidiary. Such contact took place in the subsidiary and in the Paris headquarters. Although during the implementation phases project team change agents increased their level of face-to-face contact by supporting the trainers and subsidiary staff members by visits to the subsidiaries, this was limited. Consequently, most relationships with the project team and the subsidiary were conducted via two mediums: an electronic ticketing system which allocated problems raised in the subsidiary to the appropriate project team member and e-mails from subsidiary internal change agents.

The core team: roles and activities

During the early stages of implementation emphasis was placed on the technical business process mapping roles, software development and problem solving. Activities within their individual roles related to the specific business processes they controlled, while responsibilities for the motivational aspects of the ERP change process were allocated to the change management team. Due to the previous failure of SAP, the core team were keen not to over-promote the change. As one core member noted:

At the beginning we formed a communications committee with the project manager and all the functional leads. In these meetings we had to convey a very

clear message and hammer out what we would say about different subjects.....We are very weary of over selling or banging a drum. We are more about saying where we are going and the reasons why, but not making claims.

During implementation core team project team staff were critical of the lack of engagement of subsidiary staff and they were forthright in providing examples of how employees used negative comments and directly refused to comply with new working arrangements. Examples of this behaviour included subsidiary staff ignoring e-mail requests and failing to organise themselves. As such, operations staff located in the subsidiaries were generally perceived as being uncommitted to the ERP change process. A core team member referred to how the ERP strategy is: 'driven by the financial entity and it is perceived by the field that this is a financial project'. This reflected a cultural and structural distinction between financial and operational departments, exemplified by differences in their use of language and the separate management structures. This was supported in the following remark:

We have very clear financial rules. That is not exactly the case in operations.....
You cannot have a new business system that functions without enforcing the rules. That's one of the reasons for resistance (core team).

Evidence also suggested that lack of engagement and ownership from operations staff created resistance which occurred due to their limited understanding of the benefits of the new software. They perceived the ERP process as inflicting extra work. For them, it was a financial process so: 'there's nothing for him because he doesn't care, what he cares about is maintaining his inventory' (core team). Limited commitment from subsidiary staff due to lack of understanding of their role in the ERP implementation is reflected in their failure to engage and organise themselves for the implementation, this is referred to in the comment:

Live workshops intended to make them think about the way they would like to organise themselves. We used to have a specific way of doing things and the girl she didn't want to change at all. The procedure is completely different in Lawson and she didn't want to change at all (core team).

Core team staff were aware that some problems stemmed from sending out too much information, particularly the overwhelming nature of electronic communication. Yet they also consistently drew attention to how subsidiary staff failed to recognise the importance of meetings and dialogue and to failures in communicating the ERP process to all levels of staff within the subsidiary:

At a more senior level definitely they will have had so many presentations that they will probably have the bigger picture.... For the lower level in the finance community - they would know their own modules but they probably won't see the bigger picture until the training happens or they get their hands on. But for the other user communities, such as the engineers and the store men, this is going to be a huge change for them and I am not convinced that they are getting the big picture at all before it happens (core team).

Training was also consistently identified as a key problem. A core team project member refers to how in the early stages of the implementation: 'You've got six trainers

training on the one subject who have completely different training material, which is not very helpful'. As such, training was considered poorly designed, focused on technical issues, confined to individual business processes and failed to allow for overall understanding of the integration of software processes. These issues resulted in a lack of ownership by operational subsidiary staff and an associated lack of commitment and motivation to change. This distancing from the change acted as a form of resistance. Resistance was also generated due to the changes in job functions, control responsibilities, and lack of understanding of how employees would benefit from the ERP software.

The change management team: roles and activities

The change management team were tasked with the motivational aspects of the ERP change process; although in practice the training aspects of change dominated their activities. As one change manager commented:

I came in after the pilots; I spent three and a half months evaluating the pilots. Learning what had worked and applying it in the next rollout..... A lot of what we are considering today and would record as change management is still very much focused on training (change team).

The change management team comprised a manager, communications specialists and trainers. They performed roles as: communicators of the character and substance of the change process, as well as being trainers, motivators and promoters. These roles involved: building support for the ERP change process; providing guidance; and evaluation and assessment of the success of the implementation. Despite their efforts to produce a powerful message, project team members recognised that they had omitted to develop an all embracing vision:

I don't think we had a clear vision or message to end users. The message is still very much held within the project and the management sponsors. I don't think we had a slogan as what this was to appear to the end user in the subsidiary', (change team).

Global Rollout and the Creation of a Post Deployment Team

As the global rollout proceeded in Europe and Africa, problems arising from the use of the software in the implemented subsidiaries overwhelmed the project team and affected their capacity to focus on further implementation. For this reason, a post deployment team was assembled and tasked with identifying and solving user problems. They visited the implemented subsidiaries and through on the job training, meetings and the establishment of training workshops, accessed user problems and identified solutions. Over this period they accumulated a set of practices which they then made available to the subsidiaries they visited

The post deployment team was instrumental in facilitating the development of ERP software and business process development. Within each subsidiary they mobilised the development of permanent virtual communities aimed at delivering and transmitting best practices across the MNC. The post deployment team also identified the need to re-examine and re-structure business processes and stimulated subsidiaries in the Middle East Region and Russia, to proactively create the new permanent role of business process manager. Completion of the global rollout saw the replacement of the project

team and post deployment team with a centralised permanent worldwide financial centre located in Dubai, and devolved structures located in the subsidiaries (led by process leaders), with the capacity to inform not only future ERP software strategy but also business process re-design.

The post deployment team (established following the experience of implementation within Europe) performed a critical role in accessing tacit understanding of user problems. The team comprised ten members: five of these were process leaders for the key business processes (purchasing, legal and fiscal, sales, inventory and cash management) and three were external consultants (two for software development and one for project management and document control). The team was led by a senior manager and their key remit was to spend time with subsidiary personnel discussing and observing their needs, and identifying solutions and best practice techniques. Interviews conducted with post deployment team members provided a critical evaluation of both the functioning of the project team and insight into how the organisation tackled the problems generated by such a rapid implementation process. They soon realised that a key issue was that employees were unable to understand how the software integrated diverse business processes:

They did not grasp the applications, because people didn't know what to do with applications that's because we had skipped a key thing of relating the process to the applications. We gave them the application but we didn't say how it fits in with their role (post deployment team).

This problem occurred as the ERP package was a chain of applications performed by different groups. Most users were struggling to understand their part of the software application and were unaware of the consequences of their actions for other users. According to the post deployment team, implementation had only focused on teaching the employees about the software. For this reason, the team leader deliberately selected post deployment team members who had not been involved in the initial design of the software. As such, the post deployment team were keen not to be associated with the project team or to be seen to be defenders of the software. In seeking to maintain this distance they used a different logo on all their communications material. Yet despite the team leader's critique of the implementation process, he did concede that it would have taken too long to access subsidiary staff by face-to-face engagement and consultation from the beginning. The nature of the change process required subsidiary staff to use the software in order for them to begin to understand how it worked. These sentiments are reflected in his comment:

We go in after and solve the problem, if we don't do that, it takes too long.....When you look at the way the applications are employed in this company, it's often like that. We always succeed. There is always a six month difficult period when we have more commitment to do what ever it takes to make it work. If you give this project to a consultant, they would say you are crazy going that way but in the end, it will take less time to do it this way and time is the main thing (post deployment team).

Another key function of the post deployment team was their role in developing permanent structures within the subsidiary to continuously improve and re-align business processes. They were instrumental in developing the roles of subsidiary staff

responsible for each of the individual ERP software modules. These roles were extended to include collaboration with subsidiary process leaders to improve existing processes and share knowledge, which in turn mobilised effective problem solving throughout the organisation. This was accomplished via the use of teleconferencing between process leaders in regional subsidiaries once every month and in their use of an electronic bulletin board. The practices and roles performed by the deployment team contrasted with the Paris project team. Their efforts emphasised direct face-to-face interaction with subsidiary staff, in an attempt to access tacit understanding of user problems and to transmit organisational knowledge of successful solutions.

Making Things Happen: Competencies and Change Improvisation

Each team developed roles and practices which enabled improvisation of the ERP software strategy. Internal change agents within the project team applied political, technical and structural methods to this end. Political practices included the application of the 80/20 rule and use of their personal networks and reputation to gain support and access to identification of user needs. The 80/20 rule set an objective that 80% of software requirements identified by the subsidiaries should be achieved. In this way, software strategy could be promoted as successful without ever achieving all of its requirements. Moreover, omission to articulate a vision for the ERP software left interpretation of the intended software functionality open to development by the subsidiaries. As such, production of the software became a constant process of identifying, balancing and negotiating user needs.

Change Improvisation

The core project team and post deployment team also developed practices and behaviours to overcome problems arising from ERP implementation. Training was developed to include awareness workshops and e-learning. Awareness workshops were designed to give guidelines to enable the subsidiary to organise itself. E-learning software provided the means whereby subsidiary employees could control their own learning. Such techniques sought to overcome the time and resource constraints of implementation whilst also appealing to the organisational culture which prized autonomy. The change management team also recognised the critical role of subsidiary internal change agents:

It appears we are following the right track as we have realised we need to change the strategy again, to identify the 'superusers' (subsidiary internal change agents), before the training rather than in the training and then give them extra training. I suppose we identified that we needed more resources earlier.

A need to engage with operational personnel was also recognised, and facilitated further recruitment of staff with operational experience to the project core team. These new members used their knowledge of organisational structures and culture to develop changes in the content of training workshops, which became more practically orientated in the use of real scenarios and operational field language. Despite this, their personal delivery of these workshops was restricted due to the high financial cost of subsidiary visits and the short time frame available for implementation.

Project team members also developed solutions to implementation problems by two mechanisms, namely, intentionally designed solutions to anticipated problems and improvised activities and procedures. The 80/20 rule, an intentionally designed solution

used in the development of the ERP software strategy was extended to the implementation strategy, whereby training was required of 80% of staff:

The 80/20 rule is the main rationale behind all our training decisions, and what is happening right now does address the bulk of issues, but the remaining 20% is not going away, (core team).

Recognition of communication problems due to the remoteness of the project team and the complexity of the ERP process was alleviated by the institution of electronic communication processes. Electronic ticketing software filtered and allocated the problems identified by staff to appropriate project team members, while computer hardware problems were attended to by a team at Gatwick. Similarly, the appointment of subsidiary internal change agents and a centrally located help desk manned by experts provided human intermediaries to cope with implementation problems.

Competencies for managing change

Although, a wide range of competencies were identified, particular competencies were referred to by all respondents. These related to the long standing tenure, wide range of experience and practical knowledge of financial and operational business process in diverse regional locations of the MNC. Emphasis was also placed on the importance of having practical or functional and operational knowledge. This is reflected in the following comments:

Competency - well it's a mixed cocktail, a little bit between business systems, applications and development. I have also spent several years as a training development manager in different segments (change manager).

Although knowledge, experience, awareness and sensitivity were considered important it was the political competencies applied to handling people and driving the change process that all respondents considered important. Examples of this included: being economical with communication; alliance building; networking and building trust through persuasion, negotiation, diplomacy and changing tactics. The competency of the core team staff was seen by many as a key factor in tackling implementation problems. Essentially, the project team comprised employees who possessed a wide range of skills and were viewed as having a high level of competence. Not only the core project team but also the post deployment team were seen to have a useful portfolio of competencies for dealing with change issues. This was evidenced by their longstanding tenure, practical user knowledge of subsidiary business processes and detailed knowledge of the ERP software. Evidence generated from the Paris case study reflected post deployment team abilities to access understanding of employee problems with the ERP software. Post deployment team members remarked on the failure in the design of the implementation strategy to relate changes in business processes to the new application. For them the implementation had focused on teaching the employees about the new software.

Conclusion

Processual data from the Paris case study illustrates how the change strategy evolved over time and comprised two key elements. The first focussed around the design of the software and analysis of current operating procedures and the second was concerned

with managing the implementation of the new system and dealing with contingencies and unforeseen events. The project core team and change management team as well as the post deployment team consisted of a range of employees with a combination of abilities and skills that combined to create a dynamic and effective web of roles. This form of distributed change agency proved highly effective in dealing with a range of social, behavioural and technical issues as they arose during software development and implementation. These distributed roles within teams accomplished two critical functions: firstly, they improved communication and feedback as they created channels whereby change agents could gain deep understanding of subsidiary user problems and then transmit back their solutions; and secondly, these teams maintained and built support for the change process.

Temporal and contextual analysis of their roles, demonstrate how each team used complementary methods and practices to accomplish rapid ERP change. Practices used by the project team included: omission to articulate a change vision; use of a formal evaluation procedure after the pilot implementation; mobilising informal networks to build support; use of the 80/20 rule; setting a formal objective for ERP implementation to all subsidiary staff; devolving responsibility for ERP change communication to the subsidiaries; building subsidiary steering committees to support implementation; and use of electronic ticketing and communications systems to support implementation.

Post deployment team methods included: a focus on face-to-face communication, training and support of subsidiary staff; use of kick off meetings; promoting and training subsidiary process leaders to use electronic bulletin boards to share learning; promoting themselves as a completely different identity to the project team by use of different logos and staff; displaying receptive behaviours in allowing subsidiary staff to impart their problems in using the software. Subsidiary support teams acted as a bridge or boundary spanner between the project team and subsidiary. Methods employed by them included: close face-to-face contact with subsidiary staff to access their problems; electronic allocation of these identified problems to the project team; visits to the headquarters for training and to liaise with the project team; and mobilising their informal subsidiary networks to build local support, trust and transmit knowledge of the use of the ERP software. As such, this study usefully demonstrates how dispersed teams of change agents facilitated improvisation of the ERP software and implementation strategies to accomplish complex large-scale change.

In our study, we identified a central control team, an implementation team and a post deployment trouble shooting team. Each of these teams exhibited clusters of competencies. These competencies centred on personal qualities of being open and approachable, tolerant of differences and being prepared to listen and assess issues in a non-judgemental fashion. They were also based on knowledge and understanding of the issues to be tackled which required an ability to work within a team in enabling knowledge transmission and organisational learning. A key ability rested on managing people and in particular, on managing the politics of change. Working in collaboration with others from different knowledge domains and disciplines, to develop a common language and to gain participation in decision-making – were all contributors to getting staff involved and committed to change. In developing these ideas further, we aim to formulate a competency framework in our next paper to inform the selection of change team members and provide practical support for managing large-scale change in organisations.

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