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Knowledge management during radical change: applying a process oriented approach

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1.0 Introduction

The value and importance of the effective management of knowledge remains undiminished (1,2). Yet there is evidence that anomalies exist between the promise and practice of knowledge management.

Knowledge management *promises* sustained competitive advantage, innovation, and greater organisational prosperity (3,4). Scholars argue that tacit and explicit knowledge should be nurtured and cared for (5,6). Tacit knowledge cannot be explicated completely by the people that possess it (7). Tacit knowledge resides within the implicit knowing, skills, and intuition of individuals (8,9). Explicit knowledge is comparatively easier to articulate and share between people (7). It is often codified in an organisation's information systems and procedure manuals.

Knowledge, and the benefits that can be derived from it, can be located at several levels: industry (10), organisation (11), function (12), business process (13), group or team (14,15) and individual (16). At each of these levels knowledge can lead to benefits in the form of improved customer service, faster product developments and strategic innovations.

Research into the *practice* of knowledge suggests a different picture. Many organisations have appointed chief knowledge officers to champion and promote knowledge management at board level. However, their efforts are often hampered by modest budgets and inadequate resources (17). Hence their impact upon the organisation is often limited in practice.

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Organisations often invest in initiatives that create knowledge repositories. The underlying purpose is to capture tacit knowledge and then share it across the organisation (18). Knowledge repositories, located on corporate Intranets, can improve connectivity between people. However, repositories also make tacit knowledge explicit, and recent research suggests that the benefits from such initiatives remain largely perceptual (19).

Knowledge is a tricky asset to manage. It is difficult to control and protect, as the really valuable 'stuff' is in people's heads, and the benefits that can be derived from it can be unpredictable. Hence, reaching an agreement to divide the increased prosperity derived from knowledge management is fraught with difficulties (20).

In practice, knowledge management faces internal barriers similar to other change initiatives. These barriers include protectionism, divisive compensation systems and few knowledge-sharing behaviours exhibited at senior management levels (21)

The above discussion reveals the fragility of managing knowledge. It is also clear that people are at the heart of the subject and hence it is most vulnerable when the organisation loses key people (22). Continuous or adaptive change is an inherent part of an organisation's fabric (23), and adjustments in tacit and explicit knowledge are a consequence of even minor changes such as natural employee turnover (24).

During periods of radical change, people, and therefore knowledge, are affected significantly. Rather than being nurtured and sustained, vital knowledge is often fragmented or destroyed during such times.

This paper interprets the findings from a study of ICL(E)'s LINKwise development to argue that managers embarking on a radical change initiative need a business process that protects knowledge, especially tacit knowledge, in the midst of change. The paper begins by examining four typical radical change initiatives. It presents a framework for developing a knowledge management process and uses case study data to illustrate the framework. The effects of the knowledge management process in nurturing and protecting tacit knowledge are highlighted. It closes with a summary of the key issues discussed.

2.0 Radical change initiatives

This review is a subset of that part of the radical change literature that deals with particular types of radical change initiatives: financial restructuring, reorganisations, downsizing, and renewal {O'Neill, 1994}{Hammer and Stanton}{Ghoshal and Bartlett}. Attempting to clarify and distinguish these radical initiatives is extremely problematic because of an inconsistent use of the very terms, namely, financial restructuring, reorganisations, downsizing, and renewal. This is exemplified by {Keidel 1994} and {Moss Kanter 1992}, who use the term restructuring but each mean quite different things. This situation leaves a researcher who wishes to draw tentative boundaries around these terms open to criticism from others who could cite eminent academic references that contradict or breach such boundaries. Hence, the discussion below is not held out as the *only* way to clarify the overlaps, inconsistencies and contradictions in the extant literature.

2.1 Financial restructuring

{Markides 1995} states that “corporate actions such as share repurchasing, refocusing, alliances, consolidations, and leveraged recapitalizations can all fall under the general term ‘restructuring’” (Markides, 1995 p. 101). The term ‘financial restructuring’ is interpreted to describe dramatic changes that occur when an organisation changes its financial structure through a merger, acquisition, divestment, management buy-out, or liquidation (25-29).

The purpose of a financial restructuring initiative is to alter the shape and composition of the organisation’s financial capital. As a consequence of such an initiative people are affected, however, the enhancement of the target requisition’s knowledge is not central to the restructure. Instead, the balance sheet, potential tax breaks and shareholder value are of primary importance.

2.2 Reorganisations

The term 'reorganisations' is used to encapsulate internally focused changes to reporting lines, a reduction in the number of levels in the hierarchy (also called delayering), and changes to administrative groupings (30,31). Reorganisations involve specific functions being combined, e.g. concurrent engineering (32-34) or outsourced (35,36). Managers usually utilise the organisation's current structure chart as the starting point for reorganisations, and consequently, a change to the organisation focuses upon moving the boxes, altering their shape, and their size (37). Managers carry out the changes by selecting from a 'grab-bag' of rational development techniques (38,39). Each reorganisation has a logical explanation that makes sense to those at the top of the organisation looking down the structure chart, yet the changes cause confusion to those who operationalise activities at lower levels in the organisation (40).

The central feature of reorganisation initiatives is a rearrangement of the organisation's structure chart. Reorganisations primarily change reporting lines and the consequences of these changes can have an adverse effect on knowledge. Whereas knowledge sharing requires people to collaborate across functions, reorganisations tend to disperse people into different functions. Reorganisation initiatives rarely improve the effectiveness of knowledge management in organisations. The effects of a reorganisation initiative, upon knowledge are barely considered prior to implementing the change, as managers attempt to create effective knowledge repositories only after a reorganisation initiative is completed.

2.3 Downsizing

Downsizing describes reductions in the number of people in an organisation, what (41) state as being an "intended reduction in personnel" (p. 32). Keidel (1994) postulates that the central focus of downsizing is rapid organisational efficiency gains, driven by numerical calculations and financial ratios, with little concern for the people in the organisation (42-44). Other researchers provide broader descriptions of downsizing by including the planned elimination of positions, jobs (i.e. groups of positions, such as computer programmers), the elimination of an entire function such as marketing or finance, delayering, voluntary and compulsory redundancy schemes, corporate bloodletting and early retirement (42,45,46). Studies also show that the benefits to be derived by downsizing are elusive (41,43). The impact of downsizing upon people is well researched. {O'Neill 1995} argue that employees suffer a range of mixed emotions including anger, anxiety, cynicism, resentment, anguish, and a desire for retribution.

Planned reductions of a significant number of people in an organisation can have a profound effect upon the organisation's tacit knowledge, but since the main aim of a downsizing initiative is to achieve an immediate cost reduction, the organisation's knowledge base is a secondary consequence.

2.4 Renewal

Renewal refers to organisations that find their very survival at stake. A large number of terms describe the changes organisations undergo when faced with extinction, including 'transformation' (47), 'turnaround' (48,49), and 'regeneration' (50). A common feature of renewal is mature organisations (51) going through a survival-threatening decline (52) over a period of time (49). Often organisations are forced to renew themselves when the industry in which they operate is restructured, for example due to changes in technology (53,54). In a recent study of over a dozen organisational renewals conducted by Ghoshal and Bartlett (1996), they conclude that many organisations recognise the need to make radical changes yet "most shy away from it" (55p. 35). They assert that such organisations are unable to overcome or break through the barriers of organisational inertia, namely overarching concepts or beliefs that reinforce the status quo within an organisation in spite of a growing mismatch between the demands of the external environment and the organisation's capacity to respond. Hence organisations face decline and ultimately failure (55).

Organisations that face survival-threatening declines in performance react by reducing costs or cutting the range and number of businesses. They often follow retrenchment strategies that shrink the asset base or reduce the scope of trading to those product or market segments that have the largest profit margins. These organisations rarely consider knowledge management as a way of overcoming the threat of extinction.

2.5 Knowledge Management during Radical Changes

This paper is concerned with the management of knowledge during radical change initiatives - Table 1 summarises the key concepts relating to knowledge management and the four radical change initiatives discussed above. Generally, knowledge, rather than being considered at the forefront of a radical change, receives scant attention, too late. Thus, knowledge management remains little more than a set of ideas that only sporadically delivers on its promise. Hence, this paper presents below a framework for developing a business process that manages knowledge during a radical change. The framework uses data interpreted from an in-depth case study carried out ICL Enterprises. The case spans the three-year period during which they made radical changes that affected every corner of the business.

INSERT TABLE 1 ABOUT HERE

3. The process oriented framework

The framework links an organisation's business strategy to the process that can manage knowledge during radical change. The framework is illustrated in Figure 1. This framework highlights interdependencies that exist between several elements that have been established elsewhere (56,57). The framework is applied here to interpret the development of an effective knowledge management process created by ICL Enterprises.

INSERT FIGURE 1 ABOUT HERE

3.1 Business strategy

ICL Enterprises' business strategy placed the organisation in the computer hardware industry. During the early 1990s the hardware marketplace was being driven by one main factor: falling prices. Customers demanded discounts, which led to a continuous pressure on margins. The board decided to make a significant change to the organisation's strategy: in the future, they would offer customers value-added services and integrated solutions. Transactions of this nature ensured margins were related to the sales of services such as: project management, IT/process consultancy and integration expertise.

This shift in the business strategy altered the business objectives, which now included the following issues:

- to identify which businesses had the potential to achieve and sustain profitability as part of ICL's systems integration business in order to achieve targets set by HQ
- to divest or close businesses which did not fit with ICL's strategic direction
- to minimise the cost impact of ICL(E) on the ICL group.
- to grow the business profitably
- to shift people's emphasis from 'find' and 'bid' to 'win' and 'deliver'
- to create an environment for a flexible workforce i.e. enabling people to move from one business within ICL(E) to another.

Key measures for the objectives included an increase numbers of fee-earning staff, and fee rates, improve staff utilisation rates, improve the win : bid ratio, reduce the severance payments bill, increased margins, and contingency protection. Each measure was quantified and had a timescale by which it would be achieve (these are precluded for confidentiality reasons).

The management team recognised from the very outset of the radical change initiative that people, their knowledge of the organisation and their experience in certain types of business were central to the success of the new strategy.

3.2 Stakeholders and expectations

Organisations depend upon several external and internal stakeholders to achieve their business strategy and objectives. Stakeholders have power over the organisation, and hence can influence whether or not it achieves its strategy and objectives. Organisations identify stakeholders that can have the greatest effect upon each objective. Stakeholders, such as customers, suppliers and staff have expectations of the organisation. Organisations need to understand these expectations and decide whether or not to satisfy them. Organisations may also influence or create expectations within stakeholders. Unfulfilled stakeholder expectations do not simply disappear; they remain just that, unfulfilled. Stakeholder expectations are important because where these are not satisfied to the stakeholder's requirement, organisations are exposed to two risks. First, the stakeholder may exert its power, which could hinder the organisation achieving its objective. Second, competitors who can satisfy the stakeholders' expectations appear more attractive.

In relation to the business objectives and in particular, knowledge management, two key internal stakeholders were ICL(E) management and staff. These stakeholders had expectations. The ICL(E) management wished to maintain their credibility with the ICL board and shareholders, by creating sustainable revenue streams from systems integration activities. They also wanted to achieve business plan targets, a healthy order backlog for the future, and a reputation for delivery to customers. Critical to knowledge management, the management team wanted to retain knowledge that would be critical to the future strategy. They wanted to avoid making hundreds redundant in one year as a result of the changes, only to have to recruit the following year.

Staff wanted, among other things, job opportunities in the emergent organisation, career development, a wider range of opportunities, support when finding a job at the end of a project, reasonable career progression, and support when changing jobs brought about by the shift in strategy.

3.3 The knowledge management process

Business processes are an organisation unit of analysis that have the following defining characteristics (58). They arise from and satisfy the expectations of external and internal stakeholders. Processes achieve the organisation's business objectives, and hence, the business strategy. They integrate the day-to-day activities that take place within different functions; they are of a higher order than the activities in any one function. Processes can be a self-sustaining, self-renewing, viable organising unit. 'Self-sustaining' refers to resources being assigned to and controlled by individual processes, and 'self-renewing' suggests that processes change and adapt in accordance with stakeholder expectations.

Senior management at ICL (E) recognised the need to develop a business process which would, among other things, protect and retain valuable knowledge within the business, re-deploy and re-skill people into new roles to support the radical changes, and enable fast and flexible resourcing of projects. The process facilitates the redeployment of staff of all categories (administrative, technical, professional and managerial) and all levels (senior management, middle and junior management and support staff) who experience employment discontinuity due to the radical change initiative. From interviews with employees at all levels in the organisation, it is apparent that the process enabled ICL(E) to retain tacit knowledge and concurrently allow people to develop a deeper understanding of different business divisions and widen their personal network of contacts. One manager commented that the process:

> "provides for a "win/win" situation - individuals avoid redundancy with a potential for making contributions in other parts of the organisation as well as engaging in appropriate personal development. The company has the potential to retain relevant capabilities and knowledge".

In order to implement the process the board established an autonomous organisational unit with its own management structure, under the direction of the

Director of Resources Services. The process had its own budget, as employees going through a transition as a consequence of the radical change were transferred into the process on their current terms and conditions. These costs were recovered by placing people on temporary assignments or projects, and charging them out to the business. Hence, the process became financially self-sustaining. The process had its own social infrastructure, operating principles and physical space. Line managers had to recruit people from the process prior to seeking people from outside the organisation.

4. Activities within the process

Activities are the mechanisms selected and designed by managers through which the process is operationalised. They are the jobs and tasks carried out in order to satisfy the stakeholders' expectations and the business objectives, and are often formalised in job descriptions and task profiles.

In the knowledge management process developed by ICL(E) they identified six key activities. First, pre-entry authorisation and briefing, involves taking the decision to transfer an individual into the process. Line Managers take this decision when an individual's project has come to an end or there is no on-going role for that person within the department. Line Managers have to justify transferring an individual into the process and gain management's approval to do so. Once this approval has been gained, the Line Manager briefs the individual and the rest of their team members. The individual is then expected to contact their appointed manager within the process.

The second activity is entry and induction. At this point in the process, the individual and their manager in the process are expected to get to know one another and discuss the individual's career plans, job search strategy and training needs. They also agree the rules and procedures with which the individual is expected to comply while in the process.

The third activity is assessing and planning the individual's job search and training needs. During this activity, individuals prepare their CV, as it is a key document to be used for applying for other jobs. Individuals also complete a career development plan and personal development plan to identify their training and development needs. These needs are then fulfilled either internally or externally.

The fourth activity is implementing the individual's plans. This activity involves a wide range of tasks. For the individual, the tasks include undertaking training or development programmes, searching for jobs, preparing for interviews, attending interviews and responding to job offers. For the manager appointed to the individual, their tasks include supporting the individual before and after interviews, checking their personal development and growth, and using their personal network within the organisation to find the individual a suitable job.

The fifth activity is exiting the process. Individuals have three exit routes from the process. The first is the offer of a permanent job within an ICL business unit. The terms and conditions of such job offers are negotiated with each individual based upon the requirements of the job, the market conditions and the individual's prior employment conditions. The second exit route is to be placed on short-term assignments, in particular departments or projects. Individuals re-enter the process when they are not on assignment. The third exit route is for the individual to leave ICL, which could be an option initiated by them or by the company itself.

The sixth and final activity that constitutes the process is its overall management . This includes managing the budget, i.e. the costs and charge out recoveries for individuals, promoting the process and the individuals within the process to the rest of the organisation and generally keeping track of vacancies and assignment opportunities within the organisation.

5. The relevance of the knowledge management process

The changes ICL(E) needed to go through to achieve its new strategic direction required the organisation to become people, rather than product, focussed. This meant that long serving, successful employees had to learn a new set of skills and competencies that focussed on charging people for the services and knowledge they had to offer rather than products that came packaged in boxes. ICL(E)'s business pattern required people to be deployed on projects.

As these projects approached completion, managers faced the dilemma of whether people should be made redundant or retained until the next contract was won. At any given time, between 200 and 400 people were being retained on a 'just in case' basis. The management team, while wanting to constrain the costs of carrying people, did not want to lose valuable tacit knowledge through redundancies.

Managing knowledge in ICL(E) was particularly problematic due to the variability in project-based resource requirements. The new, effective knowledge management process has contributed to the retention of knowledge, which is then used to provide support to other competitive business process. One of these within ICL is the bid-submission process. Typically, when a bid is issued, a project team from different disciplines, e.g. project management, software engineering and so on, is assembled to respond to it. Often it is several months before the bid team know whether or not the contract has been won or lost. As one manager explained, in that time it was not uncommon for team members to be left in limbo, get moved to other projects or even be made redundant. Months later when a similar bid was received, another project team would need to be assembled from scratch. The cost of getting the right people, in terms of management time and possible recruitment fees, was high. As the manager observed:

> "Whilst the skills might be replaced, the experience built up in the earlier bid is lost. LINKwise avoids this… Without (this) mechanism knowledge, experience and skills would have been lost."

The knowledge management process also supports the contract fulfilment process in two ways. First, each contract won by ICL(E) is delivered by a project team. In the past, when the end of a contract was within sight, project team members would begin looking for other projects that they could move to next. This understandable pattern of behaviour resulted in current projects either being dragged out (if other projects were not available) or being marginalised in terms of team members' attention. With the implementation of the knowledge management process, project team members know that their knowledge, experience and skills are likely to be used elsewhere in ICL, and that through the knowledge management process they have an opportunity to ensure that these can be redeployed elsewhere. One manager recalled the example of an individual who, after a project ended, went into the knowledge management process and then went on to win the prestigious Chief Executive's Gold Award.

Another way in which the knowledge management process supports the contract fulfilment process is by making available, to line managers, skills and expertise for short durations and at short notice. This has improved the effectiveness by which projects are completed as people's knowledge and expertise are circulated around the organisation.

The knowledge management process, through assignment opportunities, has allowed individuals to move around the organisation. This provides people the opportunity to acquire and develop knowledge about ICL in a wider and deeper context. Their awareness, range of expertise, behaviours, and knowledge of the ways in which ICL operates is increased. According to one manager:

> "LINKwise has certainly helped to develop my knowledge. If people in LINKwise are willing to learn new skills and are willing to be flexible about jobs and assignments, then ICL will benefit."

6. Summary

This paper presents a process to manage knowledge during periods of radical change. In a three year period of radical change that touched every part of ICL(E), 622 employees at all levels went through the knowledge management process: 71% were placed in newly created permanent jobs or on-going assignments; 9% resigned; 2% took early retirement; and 18% had their contracts terminated. Hence, the tacit knowledge of 440 people were considered to be valuable to the organisation and retained, rather than being lost through indiscriminate downsizing, which often happens in the turmoil that accompanies radical change.

All too often organisations initiate radical change initiatives and fail to protect the very knowledge that made them successful, in effect throwing the baby out with the bath-water. The types of radical change initiative examined above disregard the loss of tacit and explicit knowledge; there is no consideration given to its retention in their approaches. The knowledge management process described above shows that knowledge need not be a casualty of the radical change programme, but can be accommodated within it. Such a process, or one similar to it, would be a useful adjunct to any organisations undertaking a radical change initiative.

	Focus of this paper	Radical initiatives			
	Knowledge management	**Financial restructuring**	**Reorganisations**	**Downsizing**	**Renewal**
Primary purpose of the radical change	Significantly improving competitive advantage and innovation	Change in the shape and composition of the balance sheet	Reducing the number of levels in the hierarchy or removing functions	Reduction in the number of people in the organisation	Focus upon a profitable line of business, product, or service
Organisation unit affected	Several - from the individual to the industry	Entire organisation or function	Hierarchical levels or functions	Individual in any part of the organisation; hierarchical levels	Entire organisation
Terminology	Tacit knowledge, explicit knowledge	Mergers; acquisitions; liquidation; reorganisations	Delayering, concurrent engineering, outsourcing	Rightsizing; blood letting; cutting excessive fat	Turnaround; regeneration;
Key driver of the change	Tapping into people's latent knowing, and developing and sharing this knowing	React to excessive diversification; shareholder value; repositioning	Internal rearrangement of the structure chart	Cut costs to increase profits	Survive
Key references	(1,3,8,11,13,17,19,22,59)	(25-29).	(30-35,37)	(41-45)	(48,51,52,55,60)

Table 1: Summary of features distinguishing knowledge management and financial restructuring, reorganisations, downsizing, and renewal

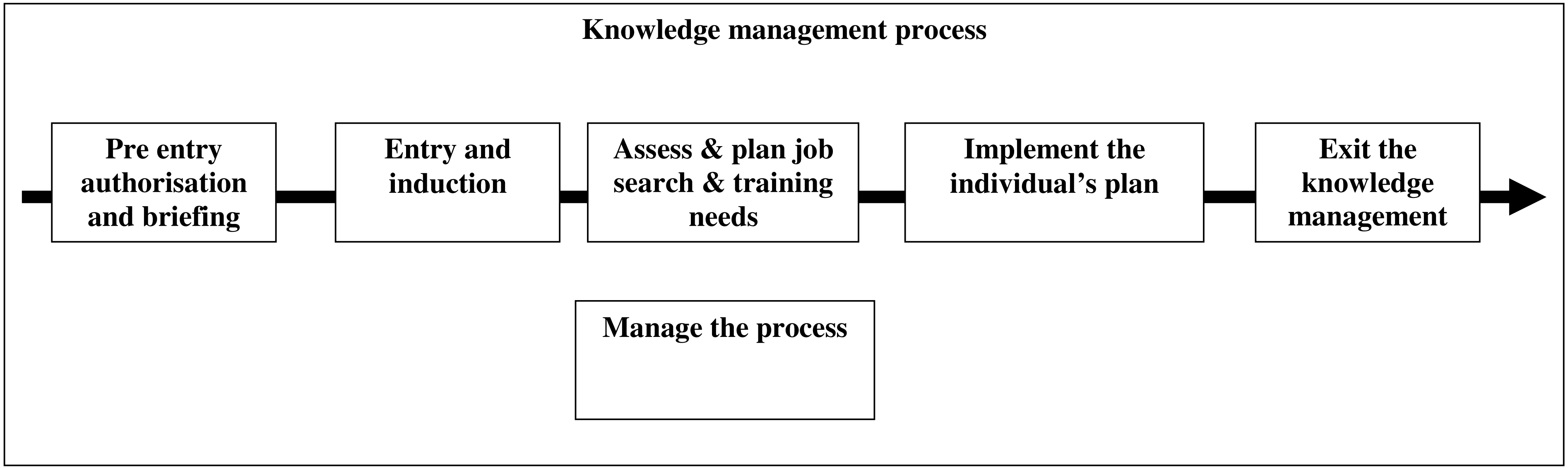

Figure 1: The knowledge management process and its key activities

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