

Exploring the Role of Academia in Nurturing IT-Enabled Business Change

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Abstract

Throughout much of the last five decades the process of introducing, integrating, and exploiting information technology in work organizations has posed formidable challenges regularly resulting in reports of significant underperformance and failure. On closer inquiry it emerges that such underperformance and failure are firmly rooted in an inability to foster a highly integrated approach to the management of IT-enabled business change. This paper critiques in detail both the enduring and deep-rooted nature of this dilemma paying particular attention to the role of diverse occupational communities in its perpetuation through time. Furthermore, it explicates the polarized patterns of cognition and action embedded in these communities paying particular attention to the executive, information technology, and organization development communities. Finally, it presents a robust critique of the manner in which academic formation within these occupational communities firmly reinforces such polarized patterns of behaviour thereby sustaining the enduring dilemma with IT-enabled business change.

Keywords: information technology; executive management; technology specialists; organization development; managing change

Introduction

The high levels of underperformance and failure in IT investments is due, in no small way, to the failure of both the executive and IT communities to consider the human and organisational dimensions of IT-enabled change. These communities are viewed as distinctive cultures (Schein, 1992). Organisation development (OD) is typically seen as an appropriate catalyst for intercultural dialogue. Yet when executives, IT specialists and OD practitioners engage in the dynamics of large system change, each is bound to their own cultural mindset, which is shaped by their respective knowledge bases. In this paper we explore the enduring dilemma with IT-enabled change, show how underperformance and failure are persistent over several decades and how the dominance of economic and technological considerations and the relative marginalization of human and organisational considerations are a direct consequence of the formation and mindsets of the executive and IT communities. With the OD community itself in a cultural mindset, we show how professional and academic formation of specialists within these three communities itself contributes to the problem. Notwithstanding, interdisciplinary collaboration and dialogue are feasible and offer a basis for co-ordinating and integrating the diverse knowledge and expertise held in these communities.

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The Dilemma with IT

Empirical studies over the last twenty-five years provide substantial evidence to support the assertion that under-performance and failure all too frequently mar the introduction of IT into work

organisations (Tomeski and Lazarus, 1975; Kearney, 1990; Standish Group, 1998). Unfortunately, the number of IT-enabled change initiatives that actually deliver espoused business benefits is in the order of ten percent while the number of initiatives that fail or are abandoned completely is in the order of fifty percent (Comptroller General, 1979; Kearney, 1990; Clegg et al, 1996). The impermeable and enduring nature of this dilemma is of concern to both investigators and practitioners alike.

Such under-performance and failure are rarely explained by way of attending purely to economic and technical criteria (Long, 1987; Eason, 1988; Clegg et al, 1996), yet such criteria appear to dominate the introduction of IT into work organisations (Lunt and Barclay, 1988; More, 1990). Executive management tends to view the introduction of IT as an economic imperative (McLoughlin and Clark, 1988; Harrington, 1998; Marion, 1998) while IT specialists tend to view it as a technical imperative (Scarborough and Corbett, 1992; Schein, 1992; 1996). Alas, this narrow techno-economic bias, sustained over time by the coalescent behavioural patterns of both the executive and IT communities, results in the human and organisational aspects of IT-enabled change being marginalised and ignored (Eason, 1988; Hornby et al, 1992; Clegg, 1993).

Such an outcome is rarely inconsequential since failing to attend to the human and organisational aspects of IT-enabled change is said to be responsible for the high incidence of under-performance and failure (Long, 1987; Eason, 1988; Clegg et al, 1996). Indeed, investigators are increasingly of the opinion that economic and technical aspects of IT account for less than ten percent of under-performance and failure while human and organisational factors account for more than ninety percent (Long, 1987; Isaac-Henry, 1997). The nature of this dilemma is both obstinate and enduring (Sauer, 1993; 1999; Galliers and Baets, 1998).

A Social Phenomenon

Unfortunately, the seeds of IT-enabled under-performance and failure are deeply embedded and nurtured in much of the IT community in several ways (McDonagh, 1999a; 1999c). Much of the community embraces a technical focus on IT attending primarily to the task and technology components of work organisations into which IT is being introduced (Bostrom and Heinen, 1977; Kling and Allen, 1996). The tools, techniques, and methods used by the community of practitioners sustain this narrow technocentric agenda (Blackler, 1992; Hornby, et al, 1992; Avgerou and Cornford, 1993). Much of the community is genuinely unaware of the human and organisational factors that account for the majority of IT-enabled under-performance and failure (Hornby et al, 1992; Kling and Allen, 1996). Finally, there is no apparent incentive for the community of practitioners to embrace a more holistic perspective on IT-enabled change (Hornby et al, 1992; Clegg, 1993; 1995).

Similarly, it appears then that the seeds of IT-enabled failure and under-performance are deeply embedded and nurtured in the executive community in seven distinct ways (McDonagh, 1999a; 1999c). First, many senior executives see people as costly impersonal resources that generate problems rather than solutions (Hill, 1981; Clegg, 1993; Schein, 1996). Second, many senior executives embrace a narrow economic focus on IT believing that IT merely offers an opportunity for rationalisation and cost reduction (Eccles, 1991; Currie, 1994; Korn / Ferry International, 1998). Third, many senior executives see IT as a cost-pit rather than a strategic capability (Earl and Feeny, 1994; Venkatraman, 1997; Currie and Glover, 1999).

Fourth, many senior executives embrace a short-term focus on IT and exert inordinate pressure to achieve rapid payback and short-term gain (Lederer and Mendelow, 1987; Clegg et al, 1996; Mathieson, 1998). Fifth, IT executives charged with delivering business value from IT are more often than not excluded from boards of management, executive management teams, and the corporate strategy process (Adler et al, 1992; Brumm, 1988; Carlyle, 1988). Sixth, many senior executives fail to commit to the IT strategy process (Galliers, 1986; Nath, 1989; Wilson, 1989). Seventh, the clear separation of managerial

and technical work serves to reinforce and invigorate the divide between business and IT (Grindley, 1991; 1992; Bensaou and Earl, 1998; Currie and Glover, 1999).

Inevitable Outcomes

The dilemma with IT is all too frequently framed in terms of conflict and discord between the executive and IT communities, a predictable outcome considering the manner in which each community addresses the introduction of IT. Each community assumes a limited perspective on the introduction of IT, executives assuming an economic focus and IT specialists assuming a technical focus (Lunt and Barclay, 1988; More, 1990). Each community shares a predilection to design people out of rather than into systems (Hill, 1981; Clegg, 1993; Schein, 1996). Similarly, each community shares a genuine lack of knowledge concerning the human and organisational aspects of IT-enabled change (Hornby et al, 1992; Schein, 1992). The dominance of these foci regularly results in a ‘task and technology’ approach to the introduction of IT in work organisations (Blackler and Brown, 1986).

Indeed, it is rather unclear as to who is responsible for human and organisational issues. According to Clegg and Kemp (1986) and Clegg (1995) IT specialists see their job as being complete once the software application has been developed. ‘Deeply held beliefs that IT can cause change lead both line managers and IT specialists to restrict their own efforts as change agents. With everyone assuming that change management is the job of someone – or something – else, there is often no one left to perform change management tasks. Change then fails, and lack of learning about the root causes of failure promotes future failures’ (Markus and Benjamin, 1997a:66).

Considering the power and influence that these communities exert on the process of introducing IT into work organisations, the challenge of embracing a balanced perspective on the introduction of IT seems daunting. In light of this, and without being prescriptive, how can organisations influence the process of introducing IT to ensure that human and organisational issues are given equal consideration with economic and technical? One distinct possibility is to consider the involvement of organisation development (OD) expertise since such expertise is generally well informed concerning the human and organisational factors that are generally ignored as part of the process of introducing IT (Markus and Benjamin, 1997a; 1997b; Coghlan, 1998; McDonagh and Coghlan, 1999).

Reflecting on the potential value of OD expertise in shaping the introduction of IT in work organisations, it seems prudent to consider for a brief moment the essential nature of OD. Organisation development is an approach to the management of planned change in organisations which is grounded in such assumptions: (a) that change involves unlearning attitudes and habits already well embedded and integrated in existing habits and social relationships, (b) that change will not take place unless there is some motivation to change and that creating the motivation to change is often the most difficult part of the change process, and (c) that while it is the individual who ultimately changes and mediates change in an organisation, the groups to which individuals belong and with which they identify are the key focus and agents of change. Its primary origins lie in the action research work of Kurt Lewin and his colleagues in training groups and how those groups developed into organisational interventions (Burke, 1994; Beckhard, 1997; French & Bell, 1999).

Organisation development practitioners have traditionally been grounded in humanistic values which emphasise a focus on process, open communication, empowerment, a culture of collaboration and inquiry and continuous learning within organisations (Van Eynde, Church, Hurley & Burke, 1992; Schein, 1999). Accordingly, OD practitioners have frequently come from a psychologically-trained background, though in more recent years a business background has become common.

Gottlieb (1998) presents a conceptual framework for understanding the role concept of OD practitioners. In this framework, the key factors that influence and contribute to OD practitioners’ role concept are

self-identity and professional identity. Self-identity is grounded in individual characteristics and personality dispositions, self-knowledge and personal skills and abilities. The sources of professional identity are education and training, particularly from graduate degree programmes and specialised training and professional development, professional colleagues, and mentors and role models. A particular element within professional identity is membership of and identification with colleagues and peers through professional associations. OD practitioners typically are members of such professional bodies as the Organisation Development Network (ODN), Organisation Development Institute, the Academy of Management Organisation Development and Change Division (OD&C), American Association of Training and Development (ASTD), Society of Industrial and Organisational Psychologists (SIOP).

Returning to the essential dilemma with IT, various writers within the disciplines of OD and IT have advocated a potential role for the expertise that OD provides (Bostrom and Heinen, 1977; Loftin and Moosbrucker, 1982; Markus and Benjamin, 1997a; 1997b). Notwithstanding such advocacy, the reality remains that the IT and OD communities are polarised with respect to their perspectives on change. IT specialists pursue a technocentric agenda ignoring the human and organisational consequences of that agenda (Clegg and Kemp, 1986; Clegg et al, 1996). Similarly, OD specialists pursue an explicitly humanistic agenda and do not consider the IT domain as one to which they can naturally contribute (McDermott, 1984; Fagenson and Burke, 1990; McDonagh & Coghlan, 1999).

Alas, the potential role for a humanistic focus in the process of introducing IT is a central theme for neither the OD community nor the IT community. While some elements in both communities have pointed to the need for an integrated perspective on IT-enabled change, the reality remains that the IT community does not understand OD and the OD community does not understand IT (Markus and Benjamin, 1997a; 1997b). Considering the lack of understanding between these communities, should we be surprised to find that IT-enabled change remains, for the most part, technically driven?

The Role of Academia

The pursuit of academic and professional qualifications in the domains of OD and IT appears to reinforce a non-systemic approach to the introduction of IT in work organisations. In the context of IT such qualifications tend to reinforce an engineering approach to IT-enabled change. For example, the British Computer Society (BCS) sees itself as the premier fraternity for IS engineers. On being appointed as president of the Council of European Professional Informatics Societies, Roger Johnson, past president and fellow of the BCS, stated - 'In my two years as president, I would like to share the vision of IT as an engineering profession – a uniquely British and Irish view. We have a strong sense that IT is part of the engineering profession' (BCS Professional News, 1997).

While the Society may consider itself as the Society for Information Systems Engineering, it is of concern that the nature of IS engineering remains somewhat opaque. 'One view is that building information systems is five-sixths software engineering; another view is that it is one-eighth. Somewhere between these two poles we need to work out a number of issues' (Lindsay, 1997:8). To address this dilemma, the BCS has instituted a new 'Information Systems Technical Committee' under the auspices of the BCS Technical Board (Lindsay, 1997).

The pursuit of academic qualifications in the area of IT equally shapes and reinforces this engineering mindset. Unlike Buckingham et al (1987) who foster a balanced approach in shaping a model curriculum for undergraduate degree programmes in IS, the Association for Computing Machinery (ACM), the Association for Information Systems (AIS), and the Association of Information Technology Professionals (AITP) have endorsed a model that gives pre-eminence to technical considerations (Davis, et al, 1997). Human and organisational aspects of the model curriculum are rather scant, ill defined and subservient to the contributions of computer science and software engineering. Similarly, the Information Resource Management Association (IRMA) and the Data Administration Managers Association (DAMA) have

developed a model curriculum that is even more technocentric in focus (<http://www.irma-international.org>).

More recently, by way of addressing the enduring dilemma with IT-enabled under-performance and failure, a new information systems curriculum has been proposed (Lidtke et al, 1999). Funded by the National Science Foundation in the US, this curriculum is unashamedly technocentric in nature and is highly unlikely to positively influence the problem that it purports to address. The curriculum identifies seven areas of core knowledge including (i) information abstraction, representation and organisation, (ii) enterprise computing architectures and delivery systems, (iii) concepts of information distribution, (iv) human-computer interfaces, (v) dynamics of change, (vi) process management and systems development, and (vii) industry domain knowledge. While the inclusion of 'dynamics of change' as an area of core knowledge appears promising, a detailed critique of proposed curriculum content suggests that technical change rather than behavioural or organisational change dominates.

In the context of OD, academic and professional qualifications tend to treat IT as either a black box, if at all, or choose to marginalise and ignore the technical aspects of IT-enabled change. For example, Church and Burke (1993) surveyed a number of organisational consultants by virtue of membership of three professional groups – OD Network, ASTD, and SIOP – and found that the courses which formed the education of these consultants were primarily: organisational psychology, group dynamics, human resource management, counselling and interviewing, action research and consulting, conflict resolution and process consultation.

The Organization Development and Change (OD&C) Division of the Academy of Management held a consultation among its members to develop guidelines for entry level competencies. This was in response to an expressed need from potential masters students who reported that they were confused when trying to select an OD&C graduate programme from the many on offer (Worley & Varney, 1998). There appeared to be no clear statement of what OD is or is not. Accordingly, between 1995 and the present, a group initiated discussion and consultation among the members of the OD&C Division to attempt to articulate a common body of knowledge which would guide the design of masters level OD programmes.

The outcome to date is a code of foundation knowledge and skills and core knowledge and skills (Varney, 1999). This code reflects previous efforts to codify what constitutes the core of a formation in OD (Varney, 1985; Burke, 1994). Foundational knowledge names six areas – organisation behaviour (organisation culture, work design, interpersonal relations, power and politics, leadership, goal setting, conflict and ethics), individual behaviour (learning, motivation, perception), group dynamics (roles, communication processes, decision making, stages of group development, leadership), management and organisation theory (planning, organising, leading and controlling, problem solving and decision making, contingency theory, systems theory, characteristics of environment and technology, models of organisation and systems effectiveness), research methods/statistics (measures of central tendency, measures of dispersion, basic sampling theory, basic experimental designs, sample inferential statistics), comparative cultural perspectives (dimensions of national and industry cultures, and their systems implications). Foundational skills listed are: interpersonal communication, collaborative working, problem solving, using new technology, conceptualising, project management, and presentation and education and coaching skills.

Core knowledge names five areas: organisation design, organisation research, systems dynamics, history of OD&C, and theories and models of change. Core skills are managing the change process, analysis and diagnosis, designing and choosing appropriate interventions, facilitation and process consultation, developing client capability, and evaluating organisational change.

The absence of any explicit reference to IT is obvious, though it may be argued optimistically that IT could be considered under the foundation knowledge and skills "characteristics of environment and technology". Indeed the general neglect of any specific content area has long been an issue of discussion

within OD for many years (Jelinek & Litterer, 1988; Worley, Hitchin & Ross, 1996). In a more pessimistic vein, McDonagh and Coghlan (1999) see no signs of IT content and expertise becoming central or critical to OD education.

Conclusions

We have presented what is an enduring dilemma with IT-enabled change in organisations, showing how under-performance and failure are persistent over several decades. We have reported on some of the research into this phenomenon which is unanimous in its location of the cause of large scale under-performance and failure. The dominance of economic and technological considerations and the relative marginalization of human and organisational considerations are a direct consequence of the formation and mindsets of the executive and IT communities.

This dilemma with IT is further compounded by an inability to effect integrated change due to the requisite knowledge and expertise being widely dispersed in organisational settings (Andriole and Freeman, 1993; Clegg et al, 1996; 1997; McDonagh, 1999a; 1999c; McDonagh and Coghlan, 1999). Those organisational actors who understand the technology have little appreciation of the human and organisational aspects of IT (Clegg et al, 1996; 1997). Similarly, those organisational actors who understand the human and organisational aspects of IT have little appreciation for the technology (Clegg et al, 1996; 1997). Addressing this dilemma inevitably places a high premium on integrating different forms of knowledge and expertise (Andriole and Freeman, 1993; Clegg et al, 1996; 1997).

When we turned to OD, which we would expect to offer a basis for confronting the IT dilemma, we found that it too is embedded in its own occupational mindset. Notwithstanding, Church and Burke (1995) reflect that OD is in a state of change and that the “new guard” is different from the “old guard”, primarily because it has a focus on contemporary business process and outcomes, rather than one on human relations and group process outcomes. Nonetheless, it must be noted that the debate continues within OD as to how OD needs to maintain its distinctive identity in its focus on values and process and not be diluted so as to appear ‘confused’ with the rather popular field of change management (Church, Waclawski and Segal, 1996; Worren, Ruddle and Moore, 1999).

Wherewith the education of OD and IT specialists? It is our opinion that both the OD and IT communities need to reflect on the persistent dilemma with IT-enabled change, and how each community’s respective curricula, not only contribute to sustaining the dilemma but have also the potential for confronting it. Such confrontation would make challenging demands on professional and university curricula for interdisciplinary work. Unfortunately, the kind of educational programmes necessary to sustain an interdisciplinary approach to IT and OD are not in place in most educational institutions (Andriole and Freeman, 1993). Although there are certainly institutions with broad perspectives, there are far too many institutions working well within conventional disciplinary boundaries.

In conclusion, the role of conventional academia, working within clearly defined boundaries, is contributing to the enduring dilemma with IT. Addressing this dilemma of necessity involves a significant departure from such conventional academic practice and a genuine willingness to shape integrated academic programmes based on inter-disciplinary and cross-faculty collaboration. Our personal experience, in both working together and shaping such integrated programmes at Trinity College, suggests that over time the distinctive knowledge and expertise of both the IT and OD communities can be co-ordinated and integrated through inter-disciplinary collaboration and dialogue.

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Exploring The Role Of Academia in Nurturing IT-Enabled Business Change

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Exploring The Role Of Academia in Nurturing IT-Enabled Business Change

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