The Executive Learning Ladder: A Knowledge Creation Process Grounded in the Strategic Information Systems Domain

Clive Holtham
City University Business School London

Nigel Courtney
City University Business School London

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Clive Holtham
Bull Information Systems Professor of Information Management
Nigel Courtney
City University Business School, London

Abstract

This paper reports on an approach developed since 1995 to promote and accelerate knowledge creation and sharing behaviours for business benefit within and between organisations. The approach, which is grounded in the information systems domain, has involved close collaboration between a business school and a consortium of organisations of various sizes.

This project has involved developing and refining theories of executive learning in relation to the strategic application of IT, then implementing practical tools and methods based on these theories. Not all the components developed have yet achieved the objectives initially set and the reasons for practical success and failure are explored.

Management and Strategic Information Systems

Until this decade IS was mainly used to automate tasks rather than to seize competitive advantage (Keen 1988). A few best practice organisations were exploiting the capabilities of information and communications technologies (IT) in new, strategic ways, with top management deciding the role of IS (Rockart and DeLong 1988). One tactic was to develop the "hybrid manager" – a person doing a line or functional job but adept at developing and supplementing IT application ideas (Earl 1989). To offset the implied technical bias, Earl added two roles: "leaders" - business executives who can drive the exploitation of IT; and "impresarios" - IS managers who can propel the organisation into strategic consideration of IT (Skyrme 1996). In practice it was still rare to find business leaders who used computers personally to communicate, coach, convince and compete (Boone 1991).

The situation in the UK was crystallised in the "IT Skills in the 90s" report which surveyed over 700 organisations, both large and small. (West London TEC 1993). The majority believed that lack of executive IT-awareness "could drive their businesses to the wall."

Joining Forces to Speed Progress

This paper reports on an initiative, in response to these findings, to enable executives to understand and exploit the strategic capabilities of information systems for business benefit.

Theories of Management Learning

There is a tradition in management education, exemplified by the Harvard approach, of using case studies abstracted from real situations (McNair 1954). For managers in work a simulated business environment has proved powerful (Argyris and Schon 1978). Personal circumstances will determine when off-the-job or on-the-job learning options are appropriate (Easteal and Thomas 1984) because individuals have a preferred cognitive style; holistic, versatile or serialist (Jones et al. 1997). To be effective, any form of technology-assisted training must be matched to individual characteristics (Riding 1996).

Hypothesis: Executives require a "menu of options" to stimulate effective learning.

Is the Learning Process Linear?

The theories surrounding Knowledge Management are topical but their bases are long established. Currently popular authors remind us that, while information can take many explicit forms, knowledge is tacit and exists in people's heads (Nonaka and Takeuchi 1995). They tend to delineate a scalar spectrum spanning data, information, knowledge and wisdom (Wiig et al. 1997) implying a "best place to be." But "In times of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists" (Eric Hoffer, in Brown 1997). Wrapping the spectrum to promote "double-loop" learning enables people to make sense of events for future use (Argyris and Schon op cit). But what is information to one person may be data to another.

Hypothesis: A learning process is more effective when it is shared between a self-selected peer group.

The Importance of Metaphors

Infants use "transitional objects" to provide emotional support as they unlearn first theories and make the transition to more accurate theories (Winnicott 1958). A physical artefact can help school children to translate information into knowledge for evaluation (Papert 1980). We have found when interviewing senior executives that a transitional object fashioned to represent a complex IT-related concept will very quickly open up meaningful discussion (Holtham and Courtney 1995). As Alan Kaye, the Apple Fellow, has said: "A picture is worth a thousand words; a metaphor is worth a thousand pictures."

Hypothesis: Metaphors help executives integrate the capabilities of IT into mental models of business.

Development of a Knowledge-sharing Culture

The role of the manager as educator, coach and counselor (Tannehill 1970) is changing to one of sponsor of on-going learning by the individual (Senge 1990). The "learning company" results from a willingness to share information and knowledge as an organizational asset (Pedler et al. 1997). A characteristic of knowledge is that it can be given while being retained. But many managers equate tacit knowledge with employability.

Hypothesis: Knowledge-sharing behavior depends on the belief that sharing will lead to accrual.

Steps Toward A Practical Solution

By January 1995 the IT Skills in the 90s report had resonated with executives in some twenty leading UK enterprises. Each recognized that they were independently tackling the same problem, with limited success. They founded a collaborative consortium, including a research university, to find practical ways to accelerate results. Early benefits inspired the "Executive Studio" – an installation built in partnership with government to accelerate executive learning about the capabilities of IS to transform business performance.

The "4-D" learning approach adopted – Discovery, Design, Development, Deployment – underpinned an integrative framework, "The Executive Learning Ladder" (see Figure 1).
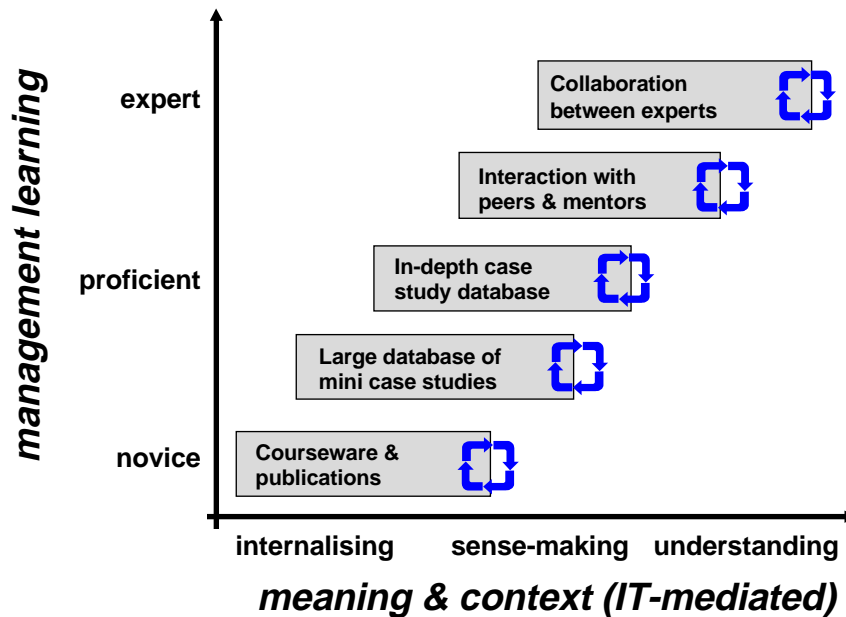

Figure 1. The Executive Learning Ladder

This represents five stages of learning. The circle of arrows in each layer symbolizes the dynamics of gathering data, acquiring information, developing knowledge and gaining insight. At the lowest "rung," the novice executive is primarily concerned with extracting information from data. At the highest level the executive is already an expert and develops further degrees of knowledge and insight through interaction with other experts. The middle rungs place an emphasis on developing confidence and competencies through the sharing of experience – both good and bad – and by using case studies as a source of ideas.

Interactive workshops were organised to integrate the research findings with members' own experiences in order to develop a shared understanding and ownership of the outputs. Groupware was adopted to give members remote electronic access and

online search facilities to over 450 business-IT case studies and also for asynchronous conferencing at different levels of the learning ladder. Group decision support software became a regular feature at the interactive workshops.

Over 12-months (1/2/97-31/1/1998) 50 face to face events were delivered. These variously addressed the five levels of the learning ladder and were attended by a total of 561 executives from a wide range of industry sectors. Attendance at any event is entirely optional. The distribution of bookings between senior, middle and novice managers was 51%, 28% and 21% respectively.

Figure 2 groups the 50 events into categories and shows that, left to their own devices, senior managers will seek out networking occasions, middle managers prefer interactive workshops and novice managers are most likely to attend practical workshops.
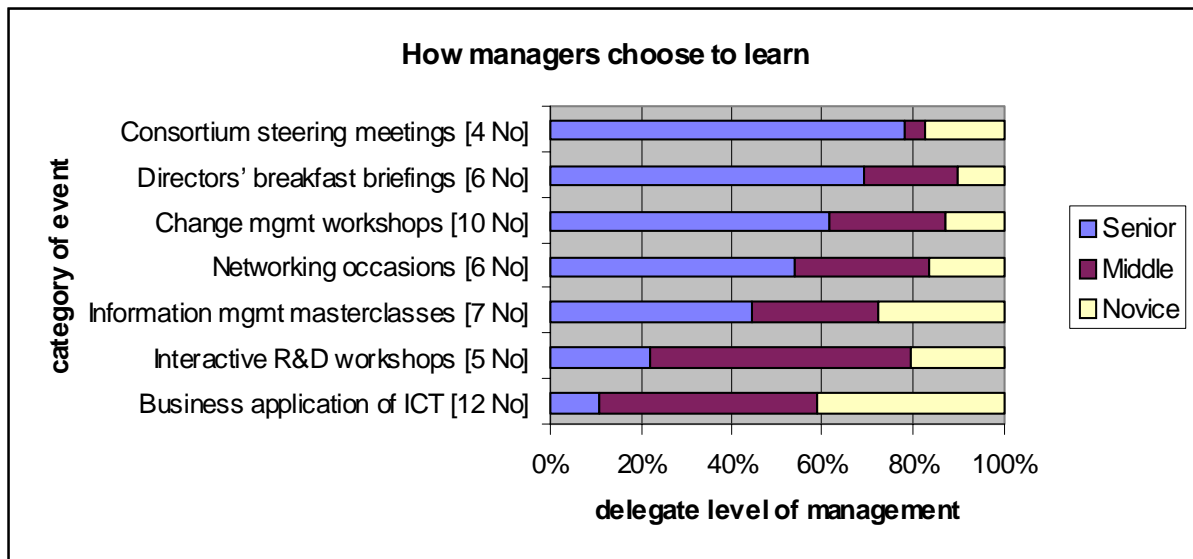

Figure 2. Grouping of Events into Categories

Because of the rapid pace of change in the IT domain the content is constantly evolving. When an event has been repeated by popular demand the booking patterns reflect a cascade to novice managers.

Assessment

Organizational impact has been evaluated by means of assessment forms and reviews with executive sponsors. Although some managers at each level have strongly disliked the learning process, the overall satisfaction rating has remained above 80%. Even though the overall assessment of the programme has been positive, the results reflect relatively high degrees of organisational change, both internally and externally. We deduce that, in terms of Earl's definitions, companies need to cultivate the "learning leaders" and "learning impresarios" who can play a key role at the middle levels of the learning ladder. The impresarios would take ownership of the alignment of business and IT strategy; the leaders would drive through the enterprise-wide development of skills to use IT. In terms of our four hypotheses:

A variety of approaches is required. Since the consortium embraces many industries an eclectic range of stimuli is required. The evidence from this project is that the more experienced the executive, the fewer the number of stimuli required to trigger recognition and understanding. At the higher levels of the learning ladder the contribution of expertise is as important as the acquisition of fresh information.

The learning process must be dynamic. The 50 events led to the publication of 20 workbooks for consortium members. Most resulted from facilitated electronic meeting room workshops. The online resources have served to stimulate and validate outcomes but moderated asynchronous discussion groups have had little impact. Dynamic learning by executives remains dependent on face-to-face exchanges.

Metaphors speed up managerial learning. Metaphors have proved valuable with senior executives in two ways; to bring an ad hoc group very quickly to a shared understanding of the issues and to make outcomes memorable. More junior managers require concrete examples to stimulate learning.

Development of a knowledge-sharing culture. Our approach has been to "show what excellent looks like" – firstly via online access to first hand case studies, then by videotaped interviews and finally by visits to exemplar organisations, hosted by the CEO. Perceived business benefit is evidenced by an annual consortium membership subscription renewal rate above 80%.

Conclusions

I. Despite all the advances in IT-mediated communications, senior executives uphold face-to-face contact as the critical factor for successful development of managerial competencies in the application of IT for business benefit

II. Although e-mail is prevalent in UK organisations, executives demonstrate by their actions that asynchronous electronic communication across organisational boundaries has very low priority

III. With experienced executives the immediate impact of metaphors can and does speed up their unlearning of earlier theories and absorption of new

IV. The Executive Learning Ladder has proved to be a powerful concept but requires continuous content development accompanied by the effective deployment within organisations of the key learning roles of leader and impresario.

References

References available upon request from the first author (e-mail: sf329@city.ac.uk).