

Book Reviews

Platypus. The Extraordinary Story of How a Curious Creature Baffled the World

Ann Moyal

Washington, DC, Smithsonian Institution Press, 2001, xiii + 226 pp., US\$21.95, ISBN 1-56098-977-7

This is a cracker of a book, a smashing read. Though compulsory literature for devotees of the platypus, there are too few of these to provide the royalties the author deserves. This scarcely matters; the book's real readership is those interested in the development of understanding and these are—mercifully—much more numerous than platypus fans.

Ann Moyal traces the growth of Western knowledge of the platypus, a creature unusual even by Australian standards. The first arrival in Europe in 1799 of the pathetic remains of a platypus threw the scientific Establishment into disarray and launched almost a century of contention about the creature. Doubt was cast not only on whether it was reptile or mammal, but also—at least in the beginning—on its very existence. Whether the platypus really could be an egg-laying mammal stimulated decades of debate in Europe, and Ann Moyal to provide the most detailed accounts of how its anatomical and reproductive characteristics were perceived. How could the thing be a mammal and at the same time lay eggs? And if it did lay eggs, then what was it?

To lovers of the platypus, Moyal's faithful reporting of clinical detail will seem to invade the sanctity of the burrow, an intrusion into the privacy of a quiet, shy and harmless animal. This is as nothing compared with the disruption to platypus life occasioned by Victorian scientists. In their search for scientific truth, they destroyed thousands of the creatures, some impaled, many more, it would seem, blasted to smithereens. While modern efforts to advance human knowledge of the animal kingdom tend to present truth with all the consensus of the documentary, the truth of Victorian England was starkly adversarial, the intellectual debate of French Science replaced by a fierce wrangling that rewarded the victor with Heaven, and the vanquished with everlasting Hellfire. Modern forays into the animal kingdom seek to preserve and conserve, missions that the Victorians would have found gutlessly anodyne. For them, the only useful platypus were dead platypus, and the only preserved platypus were pickled.

In a very real sense, Ann Moyal is kin to these men of nineteenth century letters, the sponsors and sometimes perpetrators of platypus butchery. She, too, exploits the platypus. Despite a soft spot for the echidna, and an enthusiastically romantic account of her first encounter with a wild platypus, Moyal is no platyphile. Rather, the platypus is the tool with which she explores the rivalry and jealousy of scientific men, the can opener used to reveal the scientific worms. Names were to be made by more, and by more detailed, classification of the denizens of the animal and plant kingdoms. The platypus defied classification and thus cast doubt on existing classification, and more fundamentally, on existing classification systems. Reputations were at stake, to be tested as much in philosophical and theological dispute as in scientific.

The platypus lays eggs and suckles its young after they hatch. Such a conclusion, with its awesome implications for classification, was resisted by nineteenth century science to the extent that it neglected the means by which the existence of the characteristic could have been established. Resolution was sought through the mass slaughter of platypus for European dissection rather than by asking the Australian Aborigines, who seem never to have doubted that the things lay eggs. Though the platypus was prominent in the debate brewing in London on the origin of species, the Australian Aborigine was not. Centre stage was contested by Charles Darwin, favouring evolution of species, and Richard Owen, favouring, if not fixity of species, then their progressive re-creation. For Darwin, evolution of mammals from a creature with reptilian characteristics, like the platypus, made sense: for Owen, the regular re-creation of something as ridiculous as the platypus did not.

The platypus provides the perfect opportunity for Ann Moyal to exhibit her unrivalled knowledge of the history of scientific influence in Australia. She is the author of *Scientists in Nineteenth Century Australia: A Documentary History* (Cassell, Melbourne, 1976), '*A Bright and Savage Land*'. *Scientists in Colonial Australia* (Penguin, Harmondsworth, 1993) and *Portraits in Science* (National Library of Australia, Canberra, 1994). She knows Joseph Banks better than his mother ever did, and no one has broader knowledge of the many scientists who have toiled in his wake. Yet, as the author must know from the popularity of this volume outside Australia, this is a book about grander matters than the platypus or things Australian. In fact, it challenges Australians to see the platypus in something other than the confines of an Australian context. This is a bold undertaking. Study of the platypus is now an Australian preserve. No doubt the Australian scientists guarding their terrain are dedicated and competent, but their national orientation inevitably removes the platypus from the world stage and contributes to Australia's increasing isolation. For most Australians, the platypus is important only as a toy or logo, symbolising the national aspiration of the moment—a successive re-creation ironically Owenite. With all the political correctness and cultural rectitude they can muster, Australians now protect the platypus, not in honour of its prominence in the development of understanding of the order of things, but because it's a cute little fella with a duckbill. For Australians, it is a tragedy that the wartime gift of a platypus to Winston Churchill did not survive the journey. For others, it is a tribute to the much greater importance of the platypus that this one spent the rest of the Second World War on Winston's desk—stuffed.

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E-commerce: Business Technology Society

Kenneth C. Laudon and Carol Guercio Traver

Boston, MA, Addison Wesley, 2002, xxxv + 862 pp. [Chapters 13 and 14 (pp. 724–862) in separate booklet], £32.99, ISBN 0-201-74815-0 hbk, ISBN 0-321-12707-2 pbk

Dark Fiber: Tracking Critical Internet Culture

Geert Lovink

Cambridge, MA & London, MIT Press, 2002, xi + 382 pp., £18.50, ISBN 0-262-12249-0 hbk

In both Laudon and Traver's *E-commerce: Business Technology Society*, and Lovink's *Dark Fiber: Tracking Critical Internet Culture*, the authors unpick, examine and represent aspects of modern information culture. Laudon and Traver's approach is a commercial one, aimed at and designed for those with entrepreneurial interests in e-commerce. Lovink's approach is altogether more pragmatic, more critical, and extends more widely, taking in not just e-commerce, but dealing also with Internet counter-culture, information warfare, information ethics, and dotcom hysteria.

E-commerce: Business Technology Society is one of many textbooks currently available on electronic commerce. Like many of these other textbooks, it appears to be mainly directed at students and/or practitioners, those who if not already embarked on e-commerce ventures, may one day in the near or middle future be doing so. Within each of the book's sections, 'Introduction to e-commerce', 'Technical infrastructures for e-commerce', 'Business concepts and social issues' and 'E-commerce in action', Laudon and Traver present background material (generally supported by authoritative references), and case studies, before moving into what those in the trade often refer to as 'cookbook mode': where they offer business and technical advice, in some cases pointing towards particular products and e-commerce solutions.

The book has a fairly lengthy preface which includes a description of its layout, and explanation of the chapter structure, as well a URL for the book's website which—with the registration code provided at the front of the book—readers can access to further reinforce and update their knowledge of e-commerce. Rather messily, Chapters 13 and 14 have been published in a supplementary paperback (they were previously only available as online e-texts).

It is not until some way into the book, that Laudon and Traver set out what is apparently their mission statement and *raison-d'être* for the book. This is that 'understanding e-commerce in its totality is a difficult task for students and instructors because there are so many facets to the phenomenon' (p. 36). They report that their teaching and writing experience of e-commerce has led them to try to systematise their approach to it, via three broad but interrelated themes: technology, business and society. In the main, their book does cover each of these themes satisfactorily and engagingly.

What Laudon and Traver neatly sidestep, however (and they are not alone in doing this), is any sustained engagement with the operations management aspects of electronic commerce. This may be a partial function of the American perspective, which tends to see operations management as synonymous with Operations Research (OR), and considers both to be sub-functions of 'Manage-

ment Science', when they are in fact quite separate fields of study. A key drawback of OR is that it tends to be technique-driven (especially quantitative techniques) and largely theoretically as opposed to empirically based. This leads to a predilection within OR for the worst kind of simulation paper that practitioners (usually) can find no use for. So it is understandable that Laudon and Traver might wish to steer away from this arena. And indeed they confirm their view that 'management scientists are primarily interested in building mathematical models of business processes and optimizing these processes' (p. 39). In a book aimed at student-practitioners, it is possible to understand, somewhat, Laudon and Traver's avoidance of operations management. Yet there is at the same time a growing body of literature—including North American literature—which recognises operations management as a neglected function in e-commerce, and which is seeking—slowly—and succeeding—slowly—in addressing this gap, both through theoretical and empirical contributions. Laudon and Traver's dodge appears to be in choosing to define e-commerce and e-business as two separate entities and to focus on e-commerce alone, because of its external, transactional qualities.

Laudon and Traver define e-commerce as 'the use of the Internet and the Web to transact business. More formally, digitally enabled commercial transactions between and among organizations and individuals' (p. 6). They insist that an 'exchange of value is important for understanding the limits of e-commerce: without an exchange of value, no commerce occurs' (p. 7). In contrast, they use the term e-business 'to refer primarily to the digital enablement of transactions and processes *within* a firm, involving information systems under the control of the firm' (p. 7). They acknowledge that 'e-commerce and e-business systems can and do blur together at the business firm boundary' (p. 7) and propose to examine this further in Chapter 14. Chapter 14 is contained within the separate paperback publication, and it in fact deals with digital media and online content providers. The chapter on e-business is Chapter 12, 'B2B e-commerce: supply chain management and collaborative commerce', contained within the main (hardback) text. This merry hunt around the chapters still fails to reveal any glimpse of that elusive quarry, operations management.

All in all, however, things could be worse. The book is laid out clearly, with a handy chapter—for those who lack this knowledge, or who require a remedy for insomnia—on the history and development of the Internet. Chapter 9 contains a discussion of ethical, social and political issues in e-commerce. The case studies are engaging, well-presented and as current as may be expected. The text is supplemented by the links to the website, where there are further resources and (in some cases, full text) links to academic and journal papers. Laudon and Traver write that the challenge of e-commerce 'is to learn enough about a variety of academic disciplines so that you can grasp the significance of e-commerce in its entirety' (p. 42). Surely, this is the perennial challenge, not just in e-commerce, but in all domains of human knowledge-seeking. But within e-commerce, Laudon and Traver have made an admirable start, and students and would-be practitioners seeking to build a knowledge base for e-commerce could do worse than to start with this book.

In *Dark Fiber: Tracking Critical Internet Culture*, Geert Lovink trains a very different lens on the Information Society and in particular, its digital media offspring. He describes himself as a 'radical media pragmatist' and accordingly, his observations are piercing, sometimes offbeat and often entertaining, in a text dense with ideas and developed upon strong critical and intellectual foundations.

The texts and essays have mainly appeared 'in earlier versions and websites, in particular nettime and Telepolis, sometimes under different titles' (p. viii). Lovink writes that the book was assembled at the suggestion of Timothy Drucker, editor of 'Electronic Culture: History, Theory, Practice', the series in which *Dark Fiber* is published. He tells us that 'details were finalised in March 2001, and the writing and editorial work took place during May, June and July of 2001' (p. xi). The book does sometimes betray its hasty conception: there are places where further editing could make a significant impact (some of the early texts are rather rambling, and Lovink's poetic language can sometimes over-meander and stray from the point). Some of the text does read very much in the style of a hasty contribution posted to a mailing list discussion in full flow. Some editorial tightening could have helped both with readability and accessibility. But perhaps any such inaccessibility is deliberately intended, aimed to keep the stakes intellectually high, since Lovink is, one suspects, somewhat of a closet-elitist. He writes that 'with the exception of a few fields such as critical urban studies, (virtual) architecture, and the globalization debate, the theory sector carefully avoided the real existing net and its clumsy practicalities and left the task of defining the bubbling field to business gurus. Internet culture thus got easily crushed between popular imagination and equally unrealistic economic models' (p. 5). Any elitism on Lovink's part does appear to serve his purpose well, especially as his critical lens now enjoys some of the additional benefit of hindsight.

Lovink presents the texts and essays through seven sections, from 'Theory', 'Case Studies' and 'Crystals of Net Criticism' through 'Travelogues', 'Dynamics of Net Culture', 'Reality Check' and 'Towards a Political Economy'. Quite how each section is linked to the next is not always clear, but perhaps any explicit linkage is unnecessary: the writing is self-contained and each piece stands quite happily on its own, much as in a collection of journalistic essays—which, in a traditional sense, is exactly what is on offer here.

In 'Case Studies', Lovink traces the origins and evolution of the Amsterdam Digital City, 'one of Europe's largest and best-known independent community Internet projects' (p. 42) from its 'amateur, low-tech, non-budget grassroots' (p. 55), through to its latter day embodiment, 'now simply a regular commercial provider offering DSL broadband services' (p. 64). His sense of regret is palpable: much later in the book he writes, 'the idea that the information age would stand for principles such as networking, customization, niche production and high-risk innovation already sounds like outdated vaporware' (p. 340). In 'The Moderation Question', he presents a case study of the nettime mailing list, 'a cross-disciplinary, international exchange for the cultural politics of the net' (p. 68) originally founded in 1995. This is one of Lovink's more rambling and autobiographical essays, where the reader may be inclined to wonder 'so what?'. Perhaps its most memorable moment is when Lovink recalls a meeting of the ZK Spessart, at which Hans-Christian Dany gave a lecture that purported to set out 'the relation between Microsoft windows and multiple personality disorders' (p. 76).

Lovink gets into good stride in the sections 'Reality Check' and 'Towards a Political Economy' where he treats the themes of information warfare, and war in the time of the Internet (Kosovo), as well as the dotcom hype and hysteria. He makes a key point when he writes, 'what is badly needed are autonomous research collectives that critically examine the social, economic, and even ecological aspects of the information technology business' (p. 313). He later writes, in 'Cyberculture in the Dotcom Age' that 'the Internet has proved incapable of creating its own

consciousness. Instead, law and order are taking command over the last pockets of digital wilderness. Logging onto the net will soon be as fascinating and meaningful as picking up the phone' (p. 330). Yet it is without any apparent trace of irony that, just a few pages further, he describes the 'loss of confidence in the public sphere of cyberspace' because 'business and developer groups as well as activists and researchers have started mailing lists and discussion forums with password protected sites'. He complains 'who wants to discuss sophisticated concepts with all the boobos and weirdoes surfing over the web, looking for places to make trouble?' (pp. 335–6). Lovink was, and still purports to be a troublemaker, albeit one with a highly specialised toolkit. That he continues to make his particular brand of trouble in a way that is incisive, critically and intellectually rigorous, and usually—pragmatic, is greatly to his credit, and one imagines, his impact. He writes of the 'civic hedging of hyperspace, demanding a break in the release of yet another version' as a means of holding up the development of a technology in order 'to protect that technology from being reduced to one single quality, to one single idea—shopping mall and money machine, total work and total entertainment environment' (p. 344). But using terms like 'boobos' and 'weirdoes' (p. 336) sits uneasily given his view that 'at best, the net will be a mirror of societies, countries and cultures which use it, not the sweet and innocent, sleepy global village but a vibrant crawling and crashing bunch of complexities, as chaotic and unfinished as the world we live in'. If this is true, then surely there must also be room for these 'boobos and weirdoes', who after all, have provided so much of the fuel for Lovink's insightful fire.

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Managing Technological Change. A Strategic Partnership Approach

Carol Joyce Haddad

London, UK, Sage Publications, July 2002, xiv + 146 pp., £58.00 cloth, £25.00 pbk, ISBN 0-7619-2563-5 cloth, ISBN 0-7619-2564-3 pbk

The title and visual presentation of this slim volume caused me to anticipate that it had been written for those people who should contribute to one or more phases in the technological change process within organisations, and that its emphasis would be on the human aspects of technological change from a planning to implementation perspective. These expectations derive largely from my understanding of the concepts represented in the title. For example, I interpret the concept of 'technological change' in terms of changes in any area of an organisation's activities—that is, to changes in the administration and/or the production of an organisation's products or services in both its human and non-human, and tangible and intangible dimensions.¹ In this connection, the cover of the book did not give me any reason to think that Haddad had restricted the concept of 'technology' to only the hardware dimensions. The word, 'strategic' in the title conveyed ideas to me of technological change, aimed at achieving existing or revised organisational goals, approached from a business planning perspective;² the word, 'partnership' conveyed that successful technological change involves many individuals working cooperatively. Upon opening its pages, I further anticipated from the Contents

pages and the Preface that the book's content would recognise that not all technological change was worthwhile or successful, and that it would acknowledge the expected and unexpected organisational consequences of technological change in diverse organisations.

Before remarking on whether or not my expectations were satisfied, it is appropriate to overview and comment on the structure and content of the book, which comprises eight chapters. The author introduces readers to the perils of failing to adopt a strategic partnership approach to planning, designing, and implementing technological change, by devoting Chapter 1 to presenting four organisational case studies containing diverse characteristics of success and failure in technological change. Using these examples, the author draws attention to the important fact that not all technological change is successful—indeed, that poorly conceptualised, planned, and/or implemented technological change can have very dysfunctional consequences for organisations. The chapter concludes with a brief analysis of the case studies that leads to the introduction of the core message of the book—that a systematic approach to technology management is imperative for successful technological change. Haddad also makes it clear from the outset that the scientific management principles, which strongly influenced twentieth century managerial thinking that increased efficiency and productivity and the all-important drivers of technological change, are 'the opposite of the philosophy espoused in [her] book' (p. 16).

The remaining seven chapters are devoted to examining the principles and practice of particular steps in the process of managing technological change. Each explains the central concepts from a theoretical perspective that is practitioner/reader-friendly and practical in its application.

Chapter 2 explores the concept of strategic partnerships, highlighting the importance of multiple stakeholder participation throughout the new technology adoption process—participation that 'goes beyond labour–management cooperation by changing power relationships' (pp. 27–8). It is in this chapter that Haddad defines the concept of *strategic partnership* in the management of technological change as 'a goal-focused collaboration involving two or more parties operating with equal influence and mutual respect, in which they jointly plan each step of the innovation process' (p. 29). She also overviews the strategic planning process, and emphasises the importance of situation analysis (using SWOT or SCOT analysis frameworks). Case studies are used again to good effect—three different ones to those introduced in Chapter 1—this time to provide examples of strategic partnerships.

Chapter 3 introduces and explains the concept of a *technology adoption life cycle* that involves an iterative, circular process of distinctive stages, which, in the context of an overarching business strategy, includes: needs assessment, technology planning, system design, implementation, and evaluation. However, Haddad warns that although 'knowing the steps involved in the technology adoption process is important . . . following them is not enough to ensure successful change' (p. 40). In this connection, she proposes that systems theory, sociotechnical systems theory, and industrial relations theory combine to provide a framework for understanding the importance of an *integrative systems approach* to new technology adoption. In so doing, she reinforces the importance of organisational goals, not technology, being the driving force in the change process—that is, that technology should not determine all the characteristics of the human systems within organisations undergoing technological change. Central to success, she argues, is good labour–

management relations. Another two case studies are introduced in the latter part of Chapter 3 to exemplify various aspects of the sociotechnical systems integration approach that Haddad explains is

not only a theory but also a method of work redesign that seeks to optimize the fit between the technical and social systems through open systems planning and adjustment and through the participation of employees in work analysis and design (p. 52).

The remaining five chapters deal sequentially with each of the distinctive stages of the technology adoption life cycle introduced in Chapter 3. In summary, Chapter 4 deals with assessing the organisational need and organisational readiness for technological change, while Chapter 5 deals with technology planning from the perspective of identifying and overcoming organisational barriers to integrated change. Chapter 6 focuses on system design, but not that which is concerned with the technical aspects of new hardware in technological change but, rather, the oft-neglected topic of the design of new systems of work. Chapter 7 deals with the implementation phase of the technology adoption life cycle and focuses on the training aspects of preparing employees for technological change and equipping them to work effectively in their changed work environments. The final chapter, Chapter 8, deals with system evaluation.

In its treatment of assessing an organisation's need and readiness for change, Chapter 4 builds on the SCOT/SWOT technique presented in Chapter 2 regarding analysis of the nature and extent of the gap between present and desired organisation performance. It then discusses the process of determining whether and how new technology might help to close the identified gap. It also introduces the concept of cost-benefit analysis (CBA) as an essential part of the business decision process concerning new technology adoption. Although the treatment of the latter is brief, it draws the reader's attention to the importance of including both tangible and intangible costs and benefits in such an evaluation. Like most of the techniques covered in the book, readers would need to refer to specialised literature for more comprehensive coverage of topics, in this case on economic evaluation techniques, before actually applying them. (This is not a criticism but an observation that Haddad's goal for the book appears to be a theoretically-grounded 'pocket guide' for practitioners. Hence, detailed coverage of all the principles and techniques included in the book is beyond its scope.) About three pages at the end of the chapter are devoted to explaining the importance of assessing an organisation's readiness for change and how this might be accomplished. Haddad introduces a number of internal organisational factors, ranging from employee attitudes and organisational resources to the current technical skills of employees, that might positively or negatively impact an organisation's readiness for change. Given the overall emphasis of the book on successful technological change being dependent on successful management of the human-technology interface, I was disappointed that assessment of the micro-organisational characteristics that are so important in this connection were given so little attention here. That said, Chapter 5 overcame my concerns with its focus on the macro- and micro-organisational barriers to integrated change. I think that my initial concerns on this matter might not have existed if Haddad had, in Chapter 4, made an explicit link between readiness for change assessment in Chapter 4 and the various macro- and micro-organisational variable that she discusses in Chapter 5 as barriers to successful

technological change. Alternatively, and, I think, better still, the section concerned with assessing readiness for change should be located in Chapter 5, thereby limiting Chapter 4 to the topic of assessing the need for change. After all, most of the organisational variables discussed in Chapter 5 as barriers to change were introduced in the latter part of Chapter 4 as potential 'obstacles' to change needing inclusion in a readiness for change assessment.

The treatment, in Chapter 5, of organisational variables, such as organisational structure, governance, labour relations, equal opportunity, organisational culture and politics, and employee attitudes are explicitly grounded in the organisation theory and organisational behaviour literature. However, as previously mentioned, theory is dealt with cursorily. Haddad uses it to highlight the key principles that are central to her message in Chapter 5: that successful technological change does not, and cannot, occur in isolation of organisational structure, culture, human resources systems, or power relationships; indeed, that all will be affected by, and/or affect new technological systems to some extent and, therefore, must be taken into account in the planning phase.

Haddad returns to a case study introduced in Chapter 1 to present factors, which she had identified from her research as influencing employee attitudes to technological change, that are highly relevant to the final section of the chapter on the topic of overcoming resistance to change. Haddad alerts readers to the fact that despite their best efforts at developing and enacting strategies to gain employee commitment to organisational change, there will doubtless be some who persist in resisting it, although 'their numbers and influence are reduced when the transition process has been managed in a strategic, participative, and open manner' (p. 80). Conversely, 'ignoring organizational factors and employee feelings will almost guarantee a rocky start-up and poor results' (p. 81). The message of Chapter 5 is, therefore, very clear—'that communication and participation will generally ensure greater receptivity to technological change' (p. 81) and, hence, greater likelihood of success.

The message of participation—that is, the involvement of the people who will use the new technological system—is sustained in Chapter 6 as it deals with the topic of designing and implementing strategic change. Haddad covers 'two dimensions of technology design—one pertaining to the object or system design, and the other involving the manner in which implementation occurs' (p. 98). She draws on evidence from the USA, Scandinavia, Germany and the UK in support of the value of employee participation in system design, yet acknowledges that many organisations continue to keep employees totally in the dark about workplace change until a new system is being installed. The chapter includes two case studies that I could strongly identify with because they were located in health service organisations. The central argument of the chapter is grounded in the social constructivist perspective that causes Haddad to advocate for multi-level participation in system design both in terms of what the new system will do and how it will do it, and how the system will be implemented. She proposes that the benefits of such an approach 'far outweigh the drawbacks' (p. 99).

Chapter 7 focuses on the training needs, specific to the job, of employees throughout the technology life cycle. It emphasises the error of leaving training until late in the system design phase or, worse still, until implementation. It builds on the theme of employee participation leading to more empowered, committed, and skilled employees when the technological change occurs. Haddad provides evidence that governments have recognised the link between appropriate, timely

employee job-specific training and various positive organisational outcomes, such as enhanced productivity, efficiency, quality, and employee health and safety (see p. 102). The bulk of the chapter is devoted to the topic of designing a training programme, from training needs assessment to the conduct of the training and its evaluation (and possible revision). Like previous chapters, the content is grounded in the findings of, mostly recent, research, and is practical in its orientation. It warns against underestimating the costs and time necessary for effective training, the characteristics of which include 'an appreciation of adult learning principles, and a recognition that training must simulate the natural world of work' (p. 116). Haddad draws on earlier case studies to discuss the benefits of training partnerships that draw on expertise external to the organisation. She concludes the chapter with a brief treatment of the concept of *the learning organisation*, which, she says, if a characteristic of an organisation, would provide a culture in which employees would be expected to be less resistant to change than they might otherwise be.

The final chapter deals briefly with the last stage of the technology adoption life cycle, evaluation, which aims to provide information to the organisation on how the technological change has fulfilled its goals and what scope exists for further changes either to overcome unforeseen weaknesses in the system or to enhance it for even better performance. Haddad proposes that the most appropriate technique for 'measuring the effect of new technology on performance and other outcomes is . . . impact assessment' (p. 121) that involves evaluation of multiple performance measures over time. She provides readers with a clear snapshot of the technique. Haddad concludes the chapter, and the book, by revisiting the concept represented in the book's title—a strategic partnership approach to change—an approach, she argues, which needs to be 'embedded in management structure and practice' (p. 130).

Throughout the book, Haddad refers to the importance of union participation throughout the new technology life cycle in unionised workplaces because of the vested interest unions have in protecting the working conditions of their members.

The 11 diverse case studies are, in my view, one of the strengths of the book from a practitioner's perspective because they serve to show practitioners from many different business organisations that the approach advanced by Haddad is highly relevant to their individual organisations; indeed, that their organisations are not so unique that they couldn't benefit from the application of the approach.

The book is very easy to read. Following an initial reading, it could readily be used as a quick reference for busy practitioners including the diverse stakeholder-participants involved in a technological change scenario in their organisations—anyone from representative workers on 'the shop floor' to senior executives. Hence, organisations envisaging significant technological change could benefit from providing copies of the book, in advance, to representatives of the various organisational departments and functions. It could be used as the basis for establishing common areas of understanding between all participants. The comprehensive bibliography provides an additional reading list for those needing more details on any of the theoretical principles or the practical aspects of managing technological change in any of the phases of the process.

It is, indeed, a practitioner's guide that is unobtrusively grounded in current organisational and sociotechnical literature. My initial expectations were satisfied in all respects.

Notes and References

1. P. L. Johnstone, *The Process and Organisational Consequences of New Artefact Adoption in Surgery*, PhD thesis, Macquarie University, Sydney, 2002. Also see, for example, L. Winner, *Autonomous Technologies*, MIT Press, Cambridge, MA, 1977.
2. See, for example, H. Mintzberg and J. B. Quinn, *The Strategy Process, Concepts, Contexts, Cases*, 2nd edition, Prentice-Hall International, Englewood Cliffs, NJ, 1991; R. McKenna, *New Management*, McGraw-Hill, Sydney, 2000; A. Chandler, *Strategy and Structure*, Doubleday, New York, 1966.

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A Social Critique of Corporate Reporting

David Crowther

Ashgate Publishing, 2002, 338 pp., £49.95, ISBN 0 7546 1938 9

Managers of public limited companies are obliged by law to declare how they have been using the financial assets entrusted to them. Such declarations are commonly in the form of an annual report and accounts. Those paying any attention to the style and content of such corporate reports may reflect on how such reports seem to be more readable than those from earlier decades. There seems to be something for everyone within the glossy covers. What then is corporate management seeking to communicate, to whom, and for what purpose? These are the questions that David Crowther is addressing. In the first place companies produce annual reports in compliance with statutory obligations designed to protect the investments of shareholders. From this position the annual report and accounts constitute a communicate to a single audience, the shareholder, the contents of which are often picked over at the Annual General Meeting. The whole process is akin to an internal performance review, both of the executive and of the company in their charge. Further, few would disagree with the claim that the most important part of the annual report is the accounting information. Nevertheless corporate reports appear to have evolved from being preoccupied with satisfying some internal accounting driven agenda to promoting the company's prospects to a variety of external stakeholders.

Crowther argues that this more outward looking stance by companies is due in large part to the emergence of a discourse within society that companies are harming our natural environment, and for many the only redress is for companies to change their practices, and begin to account for their impact on the environment. Within the discourse of environmental accounting what counts as acceptable corporate performance has come to be seen as being in opposition with the performance criteria of traditional financial accounting, and vice versa. The reporting by companies on both dimensions of financial and environmental performance sets up a dialectic within corporate reporting; a situation where there seems to be a belief that maximisation along one dimension can only be achieved at the expense of the other. Crowther's thesis is that this opposition between environmental accounting and financial accounting is more apparent than real.

By way of building the case for the existence of a dialectic in corporate reporting, Crowther briefly reconstructs the development of corporate reporting

over the last century. He does this by dividing recent accounting history into four stages, each characterised by a particular internal logic. The first three are of particular significance: pre-1940, 1940–75, post-1975. In each stage the dialectic is characterised in terms of the relationship between the organisation and the external environment. Stage one (pre-1940) reporting consisted of an internal communication between managers and owners, and focused on an evaluation of past actions. The external environment was not regarded as having any influence. This dialectic changed after the Second World War (stage two). In this period corporate reports remained an essentially internal affair, but became more outward looking, designed to enlist new investors by promoting the company's future prospects. The role of corporate reports was not to justify the company's actions and intentions to any other stakeholder, though this would change after 1975.

The year 1975 is significant as a marker between the end of stage two and the beginning of the next stage. In that year the UK Accounting Standards Committee produced *The Corporate Report* outlining its recommendations for change. That change unfolded in stage three (post-1975). Reports became more outward looking, addressing a wider range of stakeholders, including employees, customers, the local community as well as shareholders. The corporate report became an instrument for building a reputation for good corporate citizenship.

Crowther suggests the emergence of a fourth stage whereby the development of electronic communication through the Internet, is helping to further open up relations between the company and its stakeholders as depicted in the third stage. The Internet provides the company with the means of presenting a broader range of information to a wider audience, to change or update that information at will, and—according to those suspicious of corporate intention—to juxtapose factual data with promotional data. Equally, the Internet enables stakeholders, especially pressure groups, to confront the company publicly and with an intensity not previously experienced by the company.

Taken together, this reconstruction shows that the discourse of corporate reporting has slowly shifted from an internally focused reporting of past actions between managers and owners, to one of communicating future prospects with a wide variety of external stakeholders.

Analytical and Methodological Approach

Crowther's analytical framework combines dialectics and semiology. Dialectics has a long history, going through a number of manifestations over the centuries. Some of its roots are pre-Socratic: Heraclitus's¹ notion that all systems are constituted of opposites and ambivalence. There are clear links between Plato's use of dialectics as a method of reasoning, Kant's ideas, then Hegel's unfolding contradiction of *thesis*, *antithesis*, *synthesis*, subsequently influencing Marx's thinking and leading Engels to conceive of *dialectic materialism*. The form of dialectic employed in this work is Kantian: the notion of inherent contradictions within the discourse of science. In drawing on Kant, Crowther clearly sees a parallel between science and business, and in particular corporate reporting. Both are areas of knowledge constituted of a distinctive discourse and practice that in some sense carry value and meaning, both to practitioners and audience. In order to examine the possibility that the discourse of corporate reporting carries an inherent contradiction, some further analytical device is needed. Enter semiology, the study of signs. Semiology is more commonly associated with broader social or cultural

analysis, rather than the machinations of corporate reporting. Here, in examining the dialectical nature of corporate reporting Crowther draws on Saussure's conception of semiotics (as opposed to that of Pierce), which seeks to highlight the existence of inconsistencies and tensions within any given script, in this case corporate reports.

He tests for the existence of a dialectic of corporate reporting, carrying out a semiotic and statistical examination of the published reports and accounts of a sample of UK public companies, selected from two industries: the water industry (formerly public utilities) and food producing and retailing. Any talk of environmental accounting and one immediately thinks of oil, nuclear energy, chemicals, pharmaceuticals. Crowther shuns these. He acknowledges that extractive industries probably have a bigger environmental impact on society than most other sectors, and that consequently many companies from the extractive sector have a very high profile. With one eye on producing generalisable results, he opts for what he calls 'industries . . . much closer to the norm [of] British industry and the stakeholder considerations facing them' (p. 110).

The Findings

First, contrary to a widely held assumption, he finds no incompatibility in the possibility of the firm performing well, in terms of both the financial and environmental dimensions. Second, any relative differences in financial or environmental performance among firms across the different sectors studied can be accounted for by socio-political and economic differences between those sectors. For example, in many respects the water industry throws up different and more compelling environmental considerations than food retailing or food processing. The higher financial returns found in the water industry reflect the greater risks associated with tightening environmental legislation, and the greater investment needed to upgrade infrastructure.

Third, in presenting both financial and environmental information, corporate descriptions of financial and environmental data are not presented with even weight. More emphasis tends to be given to the dimension where performance is better, and also greater prominence is given to written information (typically the Chairman's report) than to financial information (balance sheet, profit and loss statement and the like). Fourth, Crowther provides evidence that reports put greater emphasis on the future prospects of the firm. Reflection on past performance is undertaken only to reinforce success, or to highlight the taking of corrective action where a problem has been identified.

Fifth, corporate reports are addressed to a wide variety of audiences. Company executives tailor their reports, giving prominence to either financial or environmental information, in order to better address the concerns of the particular stakeholder group. This attempt to separate the audience is impractical and never fully achieved.

Comment

Crowther's thesis was to test for the existence of a dialectic. He concludes that there is no necessary dialectic between financial and environmental performance, but managers create a discourse of contradiction, in how they author the script and in their attempt to establish separate audiences for their script. His research creates

scope for further enquiry: why do managers create the dialectic? Crowther speculates that either they are unaware of their actions here or, they know that they are creating a dialectic but for reasons unknown to us.

Crowther presents a logical rationale for arriving at his choice of companies, but sample selection is always a game of compromise, and he recognises this. Unfortunately in seeking to provide generalisability and simplicity, he is in danger of sacrificing accuracy. In deciding to study sectors that in some sense reflect 'the norm' he does not explain what constitutes 'the norm'. This omission invites new questions and research directions. For example, one might wish to test the hypothesis that corporate reporting from industries that lie outside of some conceptual normal distribution are likely to have real and unresolvable dialectical issues. Indeed Crowther's acknowledgement of the disproportionate impact of the extractive industries on the environment lends credence to such speculation.

While not part of his thesis, Crowther suggests that, over the long term, Hegel's formulation of *thesis* and *antithesis*, plus a dose of hindsight, would help us resolve any dialectic of corporate reporting. The possibility of resolving this dialectic, Hegelian style, invites a question about the degree to which there is scope for the management of reform or change, but the answer would demand another thesis.

Crowther makes a valuable contribution to the many longstanding debates about the role of corporate reporting, and the place of environmental accounting therein. His application of dialectics and semiotics is novel, offering new insight into how corporations seek to manage relations with their social environment. In the process he has raised new questions about the purposes of corporate reporting.

His contribution may be read at a variety of levels. For example, this text would be at home within the critical perspectives on accounting tradition, and without heavy reliance on a Marxist perspective as seems common in this tradition. Much of the analysis could also be read as a piece of postmodern critique, highlighting a number of ambiguities and contradictions within society. For example, the interpretive flexibility of the (corporate) text, and the inherent contradiction within the individual, being both a stakeholder with a particular agenda and being a member of the wider local community with its own objectives.

Notes and References

1. C. H. Kahn, *The Art and Thought of Heraclitus*, Cambridge, 1979.

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Learning Through Knowledge Management

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This book is written by an academic, with substantial business experience, and two practitioners. All have significant experience in the area of knowledge management and can therefore write authoritatively from both a theoretical and a practical

viewpoint. More important for an adequate treatment of this topic however is the ability to integrate these viewpoints and to demonstrate how practice often diverges from the theoretical and this book attempts to do this. In doing so it adopts a slightly unusual approach in that the first part deals with the theoretical elements of the subject while the second part consists of case studies to illustrate knowledge management in practice. The text is written as an explicitly 'managerially oriented discussion' of what the authors consider to be the key areas and concepts of knowledge management and the first part is organised into six chapters, each dealing with one of these areas.

The first chapter deals with the nature of knowledge as distinct from data and information. In doing so it describes the emergence of knowledge management as a distinct source of competitive advantage, tracing its roots back to the work of such people as Penrose and Simon. It distinguishes usefully between tacit and explicit knowledge but does not appear to recognise that there is much that cannot be classified into this binary pairing. The summary of the characteristics of knowledge which is provided is however useful, particularly to a beginner in the area of knowledge management and there is a useful consideration of the key elements of knowledge management, clearly identifying that this is not a separate process but rather a cross-disciplinary application. The relationship between knowledge and learning is considered in some depth and the chapter concludes with a consideration of different strategies available for the embedding of knowledge management within an organisation, although sadly this is presented in the form of a list of possibilities rather than any real discussion.

The second chapter argues that knowledge management is not a product but is rather a continual process involving people and learning. In doing so it relies heavily upon the work of Nonaka and Takeuchi to describe the modes of knowledge generation and the 'spiral of organizational knowledge creation' (p. 29). The authors make use of the work of a number of well-known writers on the topic of knowledge management and explain the main points of their work and this is a feature throughout the first part of the book. In this respect it can be seen as a distillation of the main work of others rather than a distinct contribution in its own right, although this is remedied in the second part by the use of the case studies incorporated into the book. This chapter primarily concentrates upon the way in which knowledge and learning can create competencies within an organisation by looking at processes within the organisation. The third chapter extends this to consider the importance of culture within the organisation. It uses classical work by such people as Lewin and McGregor as well as more recent studies to show the importance of culture to the performance of an organisation although its consideration of motivation is limited. Instead, it provides an extensive list of the types of cultural norms which can promote the sharing of knowledge and learning before providing a model which is claimed will enable cultural change to take place and identifying a number of factors which will facilitate the willingness of people to share knowledge and engage in learning. It correctly identifies that culture is an important determinant of organisational performance and suggests that a focus upon the technical aspects of knowledge management is often made at the expense of a consideration of culture but limits itself to the outlining of a few factors which can affect culture. In treating the subject in this way it does not do adequate justice to this aspect and instead suggests that a few simple nostrums are all that is required for success.

Chapter 4 is concerned with leadership and its role in both the management of knowledge and the creation of an enabling culture. It outlines the desirable

characteristics of leadership in a successful firm (again as a list) before considering empowerment of people as an important factor. It then identifies the steps which can be taken to develop an appropriate culture, stating baldly that it is a simple matter to change culture by following the recipe given in this chapter. I find this to be simplistic in the extreme and there is much research over the last 30 years to support me in this, which is merely ignored by the authors. I do not disagree with the message of the authors concerning consistency of approach and the desirability of developing teams and individuals but expressed in this way the approach suggested is unhelpful in the extreme.

The next chapter is concerned with the measurement of knowledge and the technological aspects of knowledge management. It correctly identifies the problems associated with the measurement of knowledge and uses Deming's TQM model to develop a matrix approach to understanding the relationship between knowledge management and the organisation as a whole. This appears similar to a balanced scorecard and indeed this is mentioned as a tool for measuring knowledge management alongside Stern Stewart's EVA® technique and some aspects of measuring intellectual capital. The chapter concludes with some technological aspects such as the use of data warehousing. The end result is a strange chapter of a variety of factors thrown together without any linking features. The final chapter in the first part considers the future of knowledge management by reiterating some of the current problems which need to be addressed before use of the various techniques can be optimised. My review of the book so far might seem harsh and there is much in the material which is useful to anyone seeking to engage with this subject. Indeed it is often useful to have the work of many in this area summarised in the manner undertaken by the authors. The problem is that much of it is simplistic and implies that simple recipes lead to success, while parts are merely presented as lists of important factors. This is at variance with the message of the authors that there is not a simple approach and many different aspects of the management of knowledge can lead to benefits for an organisation. Indeed the second part of the book amply illustrates this.

The second part of the book consists of case studies of the practical application of knowledge management in real companies. In this part there are 24 cases provided and they are all large and well-known companies from various parts of the world. The actual practical use of the techniques differs quite substantially from one company to another and this is quite useful in both showing the way in which knowledge management can be applied differently in different circumstances and in also demonstrating that the theoretical perspectives presented in the first part of the book do not result in the production of a 'blueprint' which must be applied in a consistent manner for success. Rather, knowledge management is a diverse field based upon some general principles but particularised in its use. The cases themselves are of varying format and length, ranging from 3 to 14 pages. Possibly the differences in these case studies is a reflection that they were written by different people from the three authors who are credited with the writing of this book. This helps reinforce the diversity existing within this field but can also be distracting in the reading of the book. Nevertheless, for people considering the application of the techniques of knowledge management within their own organisation, the addition of these case studies provides a number of valuable examples of what can be achieved and how different approaches can be successfully implemented. Like most books in this genre however the word failure does not seem to exist and there are no examples of companies which have not been

successful in their use of the techniques and therefore no consideration of any of the pitfalls which need to be avoided by anyone seeking to implement any aspect of knowledge management. The cases are presented as descriptions of what took place in the various organisations and are made without comment. This is fine but I would have found some comment from the authors to be helpful to anyone seeking to make use of any of the techniques to give some guidance in this respect.

Generally the book is attractively presented and quite well written, although I found the tendency to use lists of major points throughout somewhat distracting from the main flow of the argument. This is particularly true for the first part of the book, in the presentation of the main techniques and benefits from the application of knowledge management. The book is well indexed and contains a full bibliography of further reading. For the case studies the bibliography is presented separately as a set of references to each case, which is particularly useful for anyone wishing to study any of the cases presented in greater detail. It succeeds quite well in its aim of providing an overview of the field supported by some real examples for its target markets of practitioners and senior managers. Academics and students with an interest in this topic may also derive some benefit from reading it. This is helped both by its presentation and the writers' style which makes it enjoyable to read.

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