

Delivering Business Value through Information Literacy in the Workplace

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This paper presents a real-life example as to how the world's largest environmental consulting firm – Environmental Resources Management (ERM) – recognises 'information literacy' as a critical component of its knowledge management program to create value for the company. With the rise of information technology which allows vast amounts of information to flow across an organisation very quickly, many employees have been complaining about 'information overload' and 'knowledge underload'. Companies in the past 10 years have 'recognised' the value of information and knowledge, and it is becoming a strategic issue to provide employees with access to the right information at the right time. As a result, managing information and knowledge becomes a business critical agenda item discussed in the boardroom, with the aim to apply global knowledge to deliver the highest quality solutions to clients. Despite all the investment, how-

ever, employees find that the information/knowledge management systems generate too many reports/results which nobody reads, and when employees need information to support their work, they are not getting what they want. Why are employees not getting the full benefits out of a global knowledge management system? What is the common perception of the 'information overload' problem in the workplace? Is this a symptom of a much bigger problem? Is there an alternative perspective that can shed some light on this issue? The modern workplace requires employees who are *confident* and *competent* in interacting with information to deliver maximum business value. In this paper, the author argues there is a body of existing information literacy knowledge (mostly developed in the education context) which can be adapted to address 'information overload' in the workplace context.

Introduction

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The Business Context

Environmental Resources Management (ERM) is one of the world's leading providers of environmental consulting services. With a history of over 30 years, and working with 60% of the Global Fortune 500 companies, ERM has over 120 offices in 40 countries and employ over 3,000 staff. ERM delivers innovative solutions for leading business and government clients, assisting them in tackling climate change, managing their environmental and related risks, and offering solutions to address environmental issues. This multinational organisation is committed to providing a service that is consistent, professional and of the highest quality to its clients.

In order to meet a growing demand for both environmental consultancy services and its global clients' need for more innovative solutions to their problems, ERM has developed a strategic vision to encourage all staff to use information effectively to create business value, to recruit and retain talents and to differentiate the company from its competitors. In 2006, ERM's senior leaders decided to invest in a global knowledge management program (later renamed global 'knowledge sharing program') to support ERM's business growth.

In ERM's Annual Report 2005/06, the Chairman's statement offers a strategic view of how employees' global collective knowledge can help to grow the company and drive sales figures upwards.

With a strong marketplace, a well-positioned network of offices around the world, truly global knowledge and strong technical capability, we have every expectation that we will have another excellent year. Sales for the first three months were 19% up on last year.

ERM's Knowledge Management Journey

Global knowledge sharing is not new in ERM. It has always happened through informal networking and sharing of resources amongst partners and consultants. The first step to roll-out the global knowledge sharing program was to identify where the gaps were.

In late 2006, over a three-month period, an in-depth research was carried out to identify the issues that ERM employees were facing in order to access information and expertise to support their sales and marketing effort, to deliver client work and to grow their careers. Over 1,000 thousand narratives were gathered from colleagues based in 40 different countries. The results of this research helped to shape ERM's global knowledge sharing strategy (Snowden 2005; Cheuk 2007).

After analysing the research findings, the newly established global knowledge sharing (KS) team – made up of 4 information professionals – identified the potential of using Web 2.0 technologies to develop a flexible intranet and collaboration platform which can improve global internal communication, reinforce a shared vision for the business strategy, share resources and good practices globally and support the consultants' immediate need to work collaboratively across regions to serve our clients. On May 24, 2007, ERM's global knowledge sharing and collaboration portal named 'Minerva' was launched.

The 3-month in-depth research has helped the KS team to understand a range of existing and potential information problems that employees experience at work, which echoed other research findings on information literacy in the workplace (Kirton & Barham 2005; US Dept of Labor 1990; Cheuk 2002). These are the common concerns:

- The use of out-dated information because it is convenient to do so;
- Not aware of existing resources within the organisation which can address a business issue;
- Do not know how to use the tools and make the best use of information services to access information required;
- Assume Google is the best search engine to look for information;
- Unable to manage personal e-mail box and as a result experience e-mail overload and reduction in work productivity;
- Do not want to share information for fear that information shared will be mis-used or abused by others.

From the outset, the KS team firmly recognised that these problems would not go away with the introduction of a new knowledge sharing platform. The team aimed at introducing new technologies to empower employees to interact with information (in ways that are impossible in the past) and ultimately to transform the business. It is about building an organisation culture which values and recognises employees who interact with information in order to grow the business and their own careers.

In another words, the KS team recognise that, if Minerva is to be successful in facilitating information/knowledge exchange, it is important to address an assumption, i.e. that the employees have appropriate information literacy competencies to interact with information in order to deliver business value from the organisational, departmental and personal perspectives.

In the process of designing the change management, communication and training plan to roll-out Minerva, the team continuously asked these questions:

- Do our employees know how to use the new tool?
- Do they know what resources/information are available?
- Do they want to participate and interact with information?
- Are they curious to seek for information and find out what is out there (beyond their own remit)?
- Are they willing to engage in online dialogue?
- Are they mindful of when they should use Minerva rather than relying solely on email?
- Do they have the capabilities to share information in a way that best communicate the key messages and that engages the audience?
- Do they have the initiative and passion to interact with information in order to learn new knowledge and to develop new insight?
- Do they see the value of using information to grow the business?

Information Literacy in the workplace

ERM began to look at the issue of 'information literacy' in the workplace. Information literacy in the workplace context is defined as a set of abilities for employees to recognize when information is needed and to locate, evaluate, organize and

use information effectively, as well as the abilities to create, package and present information effectively to the intended audience. Simply speaking, it is a set of abilities for employees to interact with information when they need to address any business issues or problems at work.

In ERM's context, 'information' or 'knowledge' is defined as codified content residing in systems, books or manuals as well as information exchanged in face-to-face meetings or online dialogue.

Influenced by Dervin's Sense-Making Theory, the term 'information' and 'knowledge' is used interchangeably in this paper. This is because 'information' or 'knowledge' is regarded as the sense made at a particular point in time-space by an individual (Dervin 1992).

Taking a holistic view and informed by Bruce's seven faces of information literacy (Bruce 1997), the KS team defines information literacy in the workplace as allowing employees to experience information in the following seven ways:

- Face 1: using information/knowledge management systems, ICT tools, e-mails
- Face 2: knowing the existence of and ability to using specific sources (e.g. experts, database, intranet, journal subscription, website)
- Face 3: awareness of a process to find and use information (e.g. to understand customers' needs, to evaluate a business problem)
- Face 4: organising and controlling information so it can be retrievable (e.g. design database structure, design intranet sites, manage folders in the local file server, manage personal e-mail boxes)
- Face 5: learning or gaining new knowledge through interacting with information
- Face 6 gaining new insight and thinking about an issue in a new or different perspective
- Face 7: using information wisely for the benefit of the organisation and even to the society

ERM has adapted Bruce's framework to define 'information literacy' in the workplace and bundle them into four dimensions according to ERM's unique context. These four dimensions provide a framework to drive cultural change – i.e. new ways of interacting with information – to support the roll-out of Minerva.

Dimension 1: Within the context of ERM, one crucial aspect of information literacy is about using

information wisely on a strategic level. This can be understood from 3 different levels. (Face 5, 6 and 7)

- Corporate Strategic level: Information is seen by the senior executives and the board as intangible asset which contributes to the overall business strategy
- Operational Strategic level: Information is seen by operational heads as critical asset to support consultants to deliver high quality client solutions and to learn on-the-job
- Personal level: Information is seen by consultants as critical element to support them to learn, unlearn and develop new insight.

Dimension 2: The other aspect of information literacy is about organising and controlling information for it to be retrievable. This can be understood on 2 levels. (Face 4)

- To maximise user experience, ERM needs intranet site managers who consider their audience's needs in presenting and creating content to be published on Minerva. This includes understanding good practices to design website and using metadata to organise information.
- On a more personal level, ERM needs employees who adopt good email management practice. They need to be capable of managing their email boxes, conscious when they should not be using emails when other tools (e.g. Minerva) or face-to-face meetings are more appropriate.

Dimension 3: The minimum information literacy requirement for all staff is that they should have acquired the skills to use existing information sources/systems (Face 1 and 2). Specifically, this means ERM needs to ensure every staff has:

- The ability to use Minerva and associated ICT tools effectively (e.g. search, navigation, core functions, MS Outlook)
- knowing what resources are available on Minerva and how to locate them (e.g. Global employees' profiles/CVs, global journal subscriptions, proposal libraries)

Dimension 4: Last, but not the least, ERM needs to help the staff to be more conscious of the information seeking and use process (Face 3).

- The KS team is conscious of the fact that different business units are tackling different environmental issues, and therefore employees adopt different processes to search for and use information. A theoretical Informa-

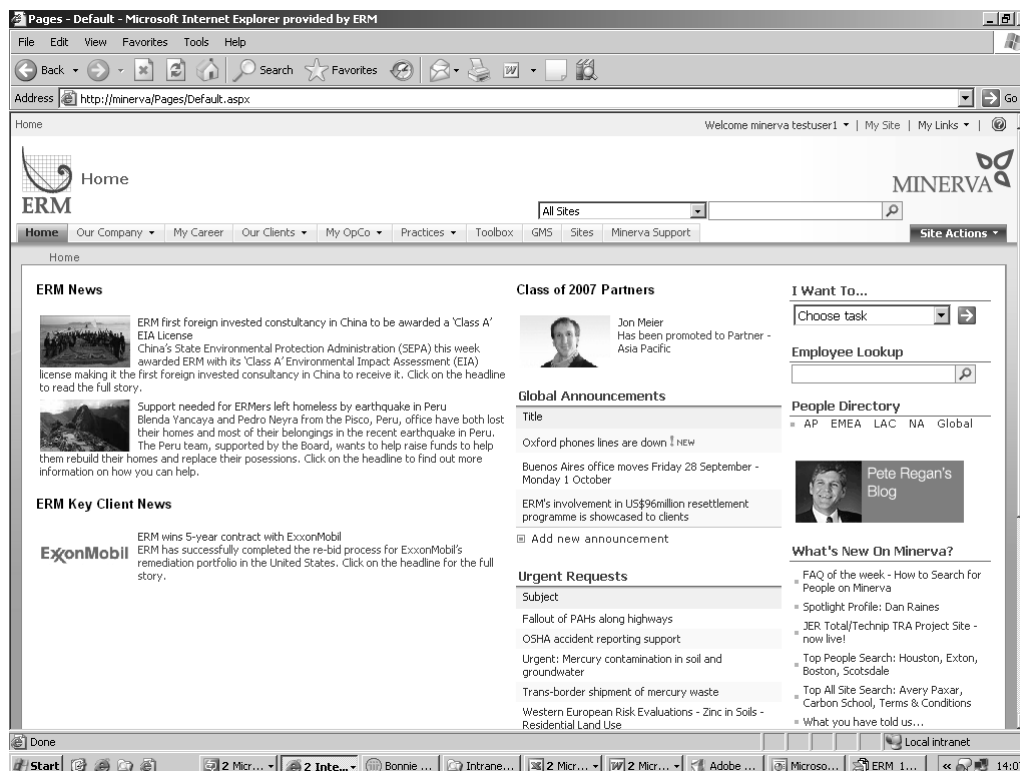
tion Seeking and Use (ISU) model will not be welcomed. However, teaching employees a range of specific information sources out of context will be regarded as irrelevant.

Embedding information literacy in Minerva training

The KS team recognises that we cannot raise information literacy competencies for all staff at one go. Therefore we must prioritise these 7 faces of information literacy and introduce them at different phase of the change management/training plan. It should be noted that there is no separate 'information literacy' program or training within ERM. They are integrated with the Minerva roll-out plan. The order in which information literacy was introduced to ERM is as follows:

1. In 2006, the global head of knowledge and information initially focussed on helping the senior leaders to see the value of 'using information wisely for the benefit of the organisation' through running genuine discussions and meetings with senior executives. The aim was to help them to identify opportunities to grow the business through the 'information' lens. As a result, the knowledge management strategy was agreed and budget was assigned to invest in the global knowledge sharing program. The 20 plus senior executives were involved in the initial stage. This is one of the most important milestones for ERM. (Face 7)
2. Shortly after Minerva was launched, the senior executives were encouraged to look at how ERM can use information to benefit society. ERM has decided to review its own carbon footprint, and have decided to engage with all 3,000 staff to review its existing policy with an aim to lower our carbon footprint. A video blog was posted up on the Homepage and all colleagues were invited to give their comment and challenge one another's thinking. (Face 7)
3. Prior to the launch, about fifty colleagues were recruited to become 'knowledge champions'. They were introduced to practical ideas as to how better sharing and using of 'information' can reduce proposal preparation time and increase sales opportunities. They became the advocates to inspire other consultants. They were also given in-depth training to use the new set of tools on Minerva. (Face 1, 2)
4. After the launch of Minerva, all 3,000 staff were given a 60-minute training to introduce them to Minerva, to understand what resources are available on Minerva, and how they can use different functions on Minerva. The training was conducted using webconference, teleconference as well as face-to-face sessions. The aim was to provide basic information literacy training and ensure all staff have the skills to use the new tools on Minerva. (Face 1, 2)

Figure 1: Urgent request appearing on Minerva homepage



5. In order to maximise user awareness and adoption of Minerva, the KS team recognises that our consultants live in a wider information environment in which they rely on information from other sources (e.g. external web sites, professional contacts, email exchange with external vendors, journals/newsletters subscription). It is important that Minerva integrates seamlessly into the consultants' existing information world. This was achieved by (a) forcing the Minerva homepage to be automatically opened up whenever employees start their computers; (b) linking from Minerva homepage to all the internal resources/databases; and (c) integrating Minerva with existing ICT tools (e.g. instant messaging and email) (Face 1, 2)
6. After all staff had attended the basic training, they were then introduced to the information seeking and use process in the context of delivering consulting work. Consultants were asked to consider what resources did they need, what information did they need, and how Minerva could support their work when they are at different stage of the consultant process (e.g. pre-sales research, proposal preparation, winning the job and assembling a team, working as a virtual team, and closing the project. (Face 3)
7. On a monthly basis, all the site managers have one-on-one meetings with members of the knowledge sharing team. They were educated on ways to create and present content on the intranet site, design principles and tips to index and structure information. The KS team noted there is a gap in this area, and expect to run

additional workshops to build capabilities around this area. (Face 4)

8. The most challenging project after the launch was to help employees to see they can interact with information in order to learn, unlearn and develop new insight. For colleagues who have not had this experience, it is not effective to tell them to be curious, explore and learn. Many of them mentioned the lack of time and work overload as reasons why they are not learning from the resources available or connecting with other colleagues. On the other hand, for consultants who already see information as a resource to support their learning, they commented that 'it is a matter of priority, as it only takes 5 minutes each day to look beyond your immediate area of work and learn something new'. (Face 5, 6)

Discussion

The KS team have gained the following insights in introducing information literacy to ERM in the past 12 months:

- a) In the context of ERM, the 'information literacy' of the chief executives and senior managers who see the value of using information to create value for ERM is a critical success factor to introduce other aspects of 'information literacy' to all staff.

- b) By offering basic training (Face 1, 2, 3) to the end-users, it is a necessary but not sufficient condition for the consultants to interact with information to learn, unlearn and develop new insight (Face 5 and 6).

The KS team needs to find a way to stimulate the interests of employees to learn from the information available and to learn from one another. The team experimented with a new information service titled 'urgent request'. As consultants very often want to find out ERM's expertise and experience from other offices in order to resolve some highly complex environmental issues, this information service allows any employees to submit an urgent request online and they can expect to get responses from others within 24 hours. This 'urgent request' section is located in the centre of the Minerva homepage, and it attracts the attention of 3,000 staff on a daily basis (see Figure 1).

By creating this online environment, two weeks after Minerva was launched, employees started posting questions and replying to them. The consultants are not 'taught' to use information to learn. Instead, by giving them an easy-to-use online environment to exchange ideas and learning from one another, the learning happens naturally. As the late adopters see how others have learned and benefited from the information being exchanged, more and more of the consultants come on board.

The lesson learned for the knowledge sharing team is that we should not be 'telling', 'teaching' or 'requiring' consultants to be willing to learn from interacting with information. Instead we are asking the senior managers and the designers to change. We want the senior managers to change by truly empowering consultants to interact with information (and with one another). We are asking the designer of Minerva (i.e. the KS team members) to change by focussing on designing environments which allow our consultants to be at ease when interacting, seeking and using information.

As a result, the KS team place more emphasis on designing 'learning' environments – both on Minerva as well as in the physical office environment – to allow consultants to be comfortable sharing and using information to support their learning. For example, we apply a methodology to build and nurture communities of practice to link up practitioners working in the same area around the

world (Cheuk 2004). The KS team plays the role as a facilitator to introduce them to one another and facilitate dialogue amongst them. Both online and face-to-face activities are being organised to allow people to exchange their learning points. As a result, they develop trust for one another and start to share resources, insights and learning points with one another.

Conclusion

Using an example of how ERM has rolled out Minerva, this case study presents how 'information literacy' is introduced into the workplace context. As 'information literacy' is not a familiar phrase and not widely understood in the business environment, the KS team in the ERM has achieved some success by introducing 'information literacy' as part of a high profile global knowledge sharing program.

In the broadest sense, information literacy has added critical business value to ERM by introducing a culture of interacting with information to increase work productivity and to learn on the job. They are critical success factors to deliver the best solutions to clients and ultimately to continue to grow ERM's business.

By introducing 'information literacy' in the workplace, employees are given the opportunity to rethink and redefine the 'information overload' problem itself. The 'information overload' problem has also been relieved even though the amount of information exchanged has increased after Minerva has been rolled out. This is because senior managers and consultants begin to see information through a different perspective. More specifically,

1. As senior managers see the value of information to deliver business value, they are committed to investing in programs and systems which support the exchange of information.
2. As individual consultants are equipped with skills to use Minerva and email systems, they are empowered to ignore irrelevant messages knowing that they are capable of locating and using the resources available at their own pace
3. As site managers and knowledge champions are trained to organise and present information according to the audience's needs, they have helped to improve information accessibility and reduce information overload problem.

4. As consultants begin to experience how they can benefit from interacting with information, this has increased their tendency to learn, as well as open up opportunities to apply good practices to serve their clients.

In spite of the success, it should be noted that the journey to introduce 'information literacy' to all staff has just begun in ERM. There are colleagues who have experienced only a limited number of faces of information literacy. It is the goal of the knowledge sharing team to design interventions to help them to change their awareness. The first few steps we have taken have proven to be effective and bring value to ERM. We will build on our success and lessons learned, and continue to introduce information literacy to all staff within ERM.

Notes

- [1] For more information about the company, please see the URL, <http://www.erm.com>.

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