Online/Internet Small Businesses Knowledge Management Strategy: Opportunities In The Growing Knowledge Economy

By Devon Andersen
October 2004

Introduction

Consider a very small online business starting out – it has meagre resources of time, money and technical skills. It also competes on a global scale against established competitors of all sizes and maturity, some with the deepest pockets on the Earth. The pressure of competition is so intense that many small businesses focus on doing more business rather than doing better business – it's the short-term gain that reinforces it. The key to driving innovation is to be able to understand the market, the processes, the information, the capabilities and the opportunities.

In this paper I will focus on why knowledge-based strategies incorporating knowledge management and information systems are so important to a small business. I will also comment on why an online/internet enabled business have "force multiplier" advantages that other business do not have in the knowledge economy.

A small business has the most rapid expansion at the beginning on its lifecycle. It is a dynamic operation, so what direction does it take? How do you check that the strategy is working or not? In many ways, a sound Knowledge Management (KM) approach is the most important link between the business strategy, the people, and the company's available information sources/databases. Very few small businesses understand Knowledge Management. This is perhaps understandable; on one hand, with such limited resources, one may be hard pressed to divert attention from the perceived "business of making money".

Internet/Online Small Businesses

I assert that Internet companies have a unique opportunity over bricks and mortar (B&M) companies in the area of Knowledge Management, primarily because they are inherently IT savvy, and knowledge management is inherently IT demanding. This doesn't mean they have to be specialists – simply understanding the field is a plus.

Internet companies usually already have large quantities of internal information as a by-product of going online. Some portions are interconnected. Externally, the Internet itself offers a large wealth of information – but explicit knowledge can come at a cost. A start-up business will usually have a business package (such as Attache, MYOB), or an online products database, etc, but this only contains facts and figures – *information*. On the other hand, *knowledge* is intelligence, awareness and wisdom relating to how to use this information for business profitability. In small businesses, it is usually retained in the heads of individuals. Knowledge management is organising the verification or authentication of information, and form some rules about how to use the information for maximum benefit. Knowledge has no use to a Firm without being valued against its strategic interests. Hence the Business Strategy should already be in place!

Knowledge Management

When the organisation culture resists change, there is a threat to the knowledge capability of the company. A start-up business has a unique opportunity to set blueprints for the organisation culture, and allow the enforcement of KM principles. It is arguably even more important to embrace KM at an embryo stage rather than at a later "performance improvement" stage.

Knowledge can be stored within the business either tacit (intuitive) or explicit (written). The difficult task of the very small business is in finding the time to convert the starting Entrepreneur's tacit knowledge into explicit knowledge, such that it can be taught to another employee as tacit knowledge. According to Lowe (2004) this is a cycle entered into at any point:

1. Create tacit knowledge
2. Share tacit knowledge by making it explicit
3. Share and store explicit knowledge
4. Such that the explicit knowledge can become tacit knowledge again, to be used more effectively by other people

So how does a small business store and create this explicit knowledge? Usually it is in documents, memos, notes, emails, procedures, etc. It may also be held within custom knowledge systems. However, the most overlooked and accessible KM store (also allowing contextual linking of the other stores) is the company's Intranet.

An Intranet is another website focusing internally on the company, rather than externally for the world. Intranets can allow substantial benefits, but only if they are very well designed! According to Nielson (2004), the world economy could be $1.3 trillion better off if humans could make better use (gain implicit knowledge) of the available corporate knowledge (explicit knowledge). Nielson also asserts that there is 1000% return on investment available in improving the corporate Intranet, no matter the scale. The performance gap and returns are based on the fact that the majority of Intranets are poorly designed and have significant *usability issues*.

So, knowledge work is impeded by bad usability of Knowledge Management systems. There are major performance improvements available to small businesses at a very early stage, but they must be approached with forethought, and not just slapped together haphazardly. This brings into mind processes for improving usability such as the IT Interaction Model (Silver 1995).

KM is not new; small-sized companies have been practicing KM since ancient times. Hylton (2004) states that as small business started to grow, so to did international business activity, bringing with it knowledge of foreign markets, customs, customers, trade winds, and pirates. This knowledge distinguished winners from losers; knowledge management in practice initiated and implemented by small entrepreneurial business. Hylton (2004) also argues that "often an organization's most valuable knowledge resides not in explicit forms such as documents, database records and web pages, but in employees' experiences and know-how…. ", which recognises the important of a cycle of tacit and explicit knowledge-sharing.

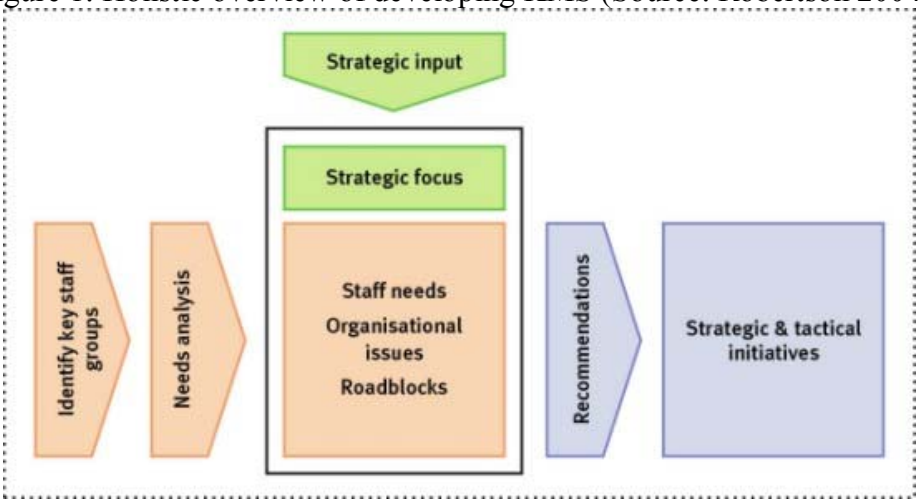
So there must be an appreciation of the fact that especially in small business, a lot of the knowledge is going to be in people's heads. If not properly addressed, as the business grows, it could just stay there, only to be lost when the person leaves or never improved upon (the other big threat to the business is "knowledge-is-power" information hoarding employees).

Recognising this, one should try and assemble as much knowledge into online, accessible systems, as early as possible in the small-business lifecycles, and actively encourage employees to contribute, debate, and ultimately learn from this knowledge source (as shown by Chaparral at http://www.krii.com/downloads/does_successf_km.pdf). Employees of online small business should have an easier time adopting this, since they are already exposed to the technology and it is part of the organisational culture.

Knowledge Management Strategy (KMS) for Internet/Online Small Business

A KMS must provide more than high-level goals such as "becoming a knowledge-enabled business". The strategy must identify the needs and issues within the organisation, and provide a framework for addressing them. Robertson (2004) outlines some useful strategies for current common business problems emerging in areas such as call centres, front-line staff, business managers, ageing workforce, and supporting innovation. The KMS development lays the ground work for becoming knowledge enabled. A holistic overview of the process is shown below:

Figure 1: Holistic overview of developing KMS (Source: Robertson 2004):



Strategic input, identification of staffing groups and needs analysis fuse together to form recommendations and drive the strategic development.

Hylton (2004) has fantastic ideas about how small-size companies can learn from the larger companies in Knowledge Management strategy and engagement:

- Large companies now operate as client-centric businesses, creating client-value. Small business should do the same – i.e focus on the customers, not the product and services.
- Large companies are replacing informal knowledge management of staff functions with formal methods aligning to clients. Small business also needs to adopt formal methods.
- Recognise that knowledge is a perishable item – limited shelf life because new technologies, products and services constantly emerge. Small business must take advantage of this fact, never hoarding, constantly renewing and creating more knowledge. This can be used to defeat bigger competition.
- Reducing duplication of work – a big problem in large companies, and still a problem area for small companies.
- Large companies have discovered that it takes a long time for new employees to gain suitable levels of experience in the key company processes, and that conversely employees do not have the luxury of time to acquire the knowledge. Small business must also seek to make the process easier.
- Large companies are aware of the knowledge-loss experienced by the new-age custom of knowledgeable employees frequently changing jobs, and hence they try to lock in employee knowledge through KMS. Small businesses are even more prone, if the key person leaves the business often that part of the business will just stop altogether, a complete shock to the business. Small businesses need KMS even more in these situations.

Using customised strategic knowledge systems in conjunction with an Intranet, small businesses can address these issues practically. For example, one could start using the available information sources such as:

- The shopping system backend database (order details, purchaser details, product details, vendor details, packing & handling details, such as in

osCommerce: http://www.oscommerce.org which already provides an expandable customer-centric approach)
- Website statistics (found in files on the website host),
- Marketing statistics (such as Google Adwords http://adwords.google.com)
- Other metrics.

The next step is to extract the features that relate to the business strategies, and continuously report in them via an Intranet Web-Log (blog such as bblog: http://www.bblog.com/). One could also provide online tools (custom designed) that interrogate the above information sources based on pre-conceived rules, or knowledge. By encouraging employees to use the system, further analyse the information and provide input on tool improvements, one can generate new corporate knowledge; adding value. It should be noted that document management is not knowledge management; specialised systems are usually employed to capture knowledge.

A superior technique would be to design or acquire an information system that exactly matches our business strategies and knowledge management strategies to our information sources, even by using existing knowledge management software solutions. However this would be a more expensive option, perhaps out of reach to a small business.

Substantial competitor information may also be available online, which can be collated and used as a basis for discussion. For example, by analysing the competitor websites, a knowledge base of competitor strengths and weaknesses can be created. If competing on a price-basis for products, the acquisition of pricing data can be automated using "bots" (programs that go through a website, and using keywords, determine the offering price of exact products – for example use existing systems to interrogate eBay, or price comparison agents such as http://uk.pricegrabber.com). This approach cannot really be automated for services (due to variation), however a knowledge base can still be built, allowing other employees of the company to access it.

The main point is that there is a lot of information – but not all of it is relevant. Only the information relating to the business strategy should be honed in on. Knowledge workers need to be part of the KMS improvement process, working hand-in-hand with systems developers, evolving the tools as much as the knowledge base itself. In online small business, it is often the case that the knowledge worker *is also the system developer*, magnifying opportunities.

Planning Control and Knowledge Management

King et al (2000) show that businesses that are proactive in their information systems planning have significantly greater information systems contributions to organizational performance and significantly fewer information system planning problems than those operating with reactive planning. Small business must also be proactive.

Wijewardena et al (2004) show that not only is there a relationship between business planning sophistication and business performance for small-to-medium enterprises (SME's), they have also shown (albeit only by using correlation analysis) that there is a relationship between the *control* aspect of planning *and performance*. Control is the process of determining the difference between what was predicted (eg budget costs) and what actually happened (actual costs). A small business that asks the question of "why?" on account budgets is more likely to succeed. This shows that small businesses with simple procedures can use readily available information to create knowledge and be more successful. It is probable that small businesses feel that they lack sufficient resources to do this type of analysis, and instead intend on concentrating on their "core activities" of future profit planning. This is the wrong approach.

New Businesses and Outsider Assistance

Chrisman et al (2004) discuss the use of "Outsider" assistance as a knowledge resource. They specifically examined counselling assistance for new ventures, and found that Outsider-assisted firms enjoyed higher survival rates than those without, a curvilinear relationship that increased with time spent. The Authors also discuss the concept (borrowed from Malecki) that there are four possible knowledge-gap areas in a new business: know-why (explicit scientific knowledge), know-what (explicit facts and figures), know-how (tacit linking of know-why and know-what) and know-who (tacit relationships). Know-how and know-who are shown to be components of sustaining competitive advantage, and the Authors assert that Outsider assistance is the best way of filling this knowledge gap. This shows that if the small business is also a new business, it pays to compliment any existing explicit and tacit knowledge with that from an outside entity.

Underutilisation of Information Systems and Knowledge Repositories

Although use of IT is increasing, businesses are not realising the full value of their investments. According to Jones et al (2003), based on a UK study, the potential benefits of IT systems are being under-exploited as a result of a lack of management direction. Those enterprises that were found to be creating competitive advantage focused on utilising their IT infrastructure to acquire knowledge, remaining dynamic, and generate innovative solutions. It is the Management's task to maximise the Firm's IT utilisation by using knowledge management systems. If a small business manager cannot provide an Information System solution, or is not satisfied with the existing KMS processes, an Outsider should be employed.

Often a technology company may already have substantial knowledge management systems at their fingertips, perhaps poorly or improperly utilised. For example, software engineering tools such as Rational Rose (using the Unified Modelling Language to model the business processes at http://www.rational.com) and systems engineering tools such as CORE (ViTech Corporation www.vtcorp.com) are usually seen as engineering tools, however they do function as knowledge-systems tools. Both of these types of tools can be used to model almost anything, capturing

knowledge. Lateral thinking about existing capabilities and how they can be used in a knowledge management framework can be an added bonus for a small business. Not understanding this could be part of an endemic problem of failing to develop the KMS lifecycle (as previously mentioned, Lowe 2004).

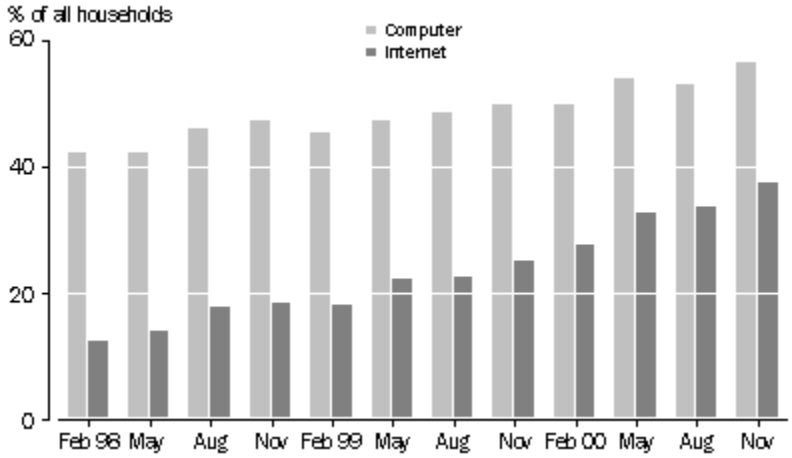
The Bigger Picture – The Knowledge Economy

Within Australia, the concept of Knowledge Management and the potential benefits it can bring to the economy as a whole is enormous. The Information Economy (limited measure of a Knowledge Economy) has made a major contribution to the GDP growth within Australia, increasing every year and continually recording the biggest growth. The former Australian National Office for the Information Economy (NOIE, but recently changed name to Australian Government Information Management Office - AGIMO) predicts that the Information Economy will contribute up to 2.6% of GDP by 2004-5 than would otherwise occur (NOIE 2003 Allen Report) and appears to be stable over the next decade. Australia has an excellent track record in IT use and policies. The Australian Bureau of Statistics (ABS 2000) and NOIE (NOIE 2002) provide these useful facts and OECD rankings (of 14 countries) for Australia:

1. 64% of Australian homes either own or lease a Computer, ranked 2nd in OECD.
2. 52% of Australian homes linked to the Internet, ranked 7th in OECD.
3. B2C (Business to Customer) as % of GDP was 0.2%, ranked 6th in OECD.
4. B2B (Business to Business) as % of GDP was 1.1% ranked 4th in OECD.
5. E-Government at 50.7% of Federal information and services available online ranked 3rd in OECD
6. E-Business readiness (environment conducive to development of e-business opportunities) ranked 2nd in OECD.

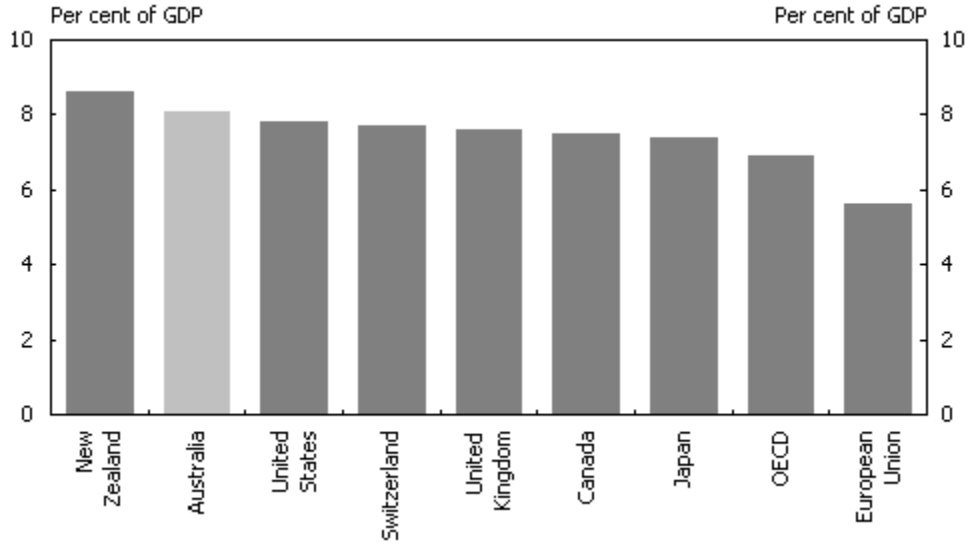
Strong growth in Computer use and Internet access (ABS 2000) exists in the household (see Figure 2) :

Figure 2: Household Computer and Internet Access, Courtesy of the ABS (2000).



Australian Firms are outspending other OECD members in Information Technology & Communications as % of GDP, spending in the sector provides stimulation to the domestic Information Economy, see figure 3:

Figure 3: ITC Spending in Firms as % of GDP, Courtesy of OECD (2000)



We can see from all of these concepts that the Information Economy in Australia is growing strongly, and that Australia is ranked highly in terms of "being ready", but in this analysis there is no real distinction of the Knowledge Economy; the Knowledge Economy is part of the Information Economy measure. The term "Information Economy" is only part of the full picture.

In 2002 the ABS proposed to measure the Knowledge Economy and provided some discussion (here http://www.abs.gov.au/ausstats/abs@.nsf/0/77652137920df435ca256c2200816899?OpenDocument and here http://www.abs.gov.au/Ausstats/abs@.nsf/0/fe633d1d2b900671ca256c220025e8a3?OpenDocument) highlighting that an estimated 40% of workers were actually knowledge-workers. It states: "The aim of the framework is to enable assessment, through use of relevant statistics, of the degree to which Australia is a knowledge-based economy and society" and "The framework has five dimensions: context, innovation and entrepreneurship, human capital, information and communications technology, and economic and social impacts". Government intervention in providing a framework is certainly required. Marsh (2004) states that there are now subtle signs the Australian government is starting to do this.

What is still missing is the realization amongst Australian businesses (and people) that the catalyst to even stronger growth of the Information Economy is greater dissemination of Knowledge Management principles throughout Australian businesses. Yes, net profits are higher by having better IT infrastructure, and yes, you can sell information, but there is more to a substantial economic segment than that.

Businesses are using better software, allowing them to run better operations or be stronger customer focused, and the commonality to all of the business systems software is information and knowledge (and tools allowing the conversion between tacit and explicit knowledge). They are using knowledge management systems (for

example managing their functional threads better), many without even knowing they are using KM principles.

How to ride the Knowledge Economy Wave?Understand it!

Apart from measuring the Knowledge Economy, there is much more to be done. According to Wood (2003) Australia is falling behind and is an under-performing knowledge-nation. Wood argues that although any nation wishing to compete in the new global knowledge market, creating and implementing a strategy for a new knowledge economy should be paramount, however Australia and most other OECD countries are not doing this. Wood highlights a comment by Rupert Murdoch that the Australian brain-drain coupled with under funded higher eduction is creating a crisis: "[Australia's] economy is threatened by something far worse than global disadvantage, namely global irrelevance". Woods strongly argues that Australia critically needs to create a new economic agenda based on knowledge and knowledge-based industries if it is to be able to expand – a difficult process given Australia's longtime old-economy process of resource exploitation.

Although Wood's discusses the economy as a whole, his conclusions are highly relevant to the internet-enabled small business operator. Appropriate solutions need to be found for issues such as:

- The creative design of knowledge-based companies.
- Regulating the legal and physical infrastructure of knowledge-based companies (importance of legal frameworks).
- Connecting the knowledge workers.
- Accessing knowledge within an economy.
- Combating rapid knowledge obsolescence .
- Creating appropriate environment support for knowledge generation.
- Developing relevant skills and competencies for knowledge-based companies.
- Ensuring knowledge retention and transfer.
- Minimising response times for training and educational needs for a knowledge worker.
- Skilling and re-skilling the workforce with an appropriate balance of skills for knowledge work.
- Creating valid and reliable performance measures of a knowledge-based economy.
- Identifying and selecting visionary, multi-skilled and highly competent leaders.

If these factors affect the knowledge management economy overall, the smart business would be advised to align with them, and draw from any research.

A Rapidly Growing Knowledge Economy Provides Small Business Opportunities To Those Enabled With Knowledge Management Toolsets

The emergence of the new Knowledge Economy will mean that innovation will be the only comparative advantage that a company can use. Innovation will come from combining technology know-how, market forces and the creative talents of knowledge workers (under a management process), solving a constant stream of competitive problems. Businesses will thrive on making value out of information. This is a situation ripe for Knowledge Management principles.

I again assert that online and internet-based businesses are best placed to thoroughly embrace knowledge management processes. I now also assert that in any rapidly growing environment (such as the Information and Knowledge Economies) there is much more opportunity for small business to start-up and flourish.

Conclusions

It seems that all-to-often, small businesses are unable to comprehend the role that Knowledge Management Systems can play in the business, missing a vital component of a successful blueprint. Although knowledge is transient in the online world, often becoming obsolete quickly, I have outlined strong arguments in favour of embracing Knowledge Management at an early stage of the business cycle.

Online/Internet businesses are better placed to take advantage of Knowledge Management processes, particularly because they already have IT/IS experience and exposure. However, there is little evidence that this is occurring, even in my own experience with small business operators. It is probably due to the low resources of small online businesses (time and money), and the feeling of KM detracting from the real business operations. KM does not detract from real business operations. KM is the integral link between business strategy and business information. It is a mindset that should be embraced by internet/online small business operators. It is their natural business advantage!

Surrounding all of this is the Australian knowledge economy. Australian businesses are not fully embracing the opportunities of e-business, and are not leveraging the growth of knowledge-work in this country – to the point where research suggests some serious issues that the country needs to tackle. However, riding the wave is always better than going against it, and as such businesses seeking to become knowledge enabled should pay attention to future government initiatives and research. Failing this, our overseas competitors will certainly provide many useful lessons.

About The Author

Devon Andersen is Chief Executive Officer of Andersen Technology Development, where he provides project management and IT consultancy.

Mr Devon Andersen holds a 1st Class Honours Bachelors degree in Applied Physics, and also a Multidisciplinary Science Bachelors degree in Computer Science and Physics from Curtin University of Technology, Western Australia. Devon is currently

completing his Masters in Business Administration at the Graduate School of Business, Curtin University.

Devon can be contacted via the http://at.dev.at website.

References:

Chrisman, James; McMullan, Ed (2004) "Outsider Assistance as a Knowledge Resource for New Venture Survival" Journal of Small Business Management; Jul 2004; 42, 3; pg. 229, Retrieved from ABI/INFORM Global

Hylton, Antoinette. (2004),*"Smaller-sized Companies Also Need Knowledge Management"* Retrieved 25/7/04 from http://www.eknowledgecenter.com/articles/1005/1005.htm

Jones, P. , Beynon-Davies, P. & Greaves, M. (2003) *"Enterprise competencies for effective information systems and information management: A quantitative and qualitative study of the SME sector within Wales"* Business Information Review. Hartlepool: Jun 2003.Vol.20, Iss. 2; pg. 110 Retrieved from ProQuest

King, W R and Teo, T S H (2000), Assessing the Impact of Proactive versus Reactive Modes of Strategic Information Systems Planning, Omega, Vol 28, pp. 667 - 679.

Lowe, Mary. (2004), *"Knowledge Management: A Model to Support Organizational Learning"* Alliance for CME Almanac, Vol 26, No. 5 May 2004

Marsh, I. (2004) "Building the knowledge economy" Information Age 16/4/04. Retrieved from http://www.infoage.idg.com.au/index.php/id;73174742;fp;16;fpid;0

Nielson, Jakob. (2004) *"Expert Voices, Time for Redesign"* CIO Insight: Expert Voices Retrieved July 22/7/2004 from http://www.cioinsight.com/article2/0,1397,1610163,00.asp

NOIE (National Office on the Information Economy), 2003, Australia's Information Economy: The Big Picture (The 'Allen Report')
Retrieved from http://www.noie.gov.au/projects/framework/progress/research.htm on March 28th, 2003.

Robertson, J (2004) *"Developing a knowledge management strategy"* KM Column, Retreived from http://www.steptwo.com.au/papers/kmc_kmstrategy/ 10th August 2004

Silver, Mark. (1995) "The Information Technology Interaction Model: A Foundation for the MBA Core Course" MIS Quarterly; Sep 1995; 19, 3; ABI/INFORM Global Pg 361

Wijewardena, H. De Zoysa, A. Fonseka, T. & Perera, B. (2004) *„The Impact of Planning and Control Sophistication on Performance of Small and Medium Sized Enterprises: Evidence from Sri Lanka"* Journal of Small Business Management 2004 42(2) pg 209-217 Retrieved from ABI/INFORM Global

Wood, J. (2003) *"Australia: An under performing knowledge nation?"* Journal of Intellectual Capital; 2003; 4, 2, pg. 144 Retrieved from ABI/INFORM Global