

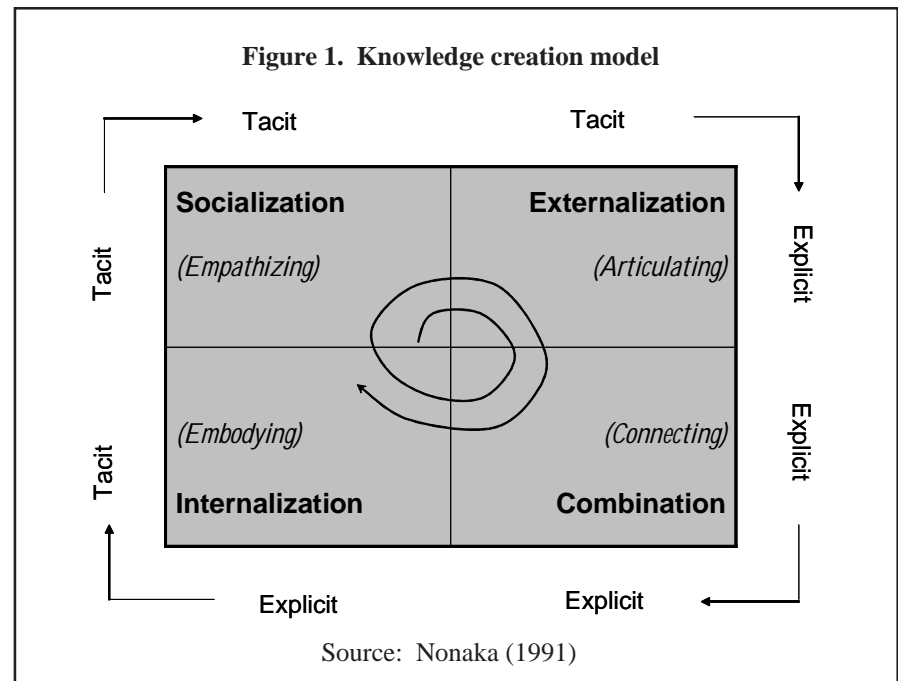
The emergent field of knowledge management: An overview

By **Jasmin P. Suministrado***
Asst. Professorial Lecturer

The 90s witnessed the reshaping of business organizations, as events in the socio-political, technological and economic environment forced many businesses to restructure, reengineer, “right-size” and even reconfigure their value chain. Much of the valuable business knowledge were either lost or displaced at that time as companies tried to reform their operations and reorganize their people. Their experiences during those tumultuous days brought to fore a realization: the days when business is defined mainly by land, labor and capital have passed; the age of knowledge was in fact dawning.

In this knowledge era, the most powerful tool of any company is its knowledge, from which sustainable competitive advantage can be derived. The value of knowledge was captured by Stewart (1997) when he wrote; “knowledge has become the most important factor in economic life. It is the chief ingredient of what we buy and sell, the raw material with which we work. Intellectual capital—not natural resources, machinery, or even financial capital—has become the one indispensable asset of corporations.”

If knowledge is of prime importance, then all efforts must be taken to ensure its proper management. Hence,



This article attempts to provide an overview of the emergent field of knowledge management, and develop among members of the academic community an appreciation of the subject. Knowledge management or KM is a very expansive field that offers applications in many disciplines, including engineering, computer science, information technology, as well as the soft sciences. This article presents knowledge management from a business perspective. It is not meant to be exhaustive, and has been written only to tickle the mind enough to stir further interest on the topic.

leading companies from diverse industries have embarked on knowledge management (KM) programs, many of which attempted to ingrain and seamlessly weave the programs into the

company’s culture (Ahmed 2002). Among these are oil company Chevron, business consulting company Celemi, Hewlett-Packard, computer giant IBM, document company Xerox, Lucent

*Ms. Jasmin Suministrado is an assistant professorial lecturer at the Business Management Department of De La Salle University - Manila and a managing partner of a knowledge management and codification company in the Philippines

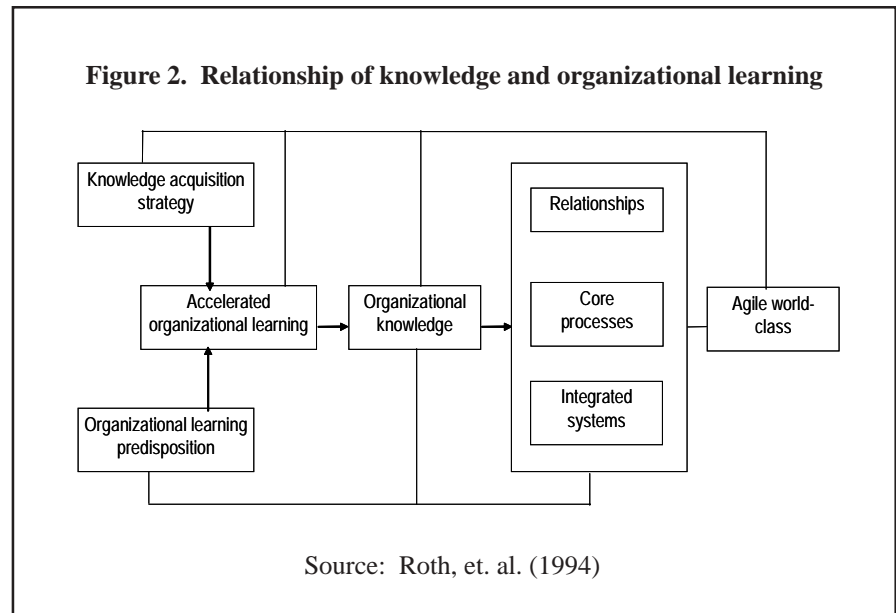
Technologies, The Post Office, airline companies British Airways and Singapore Airlines, and car producers Honda and Ford. For these companies, the relationship between their knowledge management activities and business returns, measured in a variety of ways, were actually established.

Knowledge basics

Knowledge is best appreciated when differentiated from data and information. Data is simply a series of meaningless outputs from any operation. This becomes information once it is endowed with relevance and purpose. Hence, sales figures in a financial statement will be viewed by an accounting officer as information once it is compared to historical figures, or to a particular sales target, or to the performance of a competitor. If this piece of information is provided to a manager who makes it the basis of a decision, then information becomes knowledge. Knowledge can therefore be defined as “actionable information” (Talisayon, 2001). It is information that can be used to do what has to be done.

According to Drucker (1999), “knowledge is personal and intangible in nature, whereas information is tangible and available to anyone who cares to seek it out.” To further make the distinction clear, Tiwana (2000) added that “knowledge is information captured and stored along with its context... (it) lies in connections, conversations between people, experience-based intuition, and people’s ability to compare situations, problems, and solutions.” More insights are provided by Ahmed (2002) who qualified that knowledge involves the individual combining his or her experience, skills, intuition, ideas, judgments, context, motivations and interpretation.

Knowledge can therefore be said to be mainly inherent in a person. We can say that every person possesses a certain amount and degree of knowledge that probably only that person holds. Only a small portion of this knowledge is



actually captured in books, notes, diaries, etc. Most of these remain within a person. Examining it from a business standpoint, one can say that this can explain why companies are most likely to be handicapped when an employee leaves, as he or she brings with him or her the knowledge of how a job is efficiently and effectively performed.

This kind of knowledge that resides within people is called *tacit* knowledge. This is as opposed to the other kind called *explicit* knowledge, that is, documented or codified knowledge. Explicit knowledge is the type of knowledge relayed through books, journals, articles, manuals, or those that have been incorporated into databases. Note that only when knowledge becomes explicit can it be stored, learned from by others, and replicated. Hence, the challenge of many KM programs is how to bring out and transform tacit knowledge to one that is explicit. This will be discussed below.

Researchers (Ahmed, 2002; Gee 1996; Carlisle, 2002; Moran and Ghosal, 1996), as well as managers of companies implementing KM (see cases discussed in Ahmed, 2002), argue that knowledge is the sustainable source of competitive advantage. Nonaka and Takeuchi (1995) explain that the key relationship between

these two is the potential of knowledge to lead to innovation, which in turn serves as the basis of building the competitive edge. Although not explicitly stated, the author is of the thinking that the innovation comes from any of the processes or outcomes of any of the activities in the company’s value chain. Carlisle (2002) actually noted that far from the ordinary business processes, the processes of a KM-enabled company are in fact organizational knowledge processes that companies have learned to superiorly manage.

Managing knowledge

While there is a great variety of definition of the term Knowledge Management, Cross and Baird (2000) provided an interesting one when they pointed out that KM is “the discipline of creating a thriving work and learning environment that fosters the continuous creation, aggregation, use and re-use of both organizational and personal knowledge in the pursuit of new business value”. Note that this puts emphasis on processes, particularly those that facilitate learning and the assimilation of knowledge.

Little, et. al. (2000) cited 6 reasons why the management of knowledge is important:

- Wealth being demonstrably and increasingly generated from knowledge and intangible assets;
- The rediscovery that people are the locus of much organizational knowledge;
- Accelerating change in markets, competition and technology, making continuous learning essential;
- The recognition that innovation is key to competitiveness, and depends on knowledge creation and application. In fact, the management of innovation is essentially about the management of knowledge—the creation, reformulation, sharing and bringing together of different types of knowledge;
- The growing importance of cross-boundary knowledge transactions;
- and technology limits and potentials: the limits of information systems and the potentials of communications and knowledge technologies.

With the definition and the reasons cited above, it is evident that KM is more than just the utilization of information technology or information systems. While it is true that information can be effectively captured by these systems, the same cannot be said of knowledge, which are mostly uncoded or tacit. Equal, if not greater emphasis, needs to be placed on the holder of much of this knowledge, i.e., the people. Learning processes must be managed. In most instances, these cannot be established and sustained in organizations unless a culture of learning is developed.

There are three very basic steps that comprise the knowledge management continuum: knowledge acquisition or creation; knowledge sharing; and knowledge use, reuse and utilization. These steps can actually be viewed as a cycle or a continuous process, since the reuse of knowledge

Table 1. A comparison of traditional and learning organizations

Strategic dimensions	Traditional	Learning
Underlying premise	Fit the firm to the environment	Change the environment to fit the form
Dominant paradigm	Mass, size, chess-like	Maneuverability
Guiding objective	Preserve the advantage	Renew advantage
Competitive/analysis	Generic strategies to lock in local markets	Create new markets
Resources/means	Invested in fixed assets	Invest in evolving/emerging opportunities
Problem solving logic	Formal planning: quantitative analysis	Intuitive, sense making
Basis of thinking	Linear, incremental	Breakthrough, quantum
Organizational design	SBU-based, hierarchical boundaries	Skill-based, boundaryless
Roles of alliances	Cost reduction	Learning new insights from partners
Role of customers	Conceived as marketing tools	Conceived as groups, individuals to learn from

Source: Slocum, et. al. (1994)

will most likely give birth to new knowledge.

A huge part of the KM literature (Nonaka, 1991; Brown and Duguid, 1998; Nonaka and Takeuchi, 1995; Nonaka and Konno, 1998) deals with the first step in the cycle: knowledge creation. In fact, among the pioneering works in knowledge management is the conception of a theory that attempts to explain this seemingly complex phenomenon. Nonaka (1991) exploited the interaction between tacit and explicit knowledge to explain how knowledge is created. According to him, “the key to knowledge creation lies in the mobilization and conversion of tacit knowledge”. He explains four conversion processes that are of importance (See Figure 1 on page 1):

1. Socialization is the conversion of tacit to tacit, or when tacit knowledge of one person becomes a tacit knowledge of another. Examples of this are team meetings and discussion.
2. Externalization is the conversion of tacit knowledge to explicit. This can be accomplished through dialogues

within teams and by answering questions that allow for expertise to be verbalized and codified.

3. Through a process of Combination, explicit knowledge becomes transferred as another form of explicit knowledge. An example of this is when a report is sent as an attachment to an email.

4. Lastly, Internalization is the process of converting explicit knowledge to tacit. The learning process is the best example of this. Learning will not be complete unless knowledge in books, articles, notes and reports are assimilated and applied by students.

The learning organization

One very important implication of Nonaka’s framework is the need to “learn”. Learning is in fact a central concept in knowledge management. The reason is quite straightforward; without learning, there can be no addition to the knowledge that a person possesses.

Learning has been the subject of study of far a great number of researches even before the mid-90s. Dewey (1933) defined learning as “a continuous process

of discovering insights, inventing new possibilities for action, producing the actions and observing the consequences leading to insights”.

To emphasize the continuous nature of learning, Revans (1983) depicted learning as a spiral, and showed how the toss between cognition and action, logic and emotion, mind and body, explicit and tacit, macro and micro, order and chaos, all account for learning which in turn leads to the creation of new knowledge. This learning spiral can be collapsed into an equation involving two addends P (programmed learning) and Q (questions). Programmed learning comes from the different manifestations of explicit knowledge such as books, lectures, and other secondary sources. Q, on the other hand, is the more experiential component that involves interpersonal activities such as asking questions, looking at evidence, and drawing conclusions based on experience.

The relationship between organizational learning, knowledge and a firm’s competitive advantage is captured by a model proposed by Roth, et. al. (1994). In this model, depicted in Figure 2 on page 2, learning capabilities are shown to complement rapid acquisition and deployment of knowledge to create a world-class and highly competitive organization.

The importance of learning made many companies deploy learning strategies for market dominance (Slocum, et. al., 1994). These strategies build on the company’s capabilities, culture, and competitive strengths. Because learning is integrated in the essence of the company, the learning practices enable the firm to constantly renew itself and develop new sources of competitive advantage.

In an attempt to better understand learning organizations, Ahmed (2002) presented a comparison of traditional and learning firms from a variety of strategic dimensions. This is summarized in Table 1 on page 3. From this, it is apparent how learning organizations are superior to traditional firms particularly at this age

Table 2. Three main KM Strategies

Point of Comparison	Reactive KM	Mechanistic KM	Organic KM
Nature of program	* Ad hoc program (implicit)	* Systematic program (explicit)	* Systematic program (explicit)
Scope of implementation	* Piecemeal implementation; Narrow departmental focus	* Organization-wide implementation	* Organization-wide implementation
Degree of senior management support	* Lacking senior management support	* Mandated by senior management	* Mandated by senior management
Involvement of middle management	* Driven by small group of middle management	* Driven by middle management	* Driven by middle management
Level of awareness of organization	* Poor communications and awareness	* Organization-wide awareness	* Organization-wide awareness
Understanding of individual benefits	* Poorly understood benefits by individual employee	* Good awareness of potential gains for individual	* Good awareness of potential gains for individual
Understanding of efficiency and effectiveness benefits	* Benefits purely understood in technical gains (efficiency)	* Benefits broadly understood (efficiency and effectiveness)	* Benefits broadly understood (efficiency and effectiveness)
Level of involvement of organization	* Group-department scale involvement	* Organization-wide involvement	* Organization-wide involvement
Driver	* IT-driven (data-transfer led)	* IT-driven (but processes and systems led)	
Nature of structures	* Rigid functional structures	* Managed structures and processes	* Open and evolving structures
Alignment with strategies	* Little alignment with long-term strategies		* High alignment with strategy

Source: (Ahmed 2002)

of relentless changes and business challenges.

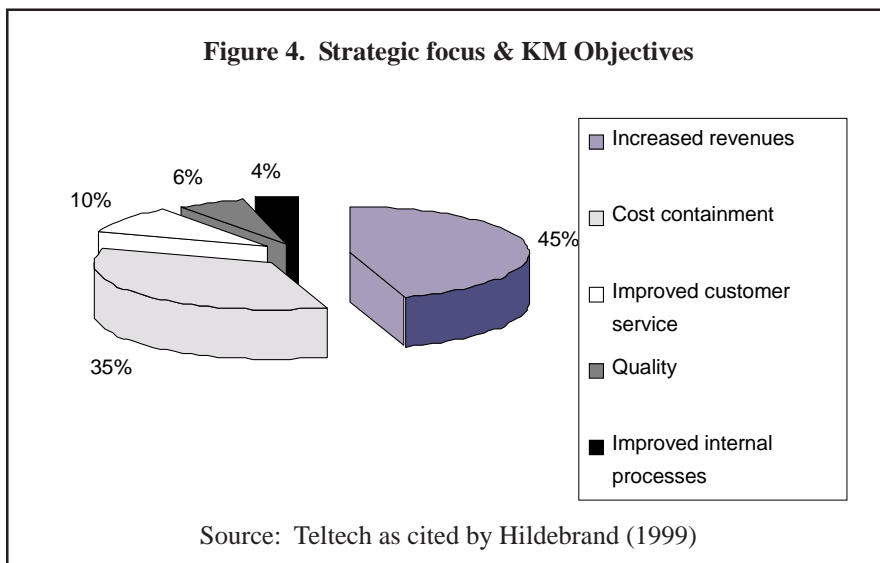
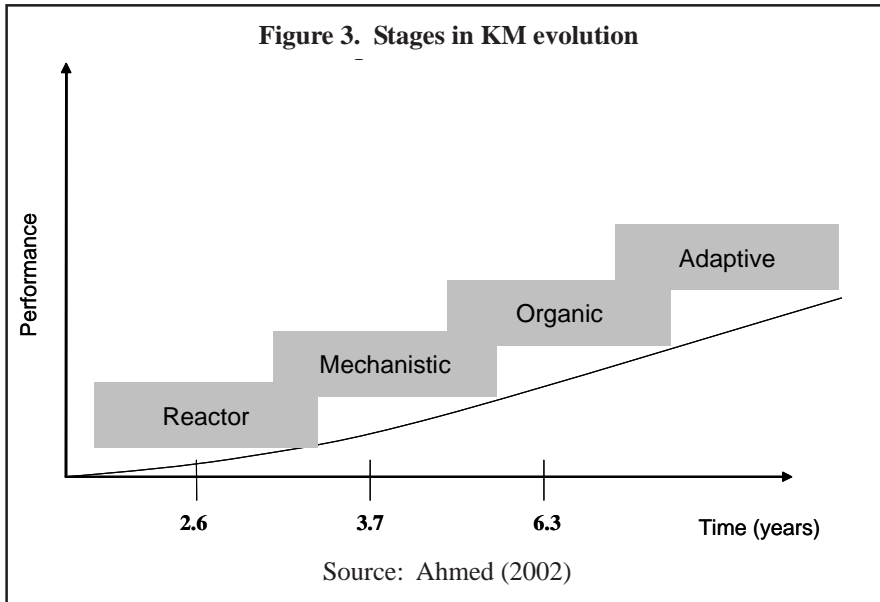
A study by Ahmed (2002) of the knowledge management initiatives of various business organizations led him to identify five key KM elements. These are technology, processes, strategy, cultural context, and the central element people. For knowledge management to yield a competitive edge, the interaction of all these elements should be synergistic, with KM aligned to the strategic thrusts of the firm.

He was also able to identify three main generic knowledge management strategies being applied by firms. These are reactive, mechanistic and organic. Further, Ahmed hinted at one emerging strategy, i.e., the adaptive strategy. His observations of a number of firms led him to theorize that these strategies can actually be viewed as an evolution, where firms that have accumulated KM successes will eventually graduate to the adaptive level when KM has become embedded in the very heart of the organization, including its people,

processes, and partnerships.

The observed characteristics of the three main KM strategies are presented in Table 2 above.

The reactive strategy can be viewed as a rather passive approach, where programs will only be conceived and implemented when a problem has already occurred. Mechanistic strategies involve more large-scale programs that require formal structures of management and formal processes that are mostly driven through the management of information technology. Organic strategies, on the other hand, involve KM programs that become increasingly embedded within the company culture. Practices become more open and are less structured and mechanically driven, thereby providing the venue for competitive edges to surface. The emerging strategy called adaptive is geared more on the creation of innovative solutions to problems. Companies with this strategy are more forward looking, with a high level of precognition and perception. As such, they are able to



anticipate environmental changes and adjust their business strategies accordingly.

It was proposed that these strategies constitute stages that companies implementing KM have to go through. This trajectory pattern is shown in Figure 3. It is estimated that on average, about six years are needed before companies reach the organic stage where KM efforts become aligned with the long-term business strategies. This suggests that investments in terms of both time and serious effort are necessary before KM is able to provide the promise

of sustained competitive advantage.

Synthesis of knowledge management cases

Actual business cases showcasing knowledge management practices have multiplied in number with the increasing recognition of KM's importance. Because KM is a developing field, many researchers have displayed a keen interest on actual cases that serve as rich inputs in the validation of existing theories on KM, as well as in the creation of new ones.

To present individual cases of companies would be ideal, in order to provide the readers with a better appreciation of KM. However, for purposes of this overview article, what will be presented is a collection of KM cases as processed and summarized by Teltech Resource Network Corporation (www.teltech.com), and as presented in an article by Hildebrand (1999).

A summary of Teltech's findings is presented in Figure 4.

Out of ninety-three projects examined in the survey, those that had the highest level of impact on the company were those that focused on leveraging expertise, sharing knowledge and best practices, and improving collaboration in team-based work.

The research also revealed that KM projects mostly began in processes that involve customers such as in the delivery of products and services, product and service development, and customer service. This is, of course, not to say that KM's applicability and effectiveness is limited to these sets of activities. This distribution, however, can be explained by the fact that initiatives have a greater chance of being launched if companies implement activities that have a direct impact on the company's bottom line.

Conclusion

KM, still in its infancy stage in the Philippines, has been regarded as a very important field that has emerged in recent years. Documented cases of KM have so far attested to the tremendous benefits that this field offers. Although KM programs can be observed mostly in large corporations, the author is of the view that small and medium companies alike stand to benefit from KM applications. It is with this belief that the field of KM is being introduced to the faculty of the College of Business and Economics.

The challenge now is how to equip businesses and future managers with the skills and knowledge needed to thrive in the knowledge age. This is the bridging

role of the academe. To contribute to this new field is to build the chances of success of Philippine businesses.

References

Ahmed, P., et. al. (2002). *Learning Through Knowledge Management*, Oxford, Butterworth Heinemann.

Brown, J. S. & Duguid, P (1998). *Organizing Knowledge*, California Management Review, (40), 3.

Carlisle, Y. (2002). *Strategic Thinking and Knowledge Management*, by Little, et. al. *Managing Knowledge. An Essential Reader. The Open University in association with SAGE Publications Ltd.*

Cross, R. and Baird, L. (2000). *Technology is not enough: Improving performance by building organizational memory*, Sloan Management Review, 41, (3), Spring, 69-78.

Dewey, J. (1933). *How We Think*. D.C. Health & Co.

Drucker, P. (1999). *Management Challenges*

for the 21st Century, New York, Harper Business.

Gee, P. (1996). 'On mobots and classrooms, the converging languages of the new capitalism and schooling', *Organization*, 3: 147-192.

Hildebrand, C. (1999). *Making KM Pay Off*, CIO Enterprise, 64-66.

Little, S. et. al. (2000) *Managing Knowledge. An Essential Reader*, London, The Open University in association with SAGE Publications Ltd.

Moran P. And Ghoshal, S. (1996). *Value creation by firms*, by J.P. Keys and L.N. Dosier (eds) *Academy of Management, Best Paper Proceedings*, Georgia Southern University, 41-45.

Nonaka, I. (1991). *The Knowledge Creating Company*, Harvard Business Review, November-December.

Nonaka, I. and Takeuchi, H. (1995) *The Knowledge-Creating Company*, Oxford, Oxford University Press.

Nonaka, I. and Konno, N (1998). 'The concept of ba: building a foundation for knowledge creation', *California Management Review*, 40 (3), Spring 40-54.

Reg Revans, R. (1983). *The A.B.C. of Action Learning*. Chartwell-Bratt.

Roth, A.V., et. al. (1994) *The knowledge factory for accelerated learning practices*. *Planning Review*, 22, (3), May-June.

Slocum, J., McGill, M. and Lei, D. (1994). *The new learning strategy: anytime, anything, anywhere*. *Organizational Dynamics*, 23, (2), 33-47.

Stewart, T. (1997). *Intellectual Capital: The New Wealth of Organizations*, London, Nicholas Brealey.

Tiwana, A. (2000). *The Knowledge Management Toolkit*, New Jersey, Prentice Hall.

Talisayon, S. (2001). *KM Strategies Series. Knowledge and People column*, I.T. Matters Section, *Business World*, Aug 6 – Sept 4, 2001 series.

Subscribe to *NOTES* now

Notes on business education is a bi-monthly publication of the College of Business and Economics, Center for Business and Economics Research and Development (CBERD). Professors from the different academic departments of the college present papers, lectures notes and other materials for classroom discussion and academic exchange. If you wish to subscribe to this publication, e-mail the editor at cberesearch@dlsu.edu.ph or fax this form to (632)3030869. Back issues are also downloadable at www.dlsu.edu.ph/research/centers/cberd/pdf

Name : _____

Position : _____

Institution : _____

Office Address _____

Tel. No. _____

Fax No. _____

Email Address _____

NOTES

on Business Education

is published by the De La Salle University - College of Business and Economics Research and Development (CBERD)
Vol. 7 No. 1 Jan - February 2004

Editorial Board
Dr. Michael Alba
email: albam@dlsu.edu.ph

Dr. Myrna Austria
email: austriam@dlsu.edu.ph

Michael Angelo Cortez
email: cortezm@dlsu.edu.ph

Secretary
Liza Pajo

For comments, suggestions and contributions, call (632) 5244611 loc. 149 or telefax (632)3030869 or email cberesearch@dlsu.edu.ph