

Examining the Conceptual Models of Knowledge Management in Organizations: A Survey of the Banking and Insurance Companies in Central Java

E. Kusumadmo

*Department of Management
Atma Jaya Yogyakarta University-Indonesia
Jl Babarsari 43 Yogyakarta 55281
kusumadmo@fe.uajy.ac.id*

Abstract

The knowledge management is a major strategic imperative that supports financial organizations in a competitive environment. The importance of knowledge management is reflected in the fact that most of the managers saw their organizations as knowledge-based organizations that recognized the importance of knowledge, knowledge acquisition, knowledge dissemination and responsiveness to knowledge. Although various processes have been linked to knowledge management, it is clear that financial organizations realize that these processes must be supported by organizational culture and ICT usage.

The objectives of this study are to examine the conceptual models of knowledge management, to examine the causal relationship between internal organizational variables and knowledge management, and to determine the causal relationship between knowledge management and competitive intensity. This study surveyed the financial industrial environment by choosing the banking and insurance companies in three major cities in Central Java and Jogjakarta Special Province as the research population (total sample, N=201). The research subjects were the branch managers of the banking and insurance companies who were considered to have a sound understanding of knowledge management in their respective companies. This result indicated that the null hypothesis (model hypothesis) stating that there is no significant difference between the model and the acceptable empirical data was confirmed. This study demonstrated that the knowledge management activities were part of a system that had some linkage with other variables and functions as strengthener for the achievement of competitiveness through competitive intensity.

Keywords: *Knowledge Management, Organization Culture, ICT Usage, Competitive Intensity*

BACKGROUND

In the knowledge-based industries, organizations consider knowledge as their most valuable and the most strategic resource. They believe that by managing their resources and intellectual capacities, they would become and remain competitive (Civi, 2000; Bollinger et al., 2001). Knowledge-based industries such as information technology, financial services and insurance, biotechnology, and consultancy are getting more and more important in terms of their share in the gross national product; and knowledge management had its roots in these industries (Agrawal, 2001).

Knowledge is the new basis of competition (Drucker, 1993) and only knowledge resources have unlimited potential for growth (Nonaka & Takeuchi 1995; Davenport & Prusak 2000). Organizations that are able to acquire, generate, disseminate and use knowledge better than competitors are likely to gain substantial advantages. Without constant knowledge management, the business performance would be degraded (Choi & Lee, 2002).

RESEARCH QUESTIONS

There are three research questions as follows

1. Is the model of knowledge management developed and tested empirically supported by appropriate and adequate data ?

2. How do organizational culture and ICT usage exert influence on knowledge management process in banking and insurance companies ?
3. How does knowledge management exert influence on competitive intensity in the

RESEARCH OBJECTIVES

Overall, this study was meant to test the hypotheses that knowledge management are influenced by organizational culture and ICT usage, and that knowledge management as a strategic imperative variable exerts influence on competitive intensity in the banking and insurance companies in Central Java. In other words, the knowledge management factor was expected to play some kind of mediating role between organization culture, ICT usage and competitive intensity.

REVIEW OF THE LITERATURE

Organizational culture and knowledge management

Kotter and Heskett (1992) stated that almost all of books on organizational culture concluded or implied some connection between organizational. Managing knowledge is meaningful to the organization (Probst et al., 2000). The key variables are organizational culture and internal technical climate (Grant, 1996; Lang, 2001; Moffet et al., 2002). Organizational culture is the most important factor for successful knowledge management (Davenport et al.,1998; Martin, 2000; Von Krogh et al.,2000; De Long & Fahey, 2000; Salleh et al., 2004). Specifically, organizational culture is the major barrier to creating and leveraging knowledge assets (De Long & Fahey, 2000; Skyrme & Amidon's, 1997; Chase's, 1998; McDermott, 1999). Consistent to the objective of this study, Von Krogh (1998) has suggested that indicators in organizational culture promote employees' active knowledge management behaviors (Argyris, 1977; Davenport & Prusak, 1998; Levett & Guenov, 2000).

ICT and knowledge management

ICT can be viewed as both a key contributor and an enabler to the field of knowledge management. ICT alone will not result in the creation of a knowledge management (Davenport & Prusak, 1998; Kim & Lee, 2004; Soliman & Spooner, 2000). ICT is necessary but not sufficient for successful knowledge management (Balthazard & Cooke, 2004) and plays a major role in supporting knowledge accumulation and sharing (Jedin et al., 2001).

Knowledge Management and Competitive Intensity

The increased competitive intensity was positively associated with adoption of the "extended marketing concept," which was in turn positively associated with increased organizational performance (Bharadwaj et al., 1993; Darroch, 2001; Lusch & Laczniak, 1987). Knowledge dissemination and responsiveness to knowledge have been mooted as the components that would have the most impact on the creation of a sustainable competitive advantage (Day, 1994; Fahey & Prusak, 1998; Grant, 1996; Teece, 1998; Teece, 2001).

RESEARCH FRAMEWORK

The definition shows that knowledge management includes three parts: knowledge acquisition, knowledge dissemination, and knowledge use within and between organizations (Darroch, 2003; Kinney, 1998). Based on literature analysis and explorative studies and some conceptual frameworks developed by previous researchers, some interrelated factors of knowledge management have been identified (Moffet et al., 2002; Gupta and Govindarajan, 2000; Salleh et al., 2004).

The Dependent Variable - Competitive Intensity

High level of competitive force within an industry may threaten the relevant companies because it may reduce their profit gain. In contrast, a weak force may be viewed as an opportunity because it may allow the company to earn greater profits. In the short run, strong forces act as constraints on a company's activities. In the long run, however, a company, through its choice of strategy, may be able to change the strength of one or more of the forces to the company's advantage (Wheelen & Hunger, 2004). Thus the company may use knowledge management process to produce various advantages (Mahoney & Pandian, 1992) to improve its competitive intensity.

The Independent Variable - Organizational Culture

In the discussion of organizational culture, Barney (1991) noted that a competitive advantage (competitive intensity) in the businesses is developed by organizational culture since organizational culture is the most element for achieving competitive intensity (Indriantoro, 2000; Tjandradiredja, 2002; Moeljono, 2003). Levett and Guenov (2000) conclude that organizational culture plays a primary role in the likelihood that employees will be willing to work together and share their knowledge.

The Independent Variable – ICT Usage

ICT usage is an essential element of an effective knowledge management process. ICT experience and ICT literacy will support knowledge acquisition, knowledge dissemination and responsiveness to knowledge within the organization. ICT usage has been related to model of competitive advantage (Burn, 1990) and it was proven as positively related to organizational performance (Sohal & Lionel, 1988).

The Mediating Variable – Knowledge Management

Kautz & Thaysen, 2001; Liao et al., 2004, concludes that the success of knowledge management in organizations, depends not only on technological means, but is also related to behavioral factors. Knowledge management is a function of top management in which the organization should concentrate their learning efforts, clarifying business strategy and establishing challenging goals (Alavi & Leidner, 2001; Nonaka & Takeuchi, 1995; Senge, 1990). Knowledge management that involves processes of acquiring, disseminating and using knowledge needs the help of organizational culture and ICT usage support where possible in financial services. Through a combination of supportive organizational culture and ICT usage, a banking or insurance company can bring its knowledge management process to create competitive intensity to the business.

HYPOTHESES

Model Hypotheses

Null Hypothesis : *There is not any significant difference between the covariance matrix of the sample data and the covariance matrix of the estimated population.*

Alternative Hypothesis: *There is a significant difference between the covariance matrix of the sample data and the covariance matrix of the estimated population.*

Causality Hypotheses

From the above literature review, the study comes up with a conceptual basis for the connections between organizational culture, ICT usage, knowledge management and competitive intensity. From the interconnections between these constructs, the following hypotheses of causal relationships within financial industrial environment – particularly banking and insurance – are proposed for this study:

Hypothesis-1: Organizational culture and ICT usage exert an influence on knowledge management in banking industry .

Hypothesis-2: Knowledge management exerts an influence on competitive intensity in banking industry.

Hypothesis-3: Organizational culture and ICT usage exert an influence on knowledge management in insurance industry .

Hypothesis-4: Knowledge management exert an influence on competitive intensity in insurance industry.

Hypothesis-5: Organizational culture and ICT usage exert an influence on knowledge in banking and insurance industry.

Hypotheses-6: Knowledge management exerts an influence on competitive intensity in banking companies and insurance industry.

RESEARCH METHODOLOGY

Empirical Research Model

The model applied in this study is developed based on model construction stages and structural equation analysis. The research model is developed to meet the principles of concise theoretical model with strategic perspective and the principle of parsimony. The model describes the linkage between internal organization variables and a major strategic imperative that supports companies in a competitive environment (Kumar et al.1998; Maier & Remus, 2001, Frank, 2000, Squier & Snyman, 2004, Wheelen & Hunger, 2004). The internal strategic variables consisted of organizational culture and ICT usage; the major strategic imperative was explained by knowledge management; and the organizational competitive environment was explained by competitive intensity. The empirical research model was developed based on an assumption that linear causal relationships are there. This study had used Structural Equation Models (SEMs) - AMOS. SEMs are similar to combining multiple regression and factor analysis (Bacon, 1997).

Model Dimensionalization

In covariance-based SEM, latent variable is measured through reflexive indicators (dimensions). Such reflexive model assumes that construct or latent variables influence indicators or, in other words, the direction of the causal relationship is from construct to indicators, or manifest. In fact, latent variables may be formed by formative indicators assuming that indicators influence construct (Ghozali, 2006). According to Bollen (1989), construct selection based on reflexive model or formative model depends on the priority of the causal relationship between the indicators and the latent variables. Fornell and Bookstein (1982) further suggest that constructs such as “personality” or “attitude” are usually seen as factors eliciting something observable that the indicator is considered reflexive. In this study, since the selected constructs and latent variables are related to attitudes or behaviors, the indicators are reflexive ones (see Appendix-1).

Data Collection Procedure

This study was done by distributing questionnaire directly to the managers who have thorough understanding about their internal organization and organizational strategies. The survey instrument used was a questionnaire. It contains four sections, for the section of organizational culture we use the scale developed by Goffee and Jones (1998). In order to assess the level of ICT usage we decide to use the survey instrument developed by Seyal et al. (2000). For the knowledge management section, we decide to use the survey questionnaire developed by Jenny Darroch (Darroch, 2003). For the competitive intensity section, the scale of Lusch and Laczniak’s (1987) was used. Data collection was done between November 2005 to end of March 2006. The results are presented in Table-1. Total number of questionnaires distributed in three cities - Semarang, Surakarta, and Yogyakarta - was 345. The questionnaires were distributed according to the company list provided in the Standard Trade and Industry Directory of Indonesia (STDI) XX1 Edition (2004).

Table 1 Response Rate

Description	Bank	Insurance	Bank and Insurance
Number of distributed questionnaires	200	145	345
Unreturned questionnaires	66	56	122
Returned questionnaires	134	89	223
Unprocessable questionnaires	15	7	22
Response rate	134/200 = 0.67	89/200 = 0.61	223/345 = 0.65
Total of processable questionnaire	119	82	201

RESEARCH ANALYSIS AND RESULT

Measurement Model

Weighted factor score that resulted from AMOS' confirmatory factor analysis, therefore it produces indicator composite measure of latent construct. Composite reliability of each latent construct (α) is meant to measure internal consistency of latent construct that indicates common latent (unobserved) construct. High reliability measure has impact on the level of confidence on an individual indicator consistency in measuring the same measure. Since the outcome of the above calculation of construct reliability of organizational culture was 0.94 (greater than 0.70), the data analyses used in this study came up with results that might be interpreted quite reliable. The same result was gained for the construct reliability of ICT usage (0.77), knowledge management (0.96), and competitive intensity (0.82); they may all be interpreted reliable.

Results of Structural Analysis

The analyzed model was a recursive one, which meant that there was no reciprocal regression between latent variables or constructs (Ghozali, 2004). Confirmatory factor analysis was carried out to test the measurement model developed for each latent variables, both exogenous and endogenous, from which some revisions were done in order to have more appropriate model. Thus, not all of the observed variables passed the confirmatory testing and only those passing the confirmatory testing that were used in the full structural model analysis. The followings were the results of data analyses of samples' structural model testing for standardized estimates in the form of path diagram (see Figure-1). Testing results of the three samples suggested that the models fit the data used in the testing, as shown in the various indices resulting from research model fit (see Table-2).

Table 2 Research Model Fit

Indices	Recommended Value (Hair et al. 1998)	Research Model Banking& Insurance	Research Model Banking	Research Model Insurance
CMIN/DF	< 5.0	1.566	1.425	1.232
Probability	≥ 0.05	0.023*	0.059	0.175
GFI	≥ 0.90	0.955	0.932	0.923
AGFI	≥ 0.90	0.921	0.879*	0.863*
TLI	≥ 0.90	0.972	0.964	0.974
CFI	≥ 0.90	0.981	0.975	0.982
RMSEA	≤ 0.08	0.053	0.060	0.054

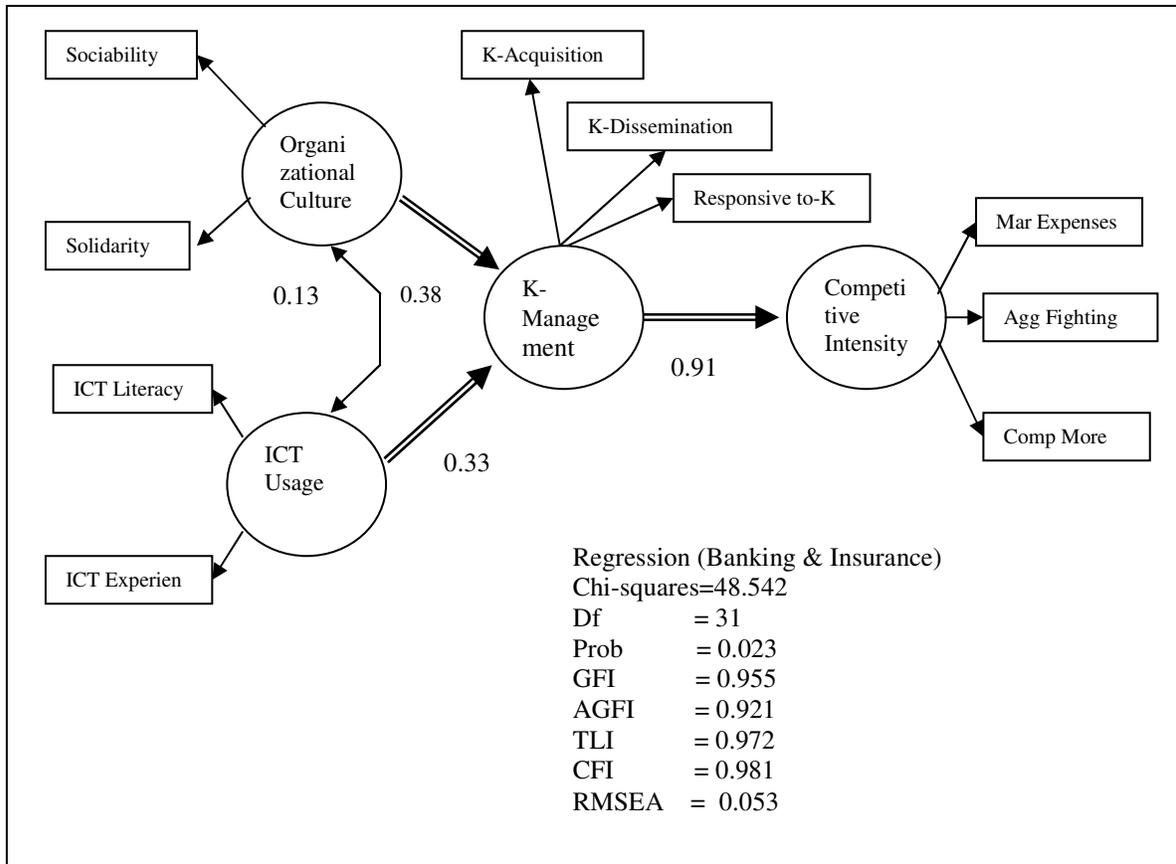


Figure 1 Structural Model Testing for Banking and Insurance Standardized Estimates

Results obtained from the structural equation modeling analysis suggested that the research model exhibited a quite satisfactory overall fit. Goodness of fit index (GFI) and comparative fit index (CFI) values were exceeding recommended level 0.9, and so were the values of adjusted goodness of fit index (AGFI), the Tucker and Lewis Index (TLI), root mean square residual (RMSEA), normed chi-square (CMIN/df) are recommended.

Causality Hypotheses Testing Results

Using t-test significance testing results - referred as critical ratios in the SEM-AMOS analysis - that is the estimated values of regression coefficients compared to the standard error of estimate, mostly the causal relationships tested showed appropriate critical ratios (greater than 1.96), meaning that the hypotheses tested were confirmed. The analysis yielded results that strongly supported all of the six hypotheses as illustrated in the causality Maximum Likelihood (see Table 3).

Tabel 3 The Causality Maximum Likelihood

Relation	Sample	Estimate	Standardized	S.E	C.R
Estimates					
KM ← Org Culture	Bank & Insurance	0.352	0.470	0.099	3.562
KM ← ICT Usage	Bank & Insurance	0.150	0.288	0.048	3.134
CI ← KM	Bank & Insurance	0.544	0.912	0.147	3.693
KM ← Org Culture	Bank	0,199	0,279	0,131	1,513
KM ← ICT Usage	Bank	0,200	0,408	0,060	3,359
CI ← KM	Bank	0,609	0,897	0,190	3,209
KM ← Org Culture	Insurance	0,279	0,381	0,131	3,593
KM ← ICT Usage	Insurance	0,168	0,335	0,037	4,473
CI ← KM	Insurance	0,595	0,912	0,118	5,032

FINDINGS

General Findings

If knowledge management was seen as a systematic approach (Bergeron, 2003) and a management function (Darroch & McNaughton, 2000), this study demonstrated that knowledge management activities was part of a system that had some linkage with other variables and functions as strengthener for the achievement of competitiveness through competitive intensity and therefore provide long term benefits to the organization. This study also suggested that knowledge management was influenced by internal strategic variables: organizational culture and ICT usage that in turn exerted influence on the increase of competitive intensity within banking and insurance companies. This result indicated that the null hypothesis (model hypothesis) stating that there is no significant difference between the model and the acceptable empirical data was confirmed. This means the model was fit.

All seven hypotheses in the basic hypothesized model (Figure-1) were strongly supported. Moreover, the hypotheses testing also found that organizational culture exerted slightly higher influence (0.381) on knowledge management than ICT usage (0.335) in all companies studied. This study was consistent with other studies (Davenport et al.,1998; Martin 2000; Von Krogh et al.,2000; De Long & Fahey, 2000; Salleh et al., 2004; Kim & Lee, 2004).

Specific Findings

Although in general internal strategic variables exerted influence on knowledge management, it turned out that the regression coefficients of the influence in banking companies alone, in insurance companies alone, and in both banking and insurance companies (total sample) were different. The influence of organizational culture on knowledge management in banking companies was the highest (0.47) compared to what applied to insurance companies (0.28) or total sample (0.38). While the influence of ICT usage on knowledge management in insurance companies was the highest (0.41) compared to what applies to banking companies (0.29) and total sample (0.33).

Probably, the difference of influence of organizational culture and ICT usage on knowledge management in banking and insurance company might be linked to Wulff and Suomi's (2002) suggestion, that banks mostly operate on standard transactions that can be computerized. In insurance companies, human assessment of risks and losses has a key function. The results of this study could be contradictory to this suggestion.

The influence of knowledge management on competitive intensity in banking companies, insurance companies, and total sample showed relatively the same regression coefficients (0.91; 0.90; 0.91). Thus, it might be concluded that the influence of knowledge management on competitive intensity in each sample was relatively the same. Referring to Squier and Snyman's (2004) opinion suggesting that

knowledge management is a major strategic imperative that supports financial organizations in a competitive environment, this study found it to be in line findings.

CONCLUSION AND IMPLICATIONS

This finding was in accordance with what have been found by Burnstein et al., 2002; Ali et al., 2004; Goffee and Jones, 1996; Sackmann, 1991; Deal & Kennedy, 1982; Hofstede, 1991; Kotter & Heskett, 1992; Morgan, 1986; Schein, 1985; Trice & Beyer, 1993; De Long, 2000). It may be concluded then that knowledge management process revealed in this study was an output shaped and shared by the organization and derived from behaviors determining practices within the organization. Organization culture and ICT usage may be identified and grouped as firm's resources by considering the strengths and weaknesses. The rent-generating (profit) potential of these resources should be appraised, the strategy should be selected, and resource gaps should be identified and invested in upgrading weaknesses (Wheelen & Hunger, 2004).

Knowledge is value-added behavior and activity (Pfeffer & Sutton, 2000; Skyrme, 2000; Skyrme, 2001) comprising tacit/implicit knowledge (within the individual's head) and explicit knowledge (which is encoded and expressed as information in database, documents, etc.). Therefore, knowledge management process is dynamic and improvable in order to yield added-values to deal with competitions. Banking and insurance companies may use this study's findings in formulating their business strategy.

LIMITATIONS OF THE STUDY

This study was always the possibility that the validity demonstrated will hold true only for this particular population due to unknown factors (Campbell & Stanley, 1966). The findings of the study were also limited to the reliability and validity of the survey and the accuracy of respondents' self perceptions, biases and memory (Kerlinger, 1986). This study was dependent upon the instruments which could measure the characteristics that were directly related to personality and the work place. Specifically, the results assume that the questionnaires was an adequate measure of internal strategic variables, knowledge management and competitive intensity within the organization. It was further assumed that the participants understood the directions and content of the various survey forms and responded honestly.

APPLICATION OF THE RESULTS AND FURTHER RESEARCH

A large number of companies are currently experiencing difficulties to maintain their general picture of data, information, and internal knowledge (Gupta et al., 2004). This lack of transparency results in inefficiencies, uninformed decisions, and duplications. Therefore, an effective knowledge management must be supported by some transparency in order to help the individual employees in deciding what they need.

The tested model can be used for strategic analysis of financial service companies, particularly banking and insurance companies. The tested model may be replicated with additional constructs and more samples from other industrial sectors. This study may be deepened by a follow-up study on *the process of knowledge creation to organizations* based on resource-based review theory and socio-cultural theory.

REFERENCES

- Alavi, M. & Leidner, D. (2001). Knowledge management and knowledge management systems: conceptual foundations and research issues. *MIS Quarterly*, 25 (1), 17-36
- Ali, J., Guan, T. H., & Idris, F. (2004). *A Study Knowledge Conversion Practices in Selected Firms*, 8th International Conference on Global Business and Economic Development, Guadalajara, Mexico. 10th July.
- Argyris, C. (1977). Double Loop Learning in organizations, *Harvard Business Review*, 55, 115-25.
- Bacon, L.D. (1997). *Using Amos for Structural Equation Modeling in Market Research*, Newbury Park, CA: Sage Lynd Bacon & Associates, Ltd.

- Balthazard, P A & Cooke, R A. (2004). *Organizational Culture and Knowledge Management Success: Assessing The Behavior-Performance Continuum*, Proceedings of the 37th Hawai International Conference on System Sciences.
- Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage,. *Journal of Management* (17), 99-120.
- Bergeron, Bryan (2003). *Essentials of knowledge management*, New Jersey: John Willey & Sons, Inc.
- Bharadwaj, S.G., Varadarajan, P.R., & Fahy, J. (1993). "Sustainable Competitive Advantage in Service Industries: A Conceptual Model and Research Propositions", *Journal of Marketing*, 57 (October), 83 – 100.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: John Wiley and Sons.
- Bollinger, S.A. & Smith, R.D. (2001). Managing Organizational Knowledge as A Strategic Assets. *Journal of Knowledge Management-Kempston*. 5 (1), 1-2.
- Burn, J. M., (1990) "The Strategic Use of IT in Hong Kong Organizations: An Analysis of Applications in Small to Medium Sized Organizations", *Proceedings of International Conference on IT*.
- Burstein, F. Zyngier, S., & Rateb, Z. (2002). *Knowledge Management in the Financial Services Sector: Understandings and Trends in Australia*, Proceedings of the 3rd European Conference on Knowledge Management (ECKM2002), 24-25 September 2002, Trinity College Dublin, Ireland, MCIL, 113-125.
- Chase, R.L. (1998) *Knowledge Navigators. Information Outlook*, 2(9), 34-39.
- Choi, B & H. Lee (2002). "Knowledge Management Strategy and Its Link to Knowledge Creation Process." *Experts Systems With Applications*, 23(3):173-187.
- Civi, E. (2000). "Knowledge Management As a Competitive Asset: A Review." *Marketing Intelligence & Planning* 18(4): 166-174.
- Darroch, J. (2001). "Developing an innovation measure that includes both incremental and radical innovations", Department of Marketing, University of Otago, Dunedin.
- Darroch, J. & McNaughton, R. (2000). *Knowledge and knowledge management practices*. Dunedin: Marketing Performance Centre, University of Otago. Press.
- Darroch, J (2003). *Developing a measure of knowledge management behaviors and practices*, *Journal of Knowledge Management*, 7 (5), 41-54.
- Davenport, T., & Klahr, P. (1998). Managing Customer Support Knowledge. *California Management Review* 40(3): 195-208.
- Davenport, T., D. DeLong, & Beers, M. (1998). Successful Knowledge Management Projects. *Sloan Management Review* 39(Winter): 43-57.
- Davenport, T.H. & Prusak, L (2000). *Working Knowledge: How Organizations Manage What They Know*. Boston : Massachusetts: Harvard Business School Press
- Day, G. (1994). The capabilities of market driven organisations, *Journal of Marketing*, (58), 37-52.
- De Long, D, W. & Fahey, L (2000). *Diagnosing Cultural Barriers to Knowledge Management*. *Academy of Management Executive*, 14 (4), 113-127.
- Drucker, P. (1993). *Post-capitalist Society* . Butterworth-Heinemann , New York, NY. Drucker, P. F. (2000). "Management Challenges for the 21st Century". *International Journal of Contemporary Hospitality Management*. 12 (6): 238-247.
- Fahey, L. & Prusak, L. (1998), "The eleven deadliest sins of knowledge management", *California Management Review*, 40 (3), 265-76.
- Fornell, C. & Bookstein, F. (1982). Two Structural Equation Models: LISREL and PLS Applied to Consumer Exit-Voice Theory. *Journal of Marketing Research*. 19. 440-452
- Frank, U (2000). Multi-Perspective Enterprise Models as a Conceptual Foundation for Knowledge Management, Proceedings of the 33rd Hawaii International Conference on System Sciences, IEEE.
- Ghozali, I (2006). *Structural Equation Modeling-Metode Alternatif dengan Partial Least Square (PLS)*, Semarang : Badan Penerbit Universitas Diponegoro. 7-8.
- Ghozali, I. (2004). *Model Persamaan Struktural, Konsep dan Aplikasi dengan Program AMOS Ver.5.0*. Semarang: Badan Penerbit Universitas Diponegoro.
- Goffee, R., & Jones, G. (1996). What holds the modern company together? *Harvard Business Review*, 74(6), 133-149.
- Goffee, R & Jones, G. (1998). *The Character of a Corporation: How Your Company's Culture Can Make or Break Your Business*. New York: Harper Business.

- Grant, R.M. (1991). *Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation*. California Management Review. 33 (3).
- Grant, R. (1996). Toward A Knowledge Based Theory of The Firm. *Strategic Management Journal* 17 (Winter): 109-122.
- Gupta, A.K. & Govindarajan, V. (2000). Knowledge Management's Social Dimension: Lessons From Nucor Steel. *Sloan Management Review*, 42(1), 71-81.
- Indriantoro, N (2000). Hubungan Size dan Fungsi dengan Kultur Organisasional Perusahaan Manufaktur di Indonesia, *Journal of Indonesian Economy and Business*, 15 (4) 447-448.
- Jeddin, M.H, Razalli, M.R, & Abdullah, N.A.C. (2001) *Accumulation and Sharing of Knowledge: Challenges to Organizations*. KMICE Universiti Utara Malaysia.
- Kautz, K & Thaysen, K. (2001). Knowledge, learning and IT support in a small software company. *Journal Of Knowledge Management Kempston*. 5 (4), 4.
- Kerlinger, F. N. (1986). *Foundations of Behavioral Research*, 3rd ed, New York: Holt, Rinehart and Winston.
- Kim, S. & Lee, H. (2004) Organizational Factors Affecting Knowledge Sharing Capabilities in E-Government: Empirical Study, *Public Performance And Management Review*, 26(4).
- Kinney, T. (1998). Knowledge management, intellectual capital and adult learning. *Adult Learning*, 10 (2), 2-5.
- Kotter, J. P., & Heskett, J. L. (1992). *Corporate culture and performance*. New York: The Free Press.
- Kumar, K., Subramanian R. & Yauger, C. (1998). Examining the Market-Orientation- Performance relationship: A context – specific study, *Journal of Management*, 24 (2), 201-233.
- Lang, J. C. (2001). “Managerial concerns in knowledge management”, *Journal of Knowledge Management*, 5 (1), 43-57.
- Levett, G.P & Guenov, M.D. (2000). A Methodology for Knowledge Management Implementation. *Journal of Knowledge Management*, 4 (3) 262.
- Liao, S., Chang, J., Cheng, S., & Kuo, C. (2004). Employee relationship and knowledge sharing : a case study of a Taiwanese finance and securities firm. *Knowledge Management Research & Practice*, 2, 24–34.
- Lusch, R.F. & Laczniak, G.R. (1987). The Evolving Marketing Concept, Competitive Intensity and Organizational Performance, *JAMS*, 15 (Fall), 1-11.
- Mahoney, J.T. & Pandian, J.R. (1992). “The Resource-Base View Within The Conversation of Strategic Management,” *Strategic Management Journal*, 363-380.
- Maier, R. & Remus, U. (2001). *Towards a Framework for Knowledge Management Strategies: Process Orientation as Strategic Starting Point* Proceedings of the 34th Hawaii International Conference on System Sciences – IEEE.
- Martin, B. (2000). Knowledge Management within the Context on Management: An Evolving Relationship. *Singapore Management Review*, 22(2), 17-37.
- McDermott, R. A. (1999). Why Information Technology Inspired But Cannot Deliver Knowledge Management. *California Management Review* 41(4): 108.
- Moeljono, D (2003). *Budaya Korporat dan Keunggulan Korporasi*. PT Elex Media Komputindo. 130.
- Moffett, S., McAdam, R., & Parkinson, S. (2002). Developing a Model for Technology and Cultural Factors in Knowledge Management: Factor Analysis. *Knowledge and Process Management*. 9 (4). Published online in Wiley InterScience.
- Nonaka, I. & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese Companies Create The Dynamics of Innovation*, New York: Oxford University Press.
- Pfeffer J., & Sutton R. I. (2000). *The Knowledge-Doing Gap: How Smart Companies Turn Knowledge into Action*, Boston : Harvard Business School Press.
- Polanyi, M. (1966/1997). The Tacit Dimension, in Prusak, L. (Ed.) ‘*Knowledge in Organizations*’, Newton, MA: Butterworth-Heinemann, 135-146.
- Probst, G., Raub, S. & Romhart, K. (2000). *Managing Knowledge : Building Blocks or Success*, Chichester: John Wiley & Sons, Ltd.
- Salleh, K., Penafort, F., & Loh, A, M, (2004). *Organizational Structure and Culture as the Critical Factor in Implementing Knowledge Management Practices in Public Listed Companies: A Malaysian Perspective*. International Conference on Knowledge Management, Universiti Utara Malaysia.

- Sekaran, U (2003). *Research Methods fo Business: A Skill-Building Approach*. 4th.ed. Singapore: John Wiley and Sons (Asia) Pte.Ltd.
- Senge, P.M. (1990). *The Fifth Discipline: The Art and Practice of The Learning Organization*, Sydney: Random House.
- Seyal, A.H., Rahim, M.M., & Rahman, N.A.M. (2000). *An Empirical Investigation of Use of Information Technology among Small and Medium Business Organizations: A Bruneian Scenario*, EJISDC, 2(7), 1-17
- Skyrme, D. & Amidon, D. (1997), *Creating the Knowledge-Based Business*, London : Business Intelligence.
- Sohal, A.S & Lionel, N.G., (1988). "The Role and Impact of Information Technology in Australian Business", *Journal of Information Technology* 13, 201-211.
- Soliman, F. & Spooner, K. (2000). Strategies for Implementing Knowledge Management: Role of Human Resources Management. *Journal Of Knowledge Management Kempston*. 4 (4), 340.
- Squier, M.M & Snyman, R. (2004). *Knowledge management in three financial organisations: a case study*. Aslib Proceedings: New Information Perspectives 56 (4), 234-242.
- Teece, D. (1998). Capturing Value From Knowledge Assets: The New Economy, Markets For Knowhow And Intangible Assets. *California Management Review*, 40(3): 55-79.
- Teece, DJ (2001). *Strategies for Managing Knowledge Assets: The Role of Firm Structure and Industrial Context*, in *Managing Industrial Knowledge – Creation, Transfer and Utilization*, London: Sage Publication.
- Von Krogh, G. (1998). Care In Knowledge Creation. *California Management Review* 40(3): 133-153.
- Von Krogh, G., Ichijo, K., & Nonaka, I. (2000). *Enabling Knowledge Creation: How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation*, New York, NY: Oxford University Press.
- Wheelen, T. L. & Hunger, J.D. (2004). *Strategic Management and Business Policy*, Upper Saddle River : Pearson Education, Inc
- Wulff, G.W & Suomi, R. (2002). *Building a Knowledge Sharing Company - Evidence From the Finnish Insurance Industry*, Proceedings of the 36th Hawaii International Conference on System Sciences (HICSS'03), IEEE.

Appendix-1 : Constructs and Indicators

Construct	Indicators: Reflective Indicator
Organizational culture	This construct is built on two indicators characterizing organizational culture who is humane relationship-oriented and to task- or output-oriented: <ol style="list-style-type: none">1. Sociability is consistent with a high people orientation, high team orientation, and focus on processes rather than outcomes.2. Solidarity is consistent with high attention to detail and high aggressiveness.
ICT Usage	This construct is built on two indicators characterizing ICT usage which are experience-oriented and grade of literacy-oriented: <ol style="list-style-type: none">1. ICT experience of managers, include the respondents' experience with various packages and systems related tasks.2. ICT literacy factors, such as in-house computer training, outside computer training and self- taught computer skill of the managers.
Knowledge Management	This construct is built on three indicators characterizing knowledge management: <ol style="list-style-type: none">1. The knowledge acquisition includes of attitudes & opinions, financial developing, changes in market, human capital profile, partnership with int'l and market surveys2. The knowledge dissemination includes market information, disseminated on-the-job, use of specific techniques, organization uses technology and prefers written communication.3. Responsiveness to knowledge includes response to customers, well-developed marketing function, response to technology, response to competitors and organization is flexible & opportunistic.
Competitive Intensity	This construct is built on three indicators characterizing organizational competitive intensity which includes: <ol style="list-style-type: none">1. Firms will be spending more of each sales rupiah on marketing due to increased competition2. Firms in the industry will be aggressively fighting to hold onto their share of the market3. Competition will be more intense
