

JAMES ANG SOO-KENG

CURRICULUM VITAE

Name: James Ang Soo-Keng

Department: Associate Professor of Decision Sciences (NUS Business School)

Educational Qualifications: BSc Singapore University
MAsc University of Waterloo
PhD University of Waterloo

Research Program

1. Research Program

(a) Research Areas

SCM in Healthcare
Revenue Optimization (Sea Cargo)
Logistics and Supply Chain Management
IS Planning
Object-Oriented Formalism

(b) Major Activities

1986-1988

Doctoral Dissertation: Operations-Oriented Methodology (OOM): An Approach to Office Analysis, University of Waterloo, 1989, 379 pages. Doctoral work was supervised by Prof Dave Conrath.

1989-1990

Research Fellow with Bull, S.A. (EA129, 7 rue Ampere, 91343, Massy CEDEX, France). Worked on two Esprit Projects: Intelligent Workstation (IWS) and Integrated Toolkit for Highly Advanced Computer Applications (ITHACA). Was responsible for the team's modeling efforts using objects. Research work was published in journals, such as **Data & Knowledge Engineering** (Distributed Environment Using Objects), and **IEEE Transactions on Knowledge and Data Engineering** (AMS: A Hierarchical Representation of Procedural Knowledge).

A prototype of my model was implemented using Cool (Combined Object Oriented Language) and C, and presented at the IFIP TC8/WG8.1 Working Conference on Object-Oriented Conference on Object-Oriented Approach in Information Systems, Quebec City, Canada, 28-31 October, 1991. Conference proceedings were published in (Eds) F. Van Assche, B. Moulin and C. Rolland in **Object-Oriented Approach in Information Systems**, North Holland, 1991, 419-430.

1990 to to-date – Research Plans.

I worked on IS planning and object modelling from 1990 to 1999. When I assumed the position of Head, Decision Sciences, I made a conscious move to Operations Management. I started with sea cargo logistics and sea cargo revenue management. Together with Assoc Prof Ye Henqing (now at Hong Kong Poly University) and Dr Cao Chengxuan (now back in China), we worked on interesting problems on sea cargo logistics. Our work was published in EJOR and IEEE Transactions on SMC. I am still working on sea cargo logistics with the Centre for Maritime Studies (CMS).

In 2007, I started a fresh stream of research after visiting Georgia Tech with the Provost: SCM in Healthcare. This is a massive project and I enlisted top scholars such as Prof Jim Dai (Georgia Tech) and Prof David Yao (Columbia). It is an important topic because Singapore's structured hospitals need to use its limited resources effectively and efficiently.

We discussed the preliminary results with Mr Joe Sim (CEO, NUH) and he expressed his commitment to help facilitate our research efforts. We are fortunate to have two heavyweights directly involved in the project. We are currently exploring the following important issues:

- 1) Bed allocation and how to optimize the process
- 2) Discharge policy that will ease the congestion.

Besides SCM in Healthcare, I am also working with my colleague Prof Sun Jie on SCM issues. For example, we are examining SCM issues using game theory and various OR techniques. In particular, we examine the delivery frequency in a competitive setting involving n suppliers (one manufacturer). We are able to obtain some interesting results. We are now in the process of completing the paper for submission.

2. Support for Research Projects

Principal Investigator --- NUS Research Grant RP 900052 (S\$10,400, duration, 3 years, March 1991 to March 1995) --Strategic IS Planning Practices in Singapore Companies

Principal Investigator --- NUS Research Grant RP 910113 (S\$15,460, duration 3 years, June 1993 to June 1997) --- Conceptualization and Validation of IT Usage/Organizational Performance Model

Principal Investigator --- NUS Research Grant: RP3970020 (Amount S\$13,100, duration 3 years, July 1997 to June 2000) – A Formal Model of the IS Planning Process

Principal Investigator --- NUS Research Grant: RP3982104: (Amount: S\$8,300, duration 2 years, July 1999 to June 2001) --- Developing an Integrative Software Factory Model

Principal Investigator on e-Business projects – S\$200,000 (researchers include A/P Lim Wei Shi, A/P Lee Joo Eng and Dr Clare Chow on the dynamics of e-auctioning; and A/P Sun Jie and Dr Liu QiZhang on real-time web routing)

Principal Investigator – NUS Research Grant: R314-000-055-112 (Amount S\$41,500 from Jan 2003 to Dec 2005) --- Optimal cargo mix (with Dr Ye Hengqing)

Principal Investigator – NUS Research Grant: R314-000-051-112 (Amount S\$30,500 from Jan 2003 to Dec 2005) --- Developing E-Commerce Models of Adoption/Diffusion

Principal Investigator – NUS Research Grant: R314-000-054-112 (Amount S\$39,500 from Jan 2003 to Dec 2005) --- Managing Bandwidth Resource for Internet Service (with Dr Ye Hengqing)

Sea Cargo Logistics/Chemical Cargo Movement – ASTAR Grant with Prof N. Viswanadham (Mechanical Engineering) and A/P Karimi, I.A. (Chemical Engineering) (Amount – S\$1,000,000)

Mergers and Alliances in the Shipping Industry --- NOL Fellowship with A/P Mark Goh (Decision Sciences) --- (2009 to 2011) – S\$270K

3. National/International recognition for research

- (a) Service on editorial boards peer-reviewed journals
 - Managing Editor, Asia Pacific Journal of Operational Research (from 1995 to 1997)
 - Contributing Editor, International Abstracts in OR (from 1995 to 2000)
 - Founding Member of the International Conference on e-Business
 - Editorial Board, International Journal of Internet and Enterprise Management

- (b) Service as reviewer for manuscripts submitted to peer-reviewed journals:

- International Journal of Man-Machine Studies
- IEEE Transactions on Systems, Man and Cybernetics
- IEEE Transactions on Data and Knowledge Engineering
- Asia Pacific Journal of Management
- Singapore Management Review
- International Conference of Information Systems 2000
- European Journal of Operational Research

4. Service to the University

Area Coordinator (Information Systems), Department of Decision Sciences from 1996 to 1998
Acting Head, Department of Decision Sciences from 18 August 1998 to 28 February 1999
Head, Department of Decision Sciences from 1st March 1999 to 31st Dec 2001
Member of the University Senate from 1st March to 31st Dec 2002
Director, Centre for e-Business from 1st March 2000 to to-date
Chair, IT Committee, NUS Business School (1st June 2002 - 2009)
Chair, Search Committee, Department of Decision Sciences (1st April 2002 -- 30 June 2007)
Member NUS IT Committee (from 2001 -- 2009)
Program Director, Centre for Maritime Studies
Member, Technical Committee, NOL Fellowship (The Technical Committee forms the important function of vetting research proposals (January 2004 to present))
Member, Faculty Promotion and Tenure Committee (July 2005 to July 2007)
Track Research Leader, Centre for Maritime Studies (2006 to present)
Head, Department of Decision Sciences (July 2007 --- June 2011)
Member of the University Senate from July 2007 --- present)

I have as Head raised the Department's profile internationally. It is not hyperbolic for me to state that I have successfully plugged the department into the community of OM and OR scholars. I have made Decision Science an attractive place for researchers in OM/SCM/OR. Prof David Yao (Columbia) and Prof Jim Dai (Georgia Tech) have been appointed as Dean's Distinguished Professors. Additionally, I have managed to secure the service of Prof Zhang Hanqin (Asia's top researcher in stochastic processes) to be with the department for 2 years (from Nov 2008 to Nov 2010). I have requested Prof Zhang to apply for Full Prof with tenure.

Prof Paul Zipkin (Duke), Prof Chen Hong (UBC), Prof Jeannette Song (Duke), Prof Karl Sigman (Columbia), Prof Nick Hall (The Ohio State), Prof John Buzacott (York), Prof He QiMing (Dalhousie), Prof Offer Kella (The Hebrew University of Jerusalem), Prof Gideon Weiss (University of Haifa) and many other top scholars have visited the department. They have indicated that they would continue to visit the department because I have created a highly conducive research environment.

6. Consulting and Outside Work

Trainer (Civil Service College)
Trainer (DBS Land)
Advising DBS Land on IS Planning Process
Consulting with NOL on Sea Cargo Optimal Mix.

7. Graduate Students Supervised

Miss Soh Pek Hooi (1992)	MSc (now Assoc Professor with Simon Fraser)
Mrs Nancy Shaw (1993)	MSc (now Assoc Professor with George Mason University)
Mr Ang Chak Pak (1995)	MSc
Miss Shirley Koh (1998)	MSc (now Chief Librarian, Nanyang Academy of Fine Arts)
Mr Darren Mark Ee (2001)	MSc (now with the banking sector)
Mrs Nancy Shaw (1998)	PhD (A/P Lee Joo Eng co-supervised)
Mr Qudrat Ullah (2002)	PhD (Was last York University, Canada)
Mr NK Lim (2004)	MSc Motorola Singapore

8. Post doctoral students

Cao Cheng Xuan	Now at Beijing University of Science and Technology
Meng Fanwen	Now at Centre for Maritime Studies
Li Rong Heng	Now in a reputable Chinese University
Ding Ding	Now with a reputable Chinese University

PUBLICATIONS:

JOURNAL ARTICLES - INTERNATIONAL REFEREED

1. Conrath, D and J S K Ang, Office modeling: comments about the present and the future. **IEEE Office Knowledge Engineering**, **1, no.2** (May 1987): 2-10. (United States).
2. Conrath, D W, J S K Ang and S Matthey, Strategic planning for information systems: A survey of Canadian companies. **Canadian Journal of Information and Operative Research**, **30, 4** (November 1992): 364-378. (Canada).

3. Ang, J S K, A classification of office systems to aid in their development. **Information & Management**, **23 (1992): 115-122**. (United States).
4. Ang, J S K, Performance criteria of a sound office analysis methodology. **International Journal of Information Management**, **13, no.1 (February 1993): 51-67**. (United Kingdom).
5. Ang, J S K and D W Conrath, The Ithaca office object model: modeling and implementation. **Data Base (November 1993): 5-14**. (United States).
6. Ang, J S K and N F Pavri, Impacts of information technology: A critique from different perspectives. **International Journal of Information Management**, **14 (April 1994): 122-133**. (United States).
7. Ang, J S K, C C Sum and K K Yang, MRP II implementation issues: A Singapore experience. **International Journal of Production Economics**, **34 (May 1994): 35-45**. (The Netherlands).
8. Li, J H, J S K Ang, X J Tong and M Tueni, AMS: A hierarchical representation of procedural knowledge. **IEEE Transactions on Knowledge and Data Engineering**, **6, no.4 (August 1994): 638-643**. (United States).
9. Ang, J S K and J H Li, AMS formalism: An approach to office modeling and OIS Development. **Data Base**, **25, no.4 (November 1994): 25-38**. (United States).
10. Ang, J S K, Distributed environment: A conceptual framework using objects. **Data & Knowledge Engineering**, **14 (1994): 191-202**. (United States).
11. Tong, X and J S K Ang, Explaining control strategies in second generation expert systems. **IEEE Transaction on Systems, Man & Machine**, **25, no.11 (November 1995): 1483-1490**.
12. Pavri, N F and J S K Ang, A study of IT strategic planning practices in Singapore. **Information & Management**, **28 (1995): 33-47**. (The Netherlands).
13. Sum, C C, K K Yang, J S K Ang and S A Quek, An ACE analysis of MRP II benefits in Singapore. **Journal of Operations Management**, **13, no.1 (1995): 35-58**. (United States).
14. Ang, J S K, N Shaw and N F Pavri, A study of MIS planning parameters using case studies. **International Journal of Information Management**, **15, no.6 (1995): 463-474**. (United Kingdom).

- 15 Ang, J S K, C C Sum and W F Chung, Critical success factors in MRP II implementation and government assistance: A Singapore experience. **Information & Management, 29 (1995): 63-70.** (United States).
- 16 Ang, J S K and P H Soh, The Singapore government's role in national computerisation efforts. **Behaviour and Information Technology, 14, no.6 (1995): 361-369.** (United Kingdom).
- 17 Ang, J S K and D W Conrath, OOM: An office analysis using petri net and playscripts. **IEEE Transactions on Systems, Man, and Cybernetics, 26, no.5 (September 1996): 572-582.** (United States).
- 18 Ang, J S K and X J Tong, Using CARMEN's framework to model and acquire knowledge. **Expert Systems, 14, 2 (May 1997): 57-68.** (United Kingdom).
- 19 Ang, J S K and P H Soh, User information satisfaction, job satisfaction and computer background: An exploratory study. **Information & Management, 32 (July 1997): 255-266.** (The Netherlands).
- 20 Ang, J S K and S Koh, Exploring the relationships between UIS and job satisfaction. **International Journal of Information Management, 17, 3 (1997): 169-177.**
- 21 Teo, T S H, J S K Ang and N F Pavri, The state of strategic IS planning practices in Singapore. **Information & Management, 33, 1 (1997): 13-23.** (The Netherlands).
- 22 Ang, J S K and T S H Teo, Singapore: Staying competitive with advanced manufacturing technologies. **SPP : Science and Public Policy, 24(5) (1997): 327-335.** (United Kingdom).
- 23 Ang, J S K and T S H Teo, CSFs and sources of assistance and expertise in strategic IS planning: A Singapore perspective. **European Journal of Information Systems, 6 (1997): 164-171.** (United Kingdom).
- 24 Sum, C C, J S K Ang and L N Yeo, Contextual elements of critical success factors in MRP implementation. **Production and Inventory Management, 38, 3 (1997): 77-83.**
- 25 Ang, J S K, C Vanneste and G Lu, End user dialogue context management of office automation systems. **Behaviour and Information Technology, 17, no.3 (1998): 145-151.** (United Kingdom).
- 26 Ang, J S K, S A Quek, T S H Teo and B Lui, Modelling IS planning

benefits using ACE. **Decision Sciences**, 30, 2 (1999): 533-562. (United States).

27 Teo, T S H and J S K Ang, Critical success factors in the alignment of IS plans with business plans. **International Journal of Information Management**, 19, 2 (1999): 173-185. (United Kingdom).

28 Ang, J S K and T S H Teo, Management issues in data warehousing: Insights from the Housing and Development Board. **Decision Support Systems**, 29, 1 (July 2000): 11-20. (United States).

29 Teo, T S H and J S K Ang, Building a data warehouse at the Housing and Development Board. **Data Base for Advances in Information Systems**, 31, 2, 2000, 35-45. (United States).

30 Teo, T S H and J S K Ang, How useful are strategic plans for information systems? **Behaviour & Information Technology**, 19, 4, (2000): 275-282. (United Kingdom).

31 Teo, T S H and J S K Ang, Singapore manufacturing sector as engine for economic growth: past, present and future. **Science and Public Policy**, 28, 5 (October 2001): 361-370. (United Kingdom).

32 Teo, T S H and J S K Ang, An examination of major IS planning problems. **International Journal of Information Management**, 21 (2001): 457-470. (United Kingdom).

33 Ang, JSK, Sum CC and Yeo LN A Multiple-Case Design Methodology for Studying MRP Success and CSFs. **Information and Management**, 39 (2002), 271-281.

34. Shaw, N., Lee-Partridge, J.E., and Ang, J.S.K. "Understanding the Hidden Dissatisfaction of Users Towards End Computing," **Journal of End-User Computing**, 15(2), 1-22, April-June 2003.

35. Ang, JSK, Cao CX and Ye H.Q: "Model and algorithms for multi-period sea cargo mix problem," [European Journal of Operational Research](#), 2007, vol. 180, issue 3, pages 1381-1393.

36. Chengxuan Cao, JSK, Ang, Ye. H.Q. Busy period for the first subsystem in a matched queuing network, **European Journal of Operational Research** 2008, Volume 187, Issue 1327-334

37. Ang JSK, Cao, CC, and Parlar, M. Ye H.Q. "Two-stage stochastic mixed integer programming model for multi-period sea cargo mix problem." **IEEE Transactions on Systems, Man and Cybernetics**, March 2009, 39(2), 460-465

38. Su Zhang, James Ang and Jie Sun -- An Alternating Direction Method for Solving Convex Nonlinear Semidefinite Programming Problem, accepted by Optimization

39. James Ang , Masao Fukushima, Fanwen Meng, Takahiro Noda, and Jie Sun -- Establishing Nash Equilibrium of the Manufacturer-Supplier Game in Supply Chain Management, conditionally accepted by J of Global Optimization

JOURNAL ARTICLES - NON-REFEREED

1. Teo, T S H and J S K Ang, Alignment of IS plans with business plans, IS planning problems and usefulness of IS plans. Singapore Computer Society (SCS) Net, April/May 1998 (April /May 1998): 2-3. (Singapore)

Paper under reviews

James Ang, Fanwen Meng and Jie --Sun Two-stage Stochastic Programs with Incomplete Information on Uncertainty, Submitted to Math Programming

Ding Ding, James Ang and Chou M -- Optimal Product Introduction, Submitted to EJOR

Daizhuo Chen, Fanwen Meng, James Ang Singfat Chu, Melvyn Sim. A Robust Optimization Model for Managing Elective Admission in Hospital (to be submitted to OR)

Dind Ding, Shi Pengyi, James Ang, Mabel Chou and Jim Dai. Bed Management – Mathematical Modeling and Empirical Analyses (to be submitted to Management Science)

James Ang and Ding Ding. Critical Timing Issues in Substitution of Successive Generations of Software Products (under review in EJOR)

CONFERENCE PAPERS

1. Ang, J S K, S Saleh and E El-Gazzar, Determinants of organizational climate. In Proceedings of the Canadian Association of Administrative Studies, edited by Canadian Association of Administrative Studies. Winnipeg, 1976.

2. Ang, J S K, G Lu and M Ader, The active office object models: its conceptual basis and implementation. In Proceedings of the IFIP TC8/WG8.1 Working Conference on the Object-Oriented Approach in Information Systems, 28-31 October 1991, Quebec City, Canada, edited

by F Van Assche, B Moulin and C Rolland, pp. 419-431. New York: Elsevier Science Publishing Co., July 1991.

3. Sum, C C, K K Yang, J S K Ang and S A Quek, Computerisation benefits in manufacturing: A Singapore study. In Proceedings of Academy of International Business - Western and Southeast Asian Regional Meeting Asian Success and International Business Theory', 23-25 June 1993, Hilton Hotel, Hong Kong, edited by Dr John Frankenstein. Hong Kong, June 1993.
4. Ang, J S K, Distributed environment: A conceptual framework using objects. In Proceedings of the International Conference on Data and Knowledge Systems for Manufacturing and Engineering, 2-4 May 1994, The Chinese University of Hong Kong, Hong Kong, pp. 83-88. Hong Kong: Department of Systems Engineering, Chinese University of Hong Kong, May 1994.
5. Shaw, N, N F Pavri and J S K Ang, Strategic MIS planning parameters. In Proceedings of the Second European Conference on IS, 30-31 May 1994, Nijenrode, Breukelen, The Netherlands. The Netherlands: Nijenrode University, 1994.
6. Pavri, N F, J S K Ang and P H Soh, User perception of information products and job attitudes. Paper presented at INFORMS International Singapore, 25-28 June 1995, Suntec City, Singapore.
7. Shaw, Nancy, J S K Ang and J E Lee-Partridge, Technological frames and end-user computing. In Proceedings American Information Systems Conference, Phoenix, Arizona. Phoenix: American Information Systems, 16 August 1996. (Paper presented at Association for Information Systems 1996 Americas Conference, 16-17 August 1996, Phoenix, Arizona, United States). (A shorter version of the paper was presented at the First Asia Pacific DSI Conference, Hong Kong University of Science & Technology, 21-22 June 1996).
8. Shaw, N, J E Lee-Partridge and J S K Ang, Understanding end-user computing through technological frames. Proceedings of the Eighteenth International Conference on Information Systems (1997): 453-459.
9. Ang, J S K and T S H Teo, Research on strategic IS planning Paper presented at Inaugural Faculty Research Conference, 7-8 October 1999, Faculty of Business Administration, NUS, Singapore.
10. Soh, P H and J S K Ang, The role of the Singapore government in national computerization. In Proceedings of the First European Conference on Information Systems, 28-29 March 1993, Henley

Management College, London, United Kingdom, pp. 39-47. The Operational Research Society, March 1993.

11. Ang, J S K, Distributed environment: A conceptual framework using objects. 26th Hawaiian International Conference on Systems Science, 5-8 January 1993, Kanai, Hawaii, United States.

12. Lim N.N., Ang, JSK and Pavri, F. Diffusing Software-based Technologies with a Software Factory Approach for Software Development : A Theoretical Framework IRIS 22 - 22nd Information Systems Research Seminar in Scandinavia, held in Finland, August 1999.

13. Lim N.N., Ang, JSK and Pavri, F. Attaining a Software Factory Model for Diffusing Software-based Technologies 5th Annual UKAIS Conference - UK Academy for Information Systems, held in Wales, UK, April 2000.

14. Lim N.N., Ang, JSK and Pavri, F. Diffusing Software-based Innovation with a Software Factory Approach for Software Development. IEEE International Conference on Management of Innovation and Technology, ICMIT 2000, November 2000.

15. Ranganathan, C, T S H Teo, J Dhaliwal, J S K Ang and M Hyde, Facilitators and inhibitors for deploying business-to-business e-commerce applications: A multi-method, cross-cultural study. In Twenty-Second International Conference on Information Systems, pp. 593-600. United States, 2001.

16. Ang, J., Cao, C.X., and Ye, H.Q., "Model and algorithms for multi-period sea cargo mix problem", The Third International Conference on Electronic Business (ICEB2003), pp.544-546, December 9-13, 2003, Singapore.

17. Ang, J., Cao, C.X., and Ye, H.Q., "Model and Algorithm for the Operational Level Service Route Planning Problem", International Conference on Service Systems and Service Management (ICSSSM2004), pp.96-101, July 19- 21, 2004, Beijing, China.

18. Ang, J., Cao, C.X., and Ye, H.Q., "E-Booking Control Problem in Sea Cargo Logistics", The 4th International Conference on Electronic Business (ICEB2004), pp.87-92, December 5-9, 2004, Beijing, China.

19. Ang, J., Cao, C.X., and Ye, H.Q., "Two-Stage Stochastic MIP Model for Multi-Period Sea Cargo Mix Problem in Container Shipping Industry", International Conference on Service Systems and Service Management (ICSSSM2005), pp.305-310, June 13-15, 2005, Chongqing, China.

20. Ang, J., Cao, C.X., and Ye, H.Q., "The optimal cargo mix and revenue management in ocean containerized shipping company", Invited presentation at 12th INFORMS/APS Conference, June 23-25 2004, Beijing, China.

21. Ang, J., Cao, C.X., and Ye, H.Q., "Profit Optimization for Container Carriers – Obtaining the Optimal Cargo Mix", Invited presentation at The First International Conference on Transportation Logistics (T-Log2005), 27-29 July 2005, Singapore.

PAPERS FOR SEMINAR, PUBLIC TALK AND LECTURE

1. Ang, J S K, T S H Teo and N F Pavri, The state of IS planning practices in Singapore. Paper presented at Decision Sciences Public Seminar on Managing and Leveraging Information Technology in the 21st Century, 19 September 1997, Hon Sui Sen Auditorium, FBA, NUS, Singapore, Singapore.
2. Ang, J., Cao, C.X., and Ye, H.Q., "Profit Optimization for Container Carriers", Invited presentation at Industry Symposium on Integrated Supply Chain Networks, Organized by The Logistics Institute - Asia Pacific (TLI- Asia Pacific), July 6, 2005, Singapore.

EDITORIAL WORK ON BOOKS/CHAPTERS IN BOOKS

1. Teo, T S H and J S K Ang, eds, Leveraging information technology among small and medium enterprises: A Singapore perspective. Singapore: Prentice-Hall, 2000. 144 pp.
2. Teo, T S H and J S K Ang, eds, Leveraging information technology among small and medium enterprises: A Singapore perspective (Teaching Notes). Singapore: Prentice-Hall, 2000. 36 pp.
3. Ang J.S.K., Conrath D.W., Savolainen V., Analyzing Information Systems Using Petri Nets: Operations-Oriented Methodology. In Sol H.G., Crosslin R.L. (Eds.): Dynamic Modelling of Information Systems, Elsevier Science Publ., Amsterdam, 1992, pp. 329-352

CHAPTERS IN BOOKS

1. Tueni, M, J H Li and J S K Ang, Knowledge-based office automation and CSCW. In Studies In Computer Supported Co-Operative Work: Theory, Practice and Design, edited by J M Bowers and S D Benford, pp.183-194. New York: North-Holland, 1991. (Also available in the proceedings of the 1st European Conf. on Computer Supported Cooperative Work (EC-CSCW'89), London, Sept'89).
2. Ang, J S K, D W Conrath and V Savolainen, Analysing information systems using Petri Nets: Operations-oriented methodology. In Dynamic

Modelling of Information Systems II, edited by H G Sol and L Crosslin, pp.329-352. Amsterdam: Elsevier Science Publisher B.V., 1992. (Also Presented at the 2nd Intern'l Conf. on Dynamic Modelling of Info Systems, Washington D.C., U.S.A., July 18 & 19, 1991.).

3. Ang, J S K, T S H Teo and S Koh, UTC Freight Services Pte Ltd: Facilitating logistics flow with IT. In Leveraging Information Technology among Small and Medium Enterprises: A Singapore Perspective, edited by Thompson Teo and James Ang, pp.81-88. Singapore: Prentice-Hall, 2000.
4. Ang, J S K, T S H Teo and S Koh, UTC Freight Services Pte Ltd: Facilitating logistics flow with IT. In Leveraging Information Technology among Small and Medium Enterprises: A Singapore Perspective (Teaching Notes), edited by Thompson Teo and James Ang, pp.17-18. Singapore: Prentice-Hall, 2000.

THESES/DISSERTATIONS

1. Ang, J S K, Operations-Oriented Methodology (OOM) : An Approach to Office Analysis. Ph.D thesis, University of Waterloo, Waterloo. 1989, 378 pp.

PUBLISHED REPORTS

1. Ang, J S K and Conrath, Office Taxonomies: Their Development and Technological Implications. Department of Management Sciences, University of Waterloo Working Paper Series, no.187. Un. of Waterloo, Waterloo, 1989. 18 pp.
2. Ang, J S K, Examples of the Ithaca Office Model(In Available from Bull S.A. France). Paris: Commission of European Communities, 12 January 1990. 16 pp.
3. Ang, J S K, Distributed Environment: A Conceptual Framework. Paris: Commission of the European Communities, 12 January 1990. 15 pp.
4. Ang, J S K, Literature Review and Critique of Work on Office Activities. Faculty of Business Administration, NUS Working Paper Series, No.90-49, 1990.
5. Ang, J S K, Interaction Paradigms(In Report available from Bull S.A. France). Bull S.A, Paris: Commission of the European Communities, 1990. 21 pp.

6. Ang, J S K, A Comprehensive Office Modelling Framework for ITHAIA. Paris: Commission of the European Communities, 1991. 32 pp.
7. Ang, J S K, A Literature Review and Critique of Work on Office Activities. Working Paper Series, No. 90-49. Singapore: NUS, Faculty of Business Administration, 1991.
8. Ang, J S K, Ethnography, Rhetoric and Office Analysis. Working Paper Series, RPS #96-25. Singapore: Faculty of Business Administration, National University of Singapore, April 1996. 24 pp.
9. Ang, J S K, Using objects to model the office environment (RPS #96-38). Singapore: Faculty of Business Administration, August 1996. 31 pp.
10. Ang, J S K and Xuejun Tong, Using CARMEN's framework to model and acquire knowledge (RPS #96-39). Singapore: Faculty of Business Administration, August 1996. 23 pp.
11. Ang, J S K and Xuejun Tong, Carmen: an approach to bridge the conceptual gap between knowledge modeling & system implementation (RPS #96-40). Singapore: Faculty of Business Administration, August 1996. 27 pp.
12. Teo, T S H, J S K Ang and N F Pavri, The state of strategic IS planning practices in Singapore. Working Paper. Singapore: Faculty of Business Administration, National University of Singapore, Research Paper Series RPS#96-45, 1996. 27 pp.
13. Ang, J S K, Studying organizational activities from a decision-making paradigm using four orientations. FBA Research Paper Series - RPS#97-37. Singapore: FBA Research Paper Series RPS#97-37, August 1997. 26 pp.
14. Ang, J S K and T S H Teo, Data warehousing: Lessons from the Housing and Development Board. Singapore: Research Paper Series RPS #98-01, Faculty of Business Administration, NUS, January 1998. 16 pp.
15. Teo, T S H and J S K Ang, Building a data warehouse at the Housing and Development Board. Singapore: Research Paper Series RPS#98-2, Faculty of Business Administration, NUS, January 1998. 24 pp.
16. Teo, T S H and J S K Ang, Critical success factors in the alignment of IS plans with business plans. Singapore: Research Paper Series RPS#98-11, Faculty of Business Administration, NUS, March 1998. 27 pp.

17. Teo, T S H and J S K Ang, How useful are strategic information systems plans?. Singapore: Research Paper Series RPS#98-16, Faculty of Business Administration, NUS, April 1998. 21 pp.
18. Koh, S B L, J S K Ang and T S H Teo, An ACE study of the determinants of IS planning and their interaction effects. Research Paper Series, RPS #99-23. Singapore: Faculty of Business Administration, National University of Singapore, March 1999. 49 pp.
19. Ang, J S K and T S H Teo, Data warehousing: Lessons from the Housing and Development Board. Singapore: TDB-NUS Industry Working Paper Series #99-017, 1999. 16 pp.
20. Ang S.K. and Ye H.Q. (2003). The Status of the Shipping Industry in Singapore. 60 pages. Technical Report

SHORTER ARTICLE/COMMENT IN JOURNAL

1. Teo, T S H and J S K Ang, MIS research at the Department of Decision Sciences, National University of Singapore. **International Journal of Information Management**, 17(6) (1997): 465-467. (United Kingdom).