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Information Technology Outsourcing In the Banking Sector: A Case Study on the Renewal of Information Technology Outsourcing Contract of the Commonwealth Bank of Australia with EDS

Md. Abdus Sobhan* & Rokeya Sultana**

ABSTRACT

Due to the rapid globalization and technological development, competition in any industry becomes fierce. In this global competitive environment, Information Technology (IT) outsourcing emerged as a dominant organizational strategy for increasing organizational competitiveness in 1990s. In the current decades, most of the contracts regarding IT outsourcing is going to mature. The aim of this paper is to evaluate the renewal of IT outsourcing contract of Commonwealth Bank of Australia with EDS from the strategic alignment and risk-return perspective. A discussion is outlined regarding the probable benefits that can be achieved and risks that need to be alleviated by the organization to make the outsourcing successful from the risk-return perspective. To yield the benefit of outsourcing and increase operational effectiveness it is recommended that strong alignment of business and IT strategy with outsourcing contract and more specification in the outsourcing agreement is indispensable.

Keywords: *Corporate governance, Transactions, Bangladesh, Banking Sector, Information Technology.*

INTRODUCTION

Globalization and pace of technological development become skyrocketed in recent years. This high magnitude of globalization and technological development worsen the competition irrespective of the type of industry. In this global competitive environment, Information Technology (IT) outsourcing emerged as a dominant organizational strategy for increasing organizational competitiveness in 1990s. Several internal difficulties such as high costs of in house development of proprietary information technology (Huff, 1991;

* Assistant professor, Department of Accounting & Information Systems, University of Dhaka, Dhaka-1000, Bangladesh.

** Senior Lecturer, Department of Business Administration, School of Business Economics, Manarat International University, Gulshan, Dhaka.

Gupta and Gupta, 1992), lack of efficiency and effectiveness of IT department, the difficulty in assessing IT productivity and of evaluating tangible benefits of IT investment, the low quality of services provided by the IT department (Reponen, 1993) as well as external factors such as rise of outsourcing vendor organizations, positive outsourcing media reports, reduction in uncertainty, elimination of burdensome function and enhancement of individual manager's credibility (Lacity and Hirschheim, 1993a) incessantly led the organization to outsource IT functions. However, empirical evidence shows that most the outsourcing agreements fail to meet the predicted expectations of the organization (Lacity, Hirschheim and Willcocks, 1994). These failures result from lack of alignment of organization's strategy, lack of flexibility in the outsourcing agreement, and rapid change of technology that led to underperformance. So it is very important in any outsourcing contract to evaluate whether the proposed outsourcing is aligned to the organization's business and IT strategy and the outsourcing contract is flexible enough to adjust with changing circumstances.

The aim of this paper is to evaluate the IT outsourcing contract of banks from the strategic alignment and risk-return perspective. To analyze this, the case of the Renewal of IT Outsourcing Contract of Commonwealth Bank of Australia (CBA) with EDS was selected and discussed from the strategic alignment and risk-return perspective. To analyze the risk-return perspective, a discussion was outlined on the probable benefits that can be achieved and risks that need to be mitigated by the organization to make the outsourcing successful.

The next section of this paper presents a literature review on the determinants that led the organizations to outsource IT functions and risks associated with an outsourcing agreement. Some empirical evidence is presented to identify whether the pre-outsourcing expectation is really results into reality. The third section presents methodology of the study. In fourth section, a case study on the renewal of IT outsourcing agreement of CBA with EDS is outlined. The discussion on the project is conducted based on strategic alignment, the expected benefits that can be achieved from the outsourcing of IT function and the risks associated with the project. The last section of this paper concludes with recommendation that strong alignment of business and IT strategy with outsourcing contract is essential to harvest the benefit of outsourcing and increase shareholders' wealth.

LITERATURE REVIEW

The substantial outsourcing of IT began with the landmark outsourcing agreement of Eastman Kodak with IBM, Digital Equipment Corporation and Businessland in 1989 (Applegate and Montealegre, 1991). Before this agreement, IT has been considered as a strategic resource. Due to the success of this agreement, a number of high-profile multi-billion dollar "mega deals" have been signed and outsourcing market expands continuously. According to Lacity, Willcocks and Feeny (1995), outsourcing decision is

traditionally explained by the strategic versus commodity approach. In other words, IT outsourcing is determined by the impact of specific IT services on core operation and core strategy (Applegate, Austin and McFarlan, 2007). Over the period, this strategic versus commodity approach became less important and researchers relate the growth of outsourcing to many factors. According to Lacity, Hirschheim and Willcocks (1994), IT outsourcing decision is influenced by four broad expectations such as financial expectation which includes reduction and better control of costs and restructure of IT function; business expectations which encompass a refocusing on core competencies, solving IT related issues in diversification and a lack of capability for start-up companies; technical expectation which includes improved quality of IT services, access to better IT talent and technology; and political expectation which is related to senior management's perception of IT and its value.

Moreover, several researchers explain the determinants of outsourcing decisions from the perspective of three theories- production cost economies (Ang and Straub, 1998; Ford and Farmer, 1986; Loh and Venkatraman, 1992a; Walker and Weber, 1984), transaction cost economies and Theory of Incomplete Contracts (Ang and Cummings, 1997; Ang & Straub 1998; Aubert, et al, 1996; Lacity & Willcocks, 1996; Nam et al., 1996; Ngwenyama & Bryson, 1999; Williamson, 1975) and Institutional Theory (Ang and Cummings, 1997; Loh and Venkatraman, 1992b). According to the production cost economies, the IT outsourcing vendor has the comparative cost advantage due to economies of scale than outsourcer. So, the outsourcer will likely outsource the IT function if the perceived comparative production costs advantage of vendor is higher (Ang and Straub 1998). On the other hand, transaction cost economies theory states that higher the cost of supervising, coordinating and monitoring the activities of the vendor, the lower the degree of outsourcing (Ang and Straub 1998). In addition, institutional theory indicates that an organization's internal forces have more influences than external forces on IT outsourcing decision (Loh and Venkatraman, 1992b).

However, some IT researchers go one step further and explain the risk factor in IT outsourcing. For instance, based on the transaction cost and agency theory Bahli and Rivard (2003) divide the outsourcing risk factors into four groups. They are lock in, contractual amendments, unexpected transition and amendments, and disputes and litigation. According to Aubert, et al., (1998), lock in refers to a situation where a client has to incur a loss or sacrifice a part or all of its assets to the vendor to get out from an outsourcing relationship. It results from asset specificity, limited number of vendors, and incapability of clients. Contractual amendments is related to alterations or changes which are made in the outsourcing contract during the contract period due to uncertainty of future events such as technological discontinuity, environmental instability or rapid changes in market and demand and the actions of other party (Bahli and Rivard 2003). Unexpected transition and management costs which are termed as hidden and/or underestimated costs by Lacity and Hirschheim, (1993b) results from client's lack of

expertise with the outsourced activity and outsourcing, and degree of interdependencies of the outsource activity. Lack of expertise on the client perspective as a cause of hidden costs is also reported by Aubert *et al.*, 1998; Klepper and Jones, 1998; and Lacity, and Willcocks 2001. Milgrom and Roberts (1992) identified the degree of relatedness as an impediment to cost control. Disputes and litigation can be defined as conflict between contracting parties regarding the terms and conditions of the contract and process of bringing and pursuing a lawsuit (Klepper & Jones, 1998). One of the most important reasons for disputes and litigation is the lack of supplier expertise to meet the changing demand (Aubert *et al.*, 1998; Lacity & Willcocks 2001).

Empirical research provides inconclusive evidence regarding the attainment of the above expected benefits and confronting of risks. Though the selective short-term outsourcing contracts achieved benefits regarding cost reduction, better service quality and access to better IT talent, total long-term outsourcing contracts suffers from risk of hidden costs or lock in, disputes and litigation resulting from non-alignment of business strategy and IT due to vendor's customized service, degraded service quality because of inefficiency of the vendor employees, failure to access to better IT talent due to the transfer of internal IT staff to the vendor (Lacity & Hirschheim, 1993b; Lacity, Hirschheim & Willcocks, 1994; Willcocks & Fitzgerald, 1994).

METHODOLOGY

This study is done through case study method. Case study is a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence (Robson, 2002). It is said that case study can be a very worthwhile way of exploring existing theory and a simple, well-constructed case study can enable the researcher to challenge an existing theory and also provide a source of new hypothesis (Saunders *et al.*, 2003). It is said that case study can provide with a detailed understanding on a particular phenomenon/issue by analyzing some cases (units of analysis) in depth. The aim of this paper is to evaluate the IT outsourcing contract of banks from the strategic alignment and risk-return perspective. To analyze this, the case of the Renewal of IT Outsourcing Contract of Commonwealth Bank of Australia (CBA) was selected. In order to conduct this study, data has been collected primarily from secondary sources such as annual reports of the banks, several interviews of responsible personnel of the banks published in newspapers - especially financial newspaper, presentation documents used by IT personnel of the banks in different conferences and symposiums etc.

A Case Study on the Renewal of IT Outsourcing Contract of Commonwealth Bank of Australia (CBA) with EDS:

CBA is a financial services public company limited by shares. It is incorporated and domiciled in Australia. Currently, it has more than 1300 branches, 3,300 ATMs, 35,000

employees and 8 million customers (Annual report, 2007). The primary objective of CBA is to carry out three broad activities such as Banking, Fund Management and Insurance. The Banking activities of CBA consist of both retail and commercial banking. The retail banking services offer housing loans, credit cards, personal loans, savings and check accounts, and demand and term deposit. The commercial banking provides business loans, equipment and trade finance, and rural and agri-business loans. It also runs full service banking operation in New Zealand, Fiji and Indonesia and wholesale banking operation in London, New York, Hong Kong, Singapore, Indonesia, regions of China, Tokyo and Malta.

The fund management business of CBA encompasses wholesale and retail investment, superannuation and retirement funds. Australian and international shares, property, fixed interest and cash are the major assets types in which funds are invested. It also conducts fund management business in New Zealand, the United Kingdom and Asia. Major insurance products include term insurance, disability insurance, annuities, master trusts, investment products and household general insurance. It also operates life insurance business in New Zealand, and all over the Asia and Pacific.

The Business and IT Strategy of CBA and Their Alignment:

Due to the emergence of a number of new banks which are more technologically sound, the market share of CBA is jeopardized. As a consequence, it has changed its vision and strategy in 2002 (Annual Report, 2002). The present vision of the Bank is to be Australia's best financial services company through excelling in customer service. To make this vision success, business strategy of CBA has been set regarding four priority areas: **Excellence in customer service; post modern business banking; technology and operational excellence; and mutual trust and team spirit** (Annual Report, 2002).

Regarding customer service, the aim of the Bank is to use the customers as its advocates based on the customers' experience with CBA. To make this advocacy constructive, it will ensure that customer have cheerful connection with CBA and good understanding with the knowledgeable, proactive and friendly staffs.

To make the services more accessible and responsive for business banking customers, it will ensure improvement and extension of CommSee, a customer support capability that aggregates all the information and relationship details about the customer for a service centre representative, to assist staffs to better serve the business banking customers; provision of better online banking services through improvement of Commbiz; expansion of business banking services in more branches; and simplification of credit approval procedure.

To gain technology and operational excellence, it will ensure consistent delivery and augmented effectiveness, and use of maximum advantage of scalability of IT. All these advantages of IT will be realized through the provision of Group-wide leadership model of IT; regeneration of systems and processes by leveraging IT competencies and

proficiencies; implementation of smarter sourcing and continuous development to lean and proficient process.

To serve customers better, CBA believes that it is a prerequisite to develop trust and team work mindset among the staffs. Trust and team spirit among the staffs will be improved through creation of stronger leadership, effective relationship and collaboration; continuous investment in talent management, rotation program and mentoring; assurance of employee safety and well-being; and community contribution.

To excel in customer service, there is no alternative to provide uninterrupted access to ATMs, CommSee and online banking services. Though the uninterrupted IT availability does not ensure competitive advantage in an environment where all of its competitors use almost same IT, IT downtime can offer competitive disadvantage for such an environment. As a result, excellence in IT has been included as a strategic priority.

However, currently CBA suffers from adequate IT related resources and capabilities due to the total IT outsourcing with EDS in 1997. In addition, the organization's top management priority is to cut IT costs in every year. According to Harte, CIO of Commonwealth Bank, (ZDNet, 2007) total IT costs was 17 percent of total operating expenses in 2006 and it reduced to 15 percent in 2007. Moreover, IT downtime is increasing over the time. For example, Scrimshaw, Group Head, Technology Operations and Procurement, Commonwealth Bank of Australia(CIO, 2007) reports that in February 2001, bank's internet platform and ATM network "severely disabled" for a few hours. Furthermore, ten year outsourcing contract of 1997 with EDS is going to expire in October, 2007.

To evaluate strategic alignment of IT strategy, it is helpful to relate the above situation to the 'Strategic Grid' of McFarlan (1984) and 'The Strategic Alignment Model' of Henderson & Venkatraman (1993). Regarding the Strategic Grid, it can be said that CBA resides in strategic quadrant because IT has great impact on the core operation and strategy. Based on the Strategic Alignment Model, there is proper alignment between business and information technology but there is lack of alignment between strategy and capability. So, it is very essential to identify new opportunity for IT business strategy alignment and to increase shareholders value.

An Overview of the IT Outsourcing Agreement:

As the old contract is going to expire in 2007 and the IT services are not satisfactory at present, there is a possible alternative to renew the entire IT outsourcing contract of the Bank to EDS or any other IT outsourcing company or insource the total IT services. As EDS is the long term IT outsourcing partner of CBA, a proposed deal is under consideration. According to the proposed deal, EDS will provide entire IT services under two contracts. Whereas the first contract, named as master IT&T Agreement involves Enterprise Processing Services (EPS) for mainframe, midrange and data storage until

2012, the second contract covers all end-user computing services, including desktop, service desk, ATM services, managed output, email, messaging, Outlook Web access and mobile information protection for next five years. In addition, EDS will purchase and lease bank property; provide equipment, disaster recovery and maintain day to day interaction with CBA's Business Planning Unit. Moreover, pricing and services will be benchmarked and reviewed at the end of year to determine price and volume for the upcoming year. A two year appraisal will be conducted regarding all aspects of the services and future strategy, and the contract is auditable. The goal of IT outsourcing will be to improve relative competitiveness by bringing to the bank's operations and businesses 'best of breed' information services capability.

AN EVALUATION OF THE STRATEGIC ALIGNMENT OF IT OUTSOURCING OF CBA

The core activity at which CBA wants to excel at is customer service. This excellence in customer service will be ensured through use of IT such as availability of CommSee, Commbiz, ATMs and EFTPOS. Availability of the above facilities is one of the indicators of better customer services. At present, the Bank has the business strategy to improve the availability of the above facilities and IT strategy through smarter sourcing. In house capability may act as one of the impediments to ensure maximum availability of IT function if the outsourcing contract is not renewed. So, renewal of outsourcing contract can be a method to increase the availability of the above facilities and minimize the gap between strategy and IT capability. In other words, better alignment of Business IT strategy may be ensured through renewal of outsourcing agreement.

ANALYSIS OF RISK- RETURN PERSPECTIVE:

The apparent benefits of proposed IT outsourcing deal:

The proposed IT outsourcing deal seems to offer several benefits for the operational effectiveness and strategy implementation. However, some major points which are more important for decision making purpose are discussed below:

Reduction in IT Costs: As the Bank has the priority to reduce its IT expenses around ten percent in every year, proposed outsourcing can help the bank to achieve this target without impairing the availability of IT facility. Because the philosophy behind the proposed agreement of outsourcing is volume will increase but the unit price will remain fixed. So, it is expected that total IT costs will be reduced by 35 percent relative to previous contract (Harte, CIO of Commonwealth Bank in an interview with ZDNet, Australia).

Ensure better services to customers: The outsourcing of end user computing services which involves development of application systems will help CBA to increase customer satisfaction. For example, CommSee and Commbiz will be improved with leading edge technology which will ensure better integration of between CBA and its customers and

customers no longer need to wait in the queue to deal with their financial matters. This interaction will make the data more accessible and helps CBA to up-sell and cross-sell and develops new products and services that better meets the needs of sophisticated customers.

Improve Efficiency and Effectiveness: According to Harte (CIO of the Bank), outsourcing will improve efficiency and effectiveness of all bank related information services activity to achieve World's best practice standard. As EDS is the world's second largest IT outsourcing services company and CBA's outsourcing agreement is one of the landmark agreements in the financial services sector, it will try to build up reputation through improving efficiency and effectiveness so that it can get more business opportunity in the financial services sectors.

Reduce risk flowing from changes in technology: Outsourcing of IT will reduce the risk of technology obsolescence. According to the outsourcing agreement, all the IT assets are purchased by EDS and leased to CBA. If the rapid development of technology occurs and the IT assets become obsolete, it will be the responsibility of EDS to replace the assets so that CBA can get benefit of state-of-art technology and remain competitive.

Access to better knowledge of new technology and obtain their benefits: CBA will also be benefited from the outsourcing with EDS because it will help CBA to keep pace with market and technology advances. Though the number of outsourcing Services Company in the previous decade was few, at present there is lot of players in the market. So, in the best interest of EDS, it will ensure development of modern technology infrastructure for its clients so that clients can keep pace with evolving business priorities. Otherwise, there is enormous possibility of losing market share.

Facilitate growth into new market and services: EDS has experience regarding the systems integration; it can provide quick assistance in integration of any new market and services. For example, when the Bank acquire Colonial Limited in June, 2000 it was inevitable to integrate the Colonial system with the Bank's massive network with limited or no interruption of customer services. Due to the EDS's comprehensive understanding of the Bank's IT environment, EDS completed the required integration within a single weekend without interruption of customer services (EDS, 2005). So, it can be expected that in future EDS can provide valuable assistance regarding any expansion of the business to new market.

Develop new IT services to facilitate re-engineering of bank processes: Research evidence shows that IT has failed to provide desired outcome in some organizations because those organizations did not change the business process according to the demand of new IT (Earl, 1990; Ward, Taylor & Bond, 1996). As EDS will work with CBA Business Unit on day to day matters relating to approved business plan, it can provide valuable assistance regarding the simplification of business process. It will ensure the favorable outcome of IT investment for CBA.

Increase in employee satisfaction: As the new system of IT integrates the branches and provides end-to-end services to CBA employees, it will improve the employee satisfaction. Employees need not to deal with long lines and sullen faces of customers and handle piles of paperwork.

Ensure optimum control and flexibility over IT: As per the proposed agreement pricing and services will be benchmarked and service standards will be assured, it will provide enough control over the costs and services of IT. Again, outsourcing agreement with EDS is subject to annual review for pricing and volume and two years review for determination of service level and future strategy, it will ensure proper flexibility. This flexibility will help CBA keep pace with changes in the business environment and IT through incorporation of best technology in CBA's systems.

The probable downsides of proposed outsourcing deal:

Though the apparent benefits seem very much favorable to increase CBA's competitive position, CBA may confront following risks from entering into the total outsourcing agreement:

Lock in Risks: Due to the entire outsourcing, almost all the capability and resources will be transferred to EDS. As a result, CBA would not be able to get out of the relationship from EDS without incurring substantial cost. EDS is the only vendor which will provide total IT solution; CBA will suffer from lack of bargaining power. EDS can take this opportunity to increase profit. Hence, service quality and other expected benefits may not realize as expected.

Customer service excellence is the core of success: As customer service excellence is the core of strategic success, IT has enormous impact on the core operation and strategy. For such an organization, entire IT outsourcing is not a logical decision.

Long-term contract may pretense problem: The duration of the proposed agreement is five years which seems a little bit longer for financial services companies. Now, IT has become part and parcel of the operation of financial services company and to remain competitive, it is very essential for these companies to keep pace with technological development. Due to the opportunism, EDS may not modernize the technology over such a longer period or may not be able develop leading edge technology.

Switching cost will be high: If EDS fails to ensure the expected service quality and availability of IT, it will be very difficult for CBA to insource the IT function or find some other vendor without incurring huge switching costs. Insourcing will be difficult, because after the outsourcing is complete, CBA will have least IT resources and expertise. On the other hand, finding new vendors will be difficult due to the massive size of the Bank. At present, only few vendors have the capability to manage such a massive organization.

CONCLUSION

Based on the status quo of the Bank, it is obvious to outsource the IT function to improve the quality of customer service and to acquire new customers. However, the proposed entire outsourcing contract is not free from uncertainty. The problem lies in the total outsourcing to single vendor and long term of the agreement. To overcome the associated problem, it will be beneficial for the Bank to tamper with the terms and condition of the new outsourcing agreement such as duration of the contract and be more specific regarding service level and quality, response time, penalty for failure etc. If the Bank can specify the above things and mitigate the other risks, IT outsourcing renewal will ensure proper flexibility, reduction of IT costs and increase in competitiveness, and shareholders' value.

REFERENCES

- Ang, S. and Cummings, L. L. (1997). "Strategic Response to Institutional Influences on Information Systems Outsourcing", *Organization Science*, Vol. 8, No. 3, May-June, pp. 235-256
- Ang, S. and Straub, D. (1998). "Production and Transaction Economies and IS Outsourcing: A Study of the U.S. Banking Industry", *MIS Quarterly*, Vol. 22, No. 4, pp. 535-552
- Applegate, L. M. and Montealegre, R. (1991). "Eastman Kodak Co.: Managing Information Systems through Strategic Alliances", Harvard Business School, Case Number 192-030, Boston, MA.
- Applegate, L. M., Austin, R. D. and McFarlan, F. W. (2007). *Corporate Information Strategy and Management: Text and Cases*, McGraw-Hill/Irwin, New York, NY
- Aubert, B. A., Rivard, S. and Patry, M. (1996). "A Transaction Cost Approach to Outsourcing Behavior: Some Empirical Evidence", *Information and Management*, Vol. 30, pp. 51-64
- Aubert, B. A., Rivard, S., and Patry, M. (1998). Assessing IT Outsourcing Risk, *In Proceedings of 31st Hawaii International Conference on System Sciences*, Watson, H. (ed.) IEEE, Hawaii.
- Bahli, B. and Rivard, S. (2003). "The Information Technology Outsourcing Risk: A Transaction Cost and Agency-Theory Perspective", *Journal of Information Technology*, Vol. 18, September, pp. 211-221
- CIO-Business Technology Partnership. (2007). Banking on the Partnership, retrieved from <http://www.cio.com.au/index.php/id;514562623;pp:2>
- Earl, M. J. (1990). "Putting IT in Its Place: A Polemic for Nineties", *Oxford Institute of Information Management Research*. Research and Discussion Paper RDP90/2

- EDS Case Study (2005), Massive Coordinated Effort Integrates IT Systems in Commonwealth Bank Merger, retrieved from www.eds.com
- Ford, D., and Farmer, D. (1986). "Make or Buy- A Key Strategic Issue", *Long Range Planning*, Vol. 19, No. 5, pp. 54-62
- Gupta, U. and Gupta, A. (1992). "Outsourcing the IS Function: Is It Necessary for Your Organization"? *Information Systems Management*, Summer, pp. 44-50
- Henderson, J. C. and Venkatraman, N. (1993). "Strategic Alignment: Leveraging Information Technology for Transforming Organizations", *IBM Systems Journal*, Vol. 32, No. 1
- Huff, S. L. (1991). "Outsourcing of Information Services", *Business Quarterly*, Vol. 55, No. 4, pp. 62-65
- Klepper, R., and Jones, O. W. (1998). *Outsourcing Information Technology, Systems and Services*, Prentice-Hall, Upper Saddle River, NJ
- Lacity, M. and Willcocks, L. (2001). *Global Information Technology Outsourcing: In Search of Business Advantage*, Wiley, Chichester.
- Lacity, M. C. and Hirschheim, R. (1993a). *Information Systems Outsourcing*. Wiley, Chichester.
- Lacity, M. C. and Hirschheim, R. (1993b). *Information Systems Outsourcing: Myths, Metaphors and Realities*, John Wiley and Sons, Chichester.
- Lacity, M. C. and Willcocks, L. (1996). "Interpreting Information Technology Sourcing Decision from A Transaction Cost Perspective: Findings and Critique", *Accounting, Management and Information Technologies*, Vol. 5, No. 3-4, pp. 203-244
- Lacity, M. C., Hirschheim, R., and Willcocks, L. (1994). "Realizing Outsourcing Expectations: Incredible Expectations, Credible Outcomes", *Information Systems Management*, Vol. 11, No. 4, pp. 7-18
- Lacity, M. Willcocks, L., and Feeny, D. (1995). "IT Outsourcing: Maximize Flexibility and Control", *Harvard Business Review*, May-June.
- Loh, L. and Venkatraman, N. (1992a). "Determinants of Information Technology Outsourcing: A Cross Sectional Analysis", *Journal of Management Information Systems*, Vol. 9, No.1, Summer, pp. 7-24
- Loh, L. and Venkatraman, N. (1992b). "Diffusion of Information Technology Outsourcing: Influence Sources and the Kodak Effect", *Information System Research*, Vol. 3, No.4, December, pp. 334-378

- McFarlan, F. W. (1984). "Information Technology Changes the Way You Compete", *Harvard Business Review*, May-June
- Milgrom, P., and Roberts, J. (1992). *Economics, Organization and Management*, Prentice-Hall, Engliwood Cliffs, NJ
- Nam, K., Rajagopalan, S., Rao, H. R. and Chaudhury, A. (1996). "A Two-Level Investigation of Information Systems Outsourcing", *Communication of the ACM*, Vol. 39, No. 7, July, pp. 36-44
- Ngwenyama, O. K., & Bryson, N. (1999). "Making the Information Systems Outsourcing Decision: A Transaction Cost Approach to Analyzing Outsourcing Decision Problems", *European Journal of Operational Research*, Vol. 115, pp. 351-367
- Reponen, T. (1993). Outsourcing or Insourcing? *Proceedings of the Fourteenth International Conference on Information Systems*, Orlando, December, pp. 103-116
- Robson, C. (2002), *Real World Research*, 2nd edition, Blackwell, Oxford.
- Saunders, M., Lewis, P. and Thornhill, A. (2003), *Research Methods for Business Students*, 3rd edition, Pearson Education, Singapore.
- Walker, G. and Weber, D. (1984). "A Transaction Cost Approach to Make or Buy Decision", *Administrative Science Quarterly*, Vol. 29, pp. 373-379
- Ward, J., Taylor, P., and Bond, P. (1996). "Evaluation and Realization of IS/IT Benefits: An Empirical Study of Current Practice", *European journal of Information Systems*. No. 4, pp 214-225
- Willcocks, L., & Fitzgerald, G. (1994). *A Business Guide to Outsourcing Information Technology*, Business Intelligence, London
- Williamson, O. E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*, Free Press, New York.
- ZDNet Australia (2007). ZDNet Australia meets with Michael Harte, CIO of the Commonwealth Bank to find out his views on security and sourcing, retrieved on 25 September, 2007 from <http://www.zdnet.com.au/insight/business/soa/Commonwealth-Bank-Michael-Harte-CIO/0,139023749,339282050,00.htm>