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E-COMMERCE USAGE IN CEMENT INDUSTRIES OF MALAYSIA BERHAD

A thesis submitted to the Graduate School in partial fulfillment of the requirements for the degree of Master of Science in Management Universiti Utara Malaysia as of the November Semester 2000/2001

By

AMIR HAMZAH MD HASSAN

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ABSTRAK

Perancangan untuk membangunkan e-dagang di Cement Industries of Malaysia Berhad atau ringkasnya CIMA dijangkakan akan mengubah corak pengoperasian organisasi ini dan sekaligus akan meningkatkan perkhidmatan yang diberikan kepada pelanggannya. Namun demikian, buat masa ini kajian di dalam potensi e-dagang dalam meningkatkan kepuasan pengguna belum dilaksanakan secara mendalam terutamanya di sektor perindustrian simen. Di dalam kajian ini dimuatkan laporan hasil daripada keputusan penyelidikan terhadap 36 agen pengedaran simen daripada kawasan utara, tengah dan timur. Matlamat utama kajian ini adalah untuk melihat adakah faktor operasi perniagaan, mesra teknologi komputer dan halangan-halangan kepada penggunaan e-dagang akan mempengaruhi kesanggupan agen pengedaran simen untuk mengambil bahagian di dalam penggunaan e-dagang dalam pembelian simen Blue Lion. Hasil daripada penyelidikan ini menunjukan jumlah pelanggan, transaksi setahun, pembelian simen setahun, pembelian terbanyak simen daripada produk Blue Lion, dan kemudahan penggunaan e-dagang mempunyai korelasi terhadap kesanggupan untuk mengambil bahagian dalam penggunaan e-dagang. Kajian ini juga menunjukkan kebanyakan daripada mereka telah memilih untuk mengambil bahagian di dalam projek ini sekitar pelaburan kurang daripada RM5,000. Untuk menjayakan projek ini dari segi peningkatan jumlah penglibatan agen pengedaran simen, pihak pengurusan CIMA adalah disarankan agar dapat memberi fokus terutamanya terhadap faktor-faktor halangan yang boleh mempengaruhi penggunaan sistem ini.

ABSTRACT

The planning on the development of e-commerce in Cement Industries of Malaysia Berhad (CIMA) is expected to change the way of organisation's operations and improve customer services. However, the potential of e-commerce in improving customer satisfaction has not been studied very well especially in cement industry sectors. This study reports the results of a survey of 36 cement distributor agents from northern, centre and eastern regions. The aim of this study is to evaluate the factors of business operations, computer technologies friendliness, and obstacles in e-commerce utilisation towards the willingness to participate in e-commerce usage in buying of Blue Lion cement. The results from this study shown that total number of regular customers, transactions per year, annual purchased volume per year, highest volume of cement purchased by the product name of Blue Lion, and ease of use of ecommerce have a significance correlation towards a willingness to participate in ecommerce usage. In addition, distributor agents are gladly to participate with the investment less than RM5,000. Nevertheless, the management of CIMA needs to give a focus on barrier factors in order to improve the number of participation in this project.

ACKNOWLEDGMENT

Syukur Alhamdulillah to the Almighty Allah for His blessings and guidance without which it would be imposible to complete this project.

I wish to express my greatest gratitude to my constant companion and wife Noor Zariena Mohd Samsuddin, and our constant inspiration and beloved kid Anis Najwa Mirza for their continuous understandings, patience, sacrifices, and supports throughout this difficult and challenging moment.

I am greatly indebted to my project paper advisor, En. Osman Ghazali, and En. Ruslan Romli for their valuable comments and diligent efforts to correct various weaknesses in the preparation of this project paper.

Special thanks to Professor Madya Dr. Ibrahim Abdul b. Abdul Hamid, the dean of Graduate School, and Professor Dr. Zakaria Ismail, the dean of Management School, Universiti Utara Malaysia. My sincere gratitude to Ybhg Dato' Redzuan Tan Sri Sheikh Ahmad, Senior General Manager of Cement Industries of Malaysia Berhad (CIMA) for giving permission to undertake this research study. Last but not least to all Pemasaran Simen Negara regional managers and distributor agents of CIMA for their participation and support in this research study.

To all who read these words, May you love the Light within you

And in everyone you meet, And everything you experience

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CHAPTER 1

INTRODUCTION

1.1 Introduction to Project

Today, the organisations can communicate with customers by establishing a Web site or obtain a fully operational e-mail services from commercial Internet provider such as Jaring and TMNet in Malaysia. The development of world-wide information superhighways and the making of electronic communications as a national priority have shown, a growing number of firms increased interest in e-commerce as an effective business marketing tool. The firm also needs to look for competitive advantages beyond its own value chain, into the value chains of suppliers, distributors, and ultimately customers (Kotler, 1999). More companies today are turning to partnering with other members of the supply chain to improve the performance of customer valuedelivery system. Citibank Singapore for instance brings its banking activities into its major corporate clients' offices by supplying computers that are linked to its head office. Kotler (1999), defined marketing is a social and managerial process by which individuals and groups obtain what they need and want through creating, offering, and exchanging products of value with others. By using the Internet for global marketing to communicate with customers for order-taking firm has been able to establish a global reach on a small budget.

The volume of e-commerce for US business transaction is expected to increase from US\$8 billion in 1996 to US\$327 billion by the year 2002 (Radstaak and

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BIBLIOGRAPHY

- Aberg, J. and Shahmehri, N., *The Role of Human Web Assistants in E-Commerce: An Analysis and a Usability Study.* Internet Research: Electronic Networking Applications and Policy, vol. 10 no. 2, p. 114-125.
- Alba, J., Lynch, J. and Weitz, B. (1979), Interactive Home Shopping: Consumer, Retailer and Manufacturer Incentives to Participate in Electronic Marketplaces' Journal of Marketing, vol. 61, p. 38-51.
- Applegate, L., Holsapple, C., Kalakota, R., Rademacher, F. and Whinston, A. (1996), Electronic Commerce: Building Blocks of New Business Opportunity, Journal of Organisational Computing and Electronic Commerce, vol. 6 no 1.
- Auger, P. and Gallaugher, J. M. (1997), Factors Affecting the Adoption of an Internet-Based Sales Presence for Small Business, The Information Society, vol. 13 no. 1.
- Bakos, J. Y. (1991), Information Links and Electronic Marketplaces: The Role of Interorganisational Information Systems in Vertical Markets, Journal of Management Information System, vol. 8 no. 2, p. 31-52.
- Bakos, J. Y. (1991), A Startegic Analysis of Electronic MarketPlaces, MIS Quarterly, vol. 15 no. 3, p. 295-310.
- Banerjee, S. and Golhar, D. Y. (1993), E-Commerce Implementations: A Comparative Study of JIT and Non-JIT Manufacturing Firms, International Journal of Physical Distribution and Logistics Management, vol. 23 no. 7, p 22-31.
- Banerjee, S. and Golhar, D. Y. (1994), Security Issues in the E-Commerce Environment, International Journal of Operations and Production Management, vol. 14, p. 97-108.
- Business Week (1997), Direct Marketing Over The Web, June 23, p. 104.
- Carey, A. and Lynn, G. (1998), Less Bullish on Internet, USA Today, January 29, p. 18
- Chen, M. J. and Hambrick, D. C. (1995), Speed, Stealth and Selective Attack: How Small Firms Differ from Large Firms in Competitive Behavior, Academy of Management Journal, vol. 38 no. 2, p. 453-82.
- Chen, I. J. and Small, M. H. (1995), *Planning for Advanced Manufacturing Technology: A Research Framework*, International Journal of Operations Production Management, vol. 16 no. 5, p. 4-24.

- Crum, M. R. and Allen, B. J. (1991), The Changing Nature of the Motor Carrier-Shipper Relationship: Implications for the Trucking Industry, Transport Journal, vol. 21 no. 2, p. 41-54.
- Crum, M. R. and Allen, B. J. (1997), A Longitudinal Assessment of Motor Carrier-Shipper Relationship Trends 1990 vs 1996, Transport Journal, vol. 37 no. 1, p. 5-17.
- Crum, M. R., Premkumar, G. and Ramamurthy, K. (1996), An Assessment of Motor Carrier Adoption, Use, and Satisfaction with EDI, Transport Journal vol. 35 no. 4, p. 44-57.
- Day, G. S. and Wensley, R. (1998), Assessing Advantage a Framework for Diagnosing Competitive Superiority, Journal of Marketing, vol. 52, p. 1-20.
- Deloitte and Touche Consulting Group (1998), *The North American Survey of Trends in Supply Chain Management*, Deloitte Touche Tohmatsu International, Toronto, Ontario, Canada.
- Dutta, S., Kwan, K. and Segev, A. (1997), Strategic Marketing and Customer Relationship in Electronic Commerce, Proceeding of the 4th Conference of the International Society for Decision Support Systems, http://isdss97.unil.ch/isdss97/papers/90.htm.
- Feher, A. and Towell, E. (1997), *Business Use of the Internet*, Journal of Internet Research: Electronic Networking Applications and Policy, vol. 7 no. 3.
- Ferguson, D. M., Hill, N. C. and Hansen, J. V. (1990), *Electronic Data Interchange:* Foundations and Survey Evidence on Current Use, Journal of Information System, vol. 4, Spring, p. 81-91.
- Ferdows, K., and De Meyer, A. (1990), Lasting Improvements in Manufacturing Performance: In Search of a New Theory; Journal of Operations Management, vol. 9 no. 2, p. 168-84.
- Ford, D. (1984), Buyer/Seller Relationships in International Industrial Markets, Industrial Marketing Management, vol. 13, p. 101-12.
- Galbraith, J. R. (1977), Organizational Design, Addison-Wesley, MA.
- Garner, R. (1995), Growing Professional Menace, Open Computing, p. 33-42.
- Gattiker, U. E. and Nelligan, T. W. (1998), Computerized Offices in Canada and the United States: Investigating Dispositional Similarrities and Differences, Journal of Organizational Behaviour, vol. 9. P. 77-96.
- Gerson, R. (1993), *Measuring Customer Satisfaction*, Crisp Publication, Menlo Park, CA.

- Gogan, J. L. (1997), The Web's Impact on Selling Techniques: Historical Perspective and Early Observations, Industrial Journal of Electronic Commerce, vol. 1 no. 2, p. 89-108.
- Gordon, A. (1997), Study: Computer Crimes Grows, Loses Top \$100 Million, USA Today, March 7, p. 2B.
- Hambrick, D. C., MacMillan, I. C., and Day, D. L. (1982), Strategic Attributes and Performance in the BCG Matrix A PIMS-Based Analysis of Industrial Products Business, Academy of Management Journal, vol. 25, p. 510-31.
- Hammer, M. (1990), Re-engineering work: Don't Automate, Obliterate, Harvard Business Rview, July-August.
- Hammer, M and Champy, J. (1994), *Re-engineering the Corporation*. A Manifesto for Business Revolution, Harper Collins, Philadelphia, PA.
- Heskett, J., Earl, W. S. and Hart, C. L. (1990), Service Breakthrough. Changing the Rules of the Game, Free Press, Glencoe, IL.
- Hesterbrink, C. (1999), E-Commerce and ERP: Bringing Two Paradigms Together, Price Waterhouse & Cooper, p. 1-10.
- Hoffman, D. L. and Novak, T. P. (1996), Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations, Journal of Marketing, vol. 60 no. 3, p. 50-68.
- Horovitz, J. and Panak, M. J. (1992), *Total Customer Satisfaction. Lessons from 50 European Companies with Top Quality Service*, Pitman, Marshfield, MA.
- Iacovou, C. L., Benbasat, I. And Dexter, A. S. (1995), *Electronic Data Interchange* and *Small Organisations : Adoption and Impact of Technology*, MIS Quarterly, vol. 19 no. 4, p. 465-85.
- Johnson, D. M., Allen, B. J. and Crum, M. R. (1992), *The State of EDI Usage in the Motor Carrier Industry*, Journal of Business Logistics, vol. 13 no. 2, p. 43-68.
- Kalakota, R. and Whinston, A. (1997), Electronic Commerce: A Manager's Guide, Addison-Wesley, MA.
- Kardaras, D. and Papathanassiou, E. (2000), *The Development of B2C E-Commerce in Greece: Current Situation and Future Potential*. Internet Research: Electronic Networking Applications and Policy, vol. 10 no. 4, p. 284-294.
- Kotler, P., (1999), Marketing Management: An Asian Perspective. Prentice Hall, Singapore.
- Kutter, R. (1998), *The Net: A Market too Perfect for Profit*, Business Week, 11 May, p. 20.

- Manoochehri, G. H. (1984), Suppliers and the Just-in-Time Concept, Journal of Purchasing and Materials Management, p. 16-21.
- Massnick, F. (1997), The Customer is CEO. How to Measure What Your Customers Want and Make Sure They Get It, AMACOM Publishing, New York, NY.
- Millen, R. A. (1992), *Utilisation of EDI by Motor Carrier Firms: Status Report*, Transportation Journal, vol. 32 no. 2, p. 5-13.
- Min, H. and Galle, P. W. (1999), *Electronic Commerce Usage in Business-to-Business Purchasing*, International Journal of Operations & Production Management, vol. 19 no. 9, p. 909-921.
- Mukhopadhyay, T. (1993), Accessing the Economic Impacts of Electronic Data Interchange Technology, Idea Publishing, Middletown, PA, p. 241 –64.
- Murphy, E., (1996), *Electronic Systems Alter the Buying Process*, Purchasing, May 9, pp. 24-8.
- Murphy, P. R. and Daley, J. M. (1998), *E-Commerce Issues in Logistic: A User and Carrier Perspective*, Journal of Business Logistics, vol. 19 no. 2, p89-102.
- Murphy, P. R. and Daley, J. M. (1999), E-Commerce Benefits and Barriers: Comparing International Freight Forwarders and their Customers, International Journal of Physical Distribution & Logistics Management, vol. 29 no. 3, p. 207-216.
- O'Neal, C. R. (1987), *The Buyer-SellerLinkage in a JIT Environment*, Journal of Purchasing and Material Management, p. 7-13.
- Peters, G. (1994), Benchmarking Customer Satisfaction, Pitman, Marshfield, MA.
- Petroni, A. (2000), Pattern of Technological Innovation in Subcontracting Firms: An Empirical Study in the Food Machinery Industry, European Journal of Innovation Management, vol. 3 no. 1, p. 15-26.
- Radstaak, B.G. and Ketelaar, M.H., (1998), Worldwide Logistics: The Future of Supply Chain Services, Holland International Distribution Councial, Hague, The Netherlands.
- Riggins, F. J. and Mukhopadhyay, T. (1994), Interdependent Benefits from Interorganisational Systems: Opportunities for Business Partner Reengineering, Journal of Management Information Systems, vol. 11 no. 2, p. 37-57.
- Sekaran, U., (2000), Research Methods for Business: A Skill-Building Approach. John Wiley & Sons, USA.

- Shaw, M., Gardner, D., and Thomas, H. (1997), Research Opportunities in Electronic Commerce, Decision Support System, vol. 21 no. 3.
- Star, S. L. and Ruhleder, K. (1996), Steps toward an ecology of Infrastructure: Design and Access for Large Information Spaces, Information System Research, vol. 7 no. 1, p. 111-34.
- Stern, L. and Kaufmann, P. (1985), Electronic Interchange in Selected Consumer Goods Industries: An Inter_Organizational Perspective, Harvard Business School Press, Boston, MA.
- Strader, J. T., and Shaw, J. M. (1999), Consumer Cost Differences for Traditional and Internet Markets, Internet Research: Electronic Networking Applications and Policy, vol. 9 no. 2, p. 82-92.
- Strauss, J. and Frost, R. (1999), Marketing on the Internet: Principle of On-Line Marketing, Prentice-Hall, Upper Saddle River, NJ.
- Timmer, P. (1999), Electronic Commerce: Strategies and Models for Business-to-Business Trading, John Wiley & Sons, Chichester.
- Tunc, E. A., and Gupta, J. N. D. (1993), *Is Time a Competitive Weapon Among Manufacturing Firms?*, International Journal of Operations and Production Management, vol. 13 no. 3, p. 4-12.
- Vedder, R. G., Guynes C. S., and Vanecek M. T. (1997), *Electronic Commerce on the WWW/Internet*, Journal of Computer Information System, Fall.
- Verity, J. W. and Hof, R. D. (1994), *The Internet: How it Will Change the Way you Do Business*, Business Week, November 14, p. 80-88.
- Wall Street Journal, Making Money on the Net, June 8, 1998. P. 11-12.
- Walton, L. W. and Lewis, P. A. (1995), Shipper, Carrier, and Consultant Perspective of EDI: Strategies for Successful Implementation in the Motor Carrier Industry, Transportation Journal, vol. 34 no. 4, p. 28-37.
- Woo, C. Y. and Cooper, A. C. (1981), Strategies of Effective Low Share Business, Strategic Management Journal, vol. 2, p. 301-18.
- Woo, C. Y. and Cooper, A. C. (1981), *The Surprising Case for Low Market Share*, Harvard Business Review, vol. 59 no. 6, p. 106-13.
- Yun, M. (1999), Subcontracting Relations in the Korean Automotive Industry: Risk Sharing and Technological Capability, International Journal of Industrial Organization, vol. 17 no. 1, p. 81-108.