

**DEVELOPING E-BUSINESS MODEL  
FOR MALAYSIAN SMEs USING A  
FIT PERSPECTIVE**

**NOOR AZIZI ISMAIL  
ROSLI MOHAMAD**

**UNIVERSITI UTARA MALAYSIA**

**2012**

## **PENAKUAN TANGGUNGJAWAB (DISCLAIMER)**

Kami, dengan ini, mengaku bertanggungjawab di atas ketepatan semua pandangan, komen teknikal, laporan fakta, data, gambarajah, ilustrasi, dan gambar foto yang telah diutarakan di dalam laporan ini. Kami bertanggungjawab sepenuhnya bahawa bahan yang diserahkan ini telah disemak dari aspek hakcipta dan hak keempunyaan. Universiti Utara Malaysia tidak bertanggungjawab terhadap ketepatan mana-mana komen, laporan, dan maklumat teknikal dan fakta lain, dan terhadap tuntutan hakcipta dan juga hak keempunyaan.

*We are responsible for the accuracy of all opinion, technical comment, factual report, data, figures, illustrations and photographs in the article. We bear full responsibility for the checking whether material submitted is subject to copyright or ownership rights. UUM does not accept any liability for the accuracy of such comment, report and other technical and factual information and the copyright or ownership rights claims.*

### **Ketua Penyelidik:**

---

Tandatangan

Nama: PROF. DR. NOOR AZIZI ISMAIL

### **Ahli**

---

Tandatangan

Nama: ROSLI MOHAMAD

# ACKNOWLEDGEMENT

Praise to God the Almighty for his love and blessings that make us move forward to accomplish this task.

This research would not have been possible without constant support, guidance, and assistance from various parties. Therefore, we would like to thank the following people and organisations for their support and assistances given throughout the research process:

- Ministry of Higher Education (FRGS Grant Scheme)
- Staffs of Research and Innovation Management Centre (RIMC), UUM
- Staffs of College of Business (COB) and Othman Yeop Abdullah Graduate School of Business (OYAGSB)
- SME Corporation (SME CORP)
- Malaysia Productivity Corporation (MPC)
- Multimedia Development Corporation (MDeC)
- All participants of preliminary interview and pre-testing procedure
- All firms that had taken part in the pilot testing and the large scale survey
- Participants of ECDC 2009 Conference, AGBA 2009 Conference, ICBER 2010, and APBITM 2011, and all fellow academic members for their constructive opinion

## ABSTRAK

Kekurangan sumber serta keunikan sektor Industri Kecil dan Sederhana (IKS) menyebabkan firma lebih berhati-hati dalam menggunakan aplikasi e-perniagaan. Oleh itu, firma lebih mengutamakan aplikasi e-perniagaan yang mampu meningkatkan tahap kecekapan aspek operasi firma yang lebih strategik. Sehubungan dengan itu, objektif kajian ini adalah, (i) mengkaji sejauhmana keupayaan e-perniagaan firma menyokong pelbagai aspek operasi firma ('e-business alignment'), (ii) mengenalpasti profil firma berdasarkan tahap penjajaran (alignment) aplikasi e-perniagaan, (iii) menilai semula hubungan antara tahap penjajaran dan prestasi firma dalam konteks teknologi e-perniagaan, dan (iv) mengenalpasti faktor-faktor yang boleh menjelaskan kepelbagaian tahap 'alignment' di kalangan firma. Rangkakerja kajian dibina bagi mengkaji isu ini menggunakan perspektif padanan strategik (strategic fit). Kajian ini mempertimbangkan dua saranan utama. Pertama, keupayaan firma untuk menyelaraskan keupayaan e-perniagaan membantu mengoptimumkan manfaat e-perniagaan kepada firma. Keduanya, pelbagai faktor berkaitan pengurusan dan persekitaran perniagaan memainkan peranan dalam membantu penyelarasan e-perniagaan dalam pelbagai aspek operasi. Kajian ini menggunakan pendekatan kuantitatif dalam mengumpul bukti empirikal bagi menyokong hipotesis kajian. Persepsi firma telah diperolehi daripada 140 pemilik/pengurus firma terpilih menggunakan pendekatan soal selidik. Hasil kajian mengesahkan kepelbagaian tahap penjajaran e-perniagaan di dalam pelbagai aspek perniagaan. Tahap penjajaran adalah lebih tinggi dari aspek pencarian maklumat dan fungsi jualan berbanding fungsi-fungsi lain. Analisis kluster mengenalpasti dan mengesahkan tiga profil dengan tahap penjajaran e-perniagaan yang berbeza. Analisis selanjutnya mengesahkan bahawa firma di dalam kategori 'high-aligned' mendapat faedah yang lebih meluas dan lebih tinggi dalam pelbagai aspek operasi. Akhir sekali, analisis regresi logistik mendapati ketidaktentuan persekitaran, tahap kematangan IT firma, dan tahap kemahiran IT pemilik/pengurus antara faktor yang berbeza secara signifikan di kalangan tiga profil tersebut. Tambahan pula, walaupun kajian mendapati pelbagai pihak berperanan dalam membantu IKS berkaitan e-perniagaan, firma di dalam kategori 'low fit' adalah lebih bergantung kepada agensi kerajaan dan institusi berkaitan IKS sebagai pusat rujukan utama berkaitan e-perniagaan. Di samping itu, firma di kategori 'high aligned' juga adalah di kalangan firma yang menggunakan aplikasi e-perniagaan secara meluas. Kesimpulannya, kajian ini mendapati bahawa firma IKS meletakkan keutamaan yang berbeza terhadap e-perniagaan bagi menyokong operasi perniagaan mereka. Hasil kajian ini serba sedikit menjelaskan punca mengapa tidak banyak firma IKS yang mencapai tahap aplikasi e-perniagaan yang lebih meluas. Ia juga dapat menjelaskan tahap penggunaan aplikasi e-perniagaan yang tidak konsisten dalam pelbagai aspek perniagaan.

Kata kunci: e-perniagaan; penjajaran; industri kecil dan sederhana (IKS); Malaysia

## ABSTRACT

Due to limited resources and the unique nature of SMEs, firms tend to be more prudent with e-business solutions. Therefore, there are tendency for the firms to provide greater priority to invest on e-business solutions to extend the efficiency of most strategic business functions. The aim of this study is to explore the current state of e-business alignment amongst Malaysian SMEs. Specifically, the objectives of this study are: [i] to investigate the extent of firm's e-business capabilities correspond to the strategic importance of various business functions; [ii] to reveal meaningful profiles that reflect distinct e-business alignment characteristics across firms; [iii] to re-establish alignment and performance relationship within the context of e-business technology, and [iv] to investigate antecedents that are perceived as most crucial to facilitate firms in aligning e-business with their business strategic needs. A research framework was developed to investigate the e-business alignment issue using a strategic fit perspective. This study has considered two major propositions. First, firm's ability to appropriately align e-business capabilities to support the firm's most crucial business functions would potentially lead to better realisation of e-business values. Secondly, certain managerial and environmental conditions in which firm operate would have substantial roles to facilitate e-business alignment across firm's operation. This study has employed quantitative approach to collate empirical evidences to support the study propositions. Firm's perceptions are solicited from 140 owner/managers of selected firms using a self-administered mail questionnaire technique. Preliminary analysis indicates the presences of e-business alignment/misalignment pattern across business functions with greater alignment are more obvious on information searching and sales-related functions compared to other functions. The cluster analysis further reveals and validates three distinct groups of firms with different degree of e-business alignment. Results further provide empirical evidences that firms with highly aligned e-business would experience greater and wider impacts across various aspects of firm operation. Finally, a logistic regression results suggest that firms operating under greater uncertainties, having more extensive IT/IS applications, competent owner/manager are more likely to achieve greater e-business alignment. In addition, despite the relative importance of various sources of e-business advices, firms in least aligned group tend to rely most on support network from government agencies and institutions for e-business related advices. Finally yet important, firms in more aligned category are currently operating at higher e-business ladder than those that are still operating at an early stage of e-business (web presence). In conclusion, this study suggests that firms relatively have different priority over e-business to support their business. These findings provide useful insights why some firms do not progress to higher e-business ladder. It further justifies unequal deployment of e-business to support functions across the firm.

**Keywords:** e-business; alignment; small and medium-sized enterprises (SMEs), Malaysia

# TABLE OF CONTENTS

<b>ACKNOWLEDGEMENT</b>	<b>II</b>
<b>ABSTRAK</b>	<b>III</b>
<b>TABLE OF CONTENTS</b>	<b>V</b>
<b>LIST OF TABLES</b>	<b>VIII</b>
<b>LIST OF FIGURES</b>	<b>X</b>
<b>LIST OF ABBREVIATIONS</b>	<b>XI</b>
<b>CHAPTER 1 INTRODUCTION</b>	
1.1 BACKGROUND	1
1.2 RESEARCH QUESTIONS	8
1.3 RESEARCH SIGNIFICANCE	10
1.4 SCOPE OF STUDY	14
1.5 STRUCTURE OF REPORT	15
<b>CHAPTER 2 LITERATURE REVIEW</b>	
2.1 INTRODUCTION	16
2.2 NATURE OF SMES AND USE OF IT/IS	16
2.3 EARLIER WORKS ON E-BUSINESS AMONGST SMES	18
2.3.1 Trend in Prior Studies	18
2.3.2 Determinants of E-business Usage	20
2.3.3 E-business Impacts	21
2.3.4 E-business from Fit Perspective	23
2.4 CONCEPT OF FIT AND IT/IS ALIGNMENT	24
2.4.1 Concept of Fit	24
2.4.2 Application of Fit Concept into IT/IS Domain	25
2.5 BUSINESS PROCESSES AND E-BUSINESS	28
2.6 FACTORS AFFECTING E-BUSINESS ALIGNMENT	30
2.6.1 IT Sophistication	30
2.6.2 Roles of Owner/manager	32
2.6.3 Sources of Advice (Networking)	34
2.7 SUMMARY OF LITERATURE REVIEW SECTION	36
<b>CHAPTER 3 RESEARCH FRAMEWORK</b>	
3.1 INTRODUCTION	38
3.2 CONCEPTUAL FRAMEWORK	38
3.2.1 Business Processes Importance and E-Business Capabilities	39
3.2.2 E-Business Fit	41
3.3 RESEARCH PROPOSITIONS	44
3.3.1 Performance Impact	44

3.3.2	Owner/manager Commitment	46
3.3.3	Owner/manager Knowledge of IT	48
3.3.4	IT Sophistication	49
3.3.5	Environmental Uncertainty	50
3.3.6	Sources of Advice (networking)	51
3.3.7	Demographic Factors	52
3.4	SUMMARY	54
<b>CHAPTER 4 RESEARCH METHOD</b>		
4.1	INTRODUCTION	56
4.2	OVERVIEW OF RESEARCH STRATEGIES	56
4.3	PRELIMINARY STUDY	57
4.4	LARGE SCALE SURVEY	58
4.4.1	SMEs Definition and Sample Population	58
4.4.2	Sampling Frame	60
4.4.3	Pretesting and Pilot Testing	61
4.4.4	Sample Selection Procedures	62
4.4.5	Questionnaire Design	62
4.4.6	Data Collection Procedures	63
4.5	TEST OF RESPONSES BIAS	66
4.6	VALIDITY AND RELIABILITY ANALYSIS	66
4.7	SUMMARY	69
<b>CHAPTER 5 RESULTS AND ANALYSIS</b>		
5.1	INTRODUCTION	70
5.2	ANALYSIS OF RESPONDING FIRMS	70
5.3	E-BUSINESS FIT USING SYSTEMATIC APPROACH	74
5.4	E-BUSINESS FIT PROFILING	82
5.5	PROPOSITIONS TESTING	88
5.5.1	E-Business Fit and Performance	89
5.5.2	Factor Facilitating E-Business Alignment	93
5.5.3	Descriptive Analysis of Firm Perception across Clusters	94
5.5.4	Complete Model Testing	95
5.5.5	Summary of Propositions Testing	104
5.6	SUMMARY	110
<b>CHAPTER 6 DISCUSSION AND CONCLUSIONS</b>		
6.1	INTRODUCTION	112
6.2	OVERVIEW OF STUDY	112
6.3	DISCUSSIONS	112
6.3.1	E-Business Capabilities and E-Business Fit: Business Process View	112
6.3.2	E-Business Fit and Performance Impact	119

6.3.3 Antecedents to E-Business Fit	120
6.4 IMPLICATIONS OF STUDY	128
6.5 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS	134
6.6 CONCLUDING REMARKS	135
<b>REFERENCES</b>	<b>137</b>

## **APPENDICES**

Appendix i : List of publication works

Appendix 1: Research Instrument

Appendix 2: Dimensionality of Business process importance

Appendix 3: Dimensionality of e-business capabilities

Appendix 4: Finalised construct dimensionality



## LIST OF TABLES

Table 3-1	Areas of business supported by Internet-based Applications	42
Table 4-1	SMEs Classification Guideline	60
Table 4-2	Summary of samples selection	62
Table 4-3	Number of Items by Questionnaire Section	63
Table 4-4	Analysis of Survey Responses	65
Table 4-5	Reliability Assessment of Constructs – Summary	68
Table 5-1	Firms’ Demographic Profile	73
Table 5-2	Current State of Internet Usage	73
Table 5-3	Descriptive Profile of Respondents	74
Table 5-4	Business Process Importance vs. Internet Capabilities: Comparative Ranking	75
Table 5-5	E-business fit score based on modified approach	76
Table 5-6	Factorability of sample data	78
Table 5-7	Dimensional e-business fit score using moderation approach (mean scores)	81
Table 5-8	Predicted numbers of clusters (Agglomeration coefficient change)	83
Table 5-9	Comparative mean score by clusters (mean score)	84
Table 5-10	Process importance vs. E-business capabilities by clusters	86
Table 5-11	Cluster validation: Alternative clustering algorithm	87
Table 5-12	Cluster validation: Split sample approach	88
Table 5-13	Dimensionality of performance construct	90
Table 5-14	Mean difference of performance impact across groups	91
Table 5-15	Post-hoc procedure: Performance impact	92
Table 5-16	Dimensionality of predictor constructs	95
Table 5-17	Mean differences of antecedent factors across groups	95
Table 5-18	Overall model Fit	98
Table 5-19	Classification accuracy of overall model	98
Table 5-20	Overall model fit (stepwise procedure)	100
Table 5-21	Comparison across Groups: Low fit vs. high fit groups	101
Table 5-22	Comparison across Groups: Low vs. moderate fit groups	103

Table 5-23	Comparison across Groups: moderate vs. high fit groups	104
Table 5-24	Summary of propositions testing	105
Table 5-25	Owner/manager support: Comparison across groups	106
Table 5-26	Owner/manager's IT knowledge: Comparison across groups	107
Table 5-27	IT sophistication: Comparison across groups	108
Table 5-28	Sources of advice: Comparison across groups	109
Table 5-29	Perceived environmental uncertainty: Comparison across groups	109
Table 6-1	Overview of the study	113
Table 6-2	Overall view of the study (continued)	114
Table 6-3	Overall view of the study (continued)	115

## **LIST OF FIGURES**

Figure 2-1	Strategic Alignment Model	26
Figure 3-1	The Expanded Research Model	55
Figure 5-1	Sequence of Data Analysis	72
Figure 5-2	Fit characteristics across clusters (raw mean scores)	85
Figure 5-3	A partial research model of e-business fit and performance impact	89
Figure 5-4	Partial model of e-business fit and its antecedents	93
Figure 5-5	Partial model: Demographic factors and e-business fit	110

## LIST OF ABBREVIATIONS

---

AIS	Accounting Information Systems
ANOVA	Analysis of Variance
CEO	Chief Executive officer
GDP	Gross Domestic Products
IT/IS	Information Technology/Information Systems
KMO	Kaiser Meyer Olkin
MATRADE	Malaysia External Trade and Development Corporation
MDeC	Multimedia Development Corporation
MPC	Malaysia Productivity Corporation
MITI	Ministry of International Trade and Industry
NEM	National Economic Model
OECD	Organisation for Economic Co-operation and Development
OIPT	Organisational Information Processing Theory
SAM	Strategic Alignment Model
SMEs	Small and Medium-Sized Enterprises
SME Corp	Small and Medium-Sized Corporation
SMIDEC	Small and Medium-sized Industry Development Corporation (former name of SME Corporation)
UNDP	United Nation Development Programme
VIF	Variance Inflation Factor

---

# CHAPTER 1 INTRODUCTION

## 1.1 Background

SMEs generally consist of large number of enterprises in any economy with substantial contribution to both economic and social growth. They play substantial roles in promoting higher Gross Domestic Product (GDP), greater export activities, and employment opportunities. As they are generally domestic-oriented business, thus their trading activities would have direct impact to a nation's economy (Kotelnikov, 2007). The SMEs also play greater roles in ensuring competitiveness of most developing and transitional economies. In Asia Pacific region, more than 95% of businesses are SMEs with more than 70% of them belonging to micro firm category (APEC, 2011). Considering the substantial presence of the SMEs in this region, obviously, their activities could be an important indicator of entrepreneurial health and competitiveness of a particular country.

In Malaysia, the SMEs sector is a seedbed to the Malaysian economy, as this sector constitutes virtually the entire business community. They are an important generator of the national economy and social harmony as they account for more than 99% of the established businesses. Overall, they contribute about 40% of the nation's GDP and employments (SME CORP, 2010). However, this is somewhat lower than other neighbouring countries in the region. For example, SMEs in Japan, China, Korea, and Singapore contribute between 50% and 60% to their nations' economic growth (National SME Development Council, 2007). Among the cited reasons for moderate productivity include; constant challenges for going global, difficulties to move up the

The Contents  
of the  
monograph is  
for internal  
user only

## REFERENCES

- Agresti, A. (1996). *An Introduction to Categorical Data Analysis*. Third Avenue, NY: John Wiley & Sons.
- Ahmad, G. (2005). Small firm owner-managers' networks in tourism and hospitality. *International Journal of Business and Society*, 6(2), 37 - 54.
- Ainin, S (2000). The status of e-commerce applications in Malaysia. *Information Technology for Development*, 9(3/4), 153 - 161.  
[doi:10.1080/02681102.2000.9525329](https://doi.org/10.1080/02681102.2000.9525329)
- Ainin, S., & Noorismawati, J. (2003). E-Commerce stimuli and practices in Malaysia. Paper presentef at *7th Pacific Asia Conference on Information Systems*. Adelaide, Australia. Retrieved from <http://www.pacis-net.org/file/2003/papers/e-business/258.pdf>
- Alam, S. S., Khatibi, A. A., Ismail, H., & Ahmad, I. (2005). Perceived benefits of e-commerce adoption in the electronic manufacturing companies in Malaysia. *Journal of Social Sciences*, 1(3), 188 -193. doi: 10.3844/jssp.2005.188.193
- Alam, S. S., Khatibi, A., Ahmad, M. I., & Ismail, H. (2007). Factors affecting e-commerce adoption in the electronic manufacturing companies in Malaysia. *International Journal of Commerce and Management*, 17(1/2), 125 - 139. doi: 10.1108/10569210710776503
- Allinson, G., Braidford, P., Grewer, N., Houston, M., Orange, R., Sear, L., & Stone, I. (2004). *Ethnic minority businesses and ICT: Focus group research*. Durham, United Kingdom: Durham Business School. Retrieved from <http://www.bis.gov.uk/files/file38349.pdf>
- Al-Qirim, N. A. (2005). An Empirical Investigation of an e-commerce Adoption-Capability Model in Small Businesses in New Zealand. *Electronic Markets*, 15(4), 418 - 437. doi: 10.1080/10196780500303136
- Al-Qirim, N. A. (2007). The adoption of eCommerce communications and applications technologies in small businesses in New Zealand. *Electronic Commerce Research and Applications*, 6(4), 462 - 473.  
[doi:10.1016/j.ele rap.2007.02.012](https://doi.org/10.1016/j.ele rap.2007.02.012)
- Andam, Z. R. (2003). *eCommerce and e-Business*. A Report prepared for UNDP-APDIP. Retrieved from <http://www.apdip.net/publications/iespprimers/eprimer-ecom.pdf>
- Asia Pacific Economic Cooperation [APEC]. (2011). Study on SMEs internationalisation best practices across selected APEC economies. Spring Singapore: Singapore. Retrieved from <http://www.apec.org>
- Apigian, C. H., Ragu-Nathan, B. S., & Ragu-Nathan, T. S. (2006). Strategic profiles and Internet Performance: An empirical investigation into the development of a strategic Internet system. *Information & Management*, 43(4), 455-468.  
[doi:10.1016/j.im.2005.11.003](https://doi.org/10.1016/j.im.2005.11.003)
- Apigian, C. H., Ragu-Nathan, B. S., Ragu-Nathan, T. S., & Kunnathur, A. (2005). Internet technology - the strategic imperative. *Journal of Electronic Commerce Research*, 6(2), 123 - 145. Retrieved from <http://www.csulb.edu/journals/jecr/>
- Arbore, A., & Ordanini, A. (2010). Broadband divide among SMEs. *International Small Business Journal*, 24(1), 83 - 99. doi: 10.1177/0266242606059781
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14, 396-402.

- Avison, D., Jones, J., Powell, P., Wilson, D. (2004). Using and validating the strategic alignment model. *The Journal of Strategic Information Systems*, 13 (3), pp. 223-246. doi:10.1016/j.jsis.2004.08.002
- Ballantine, J. A., Galliers, R. D., & Stray, S. J. (1996). Information systems/technology evaluation practices: Evidence from UK organizations. *Journal of Information Technology*, 11, 129 - 141.
- Bartholomew, S., & Smith, A. D. (2006). Improving survey response rates from chief executive officers in small firms: The importance of social networks. *Entrepreneurship Theory and Practice*(January), 83 - 96.
- Bartlett, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning and Performance Journal*, 19(1), 43 - 50. Retrieved from <http://www.osra.org/itlpj/bartlettkotrlikhiggins.pdf>
- Beal, R. M. (2000). Competing effectively: Environmental scanning, competitive strategy, and organizational performance in small manufacturing firms. *Journal of Small Business Management*, 38(1), 27-47.
- Beck, R., Wigand, R. T., & Konig, W. (2005). The diffusion and efficient use of electronic commerce among small and medium-sized enterprises: An international three-industry survey. *Electronic Markets*, 15(1), 38 - 52. doi: 10.1080/10196780500035282
- Bengtsson, M., Boter, H., & Vanyushyn, V. (2007). Integrating the internet and marketing operations: A study of antecedents in firms of different size. *International Small Business Journal*, 25(1), 27 - 48. doi:10.1177/0266242607071780
- Bergeron, F., Raymond, L., & Rivard, S. (2001). Fit in strategic information technology management research: An empirical comparison of perspectives. *Omega*, 29(2), 125-142. PII: S0305-0483(00)00034-7
- Bergeron, F., Raymond, L., & Rivard, S. (2004). Ideal Patterns of Strategic Alignment and Business Performance. *Information & Management*, 41, 1003–1020. doi:10.1016/j.im.2003.10.004
- Bharadwaj, P. N., & Soni, R. G. (2007). E-commerce usage and perception of e-commerce issues among small firms: Results and implications from an empirical study. *Journal of Small Business Management*, 45(4), 501 - 521. doi: 10.1111/j.1540-627X.2007.00225.x
- Bharati, P., & Chaudhury, A. (2006). Studying the current status of technology adoption. *Communications of the ACM*, 49(10), 88 - 93.
- Bharati, P., & Chaudhury, A. (2009). SMEs and competitiveness: the role of information systems. *International Journal of E-Business Research*, 5(1), i - ix.
- Birley, S. (1985). The role of network in the entrepreneurial process. *Journal of Business Venturing*, 1, 107 - 117. doi:10.1016/0883-9026(85)90010-2
- Blundel, R., & Smith, D. (2001). *Business Network Report: Research Report to the Small Business Services*. Retrieved from <http://www.bis.gov.uk/files/file38308.pdf>
- Boudreau, M.-C., Gefen, D., & Straub, D. W. (2001). Validation in information systems research: a state-of-the-art assessment. *Management Information Systems*, 25(1), 1 - 16. Retrieved from <http://www.jstor.org/stable/3250956>
- Boulianne, E. (2009). A contingency framework for effective information systems design and e-business applications. *International Journal Information Technology and Management*, 8(1), 50 - 68. Retrieved from <http://www.inderscience.com>



- Brousseau, E. & Chaves, B. (2004). Diffusion and impact of e-commerce: The French specific path. Centre of Research on Information Technology and Organization (CRITO). Retrieved from <http://escholarship.org>
- Brown, D. H., & Kaewkitipong, L. (2009). Relative size and complexity: E-business use in small and medium sized tourism enterprises in Thailand. *Journal of Enterprise Information Management*, 22(1/2), 212-231. doi: 10.1108/17410390910932849
- Bunker, D., & Macgregor, R. (2000). *Successful generation of information technology (IT) requirements for small/medium enterprises (SMEs): Cases from regional Australia*. Paper presented at the SMEs in a Global Economy, Woolongong.
- Bunker, D., & MacGregor, R. (2002). The context of information technology and e-commerce adoption in small medium enterprises: A global perspective. Retrieved from <http://aisel.aisnet.org/amcis2002/229>
- Caldeira, M. M., & Ward, J. M. (2002). Understanding the successful adoption and use of is/it in SMEs: an explanation from Portuguese manufacturing industries. *Information Systems Journal*, 12, 121–152. doi: 10.1046/j.1365-2575.2002.00119
- Chan, Y. E., Huff, S. L., Barclay, D. W., & Copeland, D. G. (1997). Business strategic orientation, information systems strategic orientation, and strategic alignment. *Information Systems Research*, 8(2), 125 - 150. doi:10.1287/isre.8.2.125
- Chan, Y. E., & Reich, B. H. (2007). State of the art of IT alignment: What have we learned? *Journal of Information Technology*, 22, 297–315. doi:10.1057/palgrave.jit.2000109
- Chan, Y. E., Sabherwal, R., & Tatcher, J. B. (2006). Antecedents and outcomes of strategic is alignment: an empirical investigation. *IEEE Transactions on Engineering Management*, 53(1), 27-47. doi: 10.1109/tem.2005.861804
- Chang, H., Wang, K., & Chiu, I. (2008). Business-it fit in e-procurement systems: evidence from high-technology firms in china. *Information Systems Journal*, 18(4), 381- 404. doi:10.1111/j.1365-2575.2008.00300.x
- Chao-Ying, J. P., Lee, K. L., & Ingersoll, G. M. (2002). An Introduction to Logistic Regression and Analysis and Reporting. *Th Journal of Educational Research*, 96(1), 3-14.
- Cheong, T. Y., Sulaiman, A., & Parveen, F. (2009). Internet adoption among Malaysian companies. *Journal of Asia-Pacific Business*, 10(2), 165 - 185. doi:10.1080/10599230902885713
- Chong, A. Y., Ooi, K. B., Lin, B., & Tang, S. Y. (2009). Influence of interorganizational relationships on SMEs' e-business adoption. *Internet Research*, 19(3), 1066 - 2243. doi 10.1108/10662240910965379
- Chong, S. (2008). Success in Electronic Commerce Implementation: A cross -country of small and medium-sized enterprises. *Journal of Enterprise Information Management*, 21(5), 468 - 492. doi:10.1108/17410390810904247
- Chong, S., & Pervan, G. (2007). Factors influencing the extent of deployment of electronic commerce for small-and medium-sized enterprises. *Journal of Electronic Commerce in Organizations*, 5(1), 1 - 29. doi:10.4018/jeco.2007010101
- Chooi-Leng, A., Davies, M. A., & Finlay, P. N. (2001). Empirical model of it usage in the Malaysian public sector. *Journal of Strategic Information Systems*, 10, 159 - 174. doi: 10-1016/S0963-8687(01)00047-6

- Churchill, G. A., & Iacobucci, D. (2005). *Marketing research: Methodological foundations* (9th Edition ed.). Mason, IA: Thomson South Western.
- Chwelos, P., Benbasat, I., & Dexter, A. S. (2001). Research report: Empirical test of an EDI adoption model. *Information Systems Research*, 12(3), 304 - 321. doi:10.1287/isre.12.3.304.9708
- Coltman, T. R., Devinney, T. M., & Midgley, D. F. (2007). E-Business strategy and firm performance: a latent class assessment of the drivers and impediments to success. *Journal of Information Technology*, 22(2), 87 - 101. doi:10.1057/palgrave.jit.2000073
- Cooper, D. R., & Schindler, P. S. (2008). *Business research methods*. Singapore: McGraw Hill.
- Copp, C. B., & Ivy, R. L. (2001). Networking trends of small tourism businesses in post-socialist Slovakia. *Journal of Small Business Management*, 39(4), 345-353. doi:10.1111/0447-2778.00031
- Corrocher, N. &. (2008). Objectives, obstacles and drivers of ICT adoption: What do IT managers perceive? *Information Economics and Policy*, 20(3), 229 - 242. doi:10.1016/j.infoecopol.2008.03.001
- Covin, J. G., & Covin, T. J. (1990). Competitive aggressiveness, environmental context, and small firm performance. *Entrepreneurship: Theory & Practice*, 14(4), 35-50.
- Cox, B., & Ghoneim, S. (1996). Drivers and barriers to adopting EDI: A sector analysis of UK industry. *European Journal of Information Systems*, 5(1), 24-33. doi:10.1057/ejis.1996.9
- Cragg, P. B. & Mills, A. (2011). IT support for business process in SMEs. *Business Process Management Journal*. 17 (5), 697 – 710. doi: 10.1108/14637151111166141
- Cragg, P. B., & Zinatelli, N. (1995). The evolution of information systems in small firms. *Information & Management*, 29 (1), 1-8. doi:10.1016/0378-7206(95)00012-L
- Cragg, P. B., King, M., & Hussin, H. (2002). IT alignment and firm performance in small manufacturing firms. *Journal of Strategic Information Systems*, 11, 109–132. doi:10.1016/S0963-8687(02)00007-0
- Cragg, P. B., Tagliavini, M., & Mills, A. (2007). Evaluating the Alignment of IT with Business Processes in SMEs. *18th Australasian Conference on Information Systems*. Toowoomba, Australia.
- Cronbach, L. J. (1946). Response sets and test validating. *Educational and Psychological Measurement*, 6, 475 - 494.
- Croteau, A., & Bergeron, F. (2001). An information technology trilogy: Business strategy, technological deployment and organizational performance. *The Journal of Strategic Information Systems*, 10(2), 77-99. doi:10.1016/S0963-8687(01)00044-0
- Curran, J., & Blackburn, R. A. (2001). *Researching the small enterprise*. London: England, SAGE Publication.
- Daniel, E. M. (2003). An exploration of the inside-out model: E-commerce integration in UK SMEs. *Journal of Small Business and Enterprise Development*, 10(3), 233 - 249. doi: 10.1108/14626000310489691

- Daniel, E. M., Wilson, H., & Myers, A. (2002). Adoption of e-commerce by SMEs in the UK: Towards a stage model. *International Small Business Journal*, 20(3), 253-270. doi: 10.1177/0266242602203002
- Darch, H., & Lucas, T. (2002). Training as an e-commerce enabler. *Journal of Workplace Learning*, 14(4), 148 -155. doi: 10.1108/13665620210427276
- DeLone, W. H. (1988). Determinants of success for computer usage in small business. *MIS Quarterly*, 12(1), 51 - 61. Doi: 10.2307/248803
- Dembla, P., Palvia, P., & Krishnan, B. (2007). Understanding the adoption of web-enabled transaction processing by small businesses. *Journal of Electronic Commerce Research*, 8(1), 1 - 17. Retrieved from <http://www.csulb.edu/journals/jecr/issues/20071/paper1.pdf>
- Dennis, W. J. (2003). Raising response rates in mail surveys of small business owners: Results of an experiment. *Journal of Small Business Management*, 41(3), 278 - 295. doi: 10.1111/1540-627X.00082
- Dess, G. G., & Robinson, R. B. (1984). Measuring organisational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, 5, 265-273. doi: 10.1002/smj.4250050306
- Dess, G. G., Lumpkin, G. T., & Covin, J. G. (1997). Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models. *Strategic Management Journal*, 18(9), 677-695. doi: 10.1002/(SICI)1097-0266(199710)18:9<677::AID-SMJ905>3.0.CO;2-Q
- Domain Registry. (2011). *Domain Registry Statistics*. Retrieved from Domain <http://www.domainregistry.my/en/statistics.php>
- Donaldson, L. (2001). *The contingency theory of organization*. California: Sage Publications.
- Dong, S. Xu, S. X. & Zhu, K. X. (2009). Information technology in supply chains: The value of it-enabled resources under competition. *Information Technology in Supply Chains. Information Systems Research* 20(1), pp. 18–32. Doi:10.1287/isre.1080.0195
- Drew, S. (2003). Strategic uses of e-commerce by SMEs in the East of England. *European*
- Ein-Dor, P., Myers, M. D., & Raman, K. S. (1997). Information technology in three small developed countries. *Journal of Management Information Systems*, 13(4), 61 - 89. Retrieved from <http://www.jstor.org/stable/40398241>
- Elia, E., Lefebvre, L. A., & Lefebvre, É. (2007). Focus of B-to-B e-commerce initiatives and related benefits in manufacturing small-and medium-sized enterprises. *Information Systems and eBusiness Management (ISeB)*, 5(1), 1 - 23. doi: 10.1007/s10257-006-0035-8
- Eriksson, L. T., Hultman, J., & Naldi, L. (2008). Small business e-commerce development in Sweden - an empirical survey. *Journal of Small Business and Enterprise Development*, 15(3), 555 -. doi: 10.1108/14626000810892346
- Foster, C., & Heeks, R. (2010). Researching ICT micro-enterprise in developing countries: themes, wider concepts and future directions. *Electronic Journal of Information Systems in Developing Countries*, 43, 1 - 20. Retrieved from <http://www.ejisdc.org>

- Frazier, B. J., & Niehm, L. S. (2004). Exploring business information networks of small retailers in rural communities. *Journal of Developmental Entrepreneurship*, 9(1), 23 -
- Fuller, T. (1996). Fulfilling IT needs in small businesses: A recursive learning model. *International Small Business Journal*, 14 (4), 25 - 45.  
doi:10.1177/0266242696144002
- Galbraith, J. R. (1974). Organization design: an information processing view. *Interfaces*, 43, 28 - 36. doi:10.1287/inte.4.3.28
- Gattiker, T. F. (2007). . Enterprise Resource Planning (ERP) systems and the manufacturing-marketing interface: An information processing theory view. *International Journal of Production Research*, 45(13), 2895 - 2917.  
doi:10.1080/00207540600690511
- Gebauer, J., & Shaw, M. J. (2004). Success factors and impacts of mobile business applications: results from a mobile e-procurement study. *International Journal of Electronic Commerce*, 8(3), 19-41.
- Gibbs, J. L., & Kraemer, K. L. (2004). A cross-country investigation of the determinants of scope of e-commerce use: An institutional approach. *Electronic Markets*, 14(2), 124 - 137. doi:10.1080/10196780410001675077
- Gibbs, S., Sequeira, J., & White, M. M. (2007). Social networks and technology adoption in small business. *International Journal Globalisation and Small Business*, 2(1), 66 -87. doi:10.1504/IJGSB.2007.014188
- Grandon, E. E., & Pearson, J. M. (2004). Electronic commerce adoption: An empirical study of small and medium US businesses. *Information & Management*, 42(1), 197-216.
- Grandón, E. E., Nasco, Suzanne, & Mykytyn, P. P. (2009). Comparing theories to explain e-commerce adoption. *Journal of Business Research*, Article in Press.
- Granovetter, M. S. (1983). The strength of weak ties: A network theory revisited. *Sociological Theory*, 1(1), 201 - 233. doi:10.2307/202051
- Greer, T. V., Chuchinprakarn, N., & Seshardi, S. (2000). Likelihood of participating in mail survey research: Business respondents' perspectives. *Industrial Marketing Management*, 29, 97 - 109. doi:10.1016/S0019-8501(98)00038-8
- Grippy-Brown, C. (2005, August). The role of information systems in small and medium sized enterprise in Japan. Retrieved from <http://aisel.aisnet.org/amcis2005/47>
- Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2004). *Survey methodology*. New Jersey: John Wiley & Sons.
- Gutierrez, A., Orozco, J., & Serrano, A. (2009). Factors affecting it and business alignment: A comparative study in SMEs and large organisations . *Journal of Enterprises Information Management*, 197 - 211.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. New Jersey, USA: Pearson Prentice Hall.
- Hashim, J. (2007). Information technology adoption among small and medium enterprises owners in Malaysia. *The International Journal of Business and Information*, 2(2), 221 - 240. Retrieved from <http://www.knowledgetaiwan.org/ojs/index.php/ijbi/article/viewFile/96/8>
- Hashim, M. K. (2010). A review of the definitions of small and medium-sized enterprises. In M. K. Hashim, *Fundamental issues in small and medium-sized enterprises* (pp. 1 - 14). Sintok: UUM Press.

- Hashim, N. A. (2009). E-Commerce and SMEs - The need for caution. *Prometheus*, 27(2), 125-140. doi:10.1080/08109020902895268
- Hashim, N., A. (2011). Impediments of e-commerce adoption: the case of SMEs. *Proceeding of International Conference on Business And Information 2011*, Bangkok, Thailand, July 4-6. Retrieved from <http://bai-conference.org/BAI2011/MIS.htm>
- Henderson, J. C., & Venkatraman, N. (1993). Strategic alignment: Leveraging information technology for transforming organizations. *IBM Systems Journal*, 32(1), 4 - 16. doi:10.1147/sj.382.0472
- Henderson, J., & Venkatraman, N. (1991). Understanding strategic alignment. *Business Quarterly*, 55(3), 72 - 78.
- Hooper, V. A., Huff, S. L., & Thirkell, P. C. (2010). The impact of IS-marketing alignment on marketing performance and business performance. *The Database for Advances in Information Systems*, 41(1), 36 - 55. doi: [10.1145/1719051.1719054](https://doi.org/10.1145/1719051.1719054)
- Hosmer, D. W., & Lemeshow, S. (2000). *Introduction to the logistic regression model*. New York: John Wiley and Sons.
- Hsu, P., Kraemer, K. L., & Dunkle, D. (2006). Determinants of e-business use in U.S. firms. *International Journal of Electronic Commerce*, 10(4), 9-45. doi:10.2753/JEC1086-4415100401
- Hunter, M. G., Diochon, M., Pugsley, D., & Wright, B. (2002). Unique challenges for small business adoption of information technology: The case of the Nova Scotia. In S. Burgess, *Managing information technology in small business: Challenges and Solutions* (pp. 98 - 117). London, England: Idea Group Publishing.
- Hussin, H. (1998). *Alignment of business strategy and IT strategy in small businesses*. (Unpublished Doctoral dissertaion). Loughborough University, Laughborough, United Kingdom.
- Hussin, H., King, M., & Cragg, P. B. (2002). IT alignment in small firms. *European Journal of Information Systems*, 11(2), 108 - 127. doi:10.1057/palgrave/ejis/3000422
- Hussin, H., Noor, R. M., & Suhaimi, M. A. (2008). Perceived attributes of e-commerce and the adoption decision: The case of Malaysian SMEs. *Jurnal Teknologi Maklumat & Multimedia*, 5, 107-125.
- Iacovou, C. L., Benbasat, I., & Dexter, A. S. (1995). Electronic Data Interchange and small organizations: Adoption and impact of technology. *MIS Quarterly*, 15(4), 465 - 485. doi:10.2307/249629
- Ifinedo, P. (2008). Impact of business vision, top management support, and external expertise on ERP success. *Business Process Management Journal*, 14(4), 551 - 568. doi:10.1108/14637150810888073
- Ifinedo, P. (2008). *Factors affecting the acceptance of Internet and e-business technologies in Atlantic Canada's SMEs: A structural equation model*. Retrieved May 4, 2009, from AMCIS 2008 Proceedings: <http://aisel.aisnet.org/amcis2008/404>
- Ismail, N. A. (2004). *The AIS alignment in small and medium sized firms*. (Unpublished Doctoral Dissertation). Loughborough University, Loughborough, United Kingdom.
- Ismail, N. A., & King, M. (2005). Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information Systems*, 6, 241 - 259.

- Ismail, N. A., & King, M. (2007). Factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing firms. *Journal of Information Systems and Small Business*, 1(1 - 2), 1 - 20.
- Ismail, R., Jeffery, R., & Belle, J. P. V. (2011). Using ICT as a value adding tool in South African SMEs. *Journal of African Research in Business & Technology*, 1 - 12. Retrieved from <http://www.ibimapublishing.com/journals/JARBT/2011/470652/470652.pdf>
- Janom, N., Zakaria, M. S., Daud, N. A., & Karim, N. A. (2009, November). A critical success factor model for B2B e-commerce: Assessment from agro based industry perspective. *4th International Conference on E-Commerce with Focus on Developing Countries*. Kuala Lumpur, Malaysia.
- Jarvenpaa, S. L., & Ives, B. (1991). Executive involvement and participation in the management of information technology. *MIS Quarterly*, 15(2), 205 - 227. [doi:10.2307/249382](https://doi.org/10.2307/249382)
- Jeon, B. N., Han, K. S., & Lee, M. J. (2006). Determining factors for the adoption of e-business: the case of SMEs in Korea. *Applied Economics*, 38(16), 1905-1916. [doi:10.1080/00036840500427262](https://doi.org/10.1080/00036840500427262)
- Johnson, R. E. (2001). The role of cluster analysis in assessing comparability under the U.S. transfer pricing regulations. *Business Economics*, 36(2), 30 -38.
- Kagan, A., Lau, K., & Nusgart, K. R. (1990). Information system usage within small business firms. *Entrepreneurship Theory and Practice*, 14(3), 25 - 38.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31 - 36. [doi:10.1007/BF02291575](https://doi.org/10.1007/BF02291575)
- Kapurubandara, M. (2009). A Framework to e-transform SMEs in developing countries. *Electronic Journal of Information Systems in Developing Countries*, 39(3), 1 - 24. Retrieved from <http://www.ejisdc.org/ojs2/index.php/ejisdc/article/view/619>
- Karavdic, M., & Gregory, G. (2005). Integrating e-commerce into existing export marketing theories: A contingency model. *Marketing Theory*, 5(1), 75-104. [doi:10.1177/1470593105049602](https://doi.org/10.1177/1470593105049602)
- Kartiwi, M., & MacGregor, R. C. (2007). Electronic commerce adoption barriers in small to medium-sized enterprises (smes) in developed and developing countries: A cross-country comparison. *Journal of Electronic Commerce in Organizations*, 5(3), 35 -51. [doi:10.1177/1470593105049602](https://doi.org/10.1177/1470593105049602)
- Khazanachi, D. (2005). Information Technology (IT) appropriateness: The Contingency theory of "fit" and its implementation in small and medium enterprises. *The Journal of Computer Information Systems*, 45(3), 88 - 95.
- Koh, C. E., & Nam, K. T. (2005). Business use of the internet: A longitudinal study from a value chain perspective. *Industrial Management & Data Systems*, 105(1), 82 -95. [doi:10.1108/02635570510575207](https://doi.org/10.1108/02635570510575207)
- Koo, C., Song, J., Kim, Y. J., & Nam, K. (2007). Do e-business strategies matter? The antecedents and relationship with firm performance. *Information Systems Frontiers*, 9(2-3), 283 - 296. [doi:10.1007/s10796-006-9008-1](https://doi.org/10.1007/s10796-006-9008-1)
- Kotelnikov, V. (2007). *Small and medium enterprises and ICT*. Bangkok, Thailand: UNDP Asia-Pacific Development Information Programme. Retrieved from <http://www.apdip.net/news/sme>
- Kowtha, N. R., & Choon, T. W. (2001). Determinants of website development: A study of electronic commerce in Singapore. *Information & Management*, 39, 227 - 242. [doi:10.1016/S0378-7206\(01\)00092-1](https://doi.org/10.1016/S0378-7206(01)00092-1)

- Kraemer, K. L., Gibbs, J., & Dedrick, J. (2002). *Impacts of globalization on e-commerce adoption and firm performance: a cross-country investigation*. University of California. Irvine: Center for Research on Information Technology and Organizations.
- Kraemer, K. L., Gibbs, J., & Dedrick, J. (2005). Impacts of globalization on e-commerce use and firm performance: A cross-country investigation. *Information Society*, 21(5), 323-340. doi: 10.1080/01972240500253350
- Kuan, K. K., & Chau, P. Y. (2001). A perception-based model for EDI adoption in small businesses using a technology-organization-environment framework. *Information & Management*, 38(8), 507-521. doi:10.1016/S0378-7206(01)00073-8
- Kula, V., & Tatoglu, E. (2003). An exploratory study of Internet adoption by SMEs in an emerging market economy. *European Business Review*, 15(5), 324 -333. doi:10.1108/09555340310493045
- Kurnia, S., Alzougool, B., Ali, M., & Alhashmi, S. M. (2009). Adoption of electronic commerce technologies by SMEs in Malaysia. *The 42nd Hawaii International Conference on Systems Science*. Hawaii, USA.
- Lal, K. (2007). Globalisation and the adoption of ICTs in Nigerian SMEs. *Science Technology and Society*, 12(2), 217 - 244. doi:10.1177/097172180701200203
- Lawrence, J. E. (2008). The challenges and utilization of e-commerce: Use of Internet by small to medium-sized enterprises in the United Kingdom. *Information, Society and Justice*, 1(2), 99 - 113. Doi: 10.3734/isj.2008.1202
- Lawson, R., Alcock, C., Cooper, J., & Burgess, L. (2003). Factors affecting adoption of electronic commerce technologies by SMEs: An Australian study. *Journal of Small Business and Enterprise Development*, 10(3), 265 - 276. doi:10.1108/14626000310489727
- Lee, G., Lin, H., & Pai, J. (2005). Influence of environmental and organizational factors on the success of internet-based interorganizational system planning. *Internet Research*, 15(5), 527 - 543. doi:10.1108/10662240510629466
- Lefebvre, L. A., Lefebvre, É. E., & Elia, B. H. (2005). Exploring B-to-B e-commerce adoption trajectories in manufacturing SMEs. *Technovation*, 25, 1443 - 1456. doi:10.1016/j.technovation.2005.06.011
- Lertwongsatien, C., & Wongpinunwatana, N. (2003). E-commerce adoption in Thailand: An empirical study of small and medium enterprises (SMEs). *Journal of Global Information Technology Management*, 6(3), 67 - 83.
- Lester, D. L., & Tran, T. T. (2008). Information technology capabilities: Suggestions for SME growth. *Journal of Behavioral & Applied Management*, 10(1), 72-88. Retrieved from <http://www.ibam.com/pubs/jbam>
- Levenburg, N. M., & Magal, S. R. (2005). Applying importance-performance analysis to evaluate e-business strategies among small firms. *e-Service Journal*, 3(3), 29-48. doi:10.2979/ESJ.2004.3.3.29
- Levy, M., & Powell, P. (2003). Exploring SME Internet adoption: Towards a contingent model. *Electronic Markets*, 13(2), 173-181. doi:10.1080/1019678032000067163
- Levy, M. Powell, P. and Worrall, L. (2005). Strategic Intent and E-Business in SMEs: Enablers and Inhibitors. *Information Resources Management Journal*, 18 (4), p. 1 – 20. doi: 10.4018/irmj.2005100101
- Levy, M., Powell, P., & Yetton, P. (2001). SMEs: Aligning IS and the strategic context. *Journal of Information Technology*, 16, 133 - 144. doi:10.1080/02683960110063672

- Levy, M., Powell, P., & Yetton, P. (2003, June). *IS alignment in small firms: New paths through the maze*. Paper presented at 11th European Conference on Information Systems. Naples, Italy.
- Levy, M., Powell, P., & Yetton, P. (2009). Contingent dynamic of is alignment in SMEs. Retrieved from <http://aisel.aisnet.org/ecis2009/30>
- Lin, H. F. (2008) "Empirically testing innovation characteristics and organizational learning capabilities in e-business implementation success", *Internet Research*, Vol. 18 Iss: 1, pp.60 – 78, doi: 10.1108/10662240810849595
- Lip-Sam, T. (2006). *Electronic Commerce adoption among manufacturing smes in Malaysia*. (Unpublished Doctoral Dissertation). University of Laubourough, Loughborough, United Kingdom.
- Livari, J. (1992). The organizational fit of information systems. *Journal of Information Systems*, 2, 3 - 29. doi:10.1111/j.1365-2575.1992.tb00064.x
- Looi, H. C. (2005). E-Commerce adoption in Brunei Darussalam: A quantitative analysis of factors influencing its adoption. *Communications of the Association for Information Systems*, 15, 61- 81
- Lucchetti, R., & Sterlacchini, A. (2004). The adoption of ICT among SMEs: Evidence from an Italian survey. *Small Business Economics*, 23(2), 151 - 168. doi:10.1023/B:SBEJ.0000027667.55821.53
- Luftman, J. N., Lewis, P. R., & Oldach, S. H. (1993). Transforming the enterprise: The alignment of business and information technology strategies. *IBM Systems Journal*, 32(1), 198 - 221. doi:10.1147/sj.321.0198
- MacGregor, R. (2004). Factors associated with formal networking in regional small business: Some findings from a study of Swedish SMEs. *Journal of Small Business and Enterprise Development*, 11(1), 60 - 74. doi:10.1108/14626000410519100
- MacGregor, R., & Vrazalic, L. (2006). E-Commerce adoption barriers in small businesses and the differential effects of gender. *Journal of Electronic Commerce in Organizations*, 4(2), 1 - 24. doi:10.4018/jeco.2006040101
- Magal, S. R., & Koslage, P. (2006). A classification of e-business applications: Preliminary results. *Twelfth Americas Conference on Information Systems*. Acapulco, Mexico: 4th - 06th August.
- Magal, S. R., Feng, M., & Essex, P. A. (2001). An exploratory study of web-based electronic commerce applications. *JITTA : Journal of Information Technology Theory and Application*, 3(5), 1 - 20.
- Magal, S. R., Koslage, P., & Levenburg, N. M. (2008). Towards a stage model for e-business adoption among SMEs: Preliminary results for manufacturing and service firms. *Paper presented at the Fourteenth America's Conference on Information Systems*. Toronto, Canada: 14 - 17 August.
- Magal, S. R., Koslage, P., & Levenburg, N. M. (2009). . Using importance performance analysis to understand and guide e-business decision making in SMEs. *Journal of Enterprise Information Management*, 22(1/2), 137 - 151. doi:10.1108/17410390910932795
- Magal, S., & Kosalge, P. (2006). A classification of e-business applications: Preliminary results. *Journal of Information Technology Management*, 13 - 19.
- Malhotra, N. K. (2010). *Marketing research: An applied orientation*. Upper Saddle River, NJ: Pearson.



- Martikainen, M., & Nikkinen, J. (2005). *Internal and External Determinants of SME Growth*. Retrieved October 4, 2008, from 2005 FMA European Conference: <http://www.fma.org/Siena/Papers/900230.pdf>
- Martin, L. M., & Matlay, H. (2001). "Blanket" approaches to promoting ICT in small firms: Some lessons from the DTI Ladder adoption model in the UK. *Internet Research: Electronic Networking Applications and Policy*, 11(5), 399 - 410. doi:10.1108/EUM0000000006118
- Matlay, H., & Addis, M. (2003). Adoption of ICT and E-commerce in small businesses: An HEI-based consultancy perspective. *Journal of Small Business and Enterprise Development*, 10(3), 321 - 335. doi:10.1108/14626000310489790
- McGee, J. E., & Sawyerr, O. O. (2003). Uncertainty and information search activities: a study of owners/managers of small high-technology manufacturing firms. *Journal of Small Business Management*, 41(4), 385-401. doi:10.1111/1540-627X.00089
- Mcgrath, L. C., & Lomerson, W. L. (2006). Integration of E-Business into Small and Medium Sized Businesses. *The International Journal of Applied Management and Technology*, 4(2), 112 - 124. Retrieved from [www.ijamt.org](http://www.ijamt.org)
- Meckel, M., Walters, D., Greenwood, A., & Baugh, P. (2004). A taxonomy of e-business adoption and strategies in small and medium sized enterprises. *Strategic Change*, 13(5), 259 - 269. doi:10.1002/jsc.682
- Melville, N., & Ramirez, R. (2008). Information technology innovation diffusion: an information requirements paradigm. *Information Systems Journal*, 18(3), 247-273. doi:10.1111/j.1365-2575.2007.00260.x
- Merono-Cerdan, A. L., & Soto-Acosta, P. (2007). External web content and its influence on organizational performance. *European Journal of Information Systems*, 16(1), 66 - 80. doi:10.1057/palgrave.ejis.3000656
- Miles, M. P., Covin, J. G., & Heeley, M. B. (2000). The relationship between environmental dynamism and small firm structure, strategy, and performance. *Journal of Marketing Theory & Practice*, 8 (2), 63 - 74. Retrieved from <http://www.jstor.org/stable/40469994>
- Miller, D., & Droge, C. (1986). Psychological and Traditional Determinants of Structure. *Administrative Science Quarterly*, 31(4), 539-560. doi:10.2307/2392963
- Miller, D., & Toulouse, J. (1986). Chief executive personality and corporate strategy and structure in small firms. *Management Science*, 32(11), 1389-1409. doi:10.1287/mnsc.32.11.1389
- Ministry of Finance. (2009). *Budget 2010*. Retrieved October 23, 2009, from [http://www.bnm.gov.my/files/budget2010\\_en\\_new.pdf](http://www.bnm.gov.my/files/budget2010_en_new.pdf)
- Mohamad, R., & Ismail, N. A. (2009). Electronic commerce adoption in SME: The trend of prior studies. *Journal of Internet Banking and Commerce*, 4(1), 1 - 14. Retrieved from <http://www.arraydev.com/commerce/jibc>.
- Mohd Salleh, N. A. (2009). Firm's capabilities as critical determinants of adoption and utilisation of information systems by small and medium-sized enterprises. *Asia Pacific Management Review*, 14(4), 477 - 498. Retrieved from <http://apmr.management.ncku.edu.tw>
- Molla, A., & Heeks, R. (2007). Exploring E-Commerce Benefits for Businesses in a Developing Country. *Information Society*, 23(2), 95-108. doi:10.1080/01972240701224028

- Molla, A., & Licker, P. S. (2001). E-Commerce System Success: An attempt to extend and respecify the Delone and MacLean model of IS success. *Journal of Electronic Commerce Research*, 2(4), 131 - 141. Retrieved from <http://www.csulb.edu/journals/jecr/issues/20014/paper1.pdf>
- Molla, A., & Licker, P. S. (2004). Maturation stage of ecommerce in developing countries: A survey of South African companies. *Information Technologies and International Development*, 1(3), 89 - 98. doi:10.1162/1544752043971152
- Monsted, M. (1993). Introduction of information technology to small firms: A network perspective. In H. Klandt (Ed.), *Entrepreneurship and Business Development* (pp. 359 - 372). Avebury, England.
- Narayanasamy, K., Santhapparaj, A., & Eze, U. C. (2008). An empirical study of website adoption among Small and Medium Enterprises (SMEs) in Malaysia. *Communications of the IBIMA*, 2, 50 - 62. Retrieved from <http://www.ibimapublishing.com>
- National SMEs Development Council. (2005). *definitions for small and medium enterprises in Malaysia*. Kuala Lumpur, Malaysia: National SMEs Development Council.
- Nieto, M. J., & Fernandez, Z. (2006). The role of information technology in corporate strategy of small and medium enterprises. *Journal of International Entrepreneur*, 3, 251 - 262. doi:10.1007/s10843-006-7854-z
- Nik Abdullah, N. A. (2009). *The Role of Technology Attributes, Trust, and Dependency on E-procurement Adoptions: An empirical analysis of Malaysian manufacturers*. Unpublished Thesis, University of Southern Queensland, Queensland, Australia. Retrieved from <http://eprints.usq.edu.au/6532/>
- Nunnally, J. C. (1967). *Psychometric Methods*. New York: McGraw-Hill Book.
- Nolan, R. L. (1973). Managing the computer resources: The stage hypothesis. *Communication of the ACM*, 16(7), 399 - 405. doi:10.1145/362280.362284
- Norusis, M. J. (2010). *PASW Statistics 18 Statistical Procedures Companion*. Upper Saddle River, NJ: Prentice Hall.
- OECD. (2004). *ICT, E-Business and SMEs*. Organisation for Economic Co-operation and Development, Paris Cedex, France.
- Ordanini, A. (2006). *Information technology and small business*. Cheltenham, UK: Edward Elgar Publishing Limited.
- Overby, J. W., & Min, S. (1995). International supply chain management in an Internet environment: A network oriented approach to internationalization. *International Marketing Review*, 18(4), 392 - 420. doi:10.1108/EUM0000000005933
- Ozcan, G. (1995). Small business networks and local ties in Turkey. *Entrepreneurship and Regional Development*, 7, 265 - 282. doi:10.1080/08985629500000017
- Pallant, J. (2001). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows*. Philadelphia, PA: Open University Press.
- Papazafeiropoulou, A., Dwivedi, Y., & Oni, O. (2007). SMEs and IT innovation. What's the way forward? *Americas Conference on Information Systems (AMCIS)* (pp. 1 - 8). AIS Electronic Library (AISeL). Retrieved from <http://aisel.aisnet.org/amcis2007/340>
- Parker, C., & Castleman, T. (2007). New directions for research on SME-eBusiness: insights from an analysis of journal articles from 2003 to 2006. *Journal of Information Systems and Small Business*, 1(1/2), 21 - 40.

- Paxson, M. C. (1995). Increasing survey response rates: Practical instruction from total design method. *Hotel and Restaurant Administration Quarterly* (August), 66 - 73.
- Payne, J. E. (2002). *E-Commerce readiness for smes in developing countries: A guide for development professionals*. Retrieved from <http://learnlink.aed.org>
- Peter, J. P. (1979). Reliability: A review of psychometric basics and recent marketing practices. *Journal of Marketing Research*, XVI(February), 6 - 17. [doi:10.2307/3150868](https://doi.org/10.2307/3150868)
- Pflugheoft, K. A., Ramamurthy, K., Soofi, E. S., Yasai-Ardekani, M., & Zahedi, F. (2003). Multiple conceptualizations of small business web use and benefit. *Decision Sciences*, 34(3), 467-512. [10.1111/j.1540-5414.2003.02539.x](https://doi.org/10.1111/j.1540-5414.2003.02539.x)
- Pittaway, L., Robertson, M., Munir, K., Denyer, D., & Neely, A. (2004). Networking and innovation: A systematic review of the evidence. *International Journal of Management Reviews*, 5 -6(3/4), 137 - 168. [doi: 10.1111/j.1460-8545.2004.00101.x](https://doi.org/10.1111/j.1460-8545.2004.00101.x)
- Poon, S., & Swatman, P. M. (1997). Small business use of the Internet: Findings from Australian case studies. *International Marketing Review*, 14(4/5), 385 - 402. [doi:10.1108/02651339710184343](https://doi.org/10.1108/02651339710184343)
- Porter, M. E. (1991). Towards a dynamic theory of strategy. *Strategic Management Journal*, 12(1), 95 - 117. [doi:10.1002/smj.4250121008](https://doi.org/10.1002/smj.4250121008)
- Porter, M. E. (2001). Strategy and the Internet. *Harvard Business Review*, 79(3), 62 - 78. PMID:11246925
- Porter, M. E., & Miller, V. E. (1985). How information gives you competitive advantage. *Harvard Business Review*, 63(4), 149 - 174.
- Premaratne, S. P. (2001). Networks, resources and small business growth: The experience in Sri Lanka. *Journal of Small Business Management*, 39(4), 363 - 371. [doi:10.1111/0447-2778.00033](https://doi.org/10.1111/0447-2778.00033)
- Premkumar, G. (2003). A meta-analysis of research on information technology implementation in small business. *Journal of Organizational Computing and Electronic Commerce*, 13(2), 91 - 121. [doi:10.1207/S15327744JOCE13022](https://doi.org/10.1207/S15327744JOCE13022)
- Premkumar, G., & Roberts, M. (1999). Adoption of new information technologies in rural small businesses. *Omega*, 27(4), 467-484.
- Premkumar, G., Ramamurthy, K., & Saunders, C. S. (2005). Information processing view of organizations: An exploratory examination of fit in the context of interorganizational relationships. *Journal of Management Information Systems*, 22(1), 257 - 294. Retrieved from <http://www.jstor.org/stable/40398764>
- Quaddus, M. A., & Hofmeyer, G. (2007). An investigation into the factors influencing the adoption of B2B trading exchanges in small businesses. *European Journal of Information Systems*, 16(3), 202 -215. [doi:10.1057/palgrave.ejis.3000671](https://doi.org/10.1057/palgrave.ejis.3000671)
- Rai, A., Tang, X., Brown, P., & Keil, M. (2006). Assimilation patterns in the use of electronic procurement innovations: A cluster analysis. *Information & Management*, 43(3), 336-349. [doi:10.1016/j.im.2005.08.005](https://doi.org/10.1016/j.im.2005.08.005)
- Rajendran, R., Ramakrishna, S., & Vivekanandan, K. (2008). Exploring relationship between information systems strategic orientation and small business performance. *International Journal of E-Business Research*, 4(2), 14 - 28. [doi:10.4018/jebr.2008040102](https://doi.org/10.4018/jebr.2008040102)
- Ramayah, T., Mohamad, O., Omar, A., & Marimuthu, M. (2009). Technology Adoption among Small and Medium Enterprises (SME's): A Research Agenda.

- World Academy of Science, Engineering and Technology (WASET)*, 53, 943 - 946.  
Retrieved from <http://www.waset.org>
- Ramayah, T., Yan, L. C., & Sulaiman, M. (2005). SME e-readiness in Malaysia: Implications for planning and implementation. *Sasin Journal of Management*, 11(1), 103 - 120.
- Ramdani, B., & Kawalek, P. (2009). Predicting SMEs adoption of enterprise systems. *Journal of Enterprise Information Management*, 22(1/2), 10 - 24.  
[doi:10.1108/17410390910922796](https://doi.org/10.1108/17410390910922796)
- Ravarini, A., Tagliavini, M. and Buonanno, G. (2002), Information systems check-up as a leverage for SME development, in Burgess, S. (Ed.), *Managing IT in Small Business*, Chapter IV, Idea, Hershey, PA
- Raymond, L. (1987). An empirical study of management information systems sophistication in small business. *Journal of Small Business and Entrepreneurship*, 5(1), 38-47.
- Raymond, L. (2001). Determinants of web site implementation in small businesses. *Internet Research*, 11(5), 411 - 422. [doi:10.1108/10662240110410363](https://doi.org/10.1108/10662240110410363)
- Raymond, L., & Bergeron, F. (2008). Enabling the business strategy of SMEs through e-business capabilities: A strategic alignment perspective. *Industrial Management & Data Systems*, 108(5), 577 - 595. [doi:10.1108/02635570810876723](https://doi.org/10.1108/02635570810876723)
- Raymond, L., & Pare, G. (1992). Measurement of IT sophistication in small manufacturing businesses. *Information Resources Management Journal*, 5(2), 4 - 16.
- Raymond, L., Bergeron, F., & Blili, S. (2005). The assimilation of e-business in manufacturing smes - determinants and effects on growth and internationalization. *Electronic Markets*, 15(2), 106 -118. [doi:10.1080/10196780500083761](https://doi.org/10.1080/10196780500083761)
- Reich, B. H., & Benbasat, I. (2000). Factors that influence the social dimension of alignment between business and information technology objectives. *MIS Quarterly*, 24(1), 81 - 113. [doi:10.2307/3250980](https://doi.org/10.2307/3250980)
- Rhee, J. H. (2001). Does digitization enhance firm competitiveness? E-business strategies based on information processing view. *Journal of E-Business*, 1(1), 49 - 64. Retrieved from <http://www.journalofe-business.org>
- Riquelme, H. (2002). Commercial Internet adoption in China: Comparing the experience of small, medium and large businesses. *Internet Research*, 12(3), 276 - 286. [doi:10.1108/10662240210430946](https://doi.org/10.1108/10662240210430946)
- Rival, Y. (2006). Explaining Internet-related performance from the alignment point of view. *Twelfth Americas Conference on Information Systems*. Acapulco, Mexico. Retrieved from <http://aisel.aisnet.org>
- Roberts, B., & Toleman, M. (2007). One-size e-business adoption model does not fit all. *Journal of Theoretical and Applied Electronic Commerce Research*, 2(3), 49 - 61. Retrieved from [www.jtaer.com](http://www.jtaer.com)
- Sabherwal, R., & Chan, Y. E. (2001). Alignment between business and IS strategies: A study of prospectors, analyzers, and defenders. *Information Systems Research*, 12(1), 11 - 33. [doi:10.1287/isre.12.1.11.9714](https://doi.org/10.1287/isre.12.1.11.9714)
- Sabherwal, R., & King, W. R. (1992). Decision processes for developing strategic applications of information systems: A contingency approach. *Decision Sciences*, 23, 917 - 943. [doi:10.1111/j.1540-5915.1992.tb00426.x](https://doi.org/10.1111/j.1540-5915.1992.tb00426.x)
- Sabherwal, R., & Kirs, P. (1994). The alignment between organizational critical success factors and information technology capability in academic institutions. *Decision Sciences*, 25(2), 301-330. [doi:10.1111/j.1540-5915.1994.tb01844.x](https://doi.org/10.1111/j.1540-5915.1994.tb01844.x)

- Schubert, P., & Leimstoll, U. (2007). Importance and use of information technology in small and medium-sized companies. *Electronic Markets*, 17(1), 38 - 55. doi:10.1080/10196780601136799
- Schubert, P., Fisher, J., & Leimstoll, U. (2007). ICT and innovation in small companies. Retrieved from <http://aisel.aisnet.org/ecis2007/117>
- Scupola, A. (2008). Conceptualizing competences in e-services adoption and assimilation in SMES. *Journal of Electronic Commerce in Organizations*, 6(2), 78 - 91. doi:10.4018/jeco.2008040105
- Scupola, A. (2009). SME's e-commerce adoption: Perspectives from Denmark and Australia. *Journal of Enterprise Information Management*, 22(1/2), 152 - 166. doi:10.1108/17410390910932803
- Sewell, M., & McCarthy, I. (2001). E-Business and its role in small business networks. Retrieved from <http://iproduct.auc.dk/sme2001/paper/sewell.pdf>
- Seyal, A. H., & Rahman, M. N. (2003). A preliminary investigation of e-commerce adoption in small & medium Enterprises in Brunei. *Journal of Global Information Technology Management*, 6(2), 6 - 26.
- Seyal, A. H., Awais, M. M., Shamail, S., & Abbas, A. (2004). Determinants of electronic commerce in Pakistan: Preliminary evidence from small and medium enterprises. *Electronic Markets*, 14(4), 372 -384. doi:10.1080/10196780412331311801
- Seyal, A. H., Rahim, M. M., & Rahman, M. N. (2000). An empirical investigation of use of information technology among small and medium business organizations: A Bruneian scenario. *The Electronic Journal on Information Systems in Developing Countries*, 2(7), 1 – 17. Retrieved from <http://www.ejisdc.org/ojs2/index.php/ejisdc/article/view/12>
- Seyal, A. H., Rahman, M. N., & Mohammad, A. Y. (2007). A quantitative analysis of factors contributing electronic data interchange adoption among Bruneian SMEs. *Business Process Management Journal*, 13(5), 728 - 746. doi: 10.1108/14637150710823183
- Sharma, S. K., & Gupta, J. N. (2009). Identifying factors for lack of e-commerce in developing countries. In K. Rouibah, O. Khalil, & A. E. Hassanien, *Emerging markets and e-commerce in developing economies* (pp. 70 -88). Hershey, PA: Information Science Reference.
- Silvius, A., Waal, B. d., & Smit, J. (2009). *Business and IT alignment answers and remaining questions*. Paper presented Pacific Conference on Information Systems. Retrieved from <http://aisel.aisnet.org/pacis2009/44/>
- Simpson, M., & Docherty, A. J. (2004). E-commerce adoption support and advice for UK SMEs. *Journal of Small Business and Enterprise Development*, 11(3), 315 - 328. doi:10.1108/14626000410551573
- Singleton, R. A., & Straits, B. C. (1999). *Approaches to social research*. Madison Avenue, NY: Oxford University Press.
- SME CORP. (2010, October 12). *SME Annual Report 2009/2010: Transformation to the New Economic Model*. Retrieved November 10, 2010, from SME Corporation: <http://www.smecorp.gov.my/node/1626>
- Smeltzer, L. R., Van Hook, B. L., & Hutt, R. W. (1991). Analysis of the use of advisors as information sources in venture startups. *Journal of Small Business Management*, 29(3), 10 - 20.
- SMIDEC. (2002). *SME Development Plan (SMIDP) :2001-2005*. Small and Medium Industries Development Corporation (SMIDEC), Petaling Jaya, Malaysia.

- Smits, M., Fairchild, A., Ribbers, P., Mills, K., & Geel, E. V. (2009, June). Assessing Strategic Alignment to Improve IT Effectiveness. Paper presented at *22nd Bled eConference*. Bled, Slovenia. Retrieved from <http://aisel.aisnet.org/bled2009/15/>
- Soto-Acosta, P., & Merono-Cerdan, A. L. (2008). Analyzing e-business value creation from a resource-based perspective. *International Journal of Information Management*, 28, 49 - 60. [doi:10.1016/j.ijinfomgt.2007.05.001](https://doi.org/10.1016/j.ijinfomgt.2007.05.001)
- Spremic, M. a. (2007). Development of e-commerce in Croatia: A survey. *Information Technology for Development*, 13(4), 391-409. [doi:10.1002/itdj.20068](https://doi.org/10.1002/itdj.20068)
- Stabell, C., & Fjeldstad, O. (1998). Configuring value for competitive advantage: on chains, shops, and networks. *Strategic Management Journal*, 19(5), 413 - 437. [doi:10.1002/\(SICI\)1097-0266\(199805\)19:5<413::AID-SMJ946>3.0.CO;2-C](https://doi.org/10.1002/(SICI)1097-0266(199805)19:5<413::AID-SMJ946>3.0.CO;2-C)
- Steiner, G. A. (1979). *Strategic planning: What every manager must know*. New York: Free Press.
- Storey, D. J. (1997). *Understanding the small business Sector*. London: International Thompson Business Press.
- Straub, D., Hoffman, B., Weber, C., & Steinfield, C. (2002). Toward new metrics for net-enhanced organizations. *Information Systems Research*, 13(3), 227 - 238. [doi:10.1287/isre.13.3.227.80](https://doi.org/10.1287/isre.13.3.227.80)
- Subramaniam, C., & Shaw, M. J. (2004). A study on the value and impact of B2B e-commerce: The case of web-based procurement. *International Journal of Electronic Commerce*, 6, 19 - 40.
- Swanson, E. B. (1994). Information systems innovation among organization. *Management Science*, 40(9), 1069 - 1092. [doi:10.1287/mnsc.40.9.1069](https://doi.org/10.1287/mnsc.40.9.1069)
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Boston, MA: Pearson.
- Tagliavini, M., Ravarini, A., & Antonelli, A. (2001). An evaluation model for electronic commerce activities within SMEs. *Information Technology & Management*, 2(2), 211 - 230. [doi:10.1023/A:1011417703063](https://doi.org/10.1023/A:1011417703063)
- Tallon, P. P. (2007). A process-oriented perspective on the alignment of information technology and business strategy. *Journal of Management Information Systems*, 24(3), 227-268. [doi:10.2753/MIS0742-1222240308](https://doi.org/10.2753/MIS0742-1222240308)
- Tallon, P. P., Kraemer, K. L., & Gurbaxani, V. (2000). Executives' perceptions of the business value of information technology: A process-oriented approach. *Journal of Management Information Systems*, 16(4), 145-173.
- Tan, K. S., & Eze, U. C. (2008). An Empirical Study of Internet-Based ICT Adoption Among Malaysian SMEs. *Communications of the IBIMA*, 1, 1 - 12.
- Tan, K. S., Eze, U. C., & Chong, S. C. (2011). effects of industry type on ICT adoption among Malaysian SMEs. *Journal of Supply Chain and Customer Relationship Management*, 2011(2011), 1 - 13.
- Teo, T. S. (2007). Organizational characteristics, modes of Internet adoption and their impact: A Singapore perspective. *Journal of Global Information Management*, 15(2), 91 - 117. [doi:10.4018/jgim.2007040104](https://doi.org/10.4018/jgim.2007040104)
- Teo, T. S., & Pian, Y. (2003). A contingency perspective on Internet adoption and competitive advantage. *European Journal of Information Systems*, 12, 78 -92. [doi:10.1057/palgrave.ejis.3000448](https://doi.org/10.1057/palgrave.ejis.3000448)
- Teo, T. S., Lin, S., & Lai, K. (2009). Adopters and non-adopters of e-procurement in Singapore: An empirical study. *Omega*, 37(5), 972-987. [doi:10.1016/j.omega.2008.11.001](https://doi.org/10.1016/j.omega.2008.11.001)

- Tetteh, E., & Burn, J. (2001). Global strategies for SME-business: Applying the small framework. *Logistic Information Management*, 14(1/2), 171 - 180.  
[doi:10.1108/09576050110363202](https://doi.org/10.1108/09576050110363202)
- Thong, J. Y. (1999). An integrated model of information systems adoption in small business. *Journal of Management Information Systems*, 15(4), 187-214.
- Thong, J. Y. (2001). Resource constraints and information systems implementation in Singaporean small businesses. *Omega*, 29(2), 143-156. [doi:10.1016/S0305-0483\(00\)00035-9](https://doi.org/10.1016/S0305-0483(00)00035-9)
- Thong, J. Y., & Yap, C. S. (1995). CEO characteristics, organizational characteristics and information technology adoption in small businesses. *Omega*, 23(4), 429-442.  
[doi:10.1016/0305-0483\(95\)00017-1](https://doi.org/10.1016/0305-0483(95)00017-1)
- Thong, J. Y., Yap, C. S., & Raman, K. S. (1996). Top management support, external expertise and information systems implementation in small businesses. *Information Systems Research*, 7(2), 248-267. [doi:10.1287/isre.7.2.248](https://doi.org/10.1287/isre.7.2.248)
- Thong, J. Y., Yap, C. S., & Raman, K. S. (1997). Environments for information systems implementation in small businesses. *Journal of Organizational Computing & Electronic Commerce*, 7(4), 253 - 278.  
[doi:10.1207/s15327744joce0704\\_1](https://doi.org/10.1207/s15327744joce0704_1)
- Tornatsky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexiton, MA: Lexiton Books.
- Tushman, M. L. (1978). Information processing as an integrating concept in organizational design. *Academy of Management Review*, 3(3), 613-624.
- Umanath, N. (2003). The concept of contingency beyond "it depends": Illustrations from IS research stream. *Information & Management*, 40, 551 - 562.  
[doi:10.1016/S0378-7206\(02\)00080-0](https://doi.org/10.1016/S0378-7206(02)00080-0)
- UNCTAD. (2008). *Information Economy Report 2008*. United Nation, Geneva.
- United Nations Conference on Trade and Development [UNCTAD]. (2011). Information Economy report 2011: ICT as an enabler for private sector development. United Nations: New York
- UNDP. (2007). *Malaysia Small Medium Enterprises Building and Enabling Environment*. United Nation Development Programmes, Kuala Lumpur, Malaysia.
- Van de Ven, A. H. (1985). Alternative forms of fit in contingency theory. *Administrative Science Quarterly*, 30(4), 514 - 539. [doi:10.2307/2392695](https://doi.org/10.2307/2392695)
- Van de Ven, A. H., & Drazin, R. (1985). The concept of fit in contingency theory. *Organizational Behavior*, 7, 333 - 365.
- Vatanasakdakul, S. (2007). *An investigation of the appropriateness of Internet technology for inter-firm communication in the Thai tourism industry*. (Unpublished Doctoral dissertation): University of New South Wales. New South Wales, Australia.
- Venkatraman, N. (1989). The concept of t in strategy research: Toward verbal and statistical correspondence. *Academy of Management Review*, 14(3), 423 - 444.  
Retrieved from <http://www.jstor.org/pss/258177>
- Venkatraman, N. (1989). Strategic orientation of business business enterprises: The construct, dimensionality, and measurement. *Management Science*, 35(8), 942 - 962. [doi:10.1287/mnsc.35.8.942](https://doi.org/10.1287/mnsc.35.8.942)
- Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of Management Review*, 11(4), 801-814. Retrieved from [www.jstor.org/stable/258398](http://www.jstor.org/stable/258398)

- Viehland, D. W. (2000). Critical success factors for developing an e-business strategy. *Research Letter Information Mathematical Science*, 1(Sept), 1 - 7. Retrieved from <http://www.massey.ac.nz>
- Vivekanandan, K., & Rajendran, R. (2006). Export Marketing and the world wide web: Perceptions of export barriers among tirupur knitwear apparel exporters - an empirical analysis. *Journal of Electronic Commerce Research*, 7(1), 27 - 40. <http://www.csulb.edu/journals/jecr/>
- Walsh, G., Schubert, P., & Jones, C. (2010). Enterprise system investments for competitive advantage: An empirical study of Swiss SMEs. *European Management Review*, 2010(7), 180–189.
- Watson, J. (2007). Modeling the relationship between networking and firm performance. *Journal of Business Venturing*, 22(6), 852-874. [doi:10.1016/j.jbusvent.2006.08.001](https://doi.org/10.1016/j.jbusvent.2006.08.001)
- Weill, P., & Olson, M. H. (1989). An assessment of the contingency theory of management information systems. *Journal of Management Information Systems*, 6(1), 59 - 85. Retrieved from <http://www.jstor.org/stable/40397905>
- Wilson, H., Daniel, E., & Davies, I. A. (2008). The diffusion of e-commerce in UK SMEs. *Journal of Marketing Management*, 24(5/6), 489 - 516. [doi:10.1362/026725708X325968](https://doi.org/10.1362/026725708X325968)
- Wymer, S. A., & Regan, E. A. (2005). Electronic markets. *Electronic Markets*, 15(4), 438 - 453. [doi:10.1080/10196780500303151](https://doi.org/10.1080/10196780500303151)
- Wu, F., Mahajan, V., & Balasubramanian, S. (2003). Wu, F., Mahajan, V. and Balasubramanian, S. (2003). An analysis of e-business adoption and its impact on business performance. *Journal of the Academy of Marketing Science*, 31(4), 425 - 447. [doi:10.1177/0092070303255379](https://doi.org/10.1177/0092070303255379)
- Wymer, S. A., & Regan, E. A. (2005). Electronic markets. *Electronic Markets*, 15(4), 438 - 453. [doi:10.1080/10196780500303151](https://doi.org/10.1080/10196780500303151)
- Xiaoping, Y., & Jing, F. (2008). Review of IT/IS adoption and decision-making behavior in small businesses. *Tsinghua Science and Technology*, 13(3), 323 - 328. [doi:10.1016/S1007-0214\(08\)70052-X](https://doi.org/10.1016/S1007-0214(08)70052-X)
- Yau, R. (2010, October 22). Getting SMEs on board a smarter world. *Malaysia SME*, p. F5.
- Yeung, J. H., Shim, J. P., & Lai, A. Y. (2003). Current progress of e-commerce adoption: small and medium enterprises in Hong Kong. *Communication of the ACM*, 46(9ve), 226 - 232. [doi:10.1145/903893.903941](https://doi.org/10.1145/903893.903941)
- Zhang, H. B. (2007). *Empirical Research on the Strategic Alignment in SMEs*. Paper presented at 14th International Conference on Management Science and Engineering, (pp. 663 - 668). Harbin, China. doi: 10.1109/ICMSE.2007.4421921
- Zhang, X., & Moussi, C. (2007). Level of Internet use by Chinese businesses: A preliminary study. *Electronic Commerce Research and Applications Intelligent agents in e-services*, 6(4), 453-461. [doi:10.1016/j.elerap.2007.02.007](https://doi.org/10.1016/j.elerap.2007.02.007)
- Zhu, K., & Kraemer, K. L. (2002). E-Commerce metrics for net-enhanced organizations: Assessing the value of e-commerce to firm performance in the manufacturing sector. *Information Systems Research*, 13(3), 275 - 295. [doi:10.1287/isre.13.3.275.82](https://doi.org/10.1287/isre.13.3.275.82)
- Zhu, K., & Kraemer, K. L. (2005). Post-adoption variations in usage and value of e-business by organizations: Cross-country evidence from the retail industry. *Information Systems Research*, 16(1), 61 -84. [doi:10.1287/isre.1050.0045](https://doi.org/10.1287/isre.1050.0045)



- Zhu, K., Kraemer, K. L., & Xu, S. (2006). The Process of innovation assimilation by firms in different countries: A technology diffusion perspectives on e-business. *Management Science*, 52(10), 1557 - 1576. [doi:10.1287/mnsc.1050.0487](https://doi.org/10.1287/mnsc.1050.0487)
- Zhuang, Y., & Lederer, A. L. (2006). A resource-based view of electronic commerce. *Information and Management*, 43, 251 -261. [doi:10.1016/j.im.2005.06.006](https://doi.org/10.1016/j.im.2005.06.006)
- Zinatelli, N., Cragg, P., & Cavaye, A. (1996). End user computing sophistication and success in small firms. *European Journal of Information Systems*, 5, 172 - 181. [doi:10.1057/ejis.1996.23](https://doi.org/10.1057/ejis.1996.23)
- Zikmund, W. G. (2003). *Business research methods* (7th ed.). Ohio, United States: Thomson South-Western.