

**THE RELATIONSHIP BETWEEN INNOVATION AND
INFORMATION TECHNOLOGY ON ORGANIZATIONAL
PERFORMANCE**



**MASTER OF HUMAN RESOURCE MANAGEMENT
UNIVERSITI UTARA MALAYSIA
December 2015**

**THE RELATIONSHIP BETWEEN INNOVATION,
INFORMATION TECHNOLOGY, AND
ORGANIZATIONAL PERFORMANCE**

By



NOOR AZINUDDIN BIN AHMAD

UUM
Universiti Utara Malaysia

**Thesis submitted to
School of Business Management (SBM),
University Utara Malaysia
in partial Fulfilment of the requirements for the
Master of Human Resource Management**

PERMISSION TO USE

In presenting this project paper in a partial fulfillment of the requirements for a Post Graduate degree from the Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this project paper in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor or in their absence, by the Dean of School of Business Management, College of Business where I did my project paper. It is understood that any copying or publication or use of this project paper or parts of it for financial gain shall not be allowed without any written permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my project paper.

Request for permission to copy or to make other use of materials in this project paper on whole or in part should be addressed to:

Dean of School of Business Management, College of Business
Universiti Utara Malaysia (UUM)
06010 Sintok Kedah Darul Aman



UUM
Universiti Utara Malaysia

ABSTRACT

Organizational performance is important to the organization. This is because it will be the benchmark to the organization whether the organization achieves their vision and mission or not. In order to ensure the company stay competitive, the organizational performance can be as a determined in order to ensure that the organization could be successful in the future. Hence, the purpose of this study is to know the relationship between innovation and information technology on the organizational performance in Malaysian Public Listed Companies. A cross-sectional study was chosen for this study. There are two objectives in this study, first is to evaluate the relationship between innovation with organizational performance in Malaysian Public Listed Companies. Second is to examine the relationship between information technology and organizational performance in Malaysian Public Listed Companies. Data were gathered through the online questionnaire survey of organizations (n=31). A total of 214 questionnaires were distributed to the Malaysian public listed companies by email and only 31 questionnaires were returned for analysis. The data has been analysed by using *Statistic Package for Social Sciences (SPSS)*. Regression results have shown the innovation has no relationship with the organizational performance. Meanwhile, the results indicated that information technology has a significant and positive relationship with organizational performance. The implications of this study is the organization need to use information technology in order to enhance the organizational performance of the company. Besides that, information technology is the important tool to make the work become more effective and at the same time, the company can stay competitive in the market.

Keywords: Innovation, Information Technology, Organizational Performance, Malaysian Public Listed Companies.

ABSTRAK

Prestasi organisasi adalah penting kepada organisasi. Ini kerana ia akan menjadi penanda aras kepada organisasi sama ada organisasi mencapai visi dan misi mereka atau tidak. Dalam usaha untuk memastikan syarikat kekal berdaya saing, prestasi organisasi menjadi penentu dalam usaha memastikan organisasi berjaya pada masa hadapan. Oleh itu, tujuan kajian ini adalah untuk mengetahui hubungan antara inovasi dan teknologi maklumat kepada prestasi organisasi dalam Syarikat Terserai Awam Malaysia.

Satu kajian keratan rentas telah dipilih untuk kajian ini. Terdapat dua objektif dalam kajian ini, pertama adalah untuk menilai hubungan antara inovasi dengan prestasi organisasi dalam Syarikat Terserai Awam Malaysia. Kedua adalah untuk mengkaji hubungan antara teknologi maklumat dan prestasi organisasi dalam Syarikat Terserai Awam Malaysia. Data dikumpulkan melalui soal selidik organisasi dalam talian ($n = 31$). Sebanyak 214 soal selidik telah diedarkan kepada syarikat-syarikat terserai awam Malaysia melalui e-mel dan hanya 31 soal selidik telah dikembalikan untuk dianalisis. Data telah dianalisis dengan menggunakan *Pakej Statistik Untuk Sains Sosial (SPSS)*. Keputusan regresi menunjukkan inovasi tidak mempunyai hubungan dengan prestasi organisasi. Sementara itu, keputusan menunjukkan bahawa teknologi maklumat mempunyai hubungan yang signifikan dan positif dengan prestasi organisasi.

Implikasi bagi kajian ini adalah penting terhadap keperluan organisasi untuk menggunakan teknologi maklumat supaya meningkatkan prestasi organisasi syarikat. Selain itu, teknologi maklumat adalah alat yang penting untuk membuat kerja-kerja menjadi lebih berkesan dan pada masa yang sama syarikat dapat kekal berdaya saing dalam pasaran.

Kata Kunci: Inovasi, Teknologi Maklumat, Prestasi Organisasi, Syarikat Terserai Awam Malaysia.

ACKNOWLEDGEMENT

In the name of Allah SWT, the Most Gracious and Most Merciful, I praised to Allah for the completion of this project paper. Without the dedication and support from these people, the completion of this dissertation will not be possible.

I would like to express my deepest appreciation to my project supervisor, Dr Zurina Adnan for her invaluable efforts and time in providing proper guidance, assistance and support throughout the entire process. Her understanding, consideration and untiring advice effortlessly drive me to complete this project paper.

My sincere appreciation to the Malaysian Public Listed Companies that were willing to help and significantly contributed by participating and answering questionnaires for this study.

Last but not least, thanks should go to my friend En. Ariff Fikri Bin Azhari, En Raimi Bin Mesari and my beloved mother, Pn. Salmiah Binti Romli who give moral support and encouragement throughout this project paper.



TABLE OF CONTENTS

PERMISSION TO USE	i
ABSTRACT	ii
ABSTRAK	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	vii
LIST OF TABLES	viii
LIST OF APPENDICES	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE: INTRODUCTION	
1.0 Introduction	
1.1 Background of the Study	
1.2 Problem Statement	3
1.3 Research Questions	5
1.4 Research Objectives	5
1.5 Significant of the Study	6
1.6 Scope of the Study	6
1.7 Definition of the Variables	7
1.7.1 Innovation	7
1.7.2 Information Technology	7
1.7.3 Organizational Performance	7
1.8 Organization of the thesis	8
CHAPTER TWO: LITERATURE REVIEW	9
2.0 Introduction	9
2.1 Organizational Performance	9
2.2 Innovation	12
2.3 Information Technology	14
2.4 Relationship between Innovation and Organizational Performance	15
2.5 Relationship between Information Technology and Organizational Performance	16
2.6 Underpinning Theories	18
2.7 Conclusion	21
CHAPTER THREE: METHODOLOGY	22
3.0 Introduction	22
3.1 Research Framework	22
3.2 Research Hypothesis	22
3.3 Research Design	22
3.4 Sampling Design	24
3.4.1 Population of Interest	24
3.4.2 Target Population	24

3.5 Operational Definitions	25
3.6 Measurement of the Variables	25
3.6.1 Innovation	26
3.6.2 Information Technology	27
3.6.3 Organizational Performance	28
3.7 Data Collection Techniques	29
3.8 Sample Size	30
3.9 Sampling Technique	31
3.10 Units of Analysis	31
3.11 Data Analysis Technique	31
3.12 Conclusion	33
CHAPTER FOUR: FINDING AND DATA ANALYSIS	34
4.1 Introduction	34
4.2 Response Rate	34
4.3 Profile of the Respondents	35
4.4 Factor Analysis	36
4.4.1 Factor Analysis of Innovation	36
4.4.2 Factor Analysis of Information Technology	37
4.4.3 Factor Analysis of Organizational Performance	38
4.5 Reliability Analysis	39
4.6 Descriptive Analysis	40
4.7 Correlation Analysis	41
4.8 Regression Analysis between Innovation, Information Technology and Organizational Performance	42
4.9 Summary of Hypotheses Testing	44
4.10 Conclusion	44
CHAPTER FIVE: CONCLUSION AND RECOMMENDATION	46
5.1 Introduction	46
5.2 Relationship between Innovation and Organizational Performance	46
5.3 Relationship between Information Technology and Organizational Performance	47
5.4 Implication of the Study	48
5.5 Recommendation for Future Research	49
5.6 Limitation of the Study	49
5.7 Conclusion	50
REFERENCES	52

LIST OF FIGURES

Figure 3.1: Research Framework

22



LIST OF TABLES

Table 2.1 The Life Cycle of Resource Based View	19
Table 3.1 Section of Questionnaire	25
Table 3.2 Items and Operational Definition of Variable for Innovation	26
Table 3.3 Items and Operational Definition of Variable for Information Technology	27
Table 3.4 Items and Operational Definition of Variable for Organizational Performance	28
Table 4.1 Rate of Respons	34
Table 4.2 Profile of the Respondents	35
Table 4.3 Result of Factor Analysis for Innovation	37
Table 4.4 Result of Factor Analysis for Information Technology	38
Table 4.5 Result of Factor Analysis for Organizational Performance	39
Table 4.6 Reliability Analysis Results	39
Table 4.7 Descriptive Statistic of the Variable	40
Table 4.8 Correlation between Variables	42
Table 4.9 Result of Regression Analysis of Innovation and Information Technology on Organizational Performance	43
Table 4.10 Summary of Hypotheses Testing	44



UUM
Universiti Utara Malaysia

LIST OF APPENDICES

Appendix A	Selected Malaysian Public Listed Companies	67
Appendix B	Profile of the Respondents	78
Appendix C	Factor Analysis for Innovation	79
Appendix D	Factor Analysis for Information Technology	80
Appendix E	Factor analysis for Organizational Performance	83
Appendix F	Reliability Analysis	85
Appendix G	Descriptive Analysis	90
Appendix H	Correlation Analysis	90
Appendix I	Multiple Regression Analysis	91
Appendix J	Permission Letter	95
Appendix K	Online Questionnaire	96



UUM
Universiti Utara Malaysia

LIST OF ABBREVIATIONS

PLCs	Public Listed Companies
IV	Independent Variable
DV	Dependent Variable
SPSS	Statistical Package of Social Science
RBV	Resource Based View
OP	Organizational Performance
IT	Information Technology
INN	Innovation
M	Mean
SD	Standard Deviation
KMO	Kaiser-Mayer Olkin



UUM
Universiti Utara Malaysia

CHAPTER ONE

INTRODUCTION

1.0 Introduction

In the fast forward challenging economy nowadays, many aspects should be considered in order to ensure the company stays alive in the market. Aspect of the organizational performance (OP) is one of the important things. Hence, this research has come out with data and input that explains about the relationship between innovation and information technology on organizational performance in Malaysian public listed companies (PLCs). Based on that, the purpose of this chapter is to provide some basic information regarding this study. This chapter starts with the discussion by providing some background information surrounding the issue. After that, the problems that lead to the need for the present study are presented, followed by the research questions, the research objectives and the significance of the study. Eventually, the definitions of the variables are detailed out.

1.1 Background of the study

In the new era today, organizational performance is very important to ensure whether or not the organization would be successful. Organizational performance is also important in terms of knowing whether the organization has achieved its mission and vision of the company. The organization that has poor organizational performance might be having

The contents of
the thesis is for
internal user
only



UUM
Universiti Utara Malaysia

REFERENCES

- Abu-jarad, I. Y., Yusof, N., & Nikbin, D. (2010). A Review Paper on Organizational Culture and Organizational Performance. *International Journal of Business and Social Science*, 1, 26–46.
- Aguinis, H. (2004). Regression analysis for categorical moderators. NY: Guilford
- Anspach, R. R. (1991). Everyday Methods for Assessing Organizational Effectiveness. *Social Problems*. <http://doi.org/10.1525/sp.1991.38.1.03a00010>
- Anderson, Mark C., Banker, Rajiv D dan Ravindran Sury, 2003, *The New Productivity Paradox* Communication of The ACM), March 2003/Vol. 46, No. 3
- Au, C. F. (1996). Rethinking organizational effectiveness: Theoretical and methodological issues in the study of organizational effectiveness for social welfare organizations. *Administration in Social Work*, 20, 1–&. http://doi.org/10.1300/J147v20n04_01
- Al-Zu'bi, H. A. (2010). A study of relationship between organizational justice and job satisfaction. *International Journal of Business and Management*, 5(12), p102.
- Aragón-Correa, J. A., García-Morales, V. J., & Cerdón-Pozo, E. (2007). Leadership and organizational learning's role on innovation and performance: Lessons from Spain. *Industrial marketing management*, 36(3), 349-359.

Balkin, D. B., Markman, G. D., & Gomez-Mejia, L. R. (2000). Is CEO Pay in high technology firms related to innovation?. *Academy of Management Journal*, 43(6), 1118-1129. <http://dx.doi.org/10.2307/1556340>

Bank Negara Malaysia 2005, *Bank Negara Malaysia*, viewed 10 April 2005, <http://www.bnm.gov.my> .

Barney, J. B., Ketchen, D. J., & Wright, M. (2011). The future of resource-based theory revitalization or decline?. *Journal of management*, 37(5), 1299-1315.

Barney, J., 1991, *Firm Resources and Sustained Competitive Advantage*, *Journal of Management*, Vol 17, no. 1

Bates, R. and Khasawneh, S. 2005. "Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations, *International Journal of Training and Development*, Vol. 9, pp. 96–109.

Bursamalaysia,. (2014). *A Practical Guide to Listing on Bursa Malaysia*. Retrieved 14 October 2015, from http://www.bursamalaysia.com/website/bm/about_us/.

Bill Goodwin. (2014). Firm Lack of Technology workforce of the future. *Computerweekly.com* Retrieved 17 October 2015 <http://www.computerweekly.com/news/2240233165/Firms-lack-technology-for-workforce-of-the-future>.

Bowen, F. E., Rostami, M., & Steel, P. (2010). Timing is everything: A meta-analysis of the relationships between organizational performance and innovation. *Journal of Business Research*, 63(11), 1179-1185.

Brynjolfsson, E., & Hitt, L. (1996). Paradox lost? Firm-level evidence on the returns to information systems spending. *Management science*, 42(4), 541-558.

Brynjolfsson, E. and Yang, S. (1999), "The intangible costs and benefits of computer investments: evidence from the financial markets", working paper, MIT Sloan School of Management, Cambridge, MA.

Brynjolfsson, Erick, 1993, *The Productivity Paradox of Information Technology: Review and Assessment*, Communication of ACM, and Japan Management Research



UUM
Universiti Utara Malaysia

Brynjolfsson, E. & Hitt, L. (1995). Information Technology as a Factor of Production: the Role of Differences among Firms, *Economics of Innovation and New Technology*, Vol. 3: 183-199. doi:10.1080/10438599500000002, <http://dx.doi.org/10.1080/10438599500000002>

Bharadwaj, G., Bharadwaj, S. and Konsynski, B. (1999), "Information technology effects on firm performance as measured by Tobin's q", *Management Science*, Vol. 45 No. 6, pp. 1008-24.

Brewer, G. A., & Selden, S. C. (2000). Why elephants gallop: Assessing and predicting organizational performance in federal agencies. *Journal of Public Administration Research and Theory*, 10, 685–712. <http://doi.org/Article>

Bursa Malaysia (19 October 2015). Retrieved from http://www.klse.com.my/website/bm/about_us/the_organisation/history.html

Campbell, J. J., Dunnette, M. D., Lawler, E. E., & Weick, K. E. (1970). Managerial behavior, performance, and effectiveness.

Chirani, E., & Tirgar, S. M. (2013). Information technology's role in organizations' performance. *Kuwait Chapter of the Arabian Journal of Business and Management Review*, 3(1), 16.

Chui Yan, Y. (2010). *Perwaja Steel: Case and Instructor's Manual*.

Cohen J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: Erlbaum. 2nd ed.

Daft, R.L. (2000). *Organization Theory and Design*. (7th ed.) South-Western College Publishing, Thomson Learning. U.S.A.

Daft, R., & Becker, S. (1978). *Innovation in Organizations: Innovation Adoption in School Organizations*. New York: Elsevier.

Damanpour, F. (1992). Organizational Size and Innovation. *Organization Studies*.
<http://doi.org/10.1177/017084069201300304>

Damanpour, F. (1988). Innovation type, radicalness and the adoption process. *Communication Research*, 15(5), 545-567.

Davis, M. J. (1971). On polar substorms as the source of large-scale traveling ionospheric disturbances. *Journal of Geophysical Research*, 76(19), 4525-4533.

Dans, Enrique, 2001, IT Investment in Small and Medium Enterprises: Paradoxically Productive?, *Electronic Journal of IS Evaluation*, Vol. 4, n. 1, Mar. 2001

Devaraj, S., & Kohli, R. (2001). *The IT payoff: measuring the business value of information technology investments*. Financial Times/Prentice Hall.

De Jong, J.P.J & Den Hartog, D. N. (2008). Innovative Work Behavior : Measurement and Validation. *Scientific Analysis of Entrepreneurship and SMEs*, 1–27.

Dobre, O. I. (2013). Employee motivation and organizational performance. *Tabel of Contents*.

Dos Santos, Bryan L., Pfeffer, Ken., Mauer, David C., 1993, *The Impact of Information Technology Investment Announcements on the Market Value of the Firm*, Information Systems Research 4 : 1, |O47-7O47/93/O4OI/0O0I/\$O1.25, The Institute of Management Sciences

Fernandes, C., & Awamleh, R. (2006). Impact of organisational justice in an expatriate work environment. *Management research news*, 29(11), 701-712.

Gavrea, C., Ilies, L., & Stegorean, R. (2011). Determinants of organizational performance: the case of Romania. *Management & Marketing*, 6(2), 285.

Georgopoulos, B. S., & Tannenbaum, A. S. (1957). A study of organizational effectiveness. *American Sociological Review*, 534-540.

Gopal, S., & Kumar, D. (2011). Strategic Interventions in Tackling Poor Performance of Service Departments: Study on Muhibbah Engineering (M) Bhd, Malaysia.

Garcia-Morales, V. J., Matias-Reche, F., & Hurtado-Torres, N. (2008). Influence of transformational leadership on organizational innovation and performance depending on the level of organizational learning in the pharmaceutical sector. *Journal of Organizational Change Management*, 21(2), 188-212.

Greve, H. R. (2003). A behavioral theory Of Rand D Expenditures and innovations: evidence from shipbuilding. *Academy of Management Journal*, 46(6), 685.

<http://dx.doi.org/10.2307/30040661>

Gulati, R. (1998). Alliances and networks. *Strategic management journal*,19(4), 293-317.

Glor, E. D. (2014). Studying the Impact of Innovation on Organizations, Organizational Populations and Organizational Communities: A Framework for Research. *The Innovation Journal*, 19(3), 1.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (Vol. 6). Upper Saddle River, NJ: Pearson Prentice Hall.

Hage, J. (1999). Organizational innovation and organizational change. *Annual Review of Sociology*, 25, 597-622.

Heffernan, M., M., & Flood, P. C. (2000). An Exploration of the Relationship between Managerial Competencies Organizational, Characteristic and Performance in an Irish organization. *Journal of European Industrial Training*. Univeristy Press, p128-136.

Hsu, C. C., & Pereira, A. (2008). Internationalization and performance: The moderating effects of organizational learning. [Review]. *Omega- International Journal of Management Science*, 36(2), 188-205. doi: 10.1016/j.omega.2006.06.004

Ho, Shirley J., Mallick, Sushanta K., 2006, *The Impact of Information Technology on the Banking Industry: Theory and Empirics*, National Chengchi University, Taiwan

Jen Huang, C., & Ju Liu, C. (2005). Exploration for the relationship between innovation, IT and performance. *Journal of Intellectual Capital*, 6(2), 237-252.

Kemp, R. G., de Jong, J. P. J., Folkerling, M., & Wubben, E. F. M. (2003). Innovation and firm performance: Differences between small and medium-sized firms. In *Annual International SMS-conference on Intersections: Strategy across Conventional Boundaries, November 10-12, 2003*.

Kohli, R., & Devaraj, S. (2003). Measuring information technology payoff: A meta-analysis of structural variables in firm-level empirical research. *Information systems research*, 14(2), 127-145.

Kostopoulos, K. C., Spanos, Y. E., & Prastacos, G. P. (2002, May). The resource-based view of the firm and innovation: identification of critical linkages. In *European Academy of Management Conference, Stockholm, Sweden*.

Kim, S. (2005). Individual-level factors and organizational performance in government organizations. *Journal of public administration research and theory*, 15(2), 245-261.

Kraemer, Kenneth L., Dedrick, Jason., 2001, *Payoffs From Investment in Information Technology: Lesson From The Asia-Pacific Region*, Center for Research on Information Technology and Organizations University of California, Irvine

Lafley, A. G., & Charan, R. (2008). P&G's innovation culture. *Strategy+ Business Magazine*, 1-10

Ling, Y. H., & Hong, L. (2010). How intellectual capital management affects organizational performance: Using intellectual capital as the mediating variable. *Human Resource Management Student Newspaper*, 10(1), 1-17.

Lusthaus, C., & Adrien, M. H. (1998). Organizational assessment: A review of experience. *Universalia Occasional Paper*, 31.

Melville, N., Kraemer, K., & Gurbaxani, V. (2004). Review: Information technology and organizational performance: An integrative model of IT business value. *MIS quarterly*, 28(2), 283-322.

Mousavi, S. S., & BadrAbady, M. H. (2008). The Role of Information Technology in Organizational Procedures' Improvement with Knowledge Based Approach-A Study of the Iranian Taxation Affairs Organization. *World Applied Sciences Journal*, 3(2), 55-66.

Moustaghfir, K., & Schiuma, G. (2013). Knowledge, learning, and innovation: Research and perspectives. *Journal of Knowledge Management*, 17, 495–510. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-84880161222&partnerID=40&md5=cdbb77e6fd9c8e1a557b86283d51144c>

Mukhopadhyay, T., Kekre, S., & Kalathur, S. (1995). Business value of information technology: a study of electronic data interchange. *MIS quarterly*, 137-156.

Mushure, G. O. N. (2014). Financial Analysis Report: Malaysia Airlines 2007-2011.

Nakata, Cheryl; Zhu, Zhen; Kraimer, Maria L., (2008). The complex contribution of information technology capability to business performance, *Journal of Managerial Issues*.

Novak, S., & Stern, S. (2008). How does outsourcing affect performance dynamics? Evidence from the automobile industry. *Management Science*, 54(12), 1963-1979.

Oerlemans, L. A. G., Meeus, M. T. H., & Boekema, F. W. M. (1998). Do Networks Matter for Innovation? The usefulness of the economic network approach in analysing innovation. *Tijdschrift voor economische en sociale geografie*, 89(3), 298-309.

Pallant, J. (2013). *SPSS survival manual*. McGraw-Hill Education (UK).

- Penrose, E. T. (1959). *The Theory of the Growth of the Firm*: Oxford University Press.
- Piaw, C.Y. (2012). *Mastering research method*. Selangor, Malaysia: Mc Graw Hill.
- Rasula, Jelena, Vuksic, Vesna Bosilj & Stemberger, M. I. (2012). The Impact of Knowledge Management on Organizational Performance. *Economic and Business Review*, 14, 147–168. Retrieved from www.ebrjournal.net/ojs/index.php/ebr/article/download/85/pdf?
- Raed, Awamleh and Fernandes, Cedwyn. (2006). Impact of Organizational Justice in an Expatriate Work Environment. *Management research news*, 29, (11), 701-712.
- Ray, G., Barney, J. B., & Muhanna, W. A. (2004). Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource-based view. *Strategic management journal*, 25(1), 23-37.
- Ringim, K. J., Razalli, M. R., & Hasnan, N. (2012). The Relationship between Information Technology Capability and Organizational Performance of Nigerian Banks. *International Journal of Technology and Management (IJTM)*, 1(1).
- Ricardo, R., & Wade, D. (2001). *Corporate Performance Management: How to Build a Better Organization Through Measurement Driven Strategies Alignment*. Butterworth Heinemann.

- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*
- Robey, D., Boudreau, M. C., & Rose, G. M. (2000). Information technology and organizational learning: a review and assessment of research. *Accounting, Management and Information Technologies*, 10(2), 125-155.
- Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of business Venturing*, 26(4), 441-457.
- Saunila, M., Pekkola, S. & Ukko, J. (2014), "The relationship between innovation capability and performance", *International Journal of Productivity and Performance Management*, Vol.63 Iss 2 pp. 234 -249
- Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS quarterly*, 237-263.
- Schiama, K., (2013), "Knowledge, learning, and innovation: research and perspectives", *Journal of Knowledge Management*, Vol. 17 Iss 4 pp. 495 – 510

Scholl, H.J. (2002), “Information and public administration: eGovernment (ETEGV)”, in Sprague, R. (Ed.), Proceedings of the 35th Annual Hawaii Conference on System Sciences, IEEE Computer Society, Los Alamos, CA.

Sekaran, U., & Bougie. R. (2010). *Research methods for business*. West Sussex, UK: John Wiley.

Sekaran, U. (2006). *Research method of business: A skill-building approach*. Writing. <http://doi.org/http://www.slideshare.net/basheerahmad/research-methods-for-business-entire-ebook-by-uma-sekaran>.

Sekaran, U. (2003). *Research Methods for Business: A Skill Building Approach* (4th ed). New York: John Wiley & Sons Inc.



Smith, J. (2008). *Information Technology's Influence on Productivity*. ProQuest.

Silva, M. J., Leitão, J., & Raposo, M. L. B. (2007). Barriers to Innovation faced by Manufacturing Firms in Portugal: How to overcome it?. Available at SSRN 1023825.

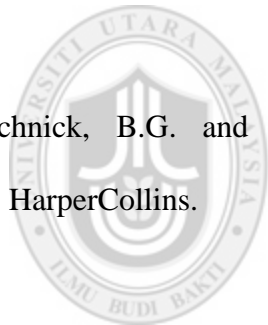
Strassman, P. A. *The Business Value of Computers*, The Information Economics Press, New Haven, CT, 1990.

Strassman, P. A. *The Squandered Computer*, The Information Economics Press, New Haven, CT, 1997.

Solow, R, 1987, “We’d better Watch Out”, *New York Times Book Review*, July 12, p.36

Tajuddin, M. Z. M., Ibrahlim, H., & Ismail, N. (2015). Relationship between Innovation and Organizational Performance in Construction Industry in Malaysia. *Universal Journal of Industrial and Business Management*, 3(4), 87-99.

Tabachnick, B.G. and Fidell, L.S. (1996). *Using Multivariate Statistics*. NY: HarperCollins.



Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative science quarterly*, 35-67.

Venkatesh, V., & Davis F.D. (2000), “A theoretical extension of the Technology Acceptance Model,” *Journal of Management Sciences* Vol. 2, pp. 186-204.

Wernerfelt B. 1984. A resource-based view of the firm. *Strategic Management Journal* 5(2): 171–180.

Westrum, R. (2004). A typology of organisational cultures. *Quality & Safety in Health Care*, 13 Suppl 2, ii22–i27. <http://doi.org/10.1136/qshc.2003.009522>

Wright, R. E., Palmer, J. C., & Perkins, D. (2004). Types of product innovations and small business performance in hostile and benign environments. *Journal of Small Business Strategy*, 15(2), 33.

Yuchtman, E. & Seashore, S. (1967), "Factorial Analysis of Organizational Performance", *Administrative Science Quarterly* 12(3), pp. 377-95

Zaltman, G., Duncan, R., & Holbek, J. (1973). *Innovations and Organizations*. New York: John Wiley.

Zhang, Michael J., (2007) Assessing the performance impacts of information systems from the resource-based perspective: An empirical test of the indirect effect of IS, *Journal of Business Strategies, Center for Business and Economic Research*.