ORGANIZATIONAL CAPABILITIES AND THE SOFTWARE PROJECT SUCCESS IN PUBLIC SECTORS: PROCESS INNOVATION AS A MEDIATOR

ROZAIDA BINTI MOHD DARUS

DOCTOR OF PHILOSOPHY

(TECHNOLOGY MANAGEMENT)

UNIVERSITI MALAYSIA PAHANG

SUPERVISOR'S DECLARATION

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Doctor of Philosophy (Technology Management).

_____

(Supervisor's Signature)

Full Name   : PROF DATO' TS. DR. YUSERRIE BIN ZAINUDDIN

Position   : PROFESSOR

Date   :

STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

_____

(Student's Signature)

Full Name : ROZAIDA BINTI MOHD DARUS

ID Number : PPT 11011

Date :

ORGANIZATIONAL CAPABILITIES AND THE SOFTWARE PROJECT
SUCCESS IN PUBLIC SECTORS: PROCESS INNOVATION AS A MEDIATOR

ROZAIDA BINTI MOHD DARUS

Thesis submitted in fulfillment of the requirements
for the award of the degree of
Doctor of Philosophy
(Technology Management)

Faculty of Industrial Management

UNIVERSITI MALAYSIA PAHANG

NOVEMBER 2019

ACKNOWLDGEMENTS

Bismillah ir-Rahman ir-Rahim…

First of all, alhamdullillah, in the name of Allah the All Mighty, the Most Compassionate, the Most Merciful, Knowledgeable and Worthy of all praises. I am most thankful to Him for His blessings in the completion of this thesis.

I would like to thank to my supervisor, Dato' Dr Yusserrie Bin Zainuddin for his commitment, valuable guidance, and comments in assisting me to complete this thesis. Without his guidance, this study would not have been possible.

I also acknowledge Prof. Ramayah Thurasamy and Dr Shrikant Krupasindhu Panigrahi for their helps and advises throughout my thesis completion. I am also indebted to Public Service Department of Malaysia for funding my Ph.D. study and the organizations' representatives who were very co-operative in my data collection especially IT managers in the Malaysian public sectors.

Finally, and the most importantly, my sincere goes to my family members for all their support and prayers especially to my children, Hakimi, Hairie, Haris, Damia, Harraz and Hayyan. And also not forget to the in memory of my beloved parents. They all have been the motivational force for me to achieve this task. Once again thank you so much.

ABSTRAK

Membangunkan projek perisian merupakan satu proses yang sukar dan sering melebihi kos dan masa yang ditetapkan. Boleh dikatakan terlalu banyak penekanan terhadap model-model pembangunan projek perisian yang menjurus kepada kemahiran teknikal pengkodan dan debugging yang menyebabkan kepentingan perancangan strategik dan reka bentuk perisian diabaikan. Selain itu, semakin tinggi perubahan dinamik dan perubahan persekitaran terhadap sesuatu projek perisian, semakin tinggi keperluan strategik sesuatu projek perlu dilihat bagi mengatasi perubahan ini secara efisien dan berkesan. Kajian penyelidikan yang dijalankan ini adalah bagi memastikan projek perisian yang dibangunkan adalah mengikut masa dan kos yang diperuntukkan. Berdasarkan kerja-kerja kesusasteraan yang lalu, didapati bahawa pandangan berasaskan sumber (RBV) yang tertumpu kepada kelebihan daya saing organisasi merupakan salah satu teori pengurusan strategik utama yang dapat diterapkan untuk menjelaskan kejayaannya. Oleh itu, rangka kerja keupayaan organisasi yang dinamik yang diperkenalkan oleh Grantt dicadangkan untuk disesuaikan dengan pembangunan projek perisian sektor awam di Malaysia. Tambahan pula, inovasi merupakan satu pendekatan dalam mengekalkan kejayaan sesuatu projek berlandaskan persekitaran yang dinamik dan sentiasa berubah. Oleh itu, proses innovasi merupakan strategik utama yang digunakan sebagai kelebihan daya saing dalam persekitaran pembangunan projek perisian ini. Dalam kajian ini, satu reka bentuk penyelidikan kuantitatif berasaskan paradigma positivis digunakan. Melalui Smart PLS 2.0, *bootstrapping* digunakan sebagai prosedur resampling bukan parametrik untuk menguji kesan pengantaraan pada kejayaan proses projek perisian dengan responden terdiri daripada 228 Pengurus IT sektor awam di Malaysia. Kajian ini menunjukkan bahawa untuk mencapai kejayaan sesebuah organisasi, kelebihan persaingan memainkan peranan penting di samping kepentingan keupayaan organisasi tersebut. Faktor-faktor yang dicadangkan dalam membangunkan keupayaannya organisasi adalah melalui infrastruktur IT yang terbuka dan boleh di capai oleh pengguna, penyelarasan kepakaran, dan pembangunan rancangan komunikasi. Adalah penting bagi sesebuah organisasi untuk melaksanakan proses innovasi dalam menghasilkan produk yang berkualiti tinggi, mengurangkan tempoh penyampaian perkhidmatan, meningkatkan kecekapannya, menghasilkan produk baru, dan juga mengurus pengetahuan dan maklumat kakitangan. Amalan pelaksanaan proses inovasi ini dapat menyokong keupayaan sesebuah organisasi dalam menghasilkan projek perisian yang dibangunkan mengikut masa dan kos yang telah ditetapkan.

ABSTRACT

Developing a software project is expensive and often a difficult process due to cost and schedule overrun. It can be argued that too much emphasis is placed by the recent approaches and models of the development of software projects on the technical skills of coding and debugging. Consequently, the importance of strategic planning and design of software is neglected. Furthermore, the higher the dynamic and turbulence of environmental changes posed on software projects, the more strategic the project procedures need to be in order to cope with these changes efficiently and effectively. This research study was conducted in order to ensure that software projects are developed on time and within the allocated cost. Based on past literature works, it was found that the resource-based view (RBV) of an organization's competitive advantage is one of the main strategic management theories applicable to explain its success. Therefore, the organizational capabilities framework by Grantt were proposed to be adapted into the software projects in Malaysia's public sectors. Moreover, innovation is an approach of sustaining the project's success within a dynamic and changing environment. It is the main strategic tool for a process competitive advantage in this kind of environment. In this study, a quantitative research design was adopted where a positivist paradigm was followed. Through Smart PLS 2.0, bootstrapping was used as the nonparametric resampling procedure in order to test the mediating effect on software project success process with the respondents consisting of 228 of Malaysian IT Managers in the public sectors. As a result, it was shown that in order to achieve success, competitive advantages are essential for an organization. In addition, the significance of organizational capabilities was the focus of this study. This factor may determine how IT managers make decisions to alter their organization's assets or capability bases. It was also suggested in this study that it is appropriate for an organization to develop its capabilities through the emerging IT infrastructure, coordinating expertise, and the development of communication plans. It is important for organizations to implement a process innovation strategy which can develop better-quality products, reduce the duration of service delivery, improve its efficiency, produce new products, and also manage staff knowledge and information. Besides, it is important for organizations to implement process innovation practices which support the organizational capabilities while delivering the product on time and within the cost allocated for the software projects.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS

R^2	Coefficient of determination
Q^2	Predictive Relevance
$a*b - z(SE)$	Upper Limit
$a*b + z(SE)$	Lower Limit
B	Regression Coefficients

LIST OF ABBREVIATIONS

EFA	Exploratory Factor Analysis
AVE	Average Variance Extracted
CA	Cronbach Alpha
CR	Composite Reliability
GoF	Goodness of Fit
SE	Standard Error
STD	Standard Deviation
9MP	9th Malaysian Plan
10MP	10th Malaysian Plan
PRINCE	PRojects IN Controlled Environments
PMBOK	Project Management Body of Knowledge

REFERENCES

Aaker, A, Kumar, VD & George, S 2000, Marketing research, John Wiley and Sons, Inc, New York.

Abouzahra, M. (2011). Causes of failure in healthcare IS/IT projects. The 3rd Int'l Conf. on Advanced Management Science, 4-6 Nov, 2011, Kuala Lumpur, Malaysia

Abrahamsson, P., Salo, O., Ronkainen, J., & Warsta, J. (2017). Agile software development methods: Review and analysis. arXiv preprint arXiv:1709.08439.

Agarwal, Nitin, Rathod, Urvashi, (2006). Defining 'success' for software projects: An exploratory revelation. International Journal of Project Management 24, p358 – 370.

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. Journal of Applied Social Psychology, 32(4), 665-683.

Aladwani, A.M. (2002). An integrated performance model of information systems projects. J. Manage. Inform. Syst. 19, 1, 185–210.

Anda, B.C.D., Sjøberg, D.I.K., Mockus, A (2009). Variability and reproducibility in software engineering: a study of four companies that developed the same system. IEEE Trans. Software. Engineering. 35 (3), 407–429.

Andres, H.P. and R.W. Zmud (2002). A Contingency Approach to Software Project Coordination Journal of Management Information Systems, 18, 3, 41-70.

Alavi, M. (1994). Computer-mediated Collaborative Learning: An Empirical Investigation, MIS Quarterly 18(2), 159-174.

Albino, V., Berardi, U., & Dangelico, R. M. (2015). Smart cities: Definitions, dimensions, performance, and initiatives. Journal of Urban Technology, 22(1), 3-21.

Alexy, O., West, J., Klapper, H., & Reitzig, M. (2018). Surrendering control to gain advantage: Reconciling openness and the resource- based view of the firm. Strategic Management Journal, 39(6), 1704-1727.

Arthur, W. B. (1996). Increasing returns and the new world of business. Harvard Business Review, Jul-Aug, 100–109.

Ashraf, J., Sarfraz, K and Mohsin N. Z. (2010). Why do public sector IT projects fail? The 7th International Conference on Informatics and Systems (INFOS), pages.1-6.

Awati, K. 2010. Obstacles to project communication. [online]. Available from: http://www.projectsmart.co.uk/obstacles-to-project-communication.html [Accessed 20 March 2015]

Banker, R. and Kauffman, J. (2004). The evaluation of research on information systems: a fiftieth-year survey of literature in management science. Management Science 50(3): 281-298.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.

Barney, J. B. & Hansen, M. H. (1994). Trustworthiness as a source of competitive advantage. Strategic Management Journal, 15, 175–190.

Barney, J.B., (2007). Gaining and sustaining competitive advantage 3rd edition. Upper Saddle River, NJ: Pearson Education.

Barney, S., Aurum, A and Wohlin, C. (2006). Quest for a silver bullet: Creating software product value through requirements selection, in 32nd EUROMICRO Conference on Software Engineering and Advanced Applications, pp. 274–281.

Barney, S., Aurum, A. and Wohlin, C. (2008). "A product management challenge: Creating software product value through requirements selection" Embedded Software Design (JSA) 54(6): 576-593, 2008.

Bassellier, G., Benbasat, I., Reich, B. (2003). The influence of business managers' IT competence on championing IT. Information Systems Research, 14(4), 317-336.

Belassi W, Tukel OI (1996). A New Framework for Determining Critical Success/Failure Factors in Projects. Int. J. Project. Management, 14(3): 141 - 151

Bernama. (19 October 2012). Health Ministry ends contract with company for failing to develop system. [Online]. Available at http://www.mysinchew.com/node/78889.

Berntsson Svensson, R. and Aurum, A. (2006). Successful Software Project and Products: An Empirical Investigation, Proceedings of ISESE, pp. 144-153.

Berman, S. L., Down, J., & Hill, C. (2002). Tacit knowledge as a source of competitive advantage in the National Basketball Association. Academy of Management Journal, 45(1), 13–31.

Bernama. (19 October 2012). Health Ministry ends contract with company for failing to develop system. (Online). Available at http://www.mysinchew.com/node/78889.

Besner, C. and Hobbs, B. (2012). "An Empirical Identification of Project Management Toolsets and Comparison Project Outcome: An empirical study," Project Management Journal, vol. 43, no. 5, 24-43.

Bharadwaj, A.S. (2000). A resource-based perspective on information technology capability and firm performance: An empirical investigation, MIS Quarterly 24 (1) 169– 196.

Bhatt, G., Emdad, A., Roberts, N., and Grover, V. (2010). "Building and leveraging information in dynamic environments: The role of IT infrastructure flexibility as enablers of organizational responsiveness and competitive advantage". Information & Management, 47: 341-349.

Bleistein, S. J., Cox, K., Verner, J., Phalp, K. T. (2006). "B-SCP: A requirements analysis framework for validating strategic alignment of organizational IT based on strategy, context, and process," Information and Software Technology, vol. 48, no. 9, pp. 846–868.

Boehm, B. (2005). "Value-based software engineering: overview and agenda" Value Based Software Engineering, Springer, Berlin, Heidelberg, NY.

Bracker, J. (1980). The historical development of the strategic management concept. Academy of Management Review. Vol. 5, Issue. 1, pp. 219-224. ISSN 0363-7425.

Broadbent, M., Weill, P., O'Brien, T. and Neo, B.N. (1996). Firm context and patterns of IT infrastructure capability. Proceedings of ICIS, Cleveland.

Broadbent, M. and Weill, P. (1997). Management by maxim: How business and IT managers can create IT infrastructures. Sloan Management Review, 77-92.

Brodbeck, F.C. (2001). Communication and performance in software projects. European Journal of Work and Organizational Psychology, 10(1), 73-94

Brown, K. B. & Hyer, N. L. (2010). Managing Projects; A Team-Based Approach. New York, USA: McGraw-Hill/Irwin

Brooks FP, (1995). The Mythical Man-Month: Essays on Software Engineering, Anniversary ed., Addison-Wesley, p. 13.

Boh, W. F. and Yellin, D. (2006). Using enterprise architecture standards in managing Information Technology. J Management Information System 23(3):163–207

Boxall, P.F. (1996). The strategic HRM debate and the resource-based view of the firm, Human Resource Management Journal 6(3), 59-75.

Bussen, W. and Myers, M. D. (1997). Executive information systems failure: a New Zealand case study. J. Inform. Technol. 12, 145–153.

Bunderson, J. S. (2003). Recognizing and utilizing expertise in work groups: A status characteristics perspective. Administrative Science Quarterly, 48(4): 557-591.

Burke R. (2007). Introduction to project management: one small step for the project manager. [S.l.]: Burke Pub; 2007

Burke R. (2010). Fundamentals of project management: tools and techniques. Ringwood: Burke Pub.

Burns, AC & Bush, RF (2000). Marketing research, Prentice Hall International, Inc., New Jersey.

Buttles-Valdez, P., Svolou, A., & Valdez, F. (2006). A holistic approach to process improvement using the People CMM and the CMMI-DEV: Technology process, people, & culture, the holistic approach. Retrieved from http://www.sei.cmu.edu/library/assets/Valdez08.pdf

Bryman, A. and Bell, E. (2007). Business research methods. Oxford University Press, USA.

Byrd T. A, Turner D. (2000). Measuring the flexibility of information technology infrastructure: exploratory analysis of a construct. J Manage Information System 17(1):167–208

Byrd, T. A. and Turner, D. (2001). "An exploratory examination of the relationship between flexible IT infrastructure and competitive advantage". Information & Management, 39(1): 41-52.

Calantonea, R.J., Cavusgila, S.T. & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. Industrial Marketing Management, 31(6), pp.515-24.

Calvo-Manzano Villal, J. A., Agustín, G. C., Gilabert, T. S. F., Seco, A. D. A. , Sánchez, L. G. and Cota, M. P. (2002). "Experiences in the Application of Software Process Improvement in SMES," Software Quality Control, vol. 10, pp. 261- 273.

Camisón, C. & Villar-López, A., (2012). Organizational innovation as an enabler of technological innovation capabilities and firm performance. Journal of Business Research.

Cappelli, P. and H. Singh. (1992). Integrating strategic human resources and strategic management, In D. Lewin and P. Mitchell (eds.), Research Frontiers in Industrial Relations, Industrial Relations Research Association.

Carmel, E. (1999). Global software teams. Prentice Hall, Upper Saddle River, NJ

Carmeli, A. (2001). High- and low-performance firms: Do they have different profiles of perceived core intangible resources and business environment? Technovation, 21, 661–671.

Carlo, J, Lyytinen, K. and Rose, G. (2011). "A knowledge-based model of radical innovation in small software firms," MIS Quarterly, vol. 36, no. 3, pp. 865–895.

Chan, A.P.C, Scott, D. and Chan, A. P. L. (2004). Factors affecting the success of a construction project. J Construct Eng Manage 130(1):153–5.

Che Rose, Raduan., Beh, LooSee., Uli, Jegak., and Idris, Khairuddin. (2006). Quality of work life: Implications of career dimensions. Journal of Social Sciences, 2(2), 61-67

Chen, J.S., Tsou, H.T. (2007). Information Technology Adoption for Service Innovation practices and competitive advantage: the case of financial firms. Information Res-an Inter Electronics Journal 12(3):23

Chen, C. J., Huang, J. W. and Hsiao, Y.C. (2010). Knowledge management and innovativeness: The role of organizational climate and structure. International Journal of Manpower 31(8), 848-870.

Churchill, GA & Iacobucci, D 2004, Marketing research: Methodological foundations, 9th ed, Thomson South-Western, Ohio.

Chutimaskul, W., Funikal, S. & Chongsuphajaisiddhi, V. (2008). The Quality Framework of e-Government Development. The 2nd International Conference on Theory and Practice of Electronic Governance (ICEGOV2008), Cairo, Egypt, December 1-4.

CIO Staff. (2007) When bad things happen to good projects. Retrieved April 2, 2004, from: http://www.cio.com/article/2439385/project-management/when-bad-things-happen-to-goodprojects.html

Cleland-Huang, J. (2005). "Software Requirements," Software Engineering: The development process, p. 113.

Cohen, J., Cohen, P. (1983). Applied multiple regression /correlation analysis for behavioral sciences. Hillsdale, NJ Lawrence Erlbaum Associates.

Cooke-Davies, T.J., Arzymanow, A. (2000). The maturity of project management in different industries: An investigation into variations between project management models. Institute Project Management 21(6): 471-478.

Cooke-Davies, T. (2002). "The "real" success factors on projects," International Journal of Project Management, vol. 20, no. 3, pp. 185-190.

Cooper, D.R. and Schindler, P.S. (2003) Business Research Methods. 8th Edition, McGraw-Hill Irwin, Boston.

Cooper, D., & Schindler, P. (2008). Business research methods (10th ed.). New York, McGraw-Hill/Irwin.

Creswell, J. W. (2003). Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. (2009). Research design: Qualitative, quantitative, and mixed methods approaches (3rd ed.). Thousand Oaks, CA: Sage.

Cusumano, M. A. (2004). The Business of Software. Free Press, U.S.A. ISBN: 0-7432-1580-X

Cusumano, M.A. (2004). The Business of Software: What Every Manager, Programmer, and Entrepreneur Must Know to Thrive and Survive in Good Times and Bad. Free Press, New York, NY.

Cusumano, M.A. and Selby, Microsoft Secrets, R.W. (1995). How the World's Most Powerful Software Company Creates Technology, Shapes Markets and Manages People. Free Press, New York, NY.

Dai, C.X. and Wells. (2004). "An exploration of project management office features and their relationship to project performance," International Journal of Project Management, vol. 22 no. 7, pp. 523-532.

Damanpour, F., Gopoalakrishnan, S. (1999). Organizational Adaptation and Innovation: The Dynamics of Adopting Innovation Types, in Brockhoff, K., Chakrabarti, A., Hauschild, J. (eds.), The Dynamics of Innovation, Springer, Berlin, 57–80.

Damanpour, F., & Gopalakrishnan, S. (2001). The dynamics of the adoption of product and process innovations in organizations. Journal of Management Studies, 38(1), 45-65.

Dans, E. (2001). IT Responsiveness in Small and Medium Enterprises: It pays to be on Top of IT. In Proceedings of the 8th European Conference on Information Technology Evaluation.

Davcik, N. S., & Sharma, P. (2016). Marketing resources, performance, and competitive advantage: A review and future research directions. Journal of Business Research, 69(12), 5547-5552.

Demir, C. & Kocabas, I. (2010). Project Management Maturity Model (PMMM) in educational organization. Social and Behavioral Sciences 9:1641-1645.

Delone, W. H.and Mclean, E. R. (2003). The DeLone and Mclean of information systems success: a ten-year update. J. Manag. Inform. Syst. 19, 4, 9–30.

DeMarco, T (1988). Looking for Lost Keys. Software Magazine, pp. 58- 62.

Doherty, N. F., King, M., and Al-Mushayt, O. (2003). The impact of the inadequacies in the treatment of organizational issues on information systems development projects. Inform. Manag. 41, 49–62.

Duncan, N.B. (1995b). The Invisible Weapon: A Study of Information Technology Infrastructure as a Strategic Resource. Unpublished Ph.D. dissertation, Texas A&M University, 1995.

Dunning, J. H. (2015). Reappraising the eclectic paradigm in an age of alliance capitalism. In The Eclectic Paradigm (pp. 111-142). Palgrave Macmillan, London.

Duvall, L.M. (1995). "A study of software management: The state of practice in the United States and Japan", The journal of system and software, Vol. 31, No. 2, pp 109 – 124.

Dvir D, Lipovetsky, S., Shenhar, A, Tishler, A. (1998). In Search of Project Classification: A Non-Universal Approach to Project Success Factors. Res. Policy., 27(9): 915-935.

Dwivedi, Y. K., Wastell, D. G., Laumer, S., & Henriksen, H. Z., Myers, M. D., Bunker, D., Elbanna, A., Ravishankar, M. N., & Srivastava, S. C. (2015). Research on information systems failures and successes: Status update and future directions. Information Systems Frontiers, 17(1), 143-157

Ebert, C. (2007). "The impacts of software product management," Journal of Systems and Software, vol. 80, no. 6, pp. 850–861.

Edmondson, A. C. (2012). Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy. San Francisco:Jossey-Bass.

Egorova, E., Torchiano, M., Morisio, M, Wohlin, C., Aurum, A, Svensson, R. B. (2009). "Stakeholders' Perception of Success: An Empirical Investigation," in Proc. 35th Euromicro Conference on Software Engineering and Advanced Applications, pp. 210–216.

El Emam, K.and Madhavji, N. H. (1995). A field study of requirements engineering practices in information systems development, in proceedings of the second IEEE International Symposium on Requirements Engineering, p. 68.

Engelbrecht A. (2010). Managing the media. The role played by the media as a channel for project communication on public infrastructure projects. The project manager, 4. p. 26-33, March.

Espinosa, J. A., Carmel, A. (2004). The effect of time separation on coordination costs in global software teams: A dyad model. Proc. 37th Hawaii Int. Conf. Syst. Sci.

Estefan, J. A. (2007). "Survey of model-based systems engineering (MBSE) methodologies," Incose MBSE Focus Group, vol. 25.

Fahy, J. 2000. The resource-based view of the firm: Some stumbling-blocks on the road to understanding sustainable competitive advantage. Journal of European Industrial Training, 24, 94–104.

Fairley, E.R. (2009). Managing and Leading Software Projects, WileyIEEE Computer Society Press

Faraj, S., Sproull, L. (2000). Coordinating expertise in software development teams. Management Science, 46(12), 1554-1568.

Fink, L. and Neumann, S. (2009). "Exploring the perceived business value of the flexibility enabled by information technology infrastructure". Information & Management, 46(2): 90-99.

Franco-Santos, M., Kennerley, M.,Micheli, P., Martinez, V., Mason, S., Marr, B., Gray, D. and Neely, A. (2007). "Towards a definition of a business performance measurement system"; International Journal of Operations & Production Management, Vol. 27, No. 8, pp. 784-801

Frankfort-Nachmias, C. and Nachmias, D. (1992): Research Methods in the Social Sciences, 4 th edition, London, Melbourne. (5 th edition 1996).

Fransson, L. and Lundgren, C. (2011). Internal communication within complex change projects, a qualitative study of the WIL project at IL Recycling

Freedman, R. (2000). Keep clients in the loop with a good communication plan. Retrieved 14 February 2012, from http://www.techrepublic.com/article/keep-clients-in-the-loop-with-a-good-communication-plan/1028905

Fricker, S., Gorschek, T., Myllyperki\ö, P. (2007). "Handshaking between software projects and stakeholders using implementation proposals," Requirements Engineering: Foundation for Software Quality, pp. 144–159, 2007.

Foorthuis, R. M. and Brinkkemper, S. (2008). "Best Practices for Business and Systems Analysis in Projects Conforming to Enterprise Architecture," Enterprise Modelling and Information Systems Architectures, vol. 3, no. 1, pp. 36–47.

Futrell R. T., Shafer L. I., Shafer D. (2001). Quality software project management, Prentice Hall PTR.

Galin, D. (2004). Software Quality Assurance-From Theory to Implementation, Addison-Wesley, pp. 4-7.

Gartner raises global IT spend f'cast, Reuters. (2011). [Online][Accessed October 10, 2013] Available from the World Wide Web: http://www.reuters.com/article/2011/01/06/technology-spending-garneridUSSGE70504H20110106

Geroski, P. (1995). Innovation and competitive advantage. Working Paper No. 159, OECD, Paris.

Gummesson, E. (2000). Qualitative methods in management research (2nd edition.). Thousand Oaks, California: Sage Publications.

Gummesson, E. (2012), Case Study Research in Business and Management, Sage, London

Gouthier, M., & Schmid, S. (2003). Customers and customer relationships in service firms: The perspective of the resource-based view. Marketing Theory, 3(1), 119–143.

Gunday, G., Ulusoy, G., Kilic, K. & Alpkan, L., (2011). Effects of innovation types on firm performance. International Journal of Production Economics, 133(2), pp.662-76.

Gardner, H. K., Gino, F., Staats, B. (2012). Dynamically integrating knowledge in teams: A resource-based view of team performance. Academy of Management Journal, (forthcoming).

Gartner, (2015). Digital Civic Moment: The Leap from Analog to Digital Government and Innovative Citizen Engagement.

Gemino, A., Reich, B.H., Sauer, C.A. (2007). Temporal model of information technology project performance. Journal of Management Information Systems, 24(3), 9-44.

Geroski, P., (1995). Innovation and competitive advantage. Working Paper No. 159, OECD, Paris.

Gibbert, M. (2006). Generalizing about uniqueness: An essay on an apparent paradox in the resource-based view. Journal of Management Inquiry, 15(2), 124–134.

Gichoya, D. (2005) Factors Affecting the Successful Implementation of ICT Projects in Government. Electronic Journal of E-Government, 3, 175-184.

Gimenez, C. haand Ventura, A. (2002). "Supply chain management as a competitive advantage in the Spanish grocery sector". Published Working Paper. No. 2, 04/2002, Universitat Pompeu Fabra' (UPF), Barcelona, Spain.

Glass, R.L. (2001). ComputingFailure.com: War Stories from the Electronic Revoltion. Prentice Hall PTR, Upper Saddle River, NJ.

Glass, Robert L. (1999). Evolving a new theory of project success. Communications of the ACM, Vol. 42 No. 11.

Grant, R.M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation, California Management Review (Spring) 114–135.

Graham, J.W., Hofer, S.M., Donaldson, S.I., Mackinnon, D.P. & Schafer, J.L.(1997). Analysis with missing data in prevention research. In K. Bryant, M. Windle & S. West [Eds.]. The science of prevention: Methodological advances from alcohol and substance abuse research. Washington, DC: American Psychological Association.

Graham, J. W. (2012). Missing Data: Analysis and Design Retrieved from http://ECU.eblib.com.au/patron/FullRecord.aspx?p=1156148

Grahovac, J. and Miller, D. J. 2009. Competitive advantage and performance: The impact of value creation and costliness of imitation. Strategic Management Journal 30, pp. 1192–1212

Grant, R.M. (1995). Contemporary strategy analysis: Concepts, Technique, and Applications (2nd ed.), Massachusetts: Blackwell.

Grant, R.M. (1996). Toward a knowledge-based theory of the firm. Strategic Management Journal, 17, 109-122.

Grant, R.M. (1996). Prospering in Dynamically-Competitive Environments: Organizational Capability as Knowledge Integration, Organization Science 7(4), 375-387.

Grant, R.M. (1996b). Toward a Knowledge-based Theory of the Firm, Strategic Management Journal 17(Winter), 109-122.

Grant, R M. (2002). Contemporary strategy analysis: Concepts, Techniques, and Applications (4th ed.), Massachusetts: Blackwell.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (pp. 105-117). London: Sage.

Habibah, N. (2003). An Approach to the Development of framework for software Risk Management. PhD Dissertation UKM, 2003.

Hackman, J. R. (2002). Leading Teams: Setting the Stage for Great Performances. Boston: Harvard Business School Press.

Hair, J. F., Anderson, R. E., Tatham, R. E., William, C. (1998). Multivariate data analysis.

Hair, Joseph, Robert Bush, and David Ortinau (2003), Marketing Research: Within a changing information environment (2nd ed.). London: McGraw-Hill.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). Multivariate data analysis (6 Ed.). New Jersey: Pearson Prentice Hall.

Hair, J, F., Ringle, C. M., Sarstedt, M., (2013). Editorial-partial least squares structural equation modelling: Rigorous applications, better results and higher acceptance. Long Range Planning 46 (1-2), 1-12.

Hall, R. (1992). The strategic analysis of intangible resources. Strategic Management Journal, 13, 135–144.

Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. Strategic Management Journal, 14, 607– 618.

Haron, A. and Sahibuddin, S. (2011). "Identification of Critical Issues for Requirement Engineering based on Software Project Components in Organization," in Proc. 2011 International Conference on Software and Information Engineering (ICSIE 2011), Kuala Lumpur, Malaysia.

Haron, A., Sahibuddin, S., Harun, M., Zakaria, N. H. and Mahrin, M. N. (2013). The Important Role of People, Process and Technology during Software Project Requirement' International Journal of Machine Learning and Computing, Vol. 3, No.1.

Hashi, I. and Stojčić, N., (2013). The impact of innovation activities on firm performance using a multistage model: Evidence from the community Innovation Survey 4. Research Policy, 42(2), pp.353-66.

Hashim, M.K. & Zakaria, M. (2010). Business strategy and performance of small and medium manufacturing firms in Malaysia. World Review of Entrepreneurship, Management and Sustainable Development. 6(1/2), 125-134.

He, J., Butler, B.S., King, W.R. (2007). Team cognition: Development and evolution in software project teams. Journal of Management Information Systems, 24(2), 261-292.

Herbsleb, J., Mockus, A., Finholt, T., & Grinter, R. (2000). In Distance, dependencies, and delay in a global collaboration. Paper presented at the Computer-Supported Cooperative Work (CSCW), Philadelphia, PA.

Herbsleb, J.D., Atkins, D.L., Boyer, D.G., Handel, M., Finholt, T.A. (2002). Introducing instant messaging and chat in the workplace. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. ACM Press, New York, USA, 171-178

Herbsleb, J. D., A. Mockus. (2003). An empirical study of speed and communication in globally distributed software development. IEEE T. Software Eng. 29(3) 1-14.

Hirsch, J. (2014). Toyota recalls 1.9 million Prius hybrids to fix software problem. Retrieved February 12, 2014, from: http://articles.latimes.com/2014/feb/12/autos/la-fi-hy-toyota-prius-recall-20140212

Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. Academy of Management Journal, 44(1), 13–28.

Hitt, M. A., Xu, K., & Carnes, C. M. (2016). Resource based theory in operations management research. Journal of Operations Management, 41, 77-94.

Hoegl, M., & Proserpio, L. (2004). Team member proximity and teamwork in innovative projects. Research Policy, 33, 1153-1165.

Hoezen MEL. (2006). The problem of communication in construction. In: International conference on adaptable building structures, Eindhoven 3-5 July 2006. Enschede: University of Twente, pp. 14-19. [online]. Available from: . [Accessed 12 April 2011];

Howsawi, E, Eager, D, Bagia, P, Neibecker, K. (2014) "The four level project success framework: Application and Assessment. Organizational Project Management. Published by UTS ePRESS. Vol. 1. No 1(2014) 1-14

Humphrey, W.S. (1998). Managing Technical People: Innovation, Teamwork and the Software Process. Addison-Wesley: Reading, MA.

Ibbs C. W. and Kwak Y. H. (2000). Assessing Project Management Maturity. Project Manag. J., 31(1): 32-43.

IEEE (1987) (Revised 1993) Standard for Software Project Management Plans, Chapter 7, 13, IEEE Standard. IEEE.

Jain M (2008). Delivering Successful Projects with TSP and Six Sigma: A Practical Guide to Implementing Team Software Process, Auerbach Publications, p. 4.

Jiang, J.J, Muhanna, W., Klein, G. (2000). User resistance and strategies for promoting acceptance across system types, Information and Management 37, pp. 25-36.

Jones, C. (1995). Patterns of large software systems: failure and success. IEEE Computer 28, 86–87.

Jones, M.C., Harrison, A.W. (1996). IS project team performance: an empirical assessment, Information & Management 31, pp, 57-65.

Jo, P.A. & Berry, M. (2008). The most important success factors for implementation of government projects in developing countries. Proceedings of PICMET pages. 1400-1409.

Jurison J. (1999). Software project management: The manager's view, Communication of the AIS.

Kaindl, H., Brinkkemper, S., Bubenko, J. A., Farbey, B. , Greenspan, S., Heitmeyer, C., Leite, J. C. S. d. P., Mead, N. R., Mylopoulos, J., Siddiqi, J. (2002). "Requirements Engineering and Technology Transfer: Obstacles, Incentives and Improvement Agenda," Requirements Engineering, vol. 7, pp. 113-123.

Kamoche, K. (1996). Strategic human resource management within a resource-capability view of the firm, Journal of Management Studies 33(2), 213-233.

Kappelman, L.A., McKeeman, R., Zhang, L. (2006). Early warning signs of IT project failure: the dominant dozen. Inf. Syst. Manage. 23 (4), 31–36.

Karlsson, L., Dahlstedt, A. G., Regnell, B., J Dag, J. N., Persson, A. (2007). "Requirements engineering challenges in market-driven software development-An interview study with practitioners," Information and Software technology, vol. 49, no. 6, pp. 588–604, 2007.

Kassim, NM 2001, Determinants of customer satisfaction and retention in the cellular phone market of Malaysia, PhD thesis, Southern Cross University, Lisbon.

Kazan, H., Karadal, H., Uygun, M., (2002), Basic production and management problems of small and medium-sized industrial enterprises in the process of transition to information technologies: The case of Aksaray, SME's in 21st Century: Challenges, Opportunities and Solutions Symposium, Eastern Mediterranean University, Turkish Republic of Northern Cyprus, Jan. 3-4.

Keen, P.G.W. (1991). Shaping the Future: Business Design through Information Technology. Boston, MA: Harvard Business School Press.

Klein, J.A., Edge, G., Kass, T. (1991). Skill-based competition, Journal of General Management 16(4), 1-15.

Keil et al. (1998). A Framework for Identifying software project risks. Communications of the ACM, Vol. 41, No. 11, page 76-8

Kerzner, H., (2009). Project Management: A Systems Approach to Planning, Scheduling, and Controlling. New Jersey: John Wiley & Sons.

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. Organization Science, 3(3), 383-397.

Koelen, M. A., & Van den Ban, A. W. (2004). Health education and health promotion. The Netherlands: Wageningen Academic Publishers

Koellinger, P. (2008). The relationship between technology, innovation, and firm performance: Empirical evidence from e-business in Europe. Research Policy, 37(8), pp.1317-28.

Koivula, J. (2009). Succeeding in project communication- effective tools for the purposes of change management. Tampereen Ammattikorkeakoulu University of Applied Sciences.

Kubota, L. C., Nogueira, A. R. R. (2007). Impacto da Gestão nos resultados percebidos de empresas de software. ANPAD – RJ.

Kuilboer, J. P. and Ashrafi, N. (2000). "Software Process and Product Improvement: An Empirical Assessment," Information and Software Technology, vol. 42, pp. 27-34.

Lai, L.S.L. (1997). A synergistic approach to project management in information systems development. Int. J. Proj. Manage. 15 (3), 173–179.

Laughlin, P.R. (1980). Social combination processes of cooperative problem solving groups on verbal intellective tasks. In M. Fishbein (Eds.), Progress in social psychology. Erlbaum, Hillsdale, NJ.

Law C. C. H., Ngai E. W. T. (2007). Capabilities and business process improvement: association with IT governance characteristics. Information Resource Management 20(4): 25-47

Lee,W.L.(2007)
Available:http://bizedge.com/cms/content.jsp?id=com.tms.cms.article.Article_4 3dbb1d8-cb73c03a-39060b00-85916308

Lehtinen, T., Mäntylä, M., Vanhanen, J., & Itkonen, J. (2014). Perceived causes of software project failures – An analysis of their relationships. Information and Software Technology, 56(6), 623-643

Liu, Wu & Meng. (2012). Critical affecting factors of IT project management. International Conference on Information Management, Innovation Management and Industrial, ICIII Volume 1. Article number 6339710, Pages 494-497.

Linberg, K.R., (1999). Software developer perceptions about software project failure: a case study. The Journal of Systems and Software 49, 177–192.

Lowendahl, B.R. (2005). Strategic Management of Professional Service Firms. Copenhagen: Copenhagen Business School Press.

Lynch, T. and Gregor, S. (2004). User participation in decision support systems development: influencing system outcomes. Euro. J. Inform. Syst. 13, 286–301.

Ma, H. (2000). "Competitive advantage and firm performance"; Competitiveness Review. Vol. 10 Issue 2, p16, 17p.

MacCormack, A. D. (2001). "Product-Development Practices That Work: How Internet Companies Build Software." MIT Sloan Management Review 42, no. 2, 75–84.

Majchrzak, A., Rice, R.E., Malhotra, A., King, N., Ba, S. (2000). Technology adaptation: The case of a computer-supported inter organizational virtual team. MIS Quarterly, 24(4), 569-600. Malone, T.W., C

Maidin, S.S. and Arshad N.H. (2009). IT Governance Practices in Malaysian Public Sector. International Conference on Financial Theory and Engineering. ICFTE 2009. pp. 281-285.

Maidin, Siti Sarah, and Noor Habibah Arshad. (2010). "IT governance practices model in IT project approval and implementation in Malaysian public sector." Electronics and Information Engineering (ICEIE), 2010 International Conference On. Vol. 1. IEEE.

Malhotra, N. K. (1999). Marketing Research: an applied orientation. London: Prentice-Hall International.

Mampu, (2011). The Malaysian Public Sector ICT Strategic Plan (2011-2015)

Marijn, J.and Bram, K. (2010). ICT-project failure in public administration: The need to include risk management in enterprise architectures". ACM.

Masao Kakihara. (2006). "Strategizing software development: strategic management of internet service development". ACM New York, NY, USA.

Masateru Tsunoda et al. (2010). "Modeling Software Project Monitoring with 2001Stakeholders", 9th International Conference on Computer and Information Science.

Maslej M. (2006). Communication in the Construction Industry. [online]. Available from: . [Accessed 15 August 2011];

Mathieu, J.E., Heffner, T.S., Goodwin, G.F., Salas, E., Cannon-Bowers, J.A. (2000). The influence of shared mental models on team process and performance. Journal of Applied Psychology, 85(2), 273-283.

Makolm, J. (2006). "A Holistic Reference Framework for e-Government: The Practical Proof of a Scientific Concept," in System Sciences, 2006. HICSS'06. Proceedings of the 39th Annual Hawaii International Conference, vol. 4, p. 77a.

Marijn Janssen and Bram Klievink (2010)." ICT-project failure in public administration: The need to include risk management in enterprise architectures", ACM.

McEvily, S.K., Eisenhardt, K.M., Prescott, J.E. (2004). The Global Acquisition, Leverage, and Protection on Technological Competencies, Strategic Management Journal 25(8-9), 713- 722

McAdam, R., Keogh, K., (2004). Transitioning towards creativity and innovation measurement in SMEs. Creativity and Innovation Management 13 (2), 126-141.

McGrath, J.E. (1984). Groups: Interaction and performance. Prentice-Hall, Englewood Cliffs, NJ

Melville, N., Kraemer, K., Gurbaxani, V. (2004). Review: Information technology and organizational performance: an integration model IT business value. MIS Quart 28(2): 283-322

Michalisin, M. D., Smith, R. D., & Kline, D. M. (1997). In search of strategic assets. International Journal of Organizational Analysis, 5(4), 360–387.

Michalisin, M. D., Kline, D. M., & Smith, R. D. (2000). Intangible strategic assets and firm performance: A multi-industry study of the resource-based view. Journal of Business Strategies, 17(2), 93–117.

Morgan, N.A., Kaleka, A., Katsikeas, C.S. (2004). "Antecedents of export venture performance: A theoretical model and empirical assessment"; Journal of Marketing, Vol. 68 90- 108.

Morris P.W.G. (2010). Research and the future of project management, International Journal of Managing Projects in Business, Vol. 3 No. 1, 2010, pp. 139-146.

Morris, P.W.G. (2001). Updating the project management bodies of knowledge, Project Management Journal, Vol. 32 No. 3, pp. 21-30.

Morris, P., Masera, M., Wilikens, M. (1998). "Requirements engineering and industrial uptake," Requirements Engineering, vol. 3, pp. 79-83.

Morris, P.W.G. (1994). The Management of Projects, Thomas Telford, London.

Muehlen, M. Z., Indulska, M., Kamp, G. (2007). "Business Process and Business Rule Modeling: A Representational Analysis," in Proceedings of the 3rd International Workshop on Vocabularies, Ontologies and Rules for the Enterprise. Eds.: K. Taveter, D. Gasevic. IEEE: Baltimore, Maryland.

Nandhakumar, J. (1996). Design for success: critical success factors in executive Information Systems Development. Euro. J. Inform. Syst. 5, 1, 62–72.

Nasir, M. H. N and Sahibuddin, S. (2011). Scientific Research and Essays Vol. 6(10), pp. 2174-2186, 18 May, 2011, Available online at http://www.academicjournals.org/SRE DOI: 10.5897/SRE10.1171 ISSN 1992-2248 ©2011 Academic Journals

National Audit Department of Malaysia. Leveraging Technology to Enhance Audit Quality and effectiveness 6th ASOSAI Symposium_12 February 2015, Available at http://www.intosaiitaudit.org/publication_and_resources/15/other_publication

National Institute of Public Administration. Malaysia (INTAN). 2017. "Memacu Transformasi Melalui Pembelajaran". Available from isac.intan.my/isac/Inisiatif%20ICT%20Sektor%20Awam.pptx

Nawi, H. S. A., A. A. Rahman, and O. Ibrahim. (2011). "Government's ICT Project Failure Factors: A Revisit." 2011 International Conference on Research and Innovation in Information Systems, Kuala Lumpur, 1–6.

Newbert, S. L. (2008). Value, rareness, competitive advantage, and performance: A conceptual-level empirical investigation of the resource-based view of the firm. Strategic Management Journal, 29(7), 745–768.

Nicholas JM., (2002). Project Management for Business and Technology, Prentice-Hall of India.

Nidumolu, S. (1995). The effect of coordination and uncertainty on software project performance: Residual performance risk as an intervening variable. Information Systems Research, 6(3), 191-219.

Niehaves B. (2010). Open process innovation: The impact of personnel resource scarcity on the involvement of customers and consultants in public sector BPM. Business Process Management Journal 16(3), 377- 393.

Nord W. and Tucker S. (1987). Implementing routine and radical innovations. New York.

Norziha Md Zain. 2004. The impact of corporate strategy, corporate culture, core competence and human resource practices on organitional performance. Ph. D. Thesis. Universiti Putra Malaysia.

Nor'ashikin. (2013). Model Penilaian Penggurusan Skop Projek Teknologi Maklumat dan Komunikasi (ICT) Sektor Awam. PhD Dissertation Universiti Kebangsaan Malaysia.

O'Brien, J. A. & Marakas, G. M.2011, Management Information Systems, 10th Edition, McGraw-Hill, New York, USA

Oya Icmeli Tukel, Walter O. Rom, (2001) "An empirical investigation of project evaluation criteria", International Journal of Operations & Production Management, Vol. 21 Issue: 3, pp.400-416

Penrose, E. (1995). Theory of the Growth of Firm (3rd Edition.). New York: Oxford University Press.

Petersen, K., Vakkalanka, S., & Kuzniarz, L. (2015). Guidelines for conducting systematic mapping studies in software engineering: An update. Information and Software Technology, 64, 1-18.

Peterson, D. K., Kim, C. S., Kim, J. H., and Tamura, T. (2002). The Perceptions of Information Systems Designers from the United States, Japan, and Korea on Success and Failure Factors. Int. J. Inform. Management. 22, 6, 421–439.

Petit, D.; Janssen, R. F. L.; Pereira.C. A. (2007) Exportação de software e serviços de Tecnologia da Informação - Conceitos Básicos. Florianópolis: SEBRAE/SC, 144p

Pinto, J.K., Slevin, D.P., (1988). Project success: definitions and measurement techniques. Project Management Journal 19, 67–72.

Pinto, J. K, Mantel, S. J. (1990). The Causes of Project Failure. IEEE T. Eng. Manage., 34(7): 305-327

Pinto J. K., Rouhiainen, P. J. (2001). Building Customer-Based Project Organizations, John Wiley and Sons, p. 87.

Pinto, J. K., & Winch, G. (2016). The unsettling of "settled science:" The past and future of the management of projects. International Journal of Project Management, 34(2), 237-245.

PMBOK (2013). PMBOK guide. Newtown Square, PA, USA: Project Management Institute, Inc.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88, 879-903

Popa, I., Dobrn, C., Popescu, D., Dragihici, M. (2011). Theoretical and Empirical Researches in Urban Management Vol. 6, No. 4 pp. 60-66.

Powell, T. C., and Dent-Micallef, A. (1997). Information technology as competitive advantage: The role of human, business, and technology resources. Strategic Management Journal, 18, 375–405.

Pressman, R. Software Engineering: A Practitioner's Approach. McGraw-Hill, New York, NY, 2004.

Procaccino, J.D., Verner, J.M., (2002). Software practitioner?s percep- tion of project success: a pilot study. International Journal of Computers, The Internet and Management 10, 20–30.

Procaccino, Verner, D. J., Lorenzet, J. M., Steven, J. (2006). Defining and contributing to software development success. Communications of the ACM, Aug 2006/Vol. 49, No. 8.

Project Management Institute (PMI). (2008). A Guide to the Project Management Body of Knowledge (PMBOK Guide). Edisi ke-4. Newton Squera, Pennsylvania: Project Management Institute.

Qian, Z. W., & Huang, G. (2017). Human Capital and Innovation Ability in Medical Education: An Empirical Study. Eurasia Journal of Mathematics, Science and Technology Education, 13(8), 5395-5403.

Radovanovic, D., Sarac, M., Adamovic, S. and Lucic, D. (2011). Necessity of IT Services Management and IT Governance. MIPRO, Opatija, Croatia.

Ragusa, A. (2010), Internal communication management. Individual and organizational outcome. London: BookBoon.

Rahbar Faramarz Fred; Rowings James E Jr (1998). "Top-down back-to-front project planning", pp PS1-PS7

Raja Suzana Raja Kasim. (2008). The contribution of public-listed organizations to knowledge-based development in Malaysia. The international journal of knowledge, culture and change management. v. 8(7) p. 87-98.

Ramesh, B., Dhar, V. (1992). Supporting systems development by capturing deliberations during requirements engineering. IEEE Transactions on Software Engineering, 18(6), 498-510

Randall, D.M., Gibson, A. M. (1990). "Methodology in Business Ethics Research: A Review and Critical Assessment," Journal of Business Ethics, 1990: 457-471.

Raup-Kounovsky, A., Hrdinova, J., Canestaro, D. S., Pardo, T. A. (2010). IT Governance to fit your context: Two U.S. Case Studies. International Conference on Theory and Practice of Electronic Governance.

Ravichandran, T., Rai, A. (2000). Quality management in systems development: An organizational system perspective. MIS Quarterly, 24(3), 381-415.

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.

Razali, N. M., Wah, Y. B. (2011). Power Comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling Tests. Journal of Statistical Modeling and Anlytics, 2, 21-33.

Reichstein, T., and Salter, A. (2006). 'Investigating the sources of process innovation among UK manufacturing firms'. Industrial and Corporate Change, 15, 653–82.

Reifer, D. J. (2000). "The CMMI: It's Formidable," Journal of Systems and Software, vol. 50, pp. 97-98.

Reinartz, W., Haenlein, M., Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. International Journal of Research in Marketing 26 (4), 332–344

Remenyi, D. (1999). Stop IT Project Failures Through Risk Management. Routledge, UK

Rocha, A. R., Maldonado, J.C., Weber, K.C. (2001). Qualidade de software Teoria e Prática. São Paulo: Prentice Hall

Roselino, J. E. (2006) A indústria de software: o "modelo brasileiro" em perspectiva comparada. (Tese de Doutoramento) - Instituto de Economia, Universidade Estadual de ampinas. Campinas

Rouse, M. J., & Daellenbach, U. S. (1999). Rethinking research methods for the resource-based perspective: Isolating sources of sustainable competitive advantage. Strategic Management Journal, 20, 487–494.

Rus, I., Lindvall, M. (2002) Knowledge management in software engineering. IEEE Software, 19(3), 26-38

Ruuska, Kai, (1996). Project Communication. Available: http://www.prodictor.fi/IC8.PDF

Russo, M.V., Fouts, P.A. (1997). A resource-based perspective on corporate environmental performance and profitability, Academy of Management Journal 40 (3) 534–559

Ruzita Jusoh & Parnell, J.A. (2008). Competitive strategy and performance measurement in the Malaysian context: An exploratory study. Management Decision, 46(1), 5-31.

Ruzita Jusoh, Daing Nasir Ibrahim & Yuserrie Zainuddin. (2008). The performance consequence of multiple performance measures usage: Evidence from the Malaysian manufacturers. International Journal of Productivity and Performance Management, 57(2), 119-136.

Royal Academy of Engineering and the British Computer Society. (2004). The Challenges of Complex IT Projects, the Royal Academy of Engineering.

Rozaida Mohd Daru, Mahanum Daim. (2018). Organizational Capability and Process Innovation of Software Project in the Malaysian Public Sector. International Journal of Social Science and Humanities Research. Vol. 6, Issue 4, pp: (1432-1442), October - December 2018,

Rozhan Othman. (2008). Enhancing the effectiveness of the balance scored card with scenario planning. International Journal of Productivity and Performance Management. Vol.57 No. 3

Saarinen, T. (1990). System development methodology and project success. Inform & Manage 19:183–193

Saarinen, T., (1996). An expanded instrument for evaluating information system success. Information and Management 31, 103–118.

Sauer, C., Cuthbertson, C. (2003). The State of IT Project Management in the UK 2002-2003. Computer Weekly, 15 April, pp. 1-82.

Saunders, M. N. K., Lewis, P. and Thornhill, A. (2012) Research Methods for Business Students (6th edn). Harlow: Pearson Education.

Scheffer, J. (2002). Dealing with missing data. Research letters in the information and mathematical sciences, 3(1), 153-160.

Schendel, D. (1994). Introduction to competitive organizational behaviour: Toward an organizationally based theory of competitive advantage, Strategic Management Journal 15, 1–4.

Schroeder, R. G., Bates, K. A., & Junttila, M. A. (2002). A resource-based view of manufacturing strategy and the relationship to manufacturing performance. Strategic Management Journal, 23(2), 105–117.

Schumacher, W. (1997). Managing Barriers to Business Reengineering Success. BPR Online Learning Centre, 1997, http://www.prosci.com/w_0.htm.

Schumacher, W. D. (2003). "Managing Barriers to Business Reengineering Success", Available: http:www.prosci.com/w_2htm.

Sekaran, U. (2003) Research Methods for Business A Skill-Building Approach. 4th Edition, John Wiley & Sons, New York.

Shapiro, S. S., and Wilk, M. B. (1965). An analysis of variance test for normality (complete samples), Biometrika 52, 591–611.

Shenhar, Levy, A. J., Ofer, (1997). Mapping the dimensions of project success. Project Management Journal, Vol 28.

Shenhar, Levy, A. J., Dvir, D. (2007). Project Management Research: The challenge and opportunity. Project Management Journal, 3 (2), 93-99.

Slomp, J., Molleman, E. (2002). Cross-training policies and team performance. International Journal of Production Research, 40:1193–1219.

Smith, L. (2000). "Project Clarity Through Stakeholder Analysis", CrossTalk, 13 (12) pp. 4-9.

Spears LC. (ed.) (1995). Reflections on leadership: how Robert K. Greenleaf's theory of servant-leadership influenced today's top management thinkers. New York: Wiley; 1995.

Standish Group. (1995). CHAOS Summary Report.Standish Group. (2001). CHAOS SummaryReport http://www.standishgroup.com/sample_research/PDFpages/extreme_chous.pdf.

Standish Group. (2009). CHAOS Summary Report.

Standish Group International (2010). Chaos Summary for 2010. Technical Report.

Standish Group International (2011, February 16th). Extreme Chaos Report [Online]. Available: http://www.cin.ufpe.br/~gmp/docs/papers/extreme_chaos2001.pdf.

Stead, J. and Stead, W. (2008). Sustainable strategic management: An evolutionary perspective. International Journal of Sustainable Strategic Management, Vol. 1, pp. 62-81. ISSN 1753-3619.

Steiner, G. and Miner, J. (1997). Management policy and strategy: Text, readings and cases. New York: Macmillan. ISBN 00-2416-750-9.

Stellman, A., Greene, Jenifer. (2005). Applied Software Project Management. Stellman, Andrew, Greene, Jenifer. 2005. O'Reilly Media. ISBN 978-0-596-00948-9

Stoica & P. Brouse (2012). Information Technology (IT) Project Management Failures: Historical and Evolutionary Walkthrough from a Social Dynamic Perspective – A Primer to "Preemptive and Adaptive Project Management," Proceedings of the 22nd Annual International Symposium, International Council on Systems Engineering (INCOSE) 2012, Rome, Italy.

Stoica & P. Brouse (2013). IT project failure: A proposed four-phased adaptive multi-method approach, Conference on Systems Engineering Research (CSER'13) Eds.: C.J.J. Paredis, C. Bishop, D. Bodner, Georgia Institute of Technology, Atlanta, GA, March 19-22.

Subramani, N. (2011). "Seminar Personel ICT", Malaysian Administrative Modernization and Management Planning Unit (MAMPU), Malaysia.

Sumner, M., Bock, D., Giamartino, G., (2006). Exploring the linkage between the characteristics of it project leaders and project success. Inf. Syst. Manage.

Szegedy, C., Liu, W., Jia, Y., Sermanet, P., Reed, S., Anguelov, D., & Rabinovich, A. (2015). Going deeper with convolutions. In Proceedings of the IEEE conference on computer vision and pattern recognition (pp. 1-9).

Tabachnick, B. G., Fidell, L. S., (2001). Using Multivariate statistics.

Tallon, P. (2008). "Inside the adaptive enterprise: An information technology capabilities perspective on business process agility". Information Technology and Management, 9: 21-36.

Tamai, M. Current Practices in Software Processes for System Planning and Requirements Analysis. Information and Software Technology, 35 (6-7). 339-334

Taylor, A. (2000). IT Projects: Sink or Swim. Comput. Bull., 42(1): 24-26

Teo, T. S. H. and Ang, J. S. K. (1999). Critical success factors in the alignment of IS with Business Plans. International Journal of Information Management. Pp. 173-18.

Thayer, Pyster and Wood. (1981), "Major issues in software engineering project management", IEEE Transactions on Software Engineering, No.7, pp. 333 – 342.

The Chartered Institute of Building (CIOB). (2010). Code of Practice for Project management for Construction and Development. 4th ed. CIOB: Chichester: Wiley-Blackwell.

The CHAOS Report (2015). https://www.infoq.com/articles/standish-chaos-2015

Tim O'Shannassy, (2008) "Sustainable competitive advantage or temporary competitive advantage: Improving understanding of an important strategy construct", Journal of Strategy and Management, Vol. 1 Issue: 2, pp.168-180

Tiwana, A., McLean, E. (2005). Expertise integration and creativity in information systems development. Journal of Management Information Systems, 22(1), 13-43

Treasury of Malaysia. (2011). The 2012 Budget Speech (Online). Available at http://www.treasury.gov.my/pdf/budget/bs12.pdf

Teo, T. S. H. and Ang, J. S. K. (1999). Critical success factors in the alignment of IS with Business Plans. International Journal of Information Management. Pp. 173-18.

Tuan, N. P. & Yoshi, T. (2010). Organizational capabilities, competitive advantage and performance in supporting industries in Vietnam. Asian Academy of Management Journal, Vol. 15, No. 1, 1–21.

Tushman, N. L. & Nadler, D. A. (1986). Organizing for innovation. California Management Review, 28(3), 74-92.

Turner, R., Bredillet, C., Huemann, M., & Anbari, F. (2010). Perspectives on Projects. London and New York: Taylor & Francis.

Tyler, B. B. (2001). The complementarity of cooperative and technological competencies: A resource-based perspective. Journal of Engineering and Technology Management, 18(1), 1–27.

Ulrick, D. and D. Lake. (1991). Organizational Capability: Creating Competitive Advantage. Academy of Management Executive 5(1): 77-91.

United Nation E-Government Development Index. (2016). Available from https://publicadministration.un.org/egovkb/en-us/Data-Center, 2016.

Vega-Jurado J., Gutiérrez-Gracia A., Fernández-de-Lucio I., Manjarrés-Henríquez L., (2008). The effect of external and internal factors on firm's product innovation. Research Policy 37(4), 616-632

Verner J.M., Overmyer S.P., McCain K.W. (1999). "In the 25 years since The Mythical Man – Month what have we learned about project management?" Information and Software Technology, Vol. 41, pp. 1021 – 1026.

Vessey, I., Conger, S.A. (1993). Learning to specify information requirements: The relationship between applications and methodology. Journal of Management Information Systems, 10(2), 177-201.

Van Der Westhuizen, D. and Fitzgerald, E. (2005). "Defining and measuring project success", Proc. ECMLG.

Van Manen, M. (2016). Phenomenology of practice: Meaning-giving methods in phenomenological research and writing. Routledge.

Walker, A. (2015). Project management in construction. John Wiley & Sons.

Ward, J. (2016). Keeping the family business healthy: How to plan for continuing growth, profitability, and family leadership. Springer.

Wateridge, John. (1998). How can IS/IT projects be measured for success? International Journal of Project Management. Vol. 16, p59 – 63.

Walz, D.B., Elam, J.J., Curtis, B. (1993). Inside a software design team: Knowledge acquisition, sharing, and integration. Communications of the ACM, 36(10), 63-77.

White, D. and Fortune, J. (2002). "Current practice in project management - an empirical study," International Journal of Project Management, vol. 20, no. 1, pp. 1-11.

Wiklund, J. and Shepherd, D. (2003). "Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses"; Strategic Management Journal, 24: 1307- 1314

Wright, J. N. (1997). Time and budget: the twin imperatives of a project sponsor. International Journal of Project Management, 15(3), 181-186.

Whitty, S.J. (2005). A memetic paradigm of project management. International Journal of Project Management, vol. 23, no. 8, pp. 575-583.

Wixom, B. AND Watson, H. J. (2001). An empirical investigation of the factors affecting data warehousing success. MIS Quarterly. 25, 1, 17–41.

Wohlin, C., von Mayrhauser, A. (2000). Assessing project success using subjective evaluation factor. Journal of Software Quality.

Wong, TC 1999, Marketing research, Butterworth-Heinemann, Oxford, UK.

Xia, W. (1998). Dynamic capabilities and organizational impact of IT infrastructure: A research framework and an empirical investigation.

Xiaobo Xu and Weiyong Zhang and Reza Barkhi. (2010). "IT infrastructure capabilities and IT project success: a development team perspective," Information Technology and Management, Vol. 11, No. 3, pp. 123-142.

Yeo, K.T., (2002). Critical failure factors in information systems projects. Int. J. Project Manage. 20 (3), 241–246.

Zahran, S. M. (1998). Software Process Improvement: Practical Guidelines for Business Success, Addison-Wesley, p. 20.

Zhang, J., Li, H., and Ziegelmayer, J. (2009). Resources or capability? A dissection of SMEs' infrastructure flexibility and its relationship with IT responsiveness. Journal of Computer Information Systems, 50(1): 46- 53.

Zhang,J., Wan, H., Huang, D. (2010). "Research on Knowledge Creation in Software Requirement Development," Journal of Software Engineering and Applications, vol. 3, no. 5, pp. 487–494.

Zwikael, O., Globerson, S. (2006). From Critical Success Factors to Critical Success Processes. Int. J. Prod. Res., 44(17): 3433-3449.