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**MANAGING QUALITY MANAGEMENT PROCESSES IN A
NAVAL SHIP CONSTRUCTION COMPANY: A
QUALITATIVE CASE ANALYSIS**

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UUM
Universiti Utara Malaysia

**DOCTOR OF MANAGEMENT
UNIVERSITI UTARA MALAYSIA
DECEMBER, 2015**

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UUM
Universiti Utara Malaysia

Thesis Submitted to

Othman Yeop Abdullah Graduate School of Business,

Universiti Utara Malaysia,

In Fulfilment of Requirement for the Degree of Doctor of Management



Kolej Perniagaan
(College of Business)
Universiti Utara Malaysia

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Construction Company: A Qualitative Case Analysis

Program Pengajian
(Programme of Study)

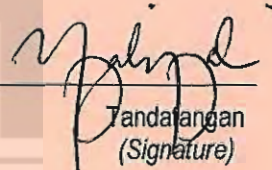
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ABSTRACT

This industrial research study investigates the challenges encountered in the quality management implementation in a naval ship construction and maintenance company. This study will provide a proper view of the work completed in the process of ship construction and maintenance, especially in the Quality Department and will recommend improvements in quality, particularly in the building of a ship. Specifically, it aims to deeply examine the application of quality management knowledge and tools in the process-based work inspection planning, work monitoring activities and record-keeping information management. Additionally, the role of the Quality Department in the ship construction projects has been the main focus of this research study. In achieving the objectives, this case study has applied the qualitative approach which involved activities such as interviewing the focus group especially in Quality Department, observing the work-related activities that involve with quality work inspection process and reviewing quality-related documentation base on the ship construction work report and quality work inspection activities. The results of the three approaches were then triangulated and analysed by using Nvivo software for identification of relevant themes that normally use by qualitative researcher. The study has revealed the importance of team work and high understanding among various departments in managing the inspection planning and work-related information. It has identified the issues that had occurred in during the research, provided an analysis that can benefit the company and contributed to academic knowledge and also enhance the company's vision and mission. Furthermore, with proper improvement activities aligned with the actual work process will also result in higher productivity and quality of work processes as well as reducing the difficulties and problems encountered in the implementation of the quality management of this company.

Keywords: quality management, construction, inspection, monitoring, information management, cost of quality

ABSTRAK

Kajian penyelidikan industri ini menyiasat cabaran-cabaran yang dihadapi dalam pelaksanaan pengurusan kualiti bagi syarikat pembinaan dan penyelenggaraan kapal Tentera Laut. Kajian ini akan memberi satu pandangan yang betul tentang pelaksanaan kerja yang lengkap dalam proses pembinaan dan penyelenggaraan kapal, terutama di Jabatan Kualiti dan ia akan mengesyorkan peningkatan dalam bidang kualiti, terutamanya dalam bidang pembinaan kapal. Secara spesifik, matlamat kajian ini adalah untuk memeriksa dengan mendalam penggunaan ilmu pengetahuan dan alatan pengurusan kualiti dalam proses perancangan pemeriksaan kerja, aktiviti pemantauan kerja dan pengurusan penyimpanan rekod maklumat. Selain itu, peranan Jabatan Kualiti dalam projek pembinaan kapal telah dijadikan fokus utama kajian. Untuk mencapai objektif, kajian kes ini telah menggunakan pendekatan kualitatif, di mana ia melibatkan aktiviti-aktiviti seperti temubual kumpulan fokus terutamanya dalam Jabatan Kualiti, memerhati aktiviti-aktiviti yang berkaitan kerja yang melibatkan proses pemeriksaan dan menyemak dokumen kualiti yang berkaitan dengan dokumentasi asas mengenai semua laporan aktiviti pemeriksaan kualiti dan juga laporan kerja-kerja pembinaan kapal. Dapatan kajian daripada tiga pendekatan tersebut kemudiannya telah digabungkan dan dianalisis dengan menggunakan perisian Nvivo untuk pengenalpastian tema-tema yang relevan. Kajian ini telah mendedahkan kepentingan kerja berkumpulan dan persefahaman yang tinggi antara jabatan-jabatan dalam menguruskan perancangan pemeriksaan kerja dan pengurusan maklumat yang berkaitan kerja. Ia juga telah mengenal pasti isu-isu yang berlaku di dalam penyelidikan ini, dengan menyediakan analisis yang boleh memberi manfaat kepada syarikat dan menyumbang kepada pengetahuan akademik dan juga meningkatkan visi dan misi syarikat. Di samping itu, dengan adanya penambahbaikan yang diselaraskan dengan proses kerja sebenar akan dapat meningkatkan produktiviti dan kualiti proses kerja tersebut dan juga dapat mengurangkan kesukaran dan permasalahan yang dihadapi dalam pelaksanaan pengurusan kualiti syarikat ini.

Kata kunci: pengurusan kualiti, pembinaan, pemeriksaan, pemantauan, pengurusan maklumat, kos kualiti

ACKNOWLEDGEMENTS

Alhamdulillah. Salawat and Salam to our Prophet Muhammad s.a.w, his family members, companions and followers.

In completing this research, I would like to acknowledge the intellectual sharing of many great individuals.

My foremost gratitude goes to Dr. Mohd Rizal Bin Razalli, my supervisor, Dr. Hendrik Bin Lamsali , Internal Examiner and also Dr. Amran bin Md Rasli, External Examiner, for devoting much of their expertise and precious times in guiding me to reach the final stage of this research, a full of colours journey. Thank you, for all that you had done.

I would also like to extend my appreciation to other academicians in UUM for their teaching and motivation in my journey for this industrial Phd.

Undoubtedly, this thesis would almost be impossible to complete without the assistance of many officers of the ship construction company. Some of them assisted me far beyond my expectations; thank you so much for your help, particularly during data collection. To all my family members, especially to my wife and my brothers, thank you so much for your support and prayers. I am also indebted to others, the kind and brilliant people, for their help and support during all the stages of this study.

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LIST OF ABBREVIATIONS

CPD	Continuous Professionals Development
IPENZ	Institution of Professional Engineers New Zealand
IQA	Internal Quality Assurance
ISO	International Standards Organization
ITRF	Inspection Test Request Form
JIS	Japanese Industrial Standard
MSIC	Malaysia Standard Industrial Relegation
ORJI	Observation Reaction Judgment Intervention
PDCA	Plan Do Check Act
QA	Quality Assurance
QC	Quality Control
QI	Quality Improvement
QIR	Quality Inspection Record
QM	Quality Management
QMS	Quality Management System
QP	Quality Planning
RM	Ringgit Malaysia
SQC	Statistical Quality Control
TQM	Total Quality Management
VE	Value Engineering

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The presentation of this chapter starts with the research background of the study, problem statement, research questions and research objectives, limitations of the study and the significance of the study. The main focus of this study, carried out on a ship building and maintenance company, is to identify in detail the implementation of quality management work functions in carried out in the company.

1.2 Background of the Study

Technological advances and diversification of industries have brought significant to considerable changes in the growth of the Malaysian economic structure. According to The Malaysia Standard Industrial Classification 2000 (MSIC 2000), which functions as a framework for the accumulation and compilation of industry statistics from all different sources. The industrial sector is considered to be one of the most important contributors to the Malaysian economy (Arumugam, Ooi, & Fong, 2008). This industry contributes to the expansion of economic activity in the country, and primarily responsible for the infrastructure development throughout the country.

In addition to all the activities under the term industrial sector, there is also the ship building industry which in no small way has shaped the nation's economy. The nation's ship building industry which had its beginning in the construction of fishing boats and vessels has slowly developed into a full-fledged industry building all types of shipping vessels and among them is the construction of naval ships for our the Malaysian Navy.

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Reference

- Antony, J. & Taner, T. (2003). A conceptual framework for the effective implementation of statistical process control. *Business Process Management Journal*, 9(4), 473–489.
- Abd. Manaf, N. H. (2005). Quality management in Malaysian public health care. *International Journal of Health Care Quality Assurance*, 18(3), 204–216.
- Azizan Abdullah, (2010). Measuring TQM implementation: a case study of Malaysian SMEs. *Measuring Business Excellence*. 14(3), 3 – 15.
- Abdul Rahman, H. (1997). Some observations on the issues of quality cost in construction. *International Journal of Quality & Reliability Management*, 14(5), 464–481.
- Abdul Rashid Abdul Aziz (2002). The realities of applying total quality management in the construction industry. *Structural Survey*, 20(2), 88–96.
- Abusa, F.M. & Gibson, P. (2013). TQM implementation in developing countries: A case study of the Libyan industrial sector. *Benchmarking: An International Journal*, 20(5), 693–711.
- Adnan, H., Rahmat, M.N., Fatanah, N. & Mazali, N. (1985). Risk Management Assessment for Partnering Projects in the Malaysian Construction Industry. *Journal of Politics and Law*, 1, 76–81.
- Ahire, S.L. & Dreyfus, P. (2000). The impact of design management and process management on quality: an empirical investigation. *Journal of Operations Management*. 18, 549-575.
- Ahmad, A.A. (2012). The principle of risk management: Sharia perspectives. *Journal of Applied Sciences Research*, 8, 3335–3343.
- Ahuja, R. (2007). Towards an Understanding of Excellence in Urban Pedagogy : A Portrait of a High School, 12(1), 1–19.
- Al-Ani, R., & Al-Adhmawi, F.I. (2011). Implementation of Quality Management Concepts in Managing Engineering Project Site. *Jordan Journal of Civil Engineering*, 5(1), 89–106.
- Alexander, A. (2004). A Qualitative Exploration of Students' Experiences With Tutorial Learning, *Ph.D. Dissertation*.
- Ali, A.S., Kamaruzzaman, S.N., Sulaiman, R., & Peng, Y. C. (2010). Factors affecting housing maintenance cost in Malaysia. *Journal of Facilities Management*. 8(4), 285-298
- Ali, M. C., Zin, R., Hamid, Z.A. & Ayub, A.R. (2010). Quality Cost In The Construction Industry – Preliminary Findings In Malaysia. *Journal of Design and Build Environment*, 6, 29–43.
- Al-Najjar, B. & Alsyof, I. (2000). Improving effectiveness of manufacturing systems using total quality maintenance. *Integrated Manufacturing Systems*, 11(4), 267–276.
- Al-Saket, A. (2003). A Case Study of Total Quality Management in a Manufacturing and Construction Firm. *Ph.D. Dissertation*.

- Amedy, L. (1999). *A Qualitative Study of Female Superintendents: Leadership Behaviors in Context*. Doctoral dissertation, Virginia Polytechnic Institute and State University.
- Ammar, A., Kayis, B. & Amornsawadwatana, S. (2007). A review of techniques for risk management in projects. *Benchmarking: An International Journal*, 14(1), 22–36.
- An, M. & Ahmad, H. S. (2010). Knowledge Management in Construction Projects: A Way Forward in Dealing with Tacit Knowledge. *International Journal of Information Technology Project Management*, 1(2), 16–42.
- Anderson, C.A., Pettersson, F.H., Clarke, G.M., Cardon, L.R., Morris, A.P. & Zondervan, K.T. (2010). Data quality control in genetic case-control association studies. *Nature Protocols*, 5(9), 1564–1573.
- Antony, J. & Taner, T. (2003). A conceptual framework for the effective implementation of statistical process control. *Business Process Management Journal*, 9(4), 473–489.
- Appaia, L., Muthu, P., Sankaran, K., Appaia, L., Muthu, P., Sankaran, K.R. (2014). Article information : *International Journal of Quality & Reliability Management*, 31(8), 950–962.
- Arditi, D. & Gunaydin, H. M. (1997). Total quality management in the construction process. *International Journal of Project Management*. 15(4), 235-243.
- Arshida, M.M. (2012). Critical Success Factors (CSFs) for TQM Implementation: Current Status and Challenges in Libyan Manufacturing Companies. *GSTF Journal on Business Review*, 2(1).
- Arumugam, V., Ooi, K.B. & Fong, T.C. (2008). TQM practices and quality management performance: An investigation of their relationship using data from ISO 9001:2000 firms in Malaysia. *The TQM Journal*, 20(6), 636–650.
- Azaran, M. (2008). Programme management as a framework for the whole quality management life cycle - a case study of esc lille. *Management*, 309.
- Baccarini, D., Salm, G. & Love, P. E. D. (2004). Management of risks in information technology projects. *Industrial Management & Data Systems*, 104(4), 286–295.
- Badrick, T. (2003). Quality leadership and quality control. *The Clinical Biochemist. Reviews / Australian Association of Clinical Biochemists*, 24(3), 81–93.
- Baldassarre, M.T., Boffoli, N., Bruno, G. & Caivano, D. (2009). Statistically based process monitoring: Lessons from the trench. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 5543, 11–23.
- Barateiro, J., Antunes, G., Freitas, F. & Borbinha, J. (2010). Designing Digital Preservation Solutions: A Risk Management Based Approach. *International Journal of Digital Curation*. 5 (1), 4-17
- Barber, P., Graves, A., Hall, M., Sheath, D. & Tomkins, C. (2000). Quality failure costs in civil engineering projects Patrick. *International Journal of Quality & Reliability Management*, 17(4/5), 479–492.

- Batson, R.G. & McGough, K.D. (2006). Quality Planning for the Manufacturing Supply Chain. *The Quality Management Journal*, 13, 33–42.
- Battikha, M.G. (2003). Quality management practice in highway construction. *International Journal of Quality & Reliability Management*.
- Baxter, P. & Cotter, J. (2009). Audit committees and earnings quality. *Accounting & Finance*, 49(2), 267–290.
- Baxter, P. & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report Volume*, 13(4), 544–559.
- Bayazit, O. & Karpak, B. (2007). An analytical network process-based framework for successful total quality management (TQM): An assessment of Turkish manufacturing industry readiness. *International Journal of Production Economics*, 105(1), 79–96.
- Bednarek-Michalska, B. (2002). Creating a job description for an electronic resources librarian. *Library Management*, 23(8/9), 378–383.
- Besner, C. & Hobbs, B. (2012). The paradox of risk management; a project management practice perspective. *International Journal of Managing Projects in Business*, 5(2), 230–247.
- Bettayeb, B., Bassetto, S. J. & Sahnoun, M. (2014). Quality control planning to prevent excessive scrap production. *Journal of Manufacturing Systems*, 33(3), 400–411.
- Bogdan, R. C. & Biklen, S. K. (2003). Bogdan, R. C & Biklen, S. K. (2003). Qualitative Research for Education: An introduction to Theories and Methods (4th ed.). *New York: Pearson Education group*. (110-120).
- Boisdeffre, M. (2006). The importance of records management in France. *Records Management Journal*. 16(2), 76-80.
- Borglund, E. & Engvall, T. (2014). Open data?, *Records Management Journal*, 24(2), 163–180.
- Briner, M., Kessler, O., Pfeiffer, Y., Wehner, T. & Manser, T. (2010). Assessing hospitals' clinical risk management: Development of a monitoring instrument. *BMC Health Services Research*, 10, 337.
- Brooke, C. (1994). Information Technology and the Quality Gap. *Employee Relations*. 16 (4), 22-34.
- Bryman, A. (2004). Triangulation and measurement. *In Encyclopedia of Social Science Research Methods*.
- Bunney, H.S. & Dale, B.G. (1997). The implementation of quality management tools and techniques: a study. *The TQM Magazine*. 9 (3), 183–189.
- Bustelo-Ruesta, C. (2011). The big issues related to document and record management: challenges and opportunities. *Profesional De La Informacion*, 20(2), 129–133.
- Cairns, D. A. (2011). Statistical issues in quality control of proteomic analyses: Good experimental design and planning. *Proteomics*. 11(6), 1037-1048.

- Cameron, K. S. & Quinn, R. E. (2011). An Introduction to changing organisational culture: Based on the competing values framework. *Diagnosing and Changing Organisational Culture*, 1–12.
- Campmans-Kuijpers, M.J.E., Lemmens, L.C., Baan, C.A., Gorter, K.J., Groothuis, J., Van Vuure, K.H. & Rutten, G.E.H.M. (2013). Defining and improving quality management in Dutch diabetes care groups and outpatient clinics: design of the study. *BMC Health Services Research*, 13, 129.
- Cassell, C., Buehring, A., Symon, G. & Johnson, P. (2006). Qualitative methods in management research: an introduction to the themed issue. *Management Decision*. 44(2) 161-166
- Catterall, M. (1996). Using computer programs to code qualitative data. *Marketing Intelligence & Planning*. 4,29-33.
- Chan, A.P. & Tam, C. . (2000). building projects in Hong Kong. *International Journal of Quality & Reliability Management*, 17(4/5), 423–442.
- Chandar, N., Chang, H. & Zheng, X. (2012). Does overlapping membership on audit and compensation committees improve a firm's financial reporting quality? *Review of Accounting and Finance*. 11(2), 141-165.
- Chihuri, S. & Pretorius, L. (2010). Managing Risk For Success In A South African Engineering And Construction. *South African Journal of Industrial Engineering*, 21(2), 63–77.
- Chin, S., Kim, K. & Kim, Y.S. (2003). A process-based quality management information system. *Automation in Construction*. 13(2), 241-259
- Chopra, A. & Garg, D. (2012). Introducing models for implementing cost of quality system. *The TQM Magazine*, 24(6), 498–504.
- Chopra, A. & Garg, D. (2011). Behavior patterns of quality cost categories. *The TQM Magazine*, 23(5), 510–515.
- Chua, R.T. Mosley, P., Wright, G.A.N., & Zaman, H. (2000). Microfinance, Risk Management, and Poverty. Study submitted to: Office of *Microenterprise Development*, USAID.
- Clegg, B., Rees, C. & Titchen, M. (2010). A study into the effectiveness of quality management training: A focus on tools and critical success factors. *The TQM Journal*. 22(2), 188-208.
- Cleveland, D. A. & Soleri, D. (2005). Rethinking the risk management process for genetically engineered crop varieties in small-scale, traditionally based agriculture. *Ecology and Society*. 10(1), 9.
- Cohanier, B. (2014). Qualitative Research in Accounting & Management Article information : *Qualitative Research in Accounting & Management*, 11(4), 380–415.
- Colledani, M., Tolio, T., Fischer, A., Iung, B., Lanza, G., Schmitt, R. & Váncza, J. (2014). Design and management of manufacturing systems for production quality. *CIRP Annals - Manufacturing Technology*, 63(2), 773–796.

- Craig, N. & Sommerville, J. (2007). Records management and information processing on construction sites using digital pen and paper. *Records Management Journal*, 17(3), 201–215.
- Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). The case study approach. *BMC Medical Research Methodology*, 11, 100.
- Cuellar, M. (2010). Assessing Project Success: Moving Beyond the Triple Constraint. *International Research Workshop on IT Project Management*, 13, 19-28
- Dagbjartsdottir, S. (2012). Quality Status and Quality Aspects in The Icelandic Construction Industry.
- Dai, W., Maropoulos, P. G., Tang, X., Huo, D. & Cai, B. (2010). Quality planning based on risk assessment. *Advances in Intelligent and Soft Computing (AISC)*, 223.
- Dang, V. M., Francois, P., Batailler, P., Seigneurin, A., Vittoz, J.-P., Sellier, E., ... `re. (2014). Medical record-keeping and patient perception of hospital care quality. *International Journal of Health Care Quality Assurance*, 27(6), 531–542.
- Dave, B., & Koskela, L. (2009). Collaborative knowledge management - A construction case study. *Automation in Construction*, 18, 894–902.
- Davenport, T. H. (2011). Rethinking knowledge work : A strategic approach. *McKinsey Quarterly*, 1, 1–11.
- Dehghan, M., Dehghan, D., Sheikhrabari, A., Sadeghi, M., & Jalalian, M. (2013). Quality improvement in clinical documentation: Does clinical governance work? *Journal of Multidisciplinary Healthcare*, 6, 441–450.
- Denney, A.S. & Tewksbury, R. (2012). How to Write a Literature Review. *Journal of Criminal Justice Education*. 24 (2), 218-234
- Denzin, N.K. & Lincoln, Y.S. (2006). Introduction The Discipline and Practice of Qualitative Research. In *Handbook of Qualitative Research*, 1–20.
- Detlor, B. (2010). Information management. *International Journal of Information Management*, 30(2), 103–108.
- DeWalt, K. M., & DeWalt, B. R. (2010). *Participant Observation: A Guide for Fieldworkers*. Rowman Altamira
- Dickinson, D. & Villeval, M.C. (2008). Does monitoring decrease work effort?. The complementarity between agency and crowding-out theories. *Games and Economic Behavior*, 63(1), 56–76.
- Dodge, P.R. (2011). Managing school behavior : a qualitative case study. Iowa State University.
- Dudgikar, A. C. S., Kumthekar, E. M. B., & Khot, E. S. . (2012). Development of ERP Module for Quality Management in Construction Industry. *International Journal of Electronics and Communications*, 1(1), 29–40.

- Duffner, F., Freudenstein, D., Hohenstein, F., Skalej, M. & Grote, E. H. (2001). Quality planning for minimally invasive procedures in neurosurgery. *Minimally Invasive Neurosurgery : MIN*, 44(2), 95–98.
- Duranti, L. (1999). Concepts and principles for the management of electronic records , or records management theory is archival diplomatics 1. *Records Management Journal*, 9(3), 149–171.
- East, E. W., Kirby, J. G., & Liu, L. Y. (2008). Verification and validation of a project collaboration tool. *Automation in Construction*, 17(2), 201–214.
- Egbuji, A. (1999). Risk management of organisational records. *Records Management Journal*, 9(2), 93–116.
- Eldridge, S., Balubaid, M. & Barber, K. (2006). Using a knowledge management approach to support quality costing. *International Journal of Quality & Reliability Management*, 23(1), 81–101.
- Elg, M., Olsson, J. & Dahlgard, J. J. (2008). Implementing statistical process control: an organizational perspective Mattias. *International Journal of Quality & Reliability Management*, 25(6), 545–560.
- Elghamrawy, T. & Shibayama, T. (2008). Total Quality Management Implementation in the Egyptian. *Journal of Management Engineering*, 24(3), 156–161.
- Erel, E. & Ghosh, J.B. (1997). ISO 9000 implementation. *International Journal of Operations & Production Management*, 17(12), 1233–1246.
- Evangelidis, A. (2005). FRAMES - A Risk Assessment Framework for e-Services. *Electronic Journal of E-Government*, 2, 21–30.
- Fernandez, D.J.(2008). Agile project management : Agilism versus traditional approaches. *The Journal of Computer Information Systems*, 49(2), 10–17.
- Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*. 12(2), 219-245
- Flyvbjerg, B. (2011). Case study. *The Sage Handbook of Qualitative Research* , 301–316.
- Foster, S. T. (2008). Towards an understanding of supply chain quality management. *Journal of Operations Management*, 26(4), 461–467.
- Fournier-Bonilla, S. D., Watson, K. L. & Malave, C. (2000). Quality planning in engineering education: Analysis of alternative implementations of a new first-year curriculum at Texas AM University. *Journal of Engineering Education*, 89(3), 315 – 322+388+390+393.
- Freeman, J.M. (2008). The case for quality costing simulation. *The TQM Magazine*, 20(5), 476–487.
- Friedman, K. (2003). Theory construction in design research: criteria: approaches, and methods. *Design Studies*, 24(6), 507–522.
- Friman, M. (2004). Implementing Quality Improvements in Public Transport. *Journal of Public Transportation*, 7(4), 49–65.

- Ge, Z., Song, Z. & Gao, F. (2013). Review of Recent Research on Data-Based Process Monitoring. *Industrial & Engineering Chemistry Research*, 52(10), 3543–3562.
- Gelle, E., & Karhu, K. (2003). Information quality for strategic technology planning. *Industrial Management & Data Systems*. 103(8), 633-643.
- Gerring, J. (2004). What is a case study and what is it good for? *American Political Science Review*, 98(02), 341–354.
- Giri, B.C. & Dohi, T. (2007). Inspection scheduling for imperfect production processes under free repair warranty contract. *European Journal of Operational Research*, 183(1), 238–252.
- Gomes, W.J.S., Beck, A.T. & Haukaas, T. (2013). Optimal inspection planning for onshore pipelines subject to external corrosion. *Reliability Engineering and System Safety*, 118, 18–27.
- Gordon, C., Akinci, B. & Garrett, J.H. (2007). Formalism for Construction Inspection Planning: Requirements and Process Concept. *Journal of Computing in Civil Engineering*.
- Gregory, K. (2005). Implementing an electronic records management system: A public sector case study. *Records Management Journal*, 15(2), 80–85.
- Gremyr, I. & Elg, M. (2014). A developmental view on implementation of quality management concepts. *International Journal of Quality and Service Sciences*.
- Grocock, J. (2006). Perspectives The impact of powerful and weak customers on quality assurance systems and quality improvement programs.
- Guidi, G.C., Poli, G., Bassi, A., Giobelli, L., Benetollo, P.P. & Lippi, G. (2009). Development and implementation of an automatic system for verification, validation and delivery of laboratory test results. *Clinical Chemistry and Laboratory Medicine : CCLM/ FESCC*, 47(11), 1355–1360.
- Gunnlaugsdóttir, J. (2002). The quality must be on record: a survey of organisations having an ISO 90 00 certification in Iceland. *Records Management Journal*, 12(2), 40–47.
- Gunter, E. & Peled, D. (2005). Model checking, testing and verification working together. *Formal Aspects of Computing*, 17(2), 201–221.
- Gustavsson, M., & Wänström, C. (2009). Assessing information quality in manufacturing planning and control processes. *The International Journal of Quality & Reliability Management*, 26(4), 325–340.
- Harrington, H.J. (1999). Performance improvement: a total poor-quality cost system. *The TQM Magazine*, 11(4), 221–230.
- Hassan, A., Baksh, M. S. N., & M.Shaharoun, A. (2000). Issues in quality engineering research. *International Journal of Quality & Realiability Management*, 17(8), 858-875.
- Haug, A., Zachariassen, F., & van Liempd, D. (2011). The costs of poor data quality. *Journal of Industrial Engineering and Management*.,4(2) ,168-193.

- Haupt, T.C. & Whiteman, D.E. (2004). Inhibiting factors of implementing total quality management on construction sites. *The TQM Magazine*, 16(3), 166–173.
- Hayati Habibah, A.T., Khairul Anuar, M.A. & Fazli, I. (2014). Critical success factors of quality management practices among SMEs in the food processing industry in Malaysia. *Journal of Small Business and Enterprise Development*, 21(1), 152–176.
- Healy, S. (2010). ISO 15489 Records Management: its development and significance. *Records Management Journal*, 20(1), 96–103.
- Henderson, J., Mcadam, R. & Ireland, N. (2000). Managing quality in project-based emerging network organisations. *International Journal of Quality & Reliability Management*, 17(4/5), 364–376.
- Hoonakker, P., Carayon, P. & Loushine, T. (2010). Barriers and benefits of quality management in the construction industry: An empirical study. *Total Quality Management & Business Excellence*. 21(9), 953-969.
- Hu, H., Cheng, C., Chiu, S., & Hong, F. (2010). A study of customer satisfaction, customer loyalty and quality attributes in Taiwan's medical service industry. *Water*, 5(1), 187–195.
- Hunter, J. (2002). Improving organizational performance through the use of effective elements of organizational structure. *Leadership in Health Services*, 15(3), 12–21.
- Hurley, A.A. (2001). Components of quality control. *Current Protocols in Cytometry - Chapter 3*, Unit 3.2.
- Idris, M.A., McEwan, W. & Belavendram, N. (1996). The adoption of ISO 9000 and total quality management in Malaysia. *The TQM Magazine*. 8(5), 65 – 68.
- Irianto, D. (1995). On the in-process inspection. *International Journal of Quality & Reliability Management*, 12(9), 110–122.
- Ishikawa, K. (1981). What is total quality control : The Japanese way.
- Jabnoun, N. (2002). Control processes for total quality management and quality assurance. *Work Study*, 51(4), 182–190.
- Jabnoun, N. (2005). Organizational structure for customer-oriented TQM: an empirical investigation. *The TQM Magazine*, 17(3), 226–236.
- Jafari, S. M., & Setak, M. (2010). Total Quality Management Tools And Techniques: The Quest For An Implementation Roadmap. *Proceedings of the AGBA 7th World Congress*, 1(3), 1–12.
- Jepsen, D.M. & Rodwell, J.J. (2008). Convergent interviewing: a qualitative diagnostic technique for researchers. *Management Research News*. 31(9), 650-658.
- Jirwe, M. (2011). Analysing qualitative data. *Nurse Researcher*, 18(3), 4–5.
- Joe Qin, S. (2003). Statistical process monitoring: basics and beyond. *Journal of Chemometrics*, 17(8-9), 480–502.
- Johnston, A., (2014), "Rigour in research: theory in the research approach", *European Business Review*, 26(3), 206 – 217.

- McKinner Jr, E.H. & Yoos II, C.J. (2010). Information About Information: A Taxonomy of Views. *Mis Quarterly*, 34(2), 329–344.
- Juran, M. (1986). The Quality Trilogy. *Quality Congress*, 19(8), 19–24.
- Juran, M. & Gryna, F.M. (1988). *Quality Control Handbook. 5th Ed McGrawHill 1998*.
- Juran, M., & Godfrey, A. B. (1998). *Juran's Quality Handbook*. (J. M.Juran & A. B. Godfrey, Eds.) (Fifth Edit.). Un: McGraw-Hill.
- Kang, L. & Albin, S.L. (2000). On-line monitoring when the process yields a linear profile. *Journal of Quality Technology*, 32(4), 418–426.
- Kano, M. & Nakagawa, Y. (2008). Data-based process monitoring, process control, and quality improvement: Recent developments and applications in steel industry. *Computers & Chemical Engineering*.
- Kano, M., Hasebe, S., Hashimoto, I. & Ohno, H. (2002). Statistical process monitoring based on dissimilarity of process data. *AIChE Journal*, 48(6), 1231–1240.
- Kapoulas, A. (2012). Understanding challenges of qualitative research: rhetorical issues and reality traps. *Qualitative Market Research: An International Journal*. 15(4), 354–368.
- Karia, N. & Abu Hassan Asaari, M.H. (2006). The effects of total quality management practices on employees' work-related attitudes. *The TQM Magazine*, 18(1), 30–43.
- Keng, T.C. & Abdul Rahman, H. (2011). Study of Quality Management in Construction Projects. *Chinese Business Review*, 10(7), 542–552.
- Khan, A.H., Azhar, S. & Mahmood, A. (2008). Quality Assurance and Control in the Construction of Infrastructure Services in Developing Countries – A Case Study of Pakistan. *First International Conference on Construction in Developing Countries*, 109–120.
- Kheradia, A. (2011). Talevas Model: An Integrated Quality Methodology. *The TQM Journal*, 23(4), 403–422.
- Kishida, K. (2003). Techniques of document clustering: A review. *LIBRARY AND INFORMATION SCIENCE*, (49), 33–75.
- Kläs, M., Nakao, H., Elberzhager, F. & Münch, J. (2010). Support planning and controlling of early quality assurance by combining expert judgment and defect data- A case study. In *Empirical Software Engineering*, 15, 423–454.
- Kleywegt, G.J. (2007). Quality control and validation. *Methods in Molecular Biology (Clifton, N.J.)*, 364, 255–272.
- Köcher, T., Pichler, P., Swart, R. & Mechtler, K. (2011). Quality control in LC-MS/MS. *Proteomics*, 11(6), 1026–1030.
- Krasachol, L., & Tannock, J. D. . (1999). A study of TQM implementation in Thailand. *International Journal of Quality & Realiability Management*, 16(5), 418–432.
- Külcü, Ö. (2009). Quality documentation and records management: a survey of Turkish universities. *Aslib Proceedings*, 61(5), 459–473.

- Kululanga, G. & Kuotcha, W. (2010). Measuring project risk management process for construction contractors with statement indicators linked to numerical scores. *Engineering, Construction and Architectural Management*, 17(4), 336–351.
- Kunkel, S., Rosenqvist, U. & Westerling, R. (2007). The structure of quality systems is important to the process and outcome, an empirical study of 386 hospital departments in Sweden. *BMC Health Services Research*, 7, 104
- Landin, A. (2000). *Impact of Quality Management in the Swedish Construction Process*. Lund Institute of Technology.
- Lau, R.S.M., Zhao, X., & Xiao, M. (2004). Assessing quality management in China with MBNQA criteria. *International Journal of Quality & Reliability Management*, 21(7), 699–713.
- Laurie, C.C., Doheny, K.F., Mirel, D.B., Pugh, E.W., Bierut, L.J., Bhangale, T. & Weir, B.S. (2010). Quality control and quality assurance in genotypic data for genome-wide association studies. *Genetic Epidemiology*, 34(6), 591–602.
- Lee, C.Y. & Zhou, X. (2000). Quality management and manufacturing strategies in China. *International Journal of Quality & Reliability Management*, 17(8), 876–899.
- Leong, T.K., Zakuan, N., Mat Saman, M.Z., Ariff, M.S.M. & Tan, C.S. (2014). Using project performance to measure effectiveness of quality management system maintenance and practices in construction industry. *The Scientific World Journal*. 2014.
- Leopoulos, V. & Chatzistelios, G. (2014). Quality management systems development based on a production systems taxonomy. *The TQM Journal*, 26(2), 215–229.
- Levner, E., Zuckerman, D. & Meirovich, G. (1998). Total quality management of a production-maintenance system: A network approach. *International Journal of Production Economics*. 56, 407-421
- Li, S. & Lin, B. (2006). Accessing information sharing and information quality in supply chain management. *Decision Support Systems*, 42(3), 1641–1656.
- Liang, D.H., Lii, P. & Liang, D.S. (2011). Quality management of rural and urban planning. *2011 International Conference on Multimedia Technology*, 4038–4041.
- Liang, K. (2010). Aspects of Quality Tools on Total Quality Management. *Modern Applied Science*, 4(9), 66–74.
- Liberatore, M. J. & Pollack-Johnson, B. (2013). Improving project management decision making by modeling quality, time, and cost continuously. *IEEE Transactions on Engineering Management*, 60(3), 518–528.
- Lillrank, P. (2003). The quality of information. *International Journal of Quality & Reliability Management*, 20(6), 91–703.
- Lin, W.C., Tsai, C.F. & Ke, S.W. (2014). Dimensionality and data reduction in telecom churn prediction. *Kybernetes*, 43(5), 737–749.
- Lin, Y.H., Chen, J.M. & Chen, Y.C. (2011). The impact of inspection errors, imperfect maintenance and minimal repairs on an imperfect production system. *Mathematical and Computer Modelling*, 53(9-10), 1680–1691.

- Linderman, K., Schroeder, R.G., Zaheer, S., Liedtke, C. & Choo, A.S. (2004). Integrating quality management practices with knowledge creation processes. *Journal of Operations Management*, 22(6), 589–607.
- M. Yusof, Z. & W.Chell, R. (1998). The eluding definitions of records and records management : is a universally acceptable definition possible ? Part 1 . Defining the record. *Records Management Journal*, 8(2), 95–112.
- Ma, H., Zhou, T.C., Lyu, M.R. & King, I. (2011). Improving Recommender Systems by Incorporating Social Contextual Information. *ACM Transactions on Information Systems*. 29(2), 9.
- Mad-Lazim, H., Ramayah, T. & Ahmad, N. (2008). Total productive maintenance and performance: A Malaysian SME experience. *International Review of Business Research Papers*, 4(4), 237–250.
- Mahajan, R., Agrawal, R., Sharma, V. & Nangia, V. K. (2014). Factors affecting Quality of Management Education in India: An Interpretive Structural Modelling Approach. *International Journal of Educational Management*, 28(4), 4.
- Mahanti, R., & R. Evans, J. (2012). Critical success factors for implementing statistical process control in the software industry. *Benchmarking: An International Journal*, 19(3), 374–394.
- Mason, B. & Antony, J. (2000). Statistical process control: an essential ingredient for improving service and manufacturing quality. *Managing Service Quality*, 10(4), 233–238.
- McDonald, J. (2010). Records management and data management: closing the gap. *Records Management Journal*, 20(1), 53–60.
- McLeod, J., Childs, S. & Heaford, S. (2007). Records management capacity and compliance toolkits: a critical assessment. *Records Management Journal*, 17(3), 216–232.
- McManus, J. & Wood-Harper, T. (2007). Software engineering: a quality management perspective. *The TQM magazine*, 19(4), 315-327.
- Meiling, J., Backlund, F. & Johnsson, H. (2012). Managing for continuous improvement in off-site construction: Evaluation of lean management principles. *Engineering, Construction and Architectural Management*, 19(2), 141–158.
- Milliken, J. & Colohan, G. (2004). Quality or Control? Management in Higher Education. *Journal of Higher Education Policy and Management*. 26(3), 381-392
- Mjema, E.M., Victor, M. & Mwinuka, M.S. (2005). Analysis of roles of IT on quality management. *The TQM Magazine*, 17(4), 364–374.
- Montgomery, D. (2009). Introduction to statistical quality control. *John Wiley & Sons Inc*.
- Nelson, R.R., Todd, P.A. & Wixom, B.H. (2005). Antecedents of Information and System Quality: An Empirical Examination Within the Context of Data Warehousing. *Journal of Management Information Systems*, 21(4), 199–235.
- Oberkampf, W.L. & Trucano, T.G. (2002). Verification and validation in computational fluid dynamics. *Progress in Aerospace Sciences*, 38(3), 209–272.

- Omachonu, V.K., Suthummanon, S. & Einspruch, N.G. (2004). The relationship between quality and quality cost for a manufacturing company. *International Journal of Quality & Reliability Management*, 21(3), 277–290.
- Omar, M.K. & Murgan, S. (2014). An improved model for the cost of quality. *International Journal of Quality & Reliability Management*, 31(4), 395–418.
- Oney-yazic, E., Arditi, D. & Uwakweh, B.O. (2006). Organizational Culture In U.S Construction Companies. *Joint International Conference on Construction, Culture, Innovation and Management*. Dubai, United Arab Emirates (UAE), 26-29 November. Dubai: The British University in Dubai, 219-228.
- Padmanabhan, P. & Lutz, R.R. (2005). Tool-supported verification of product line requirements. In *Automated Software Engineering*, 12, 447–465.
- Paszkievicz, K. H., Farbos, A., O'Neill, P. & Moore, K. (2014). Quality control on the frontier. *Frontiers in Genetics*. 5, 157.
- Pheng, L.S. & Shiua, S. C. (2000). The maintenance of construction safety : riding on ISO 9000 quality management systems. *Journal of Quality in Maintenance Engineering*, 6(1), 28–44.
- Pheng, L.S. & Yeo, H.K.C. (1997). ISO 9000 quality assurance in Singapore 's construction industry : an update. *Structural Survey*, 15(3), 113–117.
- Phua, F.T.T. & Rowlinson, S. (2004). How important is cooperation to construction project success? A grounded empirical quantification. *Engineering, Construction and Architectural Management*, 11(1), 45–54.
- Pinto, M. (2006). Data representation factors and dimensions from the quality function deployment (QFD) perspective. *Journal of Information Science*. 32(2), 116-130.
- Polat, G., Damci, A. & Tatar, Y. (2011). Barriers and benefits of total quality management in the construction industry : evidence from Turkish contractors. *Proceeding of the 7th Research/Expert Conference with International Participations (quality 2011)*, 1115–1120.
- Poots, A. J., & Woodcock, T. (2012). Statistical process control for data without inherent order. *BMC Medical Informatics and Decision Making*. 12(1), 86.
- Pope, C., Ziebland, S. & Mays, N. (2007). Analysing Qualitative Data. In *Qualitative Research in Health Care: Third Edition*, Chapter 7, 63–81.
- Prajogo, D.I. & Sohal, A.S. (2006). The integration of TQM and technology/R&D management in determining quality and innovation performance. *Omega*, 34(3), 296–312.
- Price, A.D.F. (2003). The strategy process within large construction organisations. *Engineering, Construction and Architectural Management*, 10(4), 283–296.
- Privault, C., Oapos, Neill, J., Ciriza, V. & Renders, J.M. (2010). A new tangible user interface for machine learning document review. *Artificial Intelligence and Law*, 18(4), 459–479.

- Pun, K.F. & Nurse, A.H. (2010). Adopting quality management principles to revitalise the facilities maintenance practices at a port: A study in Trinidad and Tobago. *Asian Journal on Quality*, 11(3), 197–209.
- Qu, S.Q. & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting & Management*, 8(3), 238–264.
- Raich, M., Mu, J. & Abfalter, D. (2014). Hybrid analysis of textual data quantitative analysis, 52(4), 737–754.
- Raimona Zadry, H. & Mohd Yusof, S. (2006). Total Quality Management and Theory of Constraints Implementation in Malaysian Automotive Suppliers: A Survey Result. *Total Quality Management & Business Excellence*. 17(8), 999 – 1020.
- Ramanathan, C., Narayanan, S. P., & Idrus, A.B (2002). Construction Delays Causing Risks on Time and Cost - A Critical Review. *Construction Economics and Building*, 12(1), 37-57
- Rao, S.K. (2006). Quality management system-some reflections. In *Defence Science Journal* ,56, 53–59.
- Raymond, L. & Bergeron, F. (2008). Project management information systems: An empirical study of their impact on project managers and project success. *International Journal of Project Management*, 26(2), 213–220.
- Ridderhof, J.C., Van Deun, A., Kai, M.K., Narayanan, P.R. & Aziz, M.A. (2007). Roles of laboratories and laboratory systems in effective tuberculosis programmes. *Bulletin of the World Health Organization*.
- Robson, C. (2002). *Real World Research: A resource for Social Scientists and Practitioner - Researchers*. (C. Robson, Ed.) (Second Edi.). Blackwell Publishing.
- Rodchua, S. (2006). Factors, Measures, and Problems of Quality Costs Program Implementation in the Manufacturing Environment. *Journal of Industrial Technology*, 22(4), 1–6.
- Roden , S. & Dale , B.G. (2000). Understanding the language of quality costing. *The TQM Magazine*, 12(3), 179–185.
- Rose, A.N.M., Md. Deros, B. & Ab. Rahman, M.N. (2013). A study on lean manufacturing implementation in Malaysian automotive component industry. *International Journal of Automotive and Mechanical Engineering*, 8(1), 1467–1476.
- Rowley, J. (2012). Article information : *Management Research Review*, 35(3/4), 260–271.
- Rozinat, A. & Van Der Aalst, W.M.P. (2008). Conformance checking of processes based on monitoring real behavior. *Information Systems*, 33(1), 64–95.
- Ryu, K., Park, J. & Park, J. (2006). A Data Quality Management Maturity Model. *ETRI Journal*, 28(2), 191–204.
- Sabella, A., Kashou, R., & Omran, O. (2014). Quality management practices and their relationship to organizational performance. *International Journal of Operations & Production Management*, 34(12), 1487–1505.

- Said, I. (2005). *The implementation of ISO 9000 Quality Management System and Business Performance of Contractors in Malaysia*. Doctoral dissertation, Universiti Utara Malaysia.
- Said, I., Ayub, A.R., Razaki, A.A. & Kooi, T.K. (2009). Factors Affecting Construction Organization Quality Management System In Malaysian Construction Industry.
- Salem, O., Solomon, J., Genaidy, A. & Minkarah, I. (2006). Lean Construction : From Theory to Implementation. *Journal of Management Engineering*, (October), 168–176.
- Salminen, A., Lyytikäinen, V. & Tiitinen, P. (2000). Putting documents into their work context in document analysis. *Information Processing and Management*, 36(4), 623–641.
- Samoutis, G.A., Soteriades, E.S., Stoffers, H.E., Zachariadou, T., Philalithis, A. & Lionis, C. (2008). Designing a multifaceted quality improvement intervention in primary care in a country where general practice is seeking recognition: the case of Cyprus. *BMC Health Services Research*, 8, 181.
- Samsudin, N.S., Ayop, S.M., Sahab, S.S. & Ismail, Z. (2012). The Advantages of Quality Management System in Construction Project. *IEEE Colloquium on Humanities, Science & Engineering Research*, 38–41.
- Santos, A., Formoso, C.T. & Tookey, J.E. (2002). Expanding the meaning of standardisation within construction processes. *The TQM Magazine*, 14(1), 25–33.
- Sargent, R.G. (2000). Verification, validation and accreditation of simulation models. *2000 Winter Simulation Conference Proceedings (Cat. No.00CH37165)*, 1.
- Savolainen, R. (2007). Information Behavior and Information Practice: Reviewing the “Umbrella Concepts” of Information-Seeking Studies. *The Library Quarterly*. 77(2).
- Schiffauerova, A. & Thomson, V. (2006). A review of research on cost of quality models and best practices. *International Journal of Quality & Reliability Management A*, 23(6), 647–669.
- Schiffauerova, A. & Thomson, V. (2006). Managing cost of quality: insight into industry practice. *The TQM Magazine*, 18(5), 542–550.
- Seaman, C.B. (2008). Qualitative methods. In *Guide to Advanced Empirical Software Engineering* (35–62).
- Seilonen, I., Pirttioja, T., Halme, A., Koskinen, K. & Pakonen, A. (2007). Indirect process monitoring with constraint handling agents. In *2006 IEEE International Conference on Industrial Informatics, INDIN'06* (1323–1328).
- Semiz, S. (2011). The effects of quality management applications on automotive authorized sales and service firms. *African Journal of Business Management*, 5(2), 306–315.
- Senaratne, S. & Jayarathna, T. (2012). Quality Planning Process of Construction Contractors : Case Studies in Sri Lanka. *Journal of Construction in Developing Countries*, 17(1), 101–114.

- Senol Okay, S.S. (2010). The effects of ISO 9000 quality management system implementation in small and medium-sized textile enterprises : Turkish experience. *African Journal of Business Management*, 4(14), 2921–2933.
- Setijono, D. & Dahlgaard, J.J. (2008). The value of quality improvements. *International Journal of Quality & Reliability Management*, 25(3), 292–312.
- Sharma, J. (2010). An expedition to quality: A review. *Quality Assurance Journal*. 13(1-2), 1-13.
- Sheils, E., O'Connor, A., Breysse, D., Schoefs, F. & Yotte, S. (2010). Development of a two-stage inspection process for the assessment of deteriorating infrastructure. *Reliability Engineering and System Safety*, 95(3), 182–194.
- Shiau, Y.R. (2002). Inspection resource assignment in a multistage manufacturing system with an inspection error model. *International Journal of Production Research*. 40(8), 1787-1806.
- Singels, J., Ruë, G. & Water, H. Van De. (2001). ISO 9000 series. *International Journal of Quality & Reliability Management*, 18(1), 62–75.
- Singels, J., Ruël, G., & Water, H. Van De. (2001). ISO 9000 series - Certification and performance. *International Journal of Quality & Reliability Management*. 18(1), 62-75.
- Skyttner, L. (2002). Monitoring and early warning systems – A design for human survival. *Kybernetes*, 31(2), 220–245.
- Smit, Y. & Watkins, J.A. (2012). A literature review of small and medium enterprises (SME) risk management practices in South Africa. *African Journal of Business Management*, 6(21), 6324–6330.
- Smith, A., Oczkowski, E., Noble, C. & Macklin, R. (2003). New management practices and enterprise training in Australia. *International Journal of Manpower*. 24(1), 31-47.
- Sohail, M.S., Rajadurai, J. & Rahman, N.A.A. (2003). Managing quality in higher education: a Malaysian case study. *International Journal of Educational Management*, 17(4), 141–146.
- Spink, A. & Cole, C. (2006). Human information behavior: Integrating diverse approaches and information use. *Journal of the American Society for Information Science and Technology*, 57(1), 25–35.
- Srivastava, P.W. & Sharma, D. (2015). Journal of Quality in Maintenance Engineering. *Journal of Quality in Maintenance Engineering*, 21(1), 112–132.
- Stenbacka, C. (2001). Qualitative research requires quality concepts of its own. *Management Decision*.
- Steward, B. (2004). Writing a literature review. *British Journal of Occupational Therapy*.
- Stirling, A. C. & Scoones, I. (2009). From risk assessment to knowledge mapping: Science, precaution, and participation in disease ecology. *Ecology and Society*, 14(2).

- Study, C. & Flyvbjerg, B. (2011). Case Study. In *The Sage Handbook of Qualitative Research*, 301–316.
- Su, Q., Li, Z., Zhang, S.X., Liu, Y.Y. & Dang, J.X. (2008). The impacts of quality management practices on business performance: An empirical investigation from China. *International Journal of Quality & Reliability Management*, 25(8), 809–823.
- Sunkpho, J., Garrett, J. H. & McNeil, S. (2005). XML-Based Inspection Modeling for Developing Field Inspection Support Systems. *Journal of Infrastructure Systems*. 11(3),190-200.
- Tang, S.L. & Kam, C.W. (1999). A survey of ISO 9001 implementation in engineering consultancies in Hong Kong. *International Journal of Quality & Reliability Management*, 16(6), 562–574.
- Tribelsky, E. & Sacks, R. (2010). Measuring information flow in the detailed design of construction projects. *Research in Engineering Design*, 21(3), 189–206.
- Turner, D.W. (2010). Qualitative Interview Design : A Practical Guide for Novice Investigators. *The Qualitative Report*, 15(3), 754–760.
- Van Der Aalst, W.M.P. (2011). Conformance Checking. In *Process Mining*, (191–213).
- Vaudel, M., Burkhart, J.M., Sickmann, A., Martens, L. & Zahedi, R.P. (2011). Peptide identification quality control. *Proteomics*, 11(10), 2105–2114.
- Waijers, L. & Van Der Graaf, M. (2011). Quality of research data, an operational approach. *D-Lib Magazine*, 17(1-2).
- Walker, D.H.T. (2000). Case studies Client / customer or stakeholder focus ? ISO 14000 EMS as a construction industry case study. *The TQM Magazine*, 12(1), 18–26.
- Walker, D.H.T. & Keniger, M. (2002). Quality management in construction: an innovative advance using project alliancing in Australia. *The TQM Magazine*, 14(5), 307–317.
- Wan Yusoff, W.M., Mohammed, A.H., Misnan, M.S., Mohd. Yusof, Z. & Bakri, A. (2006). Development of quality culture in the construction industry. *The 5th IEEE International Conference on Cognitive Informatics*, 1–11.
- Wang, L., Wang, S. & Li, W. (2012). RSeQC: Quality control of RNA-seq experiments. *Bioinformatics*, 28(16), 2184–2185.
- Wang, N. & Luo, P. (2008). Research on the information resources management center construction in E-government. In *2008 International Conference on Wireless Communications, Networking and Mobile Computing, WiCOM 2008*.
- Wang, W. (2009). An inspection model for a process with two types of inspections and repairs. *Reliability Engineering and System Safety*, 94(2), 526–533.
- Water, H. Van De & Vries, J. De. (2006). Choosing a quality improvement project using the analytic hierarchy process. *International Journal of Quality & Reliability Management*, 23(4), 409–425.

- Webster, A. (1999). Continuous improvement improved. *Work Study*.
- Wetzstein, B., Karastoyanova, D., Kopp, O., Leymann, F. & Zwink, D. (2010). Cross-organizational process monitoring based on service choreographies. In *Proceedings of the 2010 ACM Symposium on Applied Computing SAC 10*,(2485–2490).
- Wirth, S.W. (2014). Add to Visual In - process Inspection Article Options and Tools. *Circuit World*, 23(2), 2–5.
- Woo, T.M. & Law, H. W. (2002). Modeling of a quality control information system for small- to medium-sized enterprises. *Integrated Manufacturing Systems*, 13(4), 222–236.
- Wyngaard, J.V. (2012). Theory of the Triple Constraint – a Conceptual Review. *Proceedings of the IEEE IEEEM*, 1991-1997.
- Xia, B.S. & Gong, P. (2014). Review of business intelligence through data analysis. *Benchmarking*, 21(2), 300–311.
- Yang, C.C. (2006). Establishment of a Quality-Management System for Service Industries. *Total Quality Management & Business Excellence*, 17(9), 1129-1154.
- Yang, G.Y. & Lê, T. (2008). Cultural and Political Factors in Conducting Qualitative Research in China. *Qualitative Research Journal*, 8(2), 113–123.
- Yeung, A.C.L. (2008). Strategic supply management, quality initiatives, and organizational performance. *Journal of Operations Management*, 26(4), 490–502.
- Yin, R.K. (2002). *Case Study Research Design And Methods*. (R. K. Yin, Ed.) (Third Edit., Vol. 5). SAGE Publications.
- Yin, R. K. (2014). *Case Study Research: Design and Methods. Essential guide to qualitative methods in organizational research* (Vol. 5).
- Yoshimi, S. (2006). Information. *Theory, Culture & Society*. 23 (2-3):271-278.
- Yu, A.T.W., Chan, E.H.W., Chan, D.W.M., Lam, P.T.I. & Tang, P.W.L. (2010). Management of client requirements for design and build projects in the construction industry of Hong Kong. *Facilities*, 28(13/14), 657–672.
- Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan*, 9, 1–6.
- Zairi, M. (2013). The TQM legacy – Gurus’ contributions and theoretical impact. *The TQM Journal*, 25(6), 659–676.
- Zalk, D.M., Kamerzell, R., Paik, S., Kapp, J., Harrington, D. & Swuste, P. (2010). Risk level based management system: a control banding model for occupational health and safety risk management in a highly regulated environment. *Industrial Health*, 48(1), 18–28.
- Zeng, S.X., Lou, G.X. & Tam, V.W.Y. (2007). Managing information flows for quality improvement of projects. *Measuring Business Excellence*, 11(3), 30–40.
- Zhang, J. (2008). Visualization for information retrieval. *Seminar*, 23.