# DEVELOPMENT OF STRUCTURAL MODEL OF RELATIONSHIP BETWEEN TQM, IT AND OP FOR THE COURTS AT THE NEW PALACE OF JUSTICE IN JORDAN

ZAID MOHAMMAD ALFAYAD

This project report submitted in partial fulfillment
of the requirements for the award of the degree of

Master of Management (technology)

Faculty of Management and Human Resource Development

Universiti Teknologi Malaysia

JULY 2013

This dissertation is dedicated to my family for their endless support and encouragement.

# ACKOWLEDGEMENT

First of all, I would like to express my utmost gratitude to Allah S.W.T for His endless blessings and guidance throughout my entire research process. Thank you for the Lord's grace in helping me to complete this continuous nerve- racking study.Next sincere appreciation goes to my supervisor Dr. Norhayati Mohmod Zakwan for her continuous support, guidance, and patience throughout my research.She always tried to make herself available. I've never seen anyone as committed to nurturing their students like she is. I will always look up to her as an academic role model. Also I would also like to express my gratitude to my colleagues and friends back in Jordan for their support when called upon, may Allah reward you all abundantly. Most importantly, my family was the foundation of my strength and inspiration. I extend my deepest gratitude to my mother and a very special thanks go to my father, and my sisters. Their continuous prayer, love, kindness, support and encouragement have been the primary inspiration source of my life. I would like to share my entire honor with all of you. Moreover, I would like to thank my examiners, Dr. Low Hock Heng and Pn.Hapriza Ashari, for their time, professional insights and suggestions. I must also thank all the lecturers and staffs in Faculty of Management, Universiti Teknologi Malaysia.Finally, special thanks to, Abdelrahman Alnajjar, Anas Alzer,Fuad abu taha and Waheeb Abu-ulbeh and Pegah Athari who have been brothers and friends to me here in Malaysia and always provide aid at various occasions through their views and tips that were undeniably constructive throughout my research and stay in Malaysia. You will all forever remain at the heart.

# ABSTRACT

In this study, the significance of information technology (IT) and total quality management (TQM) has been discussed and analyzed, also the theories of research study variables. This study focused on the critical success factors and the relationship between total quality management, information technology and organizational performance in the Jordanian courts. The aim of this research is to identify the critical success factors of Information technology, total quality management and organizational performance Also, to identify the impact of information technology (IT) implementation, role of total quality management (TQM) on the Jordanian court system performance. In this research study, the quantitative methodology was used through the questionnaires which will be filled by the courts' employee. In this research study, the close ended as well as the open-ended questions are being used to support the results from the study. The expected population in this study is 135 employees, and the sample size is 100 employees. Thus after analysis it can be proven that the performance of the Jordanian courts and its employees can be improved by implementing the information technology systems and total quality management approaches. The purpose of this research study is to develop a conceptual framework that examines information technology (IT), total quality management (TQM) factors and their relationship with the Jordanian courts organizational performance. The main expected implication of the findings for managers is that with IT role, TQM practices, court systems in Jordan are more likely to achieve better performance than without the IT role and TQM practices. This study supports the theories of IT, TQM that positively impacts the organization performance.

# ABSTRAK

Pengurusan kualiti menyeluruh (TQM) dan Kepentingan teknologi maklumat (IT) telah dibincang dan dianalisis termasuk teori pembolehubah di dalam kajian ini. Kajian ini memberi tumpuan kepada faktor-faktor kejayaan yang kritikal dan hubungan antara pengurusan kualiti menyeluruh, teknologi maklumat dan prestasi organisasi di dalam mahkamah di Jordan. Tujuan kajian ini adalah untuk mengenalpasti faktor-faktor kritikal kejayaan teknologi maklumat, pengurusan kualiti menyeluruh dan prestasi organisasi dan pada masa yang sama mengenal pasti kesan peranan pengurusan kualiti menyeluruh (TQM) ,teknologi maklumat (IT) pelaksanaan, terhadap sistem prestasi mahkamah di Jordan . Kajian penyelidikan ini telah mengunakkan kaedah kuantitatif melalui soal selidik yang akan diisi oleh pekerja mahkamah. Dalam kajian penyelidikan ini, soalan tertutup dan soalan terbuka digunakan untuk menyokong hasil daripada kajian. Populasi kajian ini adalah 135 pekerja, dan saiz sampel adalah 100 pekerja. Dengan ini, membuktikan bahawa prestasi mahkamah Jordan dan pekerjanya boleh diperbaiki dengan melaksanakan sistem teknologi maklumat dan pendekatan pengurusan kualiti menyeluruh. Tujuan kajian penyelidikan ini adalah untuk membangunkan satu rangka kerja konsep yang pengurusan kualiti menyeluruh (TQM) , dan mengkaji teknologi maklumat (IT) hubungan mereka dengan prestasi organisasi dalam mahkamah di Jordan. Implikasi utama yang dijangka ditemui bagi pengurus ialah peranan IT, amalan TQM, sistem mahkamah di Jordan lebih cenderung mencapai prestasi yang lebih baik tanpa peranan amalan TQM dan IT. Kajian ini menyokong teori IT, bahawa TQM memberi kesan positif terhadap prestasi organisasi.

# TABLE OF CONTENT

# LIST OF TABLES

## LIST OF FIGURES

# LIST OF ABBREVIATIONS

| | |
|---|---|
| IT | Information technology |
| TQM | Total Quality Management |
| OP | Organizational performance |
| IS | Information system |
| SPSS | Statistical Package for Social Science |
| ISO | International Organization for Standardization |
| QM | Quality Management |
| TQ | Total Quality |
| SPC | Statistical Process control |
| JIT | Just In Time |
| ERP | Enterprise Resource Planning |

# LIST OF APPENDICES

# CHAPTER 1

# INTRODUCTION

## 1.1    Background of the study

Public sector organizations are important consumers of information technology (IT), primarily because many public functions (Garicano, 2010). Information technology (IT) has become a key enabler of business process reengineering if an organization is to survive and continue to prosper in a rapidly changing business environment (Grover, 1999). It is a clear fact that the key driver of this period of time is technology. As the changes of technologies are growing promptly, enriched IT products and services are released everyday throughout the world. This marvel is laying a tremendous burden on organizations managers to design, plan, and adopt new technology solutions in adapting such changes.

IT will be playing a significant role not only in the sustainability of economy but also in our pursuit to achieve environmental and social sustainability. Information technology is a "general term that describes any technology that helps to

produce, manipulate, process, store, communicate, and/or disseminate information"
(Sawyar, 2005).

Shelly et al. (2004) mentioned that IT consisted of hardware, software,
databases, networks and other related components, which are used for building the
information systems. Vasudevan (2003) pointed that IT improved along with
socioeconomic development in developing countries as a need. Information
technology (IT) is one of the valuable resources to increase the economic growth and
customer satisfaction. It has a potential to impact on the structure of organizations
and improve the quality of organizational performance significantly and customer
satisfaction (Sobhani, 2008).

Studies proved the significant role of IT capability toward competitive
advantages, and organizational performance IT capability has been proven as one of
the most important variables that contributed to higher organizational performance
stakeholder in the organization should recognize the important roles of IT operations
plays in managing organizations (Ringim et al., 2012).

In addition to IT, Total Quality Management (TQM) has an impact on
organizations, and each has been widely studied. The significant role of TQM has led
authors to study this management philosophy and analyze the implementation of
such a tool successfully (Ehigie and McAndrew, 2005). Hashmi (2004) defined TQM
as "a management philosophy that seeks to integrate all organizational functions to
focus on meeting customer needs and organizational objectives." Demirbag et al.
(2006) accepted that one of the most influential factors in every organization is
quality management.

(Feng et al., 2006) recognized the positive association between TQM
implementation and organizational performance. Organizations are now adopting the
same strategy of total quality and at the same time seeking to make maximum use of
IT to increase their performance. Many authors have demonstrated the positive
impact. During the last three decades, Total Quality Management (TQM) has been
receiving an obvious acceptance by the diverse sectors of the economy such as

manufacturing (Fotopoulos and Psomas, 2009), service (Feng et al., 2008), government (Chen and Zhu, 2005).

Malik and Khan (2011) mentioned that most of the recent studies showed the positive relationship between TQM practices and firm performance. According to (Sajjad and Amjad, 2011) TQM practices have a positive influence on performance. Zehir et al. (2012) found in his study that TQM practices, and dimensions were positively related with quality performance indicators. Improvement in process, product and service quality were found resulting from TQM practices by (Kumar et al. 2009).

In addition to TQM and IT, a lot of research has been written about the performance of organizations in the past years, including the way to improve the organization's wealth. According to Wheelen and Hunger (2000), the organization performance is "an accumulated end result of organizational process and activity". Organization performance refers to how well the organization is doing, based on a predetermined set of standards (Parajogo and Brown, 2004). Global competition, internal competitive pressure had made organizations monitor their processes and service performance to meet the requirements and needs of their customers and stakeholders. The organizational management manages the organizational performance, control and customer value, as its impact reputation of the organization. Commonly, organizational work measures include organization effectiveness, productivity/efficiency and industry ranking (Wetherbe et al., 1999). According to Robbins and Coulter (2003), efficiency is defined as "minimum utilization of resources and getting maximum output" and effectiveness is "how well the job gets done".

Measuring and analyzing organizational performance plays an important role in turning organizational goals to reality. A performance indicator is a quantitative or qualitative indicator that reflects the progress of the company, unit or individual (Popova and Sharpanskykh, 2010). Performance should be defined as a result of work, because these results are in relation with the most powerful effect with the strategic goals of an organization. Organizational performance is proportion that leads organizations to their work and economical goals (Lee and Chio, 2003).

Sentiment of organizational performance is an approach that organization would do the works and duties in idealized form (Stoner et al., 2007).

The judicial system of Jordan is one of three separate and independent authorities of the government. It is responsible for an effective administration of justice to all the Jordanian citizens. Jordan's present judicial system is based on the constitution. The judicial system is divided into three types: regular courts, religious courts and special courts. The regular courts which are the scope of this study consisted of the conciliation and civil courts (the first level of adjudication), the appellate courts (the second level of adjudication) and the court of cassation, which is the highest judicial entity in the Kingdom. Jordan's present legal system is based on the Constitution, The Court Establishment Law of 1951.

In an attempt to improve the overall performance of the judiciary system, the ministry of justice formed a judicial upgrading strategy. The main aims of the strategy were to increase the number of judges, provide them with continuing education opportunities, improve their living and working conditions, introduce amendments to the procedural laws to accelerate litigation and improve court services, and adopt modern methods such as the civil case management approach.

Some of the strategy's major accomplishments were developing a system to store case files, creating a computerized database to keep track of cases, and speeding up court proceedings by improving notification procedures (www.moj.com). Figure 1.1 illustrates the hierarchy of the judicial system for the regular courts in Jordan form the conciliation court up to the cassation court which is the highest judicial entity in the Jordanian judicial system.
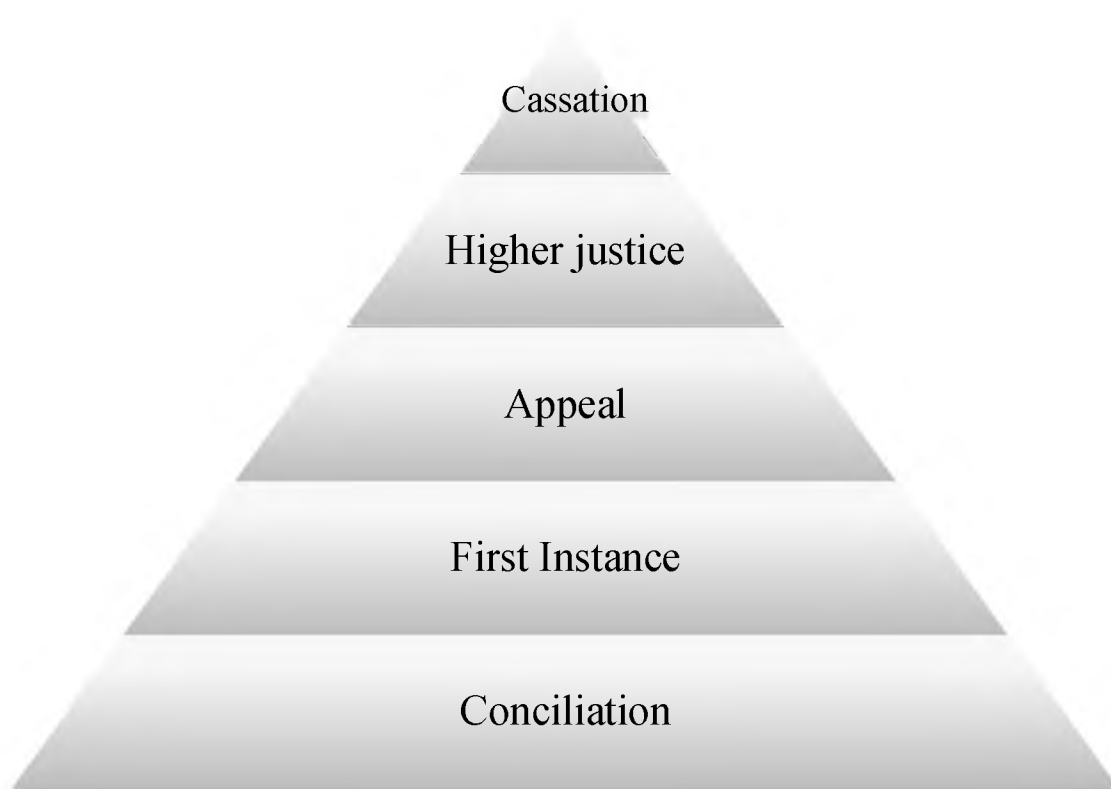
**Figure 1.1**: Jordanian Judicial System Hierarchy (www.moj.gov.jo)

## 1.2    Problem statement

IT has a significant impact on most of the organizations; a lot of research had shown that IT improves the performance (Dedrick et al., 2003). While other authors stated that there is no strong evidence shows that IT can improve the organization performance (Pelsak, 2003). This case study will intend to fill the gaps by providing evidence on the effects of IT on the organizational performance.

New technologies may face resistance from employees who are used to

certain ways of work (Stam et al., 2006). Reward systems, training and programs need to be reconfigured to support employee's use of new technologies (Noe et al, 2006). Court's management needs to implement plans, which can motivate the employees to accept the recent technologies to create a high-performance work system and processes.

Based on the report which was issued by the department of statistics in Jordan in 2008, many of the data producing agencies do not apply quality control standards in their processes. This led to poor quality and non-comprehensive data, inconsistencies in produced and published data and failing to produce data on time (Department Of Statistics [DOS], 2008).

Inadequate research has been carried out to identify the impact of IT and TQM on organizational performance in the Jordanian courts. No previous study exists confirming the role of total quality management and information technology in the Jordanian courts and their impact on organizational performance.

## 1.3    Research questions

In addressing the underlying issues concerning this study, these following questions are raised:

(i)    What are the critical success factors of IT, TQM and measurement of organizational performance?

(ii)    What is the relationship between IT, TQM and organizational performance?

## 1.4    Objectives of the study

The aim of this research is to identify the impact of IT implementation, role of TQM on the Jordanian court system. It anticipates addressing the following objectives:

(i)    Identify the critical success factors of TQM, IT and measurement of organizational performance.

(ii)   Develop a structural model of the relationship between TQM, IT and organizational performance

(iii)  Analyze the relationships between TQM, IT and organizational performance.

(iv)   Recommend different approaches to the practitioners in the court.

## 1.5    Scope of the study

The main purpose of this research study is to determine the important success factors of the information technology, total quality management and the organizational performance in the Jordanian courts. A limited example was considered to achieve detailed results as we determined our purpose. The scope of this research is:

(i)    The respondents which they are: the judges, middle and top management employees of the Jordanian courts.

(ii)   Conciliation, first instance and appeal courts in new palace of justice (NPOJ).

## 1.6    Significance of the study

The literature reveals that no previous research has been conducted on the role of information technology in the Jordanian courts. The result of this study will provide a clear image of the impact of IT, role of TQM on the court's performance as an organization. The research data are vital to all the development departments. The information provided through this research will be significant to the judicial council to know how information technology (IT) has benefited the ordinary person seeking justice. It will also be important for policy makers, court users and concerned citizens determine the possible flaws, strengths and opportunities for enhancing case flow management through the implementation of information technology (IT). The results of this study should be a benefit to the Jordanian courts and will offer a new research perception for a future research. The e-Government initiative, on the other hand, concentrates on the development of the public sector and its interaction with the private sector (Kulchitsky, 2004; Intaj, 2003). The results of this study should be a benefit to the Jordanian courts and will offer a new research perception for a future research.

## 1.7    Thesis outline

This proposal is divided into three chapters. Chapter one presents an introduction and the background of the study. Besides that it searches into the problem statement, research questions and the scope of the study. Chapter two concentrates on reviewing previous literature related to the context of the study, related theories, and models. Chapter three identifies the methodology, the sampling and the instruments that were used to conduct the research.

# REFERENCES

Abu-Hamatteh, Z. S. H., Al-Azab, T. A., and El-Amyan, M. (2003). Total quality management achievement: King Abdullah II Award for Excellence of Jordan as a model. *Technovation,* 23(7), 649-652.

Achimugu, P., Oluwagbemi, O., Oluwaranti, A. and Afolabi, B. (2009). Adoption of information & communication technologies in developing countries: an impact analysis. *Journal of Information Technology Impact,* 9(1), 37-46.

Ahmad, A. A. A., & Zink, S. D. (1998). Information technology adoption in Jordanian public sector organizations. Journal of Government Information, 25(2), 117-134.

Ahire, S. L., Golhar, D. Y. and Waller, M. A. (1996), "Development and validation of TQM implementation constructs" Decision Sciences, Vol. 27, No. 1, pp. 23-56.

Al-Jaghoub, S., & Westrup, C. (2003). Jordan and ICT-led development: towards a competition state?. Information Technology & People, 16(1), 93-110.

Al Nagi, E., & Hamdan, M. (2009). Computerization and e-Government implementation in Jordan: Challenges, obstacles and successes. Government Information Quarterly, 26(4), 577-583.

Al-Sarayreh, A. A. The Effect of Total Quality Management (TQM) Implementation in Jordanian Banking Sector on Job Performance.

Al-Swidi, A. K., & Mahmood, R. (2012). Total quality management, entrepreneurial orientation and organizational performance: The role of organizational culture. *African Journal of Business Management,* 6(13), 4717-4727.

Al-Tarawneh, H. A., & Mubaslat, M. (2011). The Implementation of Total Quality Management (TQM) On the Higher Educational Sector in Jordan. International Journal of Industrial Marketing, 1(1), Pages-1.

Amasaka, K. (2004). Science SQC, New Quality Control Principle: The Quality Strategy of Toyota. Springer. http://www.goodreads.com/book/show/1881207.Science_SQC_New_Quality _Control_Principle

Aldag, R. J and Stearns, T. M. (1987). *Management*. South-Western Publishing Co, Ohio.

Alter, S. (1996). Information systems: a management perspective. Menlo Park, CA: Benjamin Cummings.

Arawati A (2005). The structural linkages between TQM, product quality performance, and business performance: Preliminary empirical study in electronics companies. *Sing. Manag. Rev.,* 27(1): 87-105.

Arumugam, V. C., Mojtahedzadeh, R., & Malarvizhi, C. A. (2011). Critical Success Factors of Total Quality Management and their impact on Performance of Iranian Automotive Industry. In International Conference on Innovation, Management and Service IPEDR (Vol. 14, pp. 312-316).

Asymmetric.(2011),Quantitative Research Defined. Available at: http://www.asymmetricinvestmentreturns.com

Aubry, M., & Hobbs, B. (2011). A fresh look at the contribution of project management to organizational performance. *Project Management Journal,* 42(1), 3-16.

Azar, A., Daneshvar, M. (2007). The review of performance appraisal models in insurance branches. *Journal of Insurance Industry ,* 22(2).

Baidoun, S. (2003). An empirical study of critical factors of TQM in Palestinian organizations. *Logistics Information Management,* 16(2), 156-171.

Behara,R. S., Fontenot, G. F., and Gresham, A. B. (2002). Customer process approach to building loyalty. *Total Quality Management,* 13(5).

Beheshti, H. M. (2004), "The impact of IT on SMEs in the United States".

Beiske. B. (2002). Research methods: Uses and limitations of questionnaires, interviews, and case studies. In: Research Methods: Uses and Limitations of Questionnaires, Interviews, and Case Studies. Manchester: Manchester School of Management Generic Research.

Bemowsky, K. (1992). The quality glossary. *Quality Progress*, 25(2), 18-29.

Bharadwaj, Anandhi S., V. Sambamurthy, & Robert W. Zmud. (1999). IT Capabilities: theoretical perspectives and empirical operationalization. Paper presented at 20th International Conferences on Information Systems, Charlotte, NC.

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. D. (2000). Exploring the relationship between information technology, infrastructure and business process re-engineering. *Business Process Management Journal*, 6(2), 139-163.

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".

Bradburn, N., Sudman, S., & Wansink, B. (2004). *Asking questions: the definitive guide to questionnaire design*. San Francisco: Jossey-Bass.

Broadbent, M., Weill, P., O'Brien, T., and Neo, B. S. (1996). Firm Context and Patterns of IT Infrastructure Capability. (S. Jarvenpaa, A. Srinivasan, and J.I. DeGross, Ed:s), *Proceedings of the 17'th International Conference on Information Systems*, 174–194.

Burda, David. (2010). Leaders with the IT Factor. *Modern Healthcare*, 40(24), p. 18.

Byrd, A. T., & Douglas, T. E. (2000). Measuring the flexibility of capability and firm performance: An empirical investigation. MIS Quarterly.

Byrd, T., and Turner, D. (2000). Measuring the flexibility of information infrastructure: Exploratory analysis of a construct. *Journal of Management Information Systems*, 17(1), 167-208.

Campbell, D. T. and Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81-105.

Cebeci, U., and Beskese, A. (2002). An approach to the evaluation of quality performance of the companies in Turkey. *Managerial Auditing Journal,* 17(1/2), 92 – 100.

Chan, S. L. (2000). Information technology in business processes. Business Process Management Journal, 6(3), 224-237.

Chanopas, A., Krairit, D., and Khang, D. (2006). "Managing information technology infrastructure: A new flexibility framework". *Management Research News,* 29(10), 632-651.

Chen, Y., and Zhu, J. (2004). Measuring information technology's indirect impact on firm performance. *Information Technology and Management,* 5(1), 9-22.

Chi, C. G., & Gursoy, D. (2009). Employee satisfaction, customer satisfaction, and financial performance: An empirical examination. *International Journal of Hospitality Management,* 28(2), 245-253.

Coetzee J. 2001. Visionary leadership vital in challenging times. Management Today, 16 (10):26-27.

Cole ,R.E. (1999) . Mamaging quality fads .Oxford :Oxford University Press

Costello, Anna B. & Jason Osborne (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. Practical Assessment Research & Evaluation, 10(7) .online:http://pareonline.net/getvn.asp?v=10&n=7

Couger, J. D., Davis, G. B., Dologite, D. G., Feinstein, D. L., Gorgone, J. T., Jenkins, A. T., Kasper, G. M., Little, J. C., Longenecker, H. E., & Valacich, J. S. (1995). IS '95: Guideline for undergraduate IS curriculum. *MIS Quarterly,* 19(3), 341-60.

Cragg, P., King, M. and Hussin, H. (2002). IT Alignment and Firm Performance in Small Manufacturing Firms. *Strategic Information Systems,* 11(2), 109–132.

Crosby, P. B. (1979). *Quality is free,* McGraw-Hill, New York.

Croteau, A. M., & Bergeron, F. (2001). An information technology trilogy: business strategy, technological deployment and organizational performance.*The journal of strategic information systems,* 10(2), 77-99.

Daft, R, L. (1999). Organization theory and design. West Saint Paul, PP 112-150, 283-314.

Dahlgaard, J. (2005). *Fundamentals of total quality management.* Routledge.

Dahlgaard, Kristensen, Kanji. (1$^{st}$ ed.). *Fundamentals of Total Quality Management*, Chapman & Hall, London. (1998).

Dahlgaard-Park, S. M., Chen, C. K., Jang, J. Y., & Dahlgaard, J. J. (2013). Diagnosing and prognosticating the quality movement–a review on the 25 years quality literature (1987–2011). *Total Quality Management & Business Excellence*, 24(1-2), 1-18.

Dale, B. G., Boaden, R. J. and Lascelles, D. M. (1994). *Total quality management: an overview.* in Dale, B. G. (Ed.), Managing quality, Prentice Hall.

Das, A., Paul, H., & Swierczek, F. W. (2008). Developing and validating total quality management (TQM) constructs in the context of Thailand's manufacturing industry. *Benchmarking: An International Journal,* 15(1), 52-72.

DeCoster, J. (1998). Overview of factor analysis. Retrieved May, 24, 2006. from http://www.stat-help.com/notes.html.

Dedrick, J., Gurbaxani, V., and Kraemer, K. L. (2003). Information technology and economic performance: A critical review of the empirical evidence. *ACM Computing Surveys,* 35(1), 1-28.

Delone, W. H., & Mclean, E. R. (2004). Measuring e-commerce success: Applying the DeLone & McLean information systems success model. *International Journal of Electronic Commerce,* 9(1), 31-47.

Deming, W. E. (1982). Out of Crisis (Cambridge, MA: MIT, Centre for Advanced Engineering Study).

Deming, W. E. (1986). Out of the crisis, Massachusetts Institute of Technology, Cambridge.

Demirbag, M., Tatoglu, E., Tekinkus, M., and Zaim, S. (2006). An analysis of the relationship between TQM implementation and organizational performance: evidence from Turkish SMEs. *Journal of Manufacturing Technology Management,* 17(6), 829-847.

Dewett, T., & Jones, G. R. (2001). The role of information technology in the organization: a review, model, and assessment. *Journal of Management,* 27(3), 313-346.

Dewhurst, F., Lorente, A. R. M., & Dale, B. G. (1999). Total quality management and information technologies: an exploration of the issues.*International Journal of Quality & Reliability Management,* 16(4), 392-406.

Dewhurst, F., Martínez-Lorente, A. R., & Dale, B. G. (1999). TQM in public organisations: an examination of the issues. *Managing Service Quality,* 9(4), 265-274.

Dos Santos, B. L. and Pfeffer, K. (1993). *Firm level performance effects: A framework for information technology evaluation research.* In R. Banker, R. Kauffman, and M. A. Mahmood (Eds.), Strategic Information Technology Management: Perspectives on Organizational Growth and Competitive Advantage. Middleton, Pennsylvania

Dow, D., Samson, D. and Ford, D. (1999). Exploring the myth: do all quality management practices contribute to superior quality performance. *Production and Operations Management,* 8 (1), pp. 1-27.

Drost, E. A. (2011). Validity and reliability in social science research.*Education Research and Perspectives,* 38(1), 105.

Drucker, P. F. (1982). *New Templates for today's organizations.* Harward Business Review, Jan-Feb, 1972.

Edgar, F., & Geare, A. (2005). HRM practice and employee attitudes: different measures–different results. *Personnel Review,* 34(5), 534-549.

Ehigie, B. O., & McAndrew, E. B. (2005). Innovation, diffusion and adoption of total quality management (TQM). *Management Decision,* 43(6), 925-940.

Eng, Q. & Yusof, S. M. (2003). A survey of TQM practices in the Malaysian electrical and electronic industry. *Total Quality management & Business Excellence,* 14(1), 63-77.

Excellence in private sector [online]. Available from:http://www.kace.jo

Fanning, E. (2005). Formatting a paper-based survey questionnaire: Best practices. *Practical assessment, research & evaluation,* 10(12), 1-14.

Feigenbaum, A, V. (1991).*Total Quality Control.* (3$^{rd}$ ed.). New York, NY: McGraw-Hill, Inc.,

Feng, J., Prajogo, D. I., Sohal, A. S. (2006). The Impact of TQM Practices on Performance A Comparative Study between Australian and Singaporean Organizations. *European Journal of Innovation Management,* 9 (3), 269-278.

Feng, M., Terziovski, M., and Samson, D. (2008). Relationship of ISO 9001:2000 Quality System Certification with Operational and Business Performance. *Journal of Manufacturing Technology Management,* 19(1), 22-37.

Flynn, B. B., Schroeder, R. G. and Sakakibara, S. (1994). A framework for TQM research and an associated measurement instrument. *Journal of Operations Management,* 11(4), 339-366.

Fotopoulos, C. B., and Psomas, E. L. (2009). The impact of "soft" and "hard" TQM elements on quality management results. *International Journal of Quality Science,* 26(2), 150 – 163.

Frenzel, C. W. (1999). *Management Of Information Technology.* (3<sup>rd</sup> ed.).

Fuzi, Abusa. (2011), TQM implementation and its impact on organizational performance in developing countries: a case study on Libya.

Garicano, L., & Heaton, P. (2010). Information Technology, Organization, and Productivity in the Public Sector.

Garvin, D. A. (1998). *Managing Quality, the Strategic and Competitive Edge.* New York: The Free Press.

Geralis, M. & Terziovski, M. (2003). A qualitative analysis of the relationship between empowerment practices and service outcomes. *Total quality Management & Business Excellence,* 14(1), 45-62.

Gibb, S. (2001). The state of human resource management: evidence from employees' views of HRM systems and staff. *Employee Relations,* 23(4), 318-336.

Gilbert, G. R. (2000). Measuring internal customer satisfaction. *Managing Service Quality,* 10(3), 178-186.

Grover, V. (1999). From business reengineering to business process change management: a longitudinal study of trends and practices. *Engineering Management, IEEE Transactions on,* 46(1), 36-46.

Gupta, U. G. (2000). *Information Systems: Success in the 21st Century.* Prentice Hall.

Gursoy, D., and Swanger, N. (2007). Performance-enhancing internal strategic factors: impacts on financial success. *International Journal of Hospitality Management.*

Hansemark, O. C., & Albinsson, M. (2004). Customer satisfaction and retention: the experiences of individual employees. *Managing Service Quality,*14(1), 40-57.

Hasan, M., & Kerr, R. M. (2003). The relationship between total quality management practices and organisational performance in service organisations.*The TQM Magazine,* 15(4), 286-291.

Hashmi, K. (2000-2004), "Introduction and implementation of total quality management (TQM)",available at: www.isixsigma.com.

Hassan, M. U., Mukhtar, A., Qureshi, S. U., & Sharif, S. (2012) Impact of TQM Practices on Firm's Performance of Pakistan's Manufacturing Organizations. *International Journal,* 2.

Hatcher, L. (1994). A Step-by-Step Approach to Using the SAS® System for Factor Analysis and Structural Equation Modeling. Cary, NC: SAS Institute, Inc.

Hendricks, K.B., Singhal, V. R. (1996). Quality awards and the market value of the firm: an empirical investigation. *Management Science,* 42, 415–436.

Howell, D. C. (2009). *Statistical methods for psychology.* (7th ed.). Belmot, CA: Cengage Learning.

Hoyle, D. (2009). *ISO 9000 Quality Systems Handbook.* (6th ed.). Burlington MA: Butterworth-Heinemann.

InformationWeek. (1999). Bond the new and the old: enterprise architecture.

Ishikawa, K. (1985). *What Is Total Quality Control? The Japanese Way.* Englewood Cliffs, NJ:Prentice-Hall

Islam, R., & Mustapha, M. R. (2008). Organizational approach to total quality management: A case study. *Asian Journal of Business and Accounting,* 1(2), 19-38.

Ismail, N. A. (2007). The impact of information technology on performance: the mediating role of management accounting systems. *Jurnal Teknologi,* 46, 27-44.

Intaj, (2003). Information Technology Association INT@J. (2003). Jordan's information society: A fast growing sector for a transforming nation Beirut, Lebanon: Economic and Social Commission for Western Asia (ESCWA).

Jabnoun, N., & Sahraoui, S. (2004). Enabling a TQM structure through Information Technology. *Competitiveness Review: An International Business Journal incorporating Journal of Global Competitiveness,* 14(1/2), 72-81.

Jordan Institution for Standards and Metrology JISM (2008) Objectives & Strategies [online]. Available at: http://www.jism.gov.jo/

Juran, J. M. (1989). *Juran on Leadership for Quality: An Executive Handbook*. New York: Free

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.

Kanji, G. K., and Moura, P. (2001). Measuring leadership excellence .*Total Quality Management*, 12(6).

Kartha, C. P. (2004). A comparison of ISO 9000: 2000 quality system standards, QS9000, ISO/TS 16949 and Baldrige criteria. *The TQM Magazine*, 16(5), 331-340.

Kasper, G. M., Little, J. C., Longenecker, H. E., & Valacich, J. S. (1995). IS '95: Guideline for undergraduate IS curriculum. *MIS Quarterly*, 19(3), 341-60.

Kaynak, H. (2003). The relationship between total quality management practices and their effects on firm performance. *Journal of operations management*, 21(4), 405-435.

Kemp, A., Pryor, S. and Dale, B. (1997). Sustaining TQM: a case study at Aeroquib Iberica. *The TQM Magazine*, 9(1), 21-8.

Kendall & Kendall. (1999). *Systems Analysis & Design*. Prentice Hall International Inc.

King Abdullah Centre for Excellence KACE (2008) The King Abdullah II Award for Excellence in private sector [online]. Available from:http://www.kace.jo

King, M., Cragg, P., & Hussin, H. (2000, January). IT alignment and organisational performance in small firms. In 8th European Conference on Information Systems, Vienna, julij.

King, W. R., Grover, V., & Hufnagel, E. H. (1989). Using information and information technology for sustainable competitive advantage: some empirical evidence. Information & Management, 17(2), 87-93.

Konstadt, P. (1990). The unending quest for quality. *CIO*, 3(11), 83-5.

Koys, D. J. (2003). How the achievement of human-resources goals drives restaurant performance. *The Cornell Hotel and Restaurant Administration Quarterly*, 44(1), 17-24.

Kreitner, R., and Kinicki, A. (1998). Organizational Behavior (4th ed., 670 pages). Burr Ridge, ILL: Irwin/McGraw-Hill

Krejcie, R. V., & Morgan, D. W. (1970). *Determining sample size for research activities.* Educ Psychol Meas.

Kulchitsky, D. R. (2004). Computerization, knowledge, and information technology initiatives in Jordan. *Administration & society,* 36(1), 3-37.

Kumar, V., Choisne, F., Grosbois, D. D., and Kumar, U. (2009). Impact of TQM On Company's Performance. *International Journal of Quality & Reliability Management,* 26(1), 23-37.

Kyobe, M. E. (2004). Investigating the strategic utilization of IT resources in the small and medium-sized firms of the eastern free state province. *International Small Business Journal,* 22(2), 131-158.

Lai, F., Zhao, X., & Wang, Q. (2006). The impact of information technology on the competitive advantage of logistics firms in China. Industrial Management & Data Systems, 106(9), 1249-1271.

Lau, H. C., and Idris, M. A. (2001). The soft foundation of the critical success factors on TQM implementation in Malaysia. *The TQM magazine,* 13(1), 51-62.

Laudon, K. C. & Laudon, J. P. (1998). *Management Information Systems.* (5th ed.). Prentice Hall, Inc. New Jersey. pp. 189,334.

Laudon, Kenneth C. & Laudon, Jane P. (2005). Management Information Systems.

Leclaire, J., Cooper, L. and Gorrio, F. (2000). Rapid-fire IT infrastructure. Information Week. January 31, 2000.

Lee, H., and Chio, B. (2003). knowledge management enablers, processes, and organizational performance : an integrative view and empirical examination. *Journal of management Information Systems,* 20(1), 179-228.

Lewis, W. G., Pun, K. F., and Lalla, T. R. M. (2006). Exploring soft versus hard factors for TQM implementation in small and medium-sized enterprises.International *Journal of Productivity and Performance Management,* 55(7), 539-554.

Li, L., Markowski, C., Xu, L., and Markowski, E. (2008). TQM—A predecessor of ERP implementation. *International Journal of Production Economics,* 115(2), 569-580.

Luftman, J. N., Lewis, P. R. and Oldach, S. H. (1993). Transforming the Enterprise: The Alignment of business and Information Technology Strategies. *IBM Systems Journal.*

Lycke, L. (2003). Team development when implementing TQM. *Total Quality management,* 14(2), 205-213.

MacKinnon, D. P., Ghulam, W., and James, H. D. (1995). A Simulation Study of Mediated Effect Measures. *Multivariate Behavioral Research,* 30 (1), 41–62.

Malhotra, Naresh. K. (1996). *Marketing Research: An applied Orientation.* (2$^{nd}$ ed.) New Jersey.USA: Prentice Hall Inc.

Malik, M. N., and Khan, H. H. (2011). Total Quality Management in Manufacturing Industry of Pakistan: A Case of Cement Industry Paper Presented at the International Conference on Trends in Mechanical and Industrial Engineering.

Markus, M. L. and Soh, C. (1993). Banking on information technology: Converting IT spending into firm performance. In R.D. Banker, R.J. Kauffman and M.A. Mahmood (Eds.), Strategic Information Systems Technology Management: Perspectives on Organizational Growth and Competitive Advantage. Harrisburg, PA: Idea Group Publishing.

Marshall, T. (2002). E-Finance: An tempered fight for supremacy. *Euromoney,* 33(401), Sep-2002, pp138-139 No. 4, pp. 535-50.

Martinez-Lorente, A. R., Dewhurst, F., and Dale, B. G. (1998). Total quality management: origins and evolution of the term. *The TQM Magazine,* 10(5), 378-386.

Martínez-Lorente, A. R., Sánchez-Rodríguez, C., & Dewhurst, F. W. (2004). The effect of information technologies on TQM: An initial analysis. *International Journal of production economics,* 89(1), 77-93.

Masa'deh. (2013). The Impact of Information Technology Infrastructure Flexibility on Firm Performance: An Empirical Study of Jordanian Public Shareholding Firms. *Jordan Journal of Business Administration,* 9(1).

Masejane, T. P. (2012). Total quality management and organisational performance in the Maluti-A-Phofung municipality in the Free State Province.

Massey, A. P., Wheeler, B. C. and Keen, P. G. W. (2000). '*Technology matters*', In Gary W. Dickson and Gerardine DeSanctis (eds.), Information technology and the future enterprise, Prentice Hall, Upper Saddle River, New Jersey.

Mathews, B. P., Ueno, A., Kekäle, T., Repka, M., Pereira, Z. L., and Silva, G. (2001). European quality management practices: The impact of national culture. *International Journal of Quality & Reliability Management,* 18(7), 692 – 707.

McClenahen, J. S. (2000). *Unstoppable improvement.* Industrial Week, pp85-95. McGra- Hill Publishing Co. U.S.A, pp 3-4,147, 446-457.

McKay, D. T. and Brockway, D. W. (1989). Building I/T infrastructure for the 1990s. Stage by Stage. *Nolan Norton and Company,* 9(3), 1-11.

Mensching, J. R. and Adams, D. A. (1998). *Managing an Information System,* Prentice-Hall, Englewood Cliffs, NJ.

Mohamed, N. (2012). A conceptual framework for information technology governance effectiveness in private organizations. *Information Management & Computer Security,* 20(2), 88-106.

Mohrman, S. A., Tenkasi, R. V., Lawler III, E. E., Ledford Jr., G. G., (1995). Total quality management: practice and outcomes in the largest US firms. Employee Relations 17 (3), 26–41. multibusiness firms". MIS Quarterly, 29(2): 311-334.

Murray, R. J. (1991). The quest for world class IT capability: it is key to achieving quality goals. *Journal of Information Systems Management,* 8(3), 7-15.

Naceur Jabnoun, Sofiane Sahraoui, (2004). Enabling a tqm structure through information technology. *Competitiveness Review: An International Business Journal incorporating Journal of Global Competitiveness,* 14(1), 72 – 81.

Noe, R., Hollenbeck, J., Gerhart, B., and Wright, P. (2006). *Human Resources Management.* (5$^{th}$ ed.). New York: McGraw-Hill/Irwin.

Norshidah, M., Jasber, K., Gian, S. (2012). A conceptual framework for information technology governance effectiveness in private organizations. *Information Management & Computer Security,* 20(2), 88 – 106.

Nunnally, J. C. (1978). *Psychometric Theory.* McGraw-Hill Book Company, pp. 86-113, 190-255.

Nyrhinen, M. (2006). IT infrastructure: structure, properties and processes.

Oakland, J. (2000). *Total Quality Management - Text With Cases.* (2$^{nd}$ ed.). Butterworth Heinemann, Oxford.

Oluwatoyin,Oluseun.(2008). *A Test of the Effect of TQM on Performance and Stakeholder Satisfaction.*

Opara, U. N. (2010)Short Communication: Toward Improving Library and Information Services Delivery in Nigeria through Total Quality Management. *African Journal of Library. Archives & Information Science,* 20(1), 2010, 63-68.

Oschman, J. J. (2009). Review of Literature of Total Quality Management.

Oz, Effey. (2002). *Management Information Systems.* (3$^{rd}$ ed.). Course Technology reprinted by Thomson Asia Ltd. Singapore. Pp267-271, 166-204, 210-224, 353-391.

Parajogo, D., & Brown, A. (2004). The Relationship BetweenTQM Practices And The Role of Formal TQM Programs: An Australian Empirical Study. *QMJ,* 11(4).

Parasuraman, R., Molloy, R., Mouloua, M., and Hilburn, B. (1996). *Monitoring of automated systems.* In Parasuraman, R. and Mouloua, M. (eds.) Automation and Human Performance: Theory and Applications, pp.91-115. New Jersey: Lawrence Erlbaum Associates

Peslak, A. (2003). A firm level study of information technology productivity using financial and market based measures. *Journal of Computer Information Systems,* 43 (4) 72-80.

Popova, V., and Sharpanskykh, A. (2010). Modeling organizational performance indicators. *Information systems,* 35(4), 505-527.

Powell, T. C. (1995). Total Quality Management as Competitive Advantage: A Review and Empirical Study. *Strategic Management Journal,* 16(1), 15-37.

Quazi, A. H. and Padibjo, S. R. (1998). A Journey towards total quality management Singapore. *International Journal of Quality & Reliability Management,* Vol. 15.

Rahman, S. U., & Bullock, P. (2005). Soft TQM, hard TQM, and organisational performance relationships: an empirical investigation. *Omega,* 33(1), 73-83.

Rawabdeh, I. (2002). Assessment of products' standards in Jordanian manufacturing companies. *Benchmarking: An International Journal,* 9(1), 28-42.

Rawabdeh, I. A. (2008). Jordan Quality Award (King Abdullah II Award for Excellence (KAIIAE)): Characteristics, assessment and benchmarking.Benchmarking. *An International Journal,* 15(1), 4-24.

Ray, G., Muhanna, W. A., & Barney, J. B. (2005). Information technology and the performance of the customer service process: A resource-based analysis.*Mis Quarterly,* 625-652.

Rayyan, L., and Tahboub K. (1998). An assessment of perception of Jordanian industry towards TQM' And ISO 9000. Dirasat, Jordan University Amman.

Reynolds, G. W. (1995). *Information Systems for Managers.* (3$^{rd}$ ed.). West

Richardson, T. (1997). *Total Quality Management.* New York: Delmar Publishers.

Ringim, K. J., Razalli, M. R., and Hasnan, N. (2012). Moderating effect of Information technology (IT) capability on the relationship between business process reengineering factors and organizational performance of Bank. *African Journal of Business Management,* 6(16).

Robbins, S P., and Coulter, M. (2003). *Management.* (7$^{th}$ ed.). U.S.A: Prentice Hall, Int.

Ross, J. W, Cynthia, M. B, & Dale, L. G. (1996). Develop long-term competitiveness through IT assets. *Sloan Management Review,* 38(1), 31-33.

Russell, R. F. (2000). The role of values in servant leadership. *Leadership & Organization Development Journal,*12(6).

Sääksjärvi, M. (2000). The Roles of Corporate IT infrastructure and their impact on IS effectiveness. In Proceedings of the 8th European Conference on Information Systems, Vienna, Austria.

Sajjad, F., and Amjad, D. S. (2011). Assessment of Total Quality Management Practices and Organizational Development. (The Case of Telecom Services Sector of Pakistan) Mediterranean. *Journal of Social Sciences,* 2 (2).

Salaheldin, I. (2009). Critical Success Factors for TQM Implementation and Their Impact on Performance of SMEs. *International Journal of Productivity and Performance Management,* 58(3), 215-237.

Saraph, J. V., Benson, P. G., and Schroeder, R. G. (1989). An Instrument for Measuring the Critical Factors of Quality Management. . *Decision Sciences,* 20(4).

Saunders, M., Lewis, P., and Thornhill, A. (2004). *Research Methods for Business Students*, FT-Prentice-Hall, Harlow et al.

Sawyer, S. (2005). Social Informatics: Overview, Principles and Opportunities. *American Society for Information Science and Technology*, 31(5).

Schmalenesee, D. (1991), Internal customer satisfaction. *Managing Service Quality, March*, 141-144.

Seddon, P. B., Sandy, S., Patnayakuni, B. R. (2003). Dimensions of Information Technology success in efficient management. *Communication of the Association for Information Systems*, 2, 38-59.

Segars, A. H., and Grover, V. (1998). Strategic Information Systems Planning Success: An Investigation of the Construct and Its Measurement. *MIS Quarterly*, 22(2), 139-163.

Sharma, B., & Gadenne, D. (2010). Entry barriers and industry rivalry: Do they mediate the relationship between quality management practices and performance?. *International Journal of Quality & Reliability Management*, 27(7), 779-793.

Shenawy, E. E., Baker, T., & Lemak, D. J. (2007). A meta-analysis of the effect of TQM on competitive advantage. *Int. J. Qual. Rel. Manag.*, 24(5), 442-471.

Sha'ri .(2003). Total quality management (tqm) advancement and Critical success factors for implementation in manufacturing small and medium sized enterprise (smes).Malaysia.

Shaukat, M., & Zafarullah, M. (2009). Impact of Information Technology on Organizational Performance: An Analysis of Qualitative Performance Indicators of Pakistan's Banking and Manufacturing Companies. *Eurpoean Journal of Economics, Finance and Administrative Sciences*, (16).

Shelly, G. B., Cashman, T. J., and Verment, M. E. (2004). Discovering Computers:A gateway to information Web Enhanced, Thomson Course Technology Boston, U.K

Shin, N (2001). The Impact of Information Technology on Financial Performance: the Importance of Strategic Choice. *European Journal of Information Systems*, vol. 10.

Shin, N. (2003). The Impact of Information Technology on the Performance of Diversified Firms. In Proceedings of the 11th European Conference on Information Systems.

Siegel, J., and Shim, J. (2005). *Dictionary of Accounting Terms.* (4$^{th}$ ed.). Barron's Educational Series. Hauppauge NY.

Sila I, Ebrahimpour M. (2005). Critical linkages among TQM factors and business results. *Int. J. Oper. Prod. Manag,* 25(11): 1123-1155.

Sinclair, D. and Zairi, M. (2000). Performance measurement: a critical analysis of the literature with respect to total quality management. *International Journal of Management Review,* 2(2), 145-68.

Silvestro, R. (2002). Dispelling the modern myth: Employee satisfaction and loyalty drive service profitability. *International Journal of Operations & Production Management,* 22(1), 30-49.

Sinclair, D. and Zairi, M. (2001). An empirical study of key elements of total quality-based performance measurement systems: a case study approach in service industry. *Total Quality Management,* 12.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology,* (13), 290-312.

Sobhani, A. (2008). *Impact of information technology on productivity.* unpublished Master's thesis, Lulea University of Technology, Lulea.

Stam, K. R., Stanton, J. M., & Guzman, I. R. (2006). Employee resistance to digital information and information technology change in a social service agency: a membership category approach. *Journal of Digital Information,* 5(4).

Stoner, J. F., Ferison, R. A., and Gilbert, D. R (2007). management , translated by Parsian and Erabi, office of cultural research, first publish.

Strasunskas, D. and Tomasgard, A. (2009). In quest of ICT value through integrated operations: assessment of organisational – technological capabilities. *Lecture Notes in Business Information Processing,* 37(4), 159-70.

Stuelpnagel, T. R. (1993). Deja vu: TQM returns to Detroit and elsewhere. *Quality Progress,* 26(9), 91-95.

Su Mi Dahlgaard-Park , Chi-Kuang Chen , Jiun-Yi Jang & Jens J. Dahlgaard (2013): Diagnosing and prognosticating the quality movement – a review on the 25 years quality literature (1987–2011), *Total Quality Management & Business Excellence,* 24:1-2, 1-18.

Sun, A. Y., Yazdani, A., & Overend, J. D. (2005). Achievement assessment for enterprise resource planning (ERP) system implementations based on critical success factors (CSFs). *International Journal of Production Economics,* 98(2), 189-203.

Tanriverdi, H. (2005). Information Technology Relatedness, Knowledge Management Capability, and Performance of Multibusiness Firms. *Information Technologies and Knowledge Management,* 29(2), 311-334.

Temtime, T. Z. and Solomon, G. H. (2002). Total quality management and the planning behavior of SMEs in developing countries. *The TQM Magazin*e, 14(3), 181-91.

Therese, J. A. (2007). Total quality management and performance: The role of organizational support. *International Journal of Quality & Reliability Managemen,* 24(6), 617-627.

Thiagarajan, T. and Zairi, M. (1998). An empirical analysis of critical factors of TQM: a proposed tool for self-assessment and benchmarking purposes. *Benchmarking for Quality Management & Technology,* 5(4), 291-303.

Thomas, J. L., & Mullaly,M. E. (Eds.). (2008). Researching the value of project management. Newtown Square, PA: Project Management Institute.

Tiwari, G., & Chaudhari, P. T. (2012). A study of the effect of information technology on TQM. *World Journal of Science and Technology,* 2(5).

Townsend, P., and Gebhardt, J. (2008). Employee engagement – completely. *Human Resource Management International Digest,* 16(3), 22 – 24.

Trochim, W. M. K. (2006). Introduction to Validity. Social Research Methods

Twaissi, N. M. (2008). An Evaluation of the Implementation of Total Quality Management (TQM) Within the Information and Communications Technology (ICT) Sector in Jordan (Doctoral dissertation, University of Huddersfield).

Van Ho, P. (2011). Total Quality Management Approach To The Information Systems Development Processes: An Empirical Study (Doctoral dissertation, Virginia Polytechnic)

Vasudevan, A. (2003). Some perspectives on IT up gradation in the financial sectors.

Victor, M. A. M., Mjema, E. A. M. and Mwinuka, M. S. M. (2005). Analysis of roles of IT on quality management. *The TQM Magazine,* 17 (4), 364-74.

Wai, L. S. M. D. L., Seebaluck, A. K., & Teeroovengadum, V. (2011). Impact of information technology on quality management dimensions and its implications. *European Business Review,* 23(6), 592-608.

Weill, P. (1993). *The role and value of information technology infrastructure: Some empirical observations.* In R. Banker, R. Kauffman and M.A. Mahmood (Eds.), Strategic Information Technology Management: Perspectives on Organizational Growth and Competitve Advantage. Middleton, PA: Idea Group Publishing.

Weill, P and Broadbent, M. (1998), Leveraging the New Infrastructure - How Market LeadersCapitalize on Information Technology. Harvard Business School Press, Boston, Massachusetts

Weill, P. and Broadbent, M (2000). Managing IT infrastructure: A strategic choice. In R.W. Zmud (ed.), Framing the Domain of IT Management: Projecting the Future Through the Past. Pinnaflex Educational Resources, Inc., Cincinnati, Ohio.

Wetherbe, J., Turban, E., and Mclean, E. (1999). *Information Technology for management: Making connections for strategic advantages.* (2nd ed.). New York, NY: John Wiley and Sons Inc.

Wheelen, T. L and Hunger, J. D. (2000). *Strategic Management.* (7th ed.). printice Hall.

Wilkinson, A. & Witcher, B. (1990). TQM in the United Kingdom – Fitness for Use (Durham: Durham University Business School).

William, B. K & Sawyar, S. C. (2005). *Using Information Technology.* (6th ed.)

Wok, S., & Hashim, J. (2011). Internal customer satisfaction towards hrm practices and its influence on external customers and organisational outcomes.

Wong, A. (2000). Integrating supplier satisfaction with customer satisfaction. *Total Quality Management,* 11(4/5/6), 427-32.

Wu, C. H. (2007). The impact of customer-to-customer interaction and customer homogeneity on customer satisfaction in tourism service—the service encounter prospective. Tourism Management.

Xia, W., and King, W. R. (2002). Determinants of Organizational IT Infrastructure Capabilities: An Empirical Study. Working paper, MIS Research Center, University of Minnesota.

Yusof, M. (2002). Total Quality Management (TQM) advancement and critical success factors for implementation in manufacturing Small and Medium Sized Enterprise (SMEs).

Yusuf, Y., Gunasekaran, A., & Dan, G. (2007). Implementation of TQM in China and organisation performance: an empirical investigation. *Total quality management,* 18(5), 509-530.

Zadrozny, M. A and Ferrazzi, K. E. (1992). Building a technology base for TQM. *Chief Information Officer Journal,* 5(2), 16-21.

Zehir, C., Ertosunb, O. G., Zehir, S., and Muceldilli, B. (2012). Total Quality Management Practices' Effects on Quality Performance and Innovative Performance Procedia .*Social and Behavioral Sciences,* 41, 273 – 280.

Zhang, Z., Waszink, A. B., and Wijngaard, J. (2000). An instrument for measuring TQM implementation for Chinese manufacturing companies. *International Journal.*

Zhang, M. (2005). Information technology capability, organizational culture, and export performance (Doctoral dissertation, Washington State University).

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.*

Zikmund, W. (2000). *Business Research Methods.* (6th ed.). Forth Worth:The Dryden Press.

Zineldin, M. and Bredenlow, T. (2001). Performance measurement and management control: quality, productivity and strategic positioning – a case study of a Swedish bank.

Department of statistics (www.dos.gov.jo)

(Ministry of Information and Communications Technology) www.moict.gov.jo

(Ministry of justice) www.moj.gov.jo