

# Empirical Study on Organizational Commitment Role in raising Environmental Performance level of Industrial Companies, Libya

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## ABSTRACT

The aim of this paper is to explore the impact of organizational commitment on the environmental performance. A case study conducted was specifically designed to examine if there is any connection between the commitment style (effective, continuance and normative organizational commitment of employees) and overall implementation status of the international standard systems ( Total quality management (TQM ), occupational health and safety ( OHSAS ) and environmental management system ( EMS ) which They are very crucial techniques in increasing environmental performance within Libyan public sector organization. The case study was Zliten Cement factory; it was determined as traditional management style and Libyan typically in its culture governance and structure. survey was conducted to gather the primary data. The data collected using a random sampling technique. 100 respondents who consisted of supervisor, managers and employees of Zliten Cement factory. The analyses were conducted using the statistical package for the social science (SPSS). The statistical result found that there is a low significant relationship between the Organizational commitment towards environmental performance in Zliten Cement factory. Organizational commitment also brought an insignificant impact on environmental performance at Zliten Cement factory. The result also determined that the organizational commitment plays important roles on implementation of TQM key elements, OHSAS and EMS in the Libyan Industrial Organization. Different aspects of these variables were tasted to provide a comprehensive understanding of factors that effected on environmental performance of Zliten Cement factory.

دراسة عملية علي دور الالتزام التنظيمي في الرفع من المستوى البيئي للشركات الصناعية في ليبيا

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الهدف من هذه الورقة هو استكشاف تأثير الالتزام التنظيمي على الأداء البيئي. حيث تم اجراء خصبصا دراسة حالة لفحص ما اذا كان هناك علاقة بين اسلوب الالتزام العاطفي والمستمر والمعياري للموظفين وحالة التطبيق الكلي لأنظمة المعايير الدولية مثل ادارة الجودة الشاملة (TQM) ونظام الصحة والسلامة المهنية ونظام الادارة البيئية (EMS). حيث تعتبر هذه الأنظمة الدولية من التقنيات المهمة للغاية في الرفع من مستوى الأداء البيئي داخل مؤسسات القطاع العام الليبي. حيث كانت الحالة المستهدفة لهذه الدراسة هو مصنع اسمنت زليتن. حيث حدد النظام الاداري القائم لهذا المصنع بأنه اسلوب اداري تقليدي في هيكله وثقافته وحوكمته. تم استخدام الاستبانة لجمع البيانات الأولية واستخدمت عينات عشوائية لأكثر من 100 شخص من مدراء ومشرفين وموظفين تابعين لمصنع اسمن زليتن. ولتحليل هذه البيانات تم استخدام الحزم الاحصائية للعلوم الاجتماعية (SPSS). حيث أظهرت النتائج الاحصائية أن هناك علاقة ذات دلالة احصائية منخفضة بين الالتزام التنظيمي و الأداء البيئي داخل مصنع اسمنت زليتن. كما أظهرت أيضا أن للالتزام التنظيمي تأثير ضعيف علي الأداء البيئي داخل المصنع. كما بينت الدراسة أن الالتزام التنظيمي يلعب دور مهم في تنفيذ العناصر الأساسية لإدارة الجودة الشاملة (TQM) ونظام الصحة والسلامة المهنية ونظام الادارة البيئية (EMS) داخل المؤسسات الصناعية الليبية. كما قدمت الدراسة فهما شاملا ومعرفة تامة علي العوامل التي تؤثر علي مستوى الأداء البيئي لمصنع اسمنت زليتن.

## INTRODUCTION:

Environment becomes a major issue which confronts industry and business in today's world on daily basis. Industrial activities are caused degradation on various environmental components like water, air, and soil and plant vegetation. In recent years; there has been significant awareness of global environmental problems like global warming and ozone depletion UNEP (2011) reported that global manufacturing industry needs 35 per cent of electricity of total worldwide consumption and it contributes 20 per cent of the world's CO<sub>2</sub> emissions, which polluted and harmful for earth (l'environnement 2011). Therefore, appropriate management and control strategies to address the environmental issue are required to retain the global customers and to progress in a more critical global economy ( Chavan 2005; Singh and Shoura 2006; Petros Sebhatue and Enquist 2007). In this aspect, integrated management systems like Total Quality Management (TQM ISO 9001), occupation Health Safety ( OHSAS ISO 18001), and Environmental Management System ( EMS ISO 14001) are designed to conquer environmental issues on earth aspect of the company's operations. They offer an organized approach to manage environmental issue.

On the other hand, organizational commitment is an important managerial factor in any organization. Furthermore, Organizational commitment strangely influence to improve the employees' performance and increase productivity and creatively within an organization (Sousa and Coalha 2011). Bennett and Durrkin (2000), stated that the negative affective associated with a lack of employees' commitment and absenteeism and turnover. Supervisor is able to create job environment which also influence towards organizational commitment. It means employee commitment reflects the leadership quality n an organization ( Ramus 2001). Employees' commitment plays an important role in improving environmental performance. Workforce has long been recognized as an essential element to promote implementing environmental management practices in business organization ( Madsen and Ulhoi 2001; Ulubeyli 2013 ). Employees actively involved in environmental endeavors may significantly enhance a company; s chance for superior environmental performance. Wee and Quazi identified the employees' involvement as critical factor of environmental management ( Soo Wee and Quazi 2005 ).

The basic orientation of this study is to discover the impact of organizational commitment on environmental performance. Moreover, it also to examine the

connection between the organizational commitment style ( affective, continuance and normative organizational commitment of employees ) and its influence toward implementation of international standard systems such as total quality management ( TQM), Occupation Health and safety ( OHSAS ) and

environmental management system ( EMS ) which are very crucial techniques in increasing the environmental performance within the industrial organizations.

### *The relationship between organizational commitment and performance commitment*

Ulubeyli stated that environmental performance is manufacturing plants capability to reduce air emissions, managing waste tunnel, and solid including decreasing the consumption of dangerous and toxic materials ( Ulubeyli 2013 ). The most important management standard and systems that were being developed and introduced to deal separately with quality, environment and health and safety issues respectively are DIS ISO 9001(2001); BS EN ISO 14001 (1966), and BSI – OHSAS 18001 (1999) (Wilkinson and Dale 2001). ISO 9001 encourage improving quality and reducing costs, which reservedly contributing to attain customer satisfaction (Han and Chen 2007 ). ISO 14001 provides a structured management system for any organization that intends to reform its environmental performance by taking control regulation of impact of their production and services on their environment. It also suited for organizations that accord with environmental laws and policies, whereas the OHSAS ISO 18001 purposes to provide international guidance where organization can assess and certify their own safety programs. It was developed to fulfill customer' demand towards occupational health and safety management system. The standard has been developed to be compatible with ISO 9001 and ISO 14001 ( Jorgensen, Remmen *et. al.* 2006). Baker (2001) stated that many companies certified with ISO 9001 or ISO 14001, they further prepare themselves to get OHSAS 18001 certification. Dragomir *et. al.* mentioned that ISO 9001, ISO 14001, and ISO 18001 standards are the most relevant standardized tools for organizational commitment and are also the most widely used in industry as bases for integrated management system ( Dragomir, Iamandi *et. al.* 2013).

Several studies identified a positive relationship between leadership, organizational commitment and environmental performance (Glover 1993; Abraham, Crawford *et. al.* 2000; Awan and Ishaq Bhatti 2003; Beer 2003; Chin and Choi 2003; Govendarajulu and Daily 2004; Rendell and McGinty 2004; Zutshi and Sohal 2004; Lakshman 2006; Lundmark and Westelius 2006; Farooqui and Ahmad 2009; Haslinda and Chan 2010; Rui, Emerson *et. al.* 2010; Sinha and Karaszewski 2010). Therefore leaders and employees should understand and knowledgeable about implementation of international standard systems such as total quality management (TQM), occupational health and safety ( OHSAS ) and environmental management system ( EMS ).

Top management and employees support TQM, OHSAS and EMS implementation within organizational environment. Rendell and Hoyle stated that the success key of EMS and TQM development and implementation is commitment of top management.

The role of the top management is not limited into initial written statements, but it should also encompass identifiable activities, delivering internal communications, employees' involvement to arrange of goals and objectives and ensuring adequate availability resources( Rendell and McGinty 2004; Hoyle 2009). Therefore, the top management commitment becomes a base to improve quality, environment and occupational health and safety.

On the other hand, employees' commitment required to increase the effectiveness and reach competitive advantages within organizations. Binnett and Durkin stated that the negative affective associated with a lack of employees' commitment and absenteeism and turnover ( Bennett and Durkin 2000). Organizational commitment is major key of success toward employees to enhance performance, and increase the productivity and creativity of the organization( Sousa and Coelho 2011). Moreover, Medsen and Ulhoi also explained that workforce has long been recognized as an essential element to prompt environmental management practices in business organization( Medsen and Ulhoi 2001). Employees actively involved in environmental attempt are feasible to enhance significantly a company's chance environmental performance that were contained in this study.

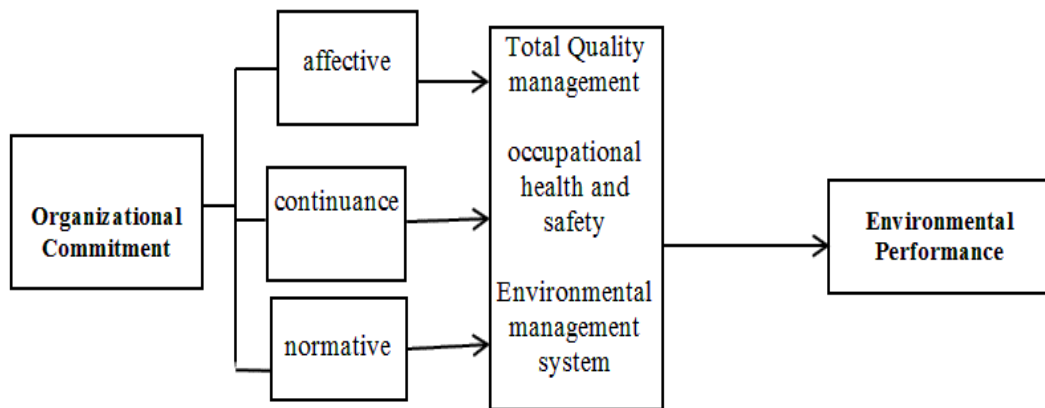
for attaining superior level of environmental performance. Wee and Quazi identified employees' involvement as a critical factor of environmental management (Wee and Quazi 2005). However, effective leadership which promotes more a spot on communication and commitment of employees and gives autonomy and design-making power; help in increasing the level of TQM, OHSAS and EMS implementation thereby may significantly enhance a company's chance to have a high level of environmental performance.

In accordance of the literature review, this study formulated the reach hypotheses as below;

1. There is correlation among organizational commitment and environmental performance.
2. There is a significant impact of organizational commitment on the environmental performance.

**METHODOLOGY:**

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This study was conducted under framework as shown in figure 1. It demonstrated the variables of organizational commitment and



**Figure 1.** the proposed Model of study

**Questionnaire Design:**

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This study collected the data through a questionnaire survey. The assessment point of the questionnaire were passed on previous studies. The questionnaire was divided into four sections.

- A. demographic profile;
  - B. Affective, continuance and normative organizational commitment which the answers were based on five-point with the scale; (1) very disagree, (2) disagree, (3) moderately agree, (4) agree and (5) very agree.
  - C. Total Quality management, Occupational Health and Safety and Environmental Management System.
- The instrument here was utilized to obtain employees' involvement level on environmental policy, as well as to what extent environmental management objectives and

targets were achieved. Each question was given in a multiple choice answer and respondents who were asked to state on ' Yes or No; do not scale to tick on the most appropriate answer based on their detailed knowledge.

*Data Collection*

The simple comprised company members who were working at Zliten Cement factory in Libya, respectively. A total of 100 questionnaires were submitted to the personal department and were subsequently distributed randomly to the employees among different departments and levels within the company. 80 questionnaires were returned and 7 questionnaires were invalid because of missing data. Therefore, total valid questionnaire was 73 data of Zliten factory ( N- 73 ). In other word, the total response rate was 73%for Zliten factory.

RESULTS AND DISCUSSION:

*Descriptive Analyses*

The present study respondents were 73 employees who working in different levels at Zliten factory in Libya. Those respondents were of male. The respondents of the company consisted various age. The ages of 40-50 54.4% . 29.3% was between of 24-40 and 16,3% of respondents were over 50yearsold. The education of 46.5% respondents of Zliten hold intermediate diploma degree. 25.4% of them hold an undergraduate degree, another 15.5% hold secondary level and 12.7% only hold post graduate degree. The respondents of Zliten were majority educated in Libya approximately 97.9%, however there was 2.1% of respondents who took their education in Europe. 74.6% respondents of Zliten company were ordinary employee, and 18.7% were supervisors. There was 7% respondents was managers.

The smallest respondents group of Zliten factory has been worked for 11-15 years which was about 16.9%, whereas 23.2% of them have been worked for 16- 20 years, and 35.3% of respondents who had worked for more than 20 years.

*Reliability Analysis*

Reliability has been tasted for each variable of organizational commitment and environmental performance at Zliten factory. To measure the scale consistency, Cronbach's alpha was used as a reliability measurement. After factor loading was carried out, all variables showed acceptable range of reliability where the result score for affective, continuous and normative organizational commitment of Zliten were 0.90, 0.85 and 0.81respectively. the result of the total quality management, occupational health and safety and environmental management system recorded .83, .91 and .98. Cronbach; alpha coefficients were computing for each scale and the factors were determined to have coefficients between of 0.72 to 0.98 which indicating the reliability.

*Correlation Analysis*

In this section, the person correlation coefficient was used to determine the relation between among the variables of this study. It also identifies significance that

opposite potential error value of first type and it has probability uncertain value at significance(0.05) and (0.01) to determine the differences among variables of this study. The statistical results are shown in the table 1. It verifies the hypothesis about the relationship among the organizational commitment and environmental performance variables.

*Testing Hypotheses*

**H1-** there is a significant relationship between organizational commitment of factory employees on environmental performance.

Based on the table 1, pearson correlation coefficient value of effective commitment and environmental performance of Zliten was 0.103 at significant bigger than 0.01.

This result showed that there was a low and no significant relationship between those variable. It determined that 1.1% of the total variance in environmental performance derived from the effective commitment considering determination coefficient (r<sup>2</sup>) value of 0.011. pearson correlation coefficient value on relationship of continuance commitment and environmental performance of Zliten determined 0.025 at significance bigger than 0.01. This result determined as a low and no significant relationship between those variables. There was 0.1% of the total variance in environmental performance derived from the continuance commitment considering the determination coefficient (r<sup>2</sup>) value of 0.001.

pearson correlation coefficient value of normative and environmental performance relationship of Zliten was 0.274\*\* at significance smaller than 0.01. It identified as a non-significant relationship between both. Determination coefficient (r<sup>2</sup>) of 0.75 showed that pearson correlation coefficient value on relationship of continuance commitment and environmental performance of Zliten determined 0.025 at significance bigger than 0.01. This result determined as a low and no significant relationship between those variables. There was 0.1% of the total variance in environmental performance derived from the continuance commitment considering the determination coefficient (r<sup>2</sup>) value of 0.001.brought only 7.5% of the total of variance in environmental performance.

**Table 1.** the pearson Correlation Coefficients of Zliten factory

Model	Case	Environmental performance	
Affective commitment	Zliten	pearson correlation	.103
		Sig. (2 tailed)	.224
Continuance commitment	Zliten	pearson correlation	0.25
		Sig. (2 tailed)	.769

<b>Normative commitment</b>	Zliten	pearson correlation	.274**
		Sig. (2 tailed)	.001
<b>Total Organizational Commitment</b>	Zliten	pearson correlation	.230
		Sig. (2 tailed)	.006

\*\* Correlation is significant at the 0.01 level (2- tailed)  
 \* Correlation is significant at the 0.05 level (2- tailed).

Table 1 also illustrates that pearson correlation coefficient value of relationship between Total Organizational Commitment and Environmental Performance of Zliten Factory recorded 0.230\*\* at significant smaller than 0.01. This result described that the correlation of them was 23%. This explained that the correlation of them was attained about 23%. Organizational commitment variables have lower significant relationship with environmental performance in this company. This result supports the first hypothesis of **H<sup>1</sup>**.

*Regression Analysis*

A series of linear regression analysis has been carried out of measure the impact of independent variables towards the dependent variable. The regression results are shown in the table 2.

R square of the multiple correlation coefficients indicates proportion of the dependent variable variance which explained by the independent variable. The R that closed to 0.01 indicates a better linear regression model.

The F – value is computed as ratio of the mean sum of the regression equation and residual squares. The coefficient indicates the increasing units of dependent variable because of the increase of one unit of the independent variable. The detailed verifications of the second hypothesis are provided on the future discussion.

**Table 2** Regression Analyses Results

Model	Case	Adjusted R	F	Sig	standardized	
					Beta	Sig
<b>Affective Commitment</b>	Zliten	0.003	1.493	0.224	0.103	0.224
<b>Continuance Commitment</b>	Zliten	-0.007	0.086	0.769	0.025	0.769
<b>Normative Commitment</b>	Zliten	0.069	11.369	0.001	0.274	0.001
<b>Total organizational commitment</b>	Zliten	0.046	7.802	0.006	0.230	0.006

Predictors: (Constant), Organizational Commitment  
 Dependent Variable: Environmental Performance

H2; There is a significant impact of organizational commitment on environmental performance.

Table 2 illustrates complete results of all variable in this study. The relations level measurement between affective commitment and environmental performance of Zliten Company was unacceptable. F – test determined value of 1.493 which is small indexed F value at significant bigger than 0.01. Adjusted coefficient (R) value was 0.003. that result explained that affective commitment brought about only 0.3% towards the changes of environmental performance within Zliten company. Coefficient Beta value (B) of the affective organizational commitment as an independent variable that influences the dependent variable of the environmental performance was 0.103 as significant bigger than 0.01. One unit change of affective commitment increased 0.103 of environmental performance in this company.

The further result shows the relationship level between continuance organizational commitment and environmental performance in this company was unacceptable as well. It was concluded from the F test that attained only 0.086. This result indicated a very small indexed value of F at significant bigger than 0.01. this value adjusted coefficient @ about – 0.07. the continuance commitment was only influenced about 0.7% to gain the change environmental performance within Zliten Factory. Coefficient Beta value (B) recorded 0.025 at significant bigger than 0.01 which means there is an increase environmental performance about 0.025per one unit change of the continuance commitment. Meanwhile, relationship level between normative commitment and environmental performance of Zliten Factory was determined as moderately acceptable. The test of F recorded a value of 11.369 which indicated as a large indexed F value at significant smaller than 0.01. the adjusted coefficient @ was 0.069. It explained that normative commitment brought 6.9% On changes environmental performance within Zliten

company. Coefficient Beta (B) of the variables was 0.274 at significant smaller than 0.01 that mean one unit change of normative commitment increased the environmental performance about 0.274.

Table 2 also illustrate regression analysis of the total organizational commitment and environmental performance of Zliten Cement Factory. Results of regression analysis indicated that the test F value calculated 7.802 which means a large indexed value of F at significant less than 0.01. It determined that the regression result of organizational commitment and environmental performance was acceptable. The adjusted R was 0.046 explaining organizational commitments influenced about 4.6% towards the changes of the dependent variable of environmental performance. Determination coefficient ( $r^2$ ) was 0.053. This result concluded that 5.3% of the total variance of the environmental performance derived from the organizational commitment. Furthermore coefficient Beta determined 0.230 at a significant smaller than 0.006. It explained that one unit change of the organizational commitment as independent variable brought an increase of 0.230 towards the environmental management system as dependent variable. This result verified the validity of second hypotheses.

## CONCLUSION :

Based on results and discussion, it can be concluded that there is significant relationship among organizational commitment and environmental performance in Zliten Cement Factory. Moreover, there are low impacts of the organizational commitment on environmental performance of Zliten Factory. These results indicated that techniques and philosophies of TQM, EMS and OHSAS were unfamiliar and were being formally implemented within Zliten Cement Factory.

The difference results of relationship and influence of organizational commitment on environmental performance due to several reasons. The most important reason is the absence of decent organizational structure and culture within Zliten cement Factory. The organizational culture within Zliten Factory was a strong bureaucratic type and depending on personal relationship. The result support Agnaia (1997) conclusion that Libya has different situation, specially about relationship between the management and employees within organization and the management of Libyan public sector organizations strongly affected by numerous factors over all area, such as extended family, clan, tribe, village and Islamic religion that have been characterize the Libyan social environment.

Some authors supports that the organizational structure and culture play the key role to implement the quality management programs and environmental management effectively. It is important to consider organizational culture because of rigid, too heavy, and bureaucratic company structure is difficult implementing change compared with company that has flexible and lean organizational structure ( Corbett and rastrick 2000; Ramus 2001). It was identified as lack of top management commitment of the Zliten Cement Factory. The top management commitments become important factor to develop and implement TQM, OHSAS and EMS. Therefore, the top management structure within the Zliten Cement Factory has to take serious action to apply clear strategies overall crucial area to implement effectively TQM, OHSAS and EMS practices.

Therefore, Libyan Cement Factories need to be ready to adapt their policies to any change in their environment. Having more knowledge about western management techniques, employee involvement and commitment as well as awareness of change the existed organizational cultures and structures in order to improve the environmental performance. Therefore, Zliten Factory managers and their employees should encourage a positive attitude towards management standard system to ensure organization- wide commitment of ISO philosophy rather the tool or techniques of the quality improvement. Ultimately, Company leadership with strong quality culture should be able to overcome behavior barriers of the ISO implementation.

## REFEREENCES :

- Abraham, M., J. Crawford, *et. al.* (2000). "Management decisions for effective ISO 9000 accreditation." Management Decision **38**(3): 182-193.
- Agnaia, A. A. (1997). "Management training and development within its environment: the case of Libyan industrial companies." Journal of European Industrial Training **21**(3): 117-123.
- Awan, H. M. and M. Ishaq Bhatti (2003). "An evaluation of ISO 9000 registration practices: a case study of sports goods industry." Managerial Finance **29**(7): 109-134.
- Beer, M. (2003). "Why total quality management programs do not persist: the role of management quality and implications for leading a TQM transformation\*." Decision Sciences **34**(4): 623-642.
- Bennett, H. and M. Durkin (2000). "The effects of organisational change on employee psychological

- attachment An exploratory study." Journal of Managerial Psychology **15**(2): 126-146.
- Chavan, M. (2005). "An appraisal of environment management systems: A competitive advantage for small businesses." Management of Environmental Quality: An International Journal **16**(5): 444-463.
- Chin, K.-S. and T. Choi (2003). "Construction in Hong Kong: success factors for ISO9000 implementation." Journal of Construction Engineering and Management **129**(6): 599-609.
- Corbett, L. M. and K. N. Rastrick (2000). "Quality performance and organizational culture: A New Zealand study." International Journal of Quality & Reliability Management **17**(1): 14-26.
- Dragomir, M., O. Iamandi, *et. al.* (2013). "DESIGNING A ROADMAP FOR PERFORMANCE INDICATORS IN INTEGRATED MANAGEMENT SYSTEMS." Managerial Challenges of the Contemporary Society. Proceedings **5**: 91.
- Farooqui, R. U. and S. M. Ahmed (2009). ISO 9000: A Stepping Stone to Total Quality Management for Construction Companies? Seventh Latin American and Caribbean Conference for Engineering and Technology, Energy and Technology for the Americas: Education, Innovation, Technology and Practice.
- Glover, J. (1993). "Achieving the organizational change necessary for successful TQM." International Journal of Quality & Reliability Management **10**(6).
- Govindarajulu, N. and B. F. Daily (2004). "Motivating employees for environmental improvement." Industrial Management & Data Systems **104**(4): 364-372.
- Haslinda, A. and F. C. Chan (2010). "The Implementation of ISO 14001 Environmental Management System." Asian Social Science **6**(3): p100.
- Hoyle, D. (2009). ISO 9000 Quality Systems Handbook: Using the standards as a framework for business improvement, Routledge.
- Jørgensen, T. H., A. Remmen, *et. al.* (2006). "Integrated management systems—three different levels of integration." Journal of cleaner production **14**(8): 713-722.
- l'environnement, P. d. N. U. p. (2011). Towards a green economy: Pathways to sustainable development and poverty eradication, United Nations Environment Programme.
- Lakshman, C. (2006). "A theory of leadership for quality: Lessons from TQM for leadership theory 1." Total Quality Management & Business Excellence **17**(1): 41-60.
- Lundmark, E. and A. Westelius (2006). "Effects of quality management according to ISO 9000: A Swedish study of the transit to ISO 9000: 2000." Total quality management **17**(8): 1021-1042.
- Madsen, H. and J. P. Uthøi (2001). "Greening of human resources: environmental awareness and training interests within the workforce." Industrial Management & Data Systems **101**(2): 57-65.
- Petros Sebhatu, S. and B. Enquist (2007). "ISO 14001 as a driving force for sustainable development and value creation." The TQM Magazine **19**(5): 468-482.
- Ramus, C. A. (2001). "Organizational support for employees: Encouraging creative ideas for environmental sustainability." California Management Review **43**(3): 85.
- Rendell, E. G. and K. A. McGinty (2004). "Environmental Management Systems." A Guidebook for Improving Energy and Environmental Performance in Local Government.
- Rui, C., M. Emerson, *et. al.* (2010). "Transformational leadership and TQM implementation." Advances in Management.
- Singh, A. and M. M. Shoura (2006). "A life cycle evaluation of change in an engineering organization: A case study." International Journal of Project Management **24**(4): 337-348.
- Sinha, M. and R. Karaszewski (2010). "Leadership in global business environment through a vision creation process." The TQM Journal **22**(4): 399-409.
- Soo Wee, Y. and H. A. Quazi (2005). "Development and validation of critical factors of environmental management." Industrial Management & Data Systems **105**(1): 96-114.
- Sousa, C. M. and F. Coelho (2011). "From personal values to creativity: evidence from frontline service employees." European Journal of Marketing **45**(7/8): 1029-1050.
- Ulubeyli, S. (2013). "Drivers of environmental performance of cement plants." Industrial Management & Data Systems **113**(8): 1222-1244.
- Zutshi, A. and A. Sohal (2004). "A study of the environmental management system (EMS) adoption process within Australasian organisations—2. Role of stakeholders." Technovation **24**(5): 371-386.