

EMPLOYEE EMPOWERMENT PRACTICE FOR SUSTAINABLE
MANUFACTURING PERFORMANCE: MEDIATING ROLE OF QUALITY OF
WORK LIFE

AMINA IMRAN

A thesis submitted in
fulfillment of the requirement for the award of the degree of
Masters in Science



Faculty of Applied Sciences and Technology
Universiti Tun Hussein Onn Malaysia

JULY 2018

This dissertation is dedicated to

Almighty “Allah”

(Who has given me strength, knowledge, patience and wisdom)

My wonderful parents



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ACKNOWLEDGEMENT

I thank Allah Almighty for his gracious blessings bestowed upon me throughout this long and challenging yet fruitful academic journey. This Masters remained a difficult but rewarding journey. Many people were involved and contributed to complete it. I am highly indebted to my supervisor Prof. Dr. Rosman Md Yusoff for his continuous support and courage during study duration them.

I am thankful to my fellow colleagues, friends, my family. I am especially thankful to my husband Dr. Muhammad Imran Qureshi for his motivation and support and encouragement



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ABSTRACT

Stakeholders are consistently pressurizing manufacturers to integrate the social and environmental factors within their production process to protect the society and environment from the negative effects of the manufacturing process. As a result, manufacturing processes experience continuous adaptation that significantly reshaped employee work practices. The literature on identification of the employee work practice that can enhance sustainable manufacturing performance is limited. Literature identified employee empowerment practice not only enhances sustainable manufacturing performance (SMP), but also the quality of work life (QWL). However, few studies have attempted to empirically test the relationship between the employee empowerment, quality of work life and sustainable manufacturing performance. The current study focused on the investigation of the relationship between employee empowerment and sustainable manufacturing performance, and the mediating role of the quality of work life was also investigated. Sustainable manufacturing performance was measured on the basis of social, economic and environmental dimensions. A quantitative research design was used to address the problem. A systematic random sample of 200 employees from 30 large manufacturers in Malaysia was used to collect data on a 5-point Likert scale adapted questionnaire. Furthermore, this data was statistically tested using Smart PLS (SEM) for empirical investigations of the relationships between employee empowerment, quality of work life and sustainable manufacturing performance. The result confirmed the positive relationship between employee empowerment and sustainable manufacturing performance and the mediating role of quality of work life between the relationship of employee empowerment and sustainable manufacturing performance. In conclusion, the study recommends organizations to encourage employees to be involved in the decision-making process regarding social, economic and environmental factors in order to enhance sustainable manufacturing performance and their quality of work life.



ABSTRAK

Pemegang taruh secara konsisten telah memberi tekanan ke atas pengeluar untuk mengintegrasikan faktor sosial dan persekitaran dalam proses pengeluaran bagi melindungi masyarakat serta alam sekitar daripada kesan negatif proses pembuatan. Natiujahnya, proses pembuatan mengalami penyesuaian berterusan yang secara signifikan mengubah semula amalan kerja pekerja. Bahan literatur tentang identifikasi amalan kerja pekerja yang dapat meningkatkan kemampuan prestasi pembuatan adalah terhad. Melalui literatur, amalan pemeraksanaan pekerja bukan sahaja dikenal pasti dapat meningkatkan kemampuan prestasi pembuatan bahkan turut meningkatkan kualiti kehidupan pekerja. Walau bagaimanapun, sedikit sahaja kajian yang cuba menguji secara empirikal hubungan di antara pemeraksanaan pekerja, kualiti kehidupan pekerja serta prestasi pembuatan yang mampan. Kajian ini telah memberi fokus kepada penyelidikan terhadap hubungan di antara pemeraksanaan pekerja dan prestasi pembuatan yang mampan, selain menyelidik peranan perantara. Kualiti kehidupan pekerja, prestasi pembuatan mampan diukur berdasarkan dimensi sosial, ekonomi dan alam sekitar. Reka bentuk penyelidikan kuantitatif telah digunakan untuk menangani masalah tersebut. Seramai 200 pekerja daripada 30 pengeluar besar di Malaysia telah dipilih melalui kaedah sampel rawak. Satu set borang soal selidik berskala Likert 5 mata telah digunakan bagi tujuan pengumpulan data. Seterusnya, data ini diuji secara statistik dengan menggunakan Smart PLS (SEM) bagi kajian empirikal untuk menentukan hubungan antara pemeraksanaan pekerja, kualiti kehidupan pekerja dan juga prestasi pekerja yang mampan. Dapatan kajian ini mengesahkan terdapatnya hubungan positif di antara pemeraksanaan pekerja dengan prestasi pekerja yang mampan serta kualiti kehidupan pekerja sebagai peranan perantara. Kesimpulannya, organisasi harus menggalakkan para pekerja untuk melibatkan diri dalam setiap proses membuat keputusan terutamanya dalam faktor sosial, ekonomi dan juga persekitaran bagi meningkatkan kemampuan prestasi pengeluaran serta kualiti kehidupan pekerja.



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LIST OF ABBREVIATION

OECD	Organization Economic Cooperation and Development
IEA	International Energy Agency
ECM	Environmentally Conscious Manufacturing
MMS	Middle Management Support
STS	Socio-Technical Systems
SMP	Sustainable Manufacturing Performance
GM	Green Manufacturing
LP	Lean Production
EE	Employee Empowerment
EI	Employee Involvement
WDP	Work Design Practices
TP	Technical Practices
QWL	University of Swat
TI	Task Interdependence
SEM	Structured Equation Modeling
SPSS	Statistical Package of Social Science
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis
HMRA	Hierarchical Multiple Regression Analysis
ANOVA	Analysis of Variance
AMOS	Analysis of Moments Structures
CR	Composite Reliability
AVE	Average Variance Extracted
CFI	Comparative Fit index
TPS	TOYOTA production System
JIT	Just in time
UN	United Nations



TBL	Triple bottom line
TQM	Total Quality Management
TPM	Total Preventive maintenance
ECM	Environmentally Conscious Manufacturing



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CHAPTER 1

INTRODUCTION

1.1 Background of the study

The Manufacturing sector is the most resource consuming sector of the economy. International Energy Agency (IEA, 2007) declared that 36 percent of carbon dioxide (CO₂) emissions over the globe are due to the manufacturing sector. However, the improvement potential towards sustainable development is significant. Technological innovation has somehow improved the manufacturing system towards sustainability. The technological changes have decreased this rate of CO₂ emission to the 19 percent. Organization for Economic Cooperation and Development (OECD, 2008), argues that holistic approaches to sustainable manufacturing, extending beyond the boundaries of the company, would yield better environmental performance improvements.

Over decade manufacturing industry realized the impact of manufacturing practices on the natural environment. Increasingly, stakeholders including regulators, customers, shareholders, board members, and employees are asking organizations to adopt sustainable manufacturing practices (Naffziger, Ahmed and Montagno, 2003). Stakeholder demands include regulatory requirements, product stewardship, enhanced public image, potential to expand customer base, and potential competitive advantages (Ahmed, Montagno, and Firenze, 1998).

Waste management, recyclable products, energy efficiency and environmental friendly manufacturing processes are basic components of the sustainable manufacturing practices. Manufacturing industry has witnessed many procedural and technological changes to meet the global challenges of sustainability (Garetti and Taisch, 2012). Technological and procedural shifts caused significant alterations in socio-technical environment (Davis *et al.*, 2014). Thus, the work practices for manufacturing are also exposed to the change. Autonomous work groups that are empowered to take decision related to effectiveness of the production process without compromising the social and environmental side are much encouraged from the manufacturers that result into the employee empowerment in order to improve their quality of work life and enhance the manufacturing performance. However, it is still largely remained unclear that how employee empowerment and quality of work life can enhance the sustainable performance in the manufacturing sector.

1.2 Manufacturing industry in Malaysia

Malaysia is a prominent member of the Association of Southeast Asia Nation (ASEAN) with a population of about 30 million in 2014 (Department of Statistics Malaysia, 2013; FMM, 2014). In 2004, the country was ranked by the Institute for Management Development as the 5th most competitive country in the world among countries with a population of greater than 20 million, ahead of countries such as Germany, UK, Japan, and Mainland China (Zain *et al.*, 2005). In addition, Malaysia is a multicultural country with different types of organizations and with different organizational structures and cultures as 1739 non-Malaysian ownership and 168 joint Malaysian and non-Malaysian companies are operating in the country (Department of Statistics Malaysia, 2015).

Recently, manufacturing sector in Malaysia has grown rapidly in comparison with previous decades. The current trading and manufacturing environment in Malaysia are supportive and effective, yet globally competitive. Malaysia is one of the largest trading nations in the world that has a prominent manufacturing sector which contributes almost 80% of overall country's export (Raja, 2009). Raja (2009), the vice president of Federation of Malaysian Manufacturers (FMM) stated that products which

are manufactured in Malaysia are acceptable in US, EU, and Japan as important developed countries.

Malaysia's geographical advantage has positioned the country strategically to regional resources and supply chains in the South East Asia region (MIDA, 2015). In fact, because of the uniqueness of the country due to its geographical location, Islamic-based country, IT-host country, and etc., this country was selected as the context of this study. This is supported by the following factors that further strengthen Malaysia as investors' choice for their regional operation base. Firstly, strong trade openness policy and trade infrastructure such as transportation, communication, and financial services which facilitate and widen market reach in the region. Malaysia ranked at 29th position in the WEF Global Competitiveness Ranking for Quality Transport Infrastructure (roads, railroads, sea ports and air) in 2012. Secondly, Malaysia offers a cost competitive location for investors intending to set up offshore operations for services and manufacturing activities including in the areas of resource-based industries, high-technology industries, knowledge-based and advanced technology industries for regional and international markets (MIDA, 2015).

1.3 Challenges for manufacturing industry

Sustainable manufacturing system creates reduction in energy consumption, waste generation, and hazardous materials used, thereby building the companies' image as a socially responsible organization. The term "Sustainability" initially was triggered by the environmental scientist and more related to considering the preservation of the natural environment during the production process. Recently, sustainable manufacturing is defined as a production process without compromising on natural environment, society and eco-efficiency throughout the product life cycle (Haapala *et al.*, 2013).

Early work in sustainable manufacturing was carried out through Environmentally Conscious Manufacturing (ECM). It included considerations for source reduction, dismantling, design for manufacturing and assembly as well as cradle-to-reincarnation concepts (Owen 1993). Later development of ECM by Sarkis (1995) identified three dimensions of ECM strategies (product, process and technology) and the strategies themselves constitute the famous 'Rs' (i.e. reduction,

remanufacturing, recycling and reuse) (Sarkis 1995; Sarkis and Rasheed 1995). Research on the impact of environmental practices on organizational outcomes is somewhat inconclusive. Some researchers have founded that environmental initiatives may have a negative impact on company performance (Devirian, and Seaman, 2010; Yu, Ting, and Wu, 2009), other researchers indicate that being environmentally proactive can produce competitive gains (e.g., Hart, 1995; Manzini and Vezzoli, 2002; Jayal, Badurdeen, Dillon and Jawahir, 2010). On the other hand, the effect of human work practices on sustainable manufacturing performance are not well mapped therefore the justification and mechanism for improvements and their impacts are unclear. Mostly the focus of sustainable manufacturing tends to be on the specific technology rather investigating both human and technological aspect. Thus, it is needed to explore work practices that can integrate human and technology to enhance sustainable manufacturing performance.

Still the employee empowerment and its contribution to sustainable manufacturing and employee quality of work life is remained neglected. Thus, the current study aims to investigate the relationship of employee empowerment and quality of work life with sustainable manufacturing to fill the aforementioned gaps.

1.4 Problem statement

The manufacturing sector is the most resource consuming sector of the economy. International Energy Agency (IEA, 2015) declared that 36% of Carbon dioxide (CO₂) emissions, over the globe are due to the manufacturing sector. However, the improvement potential towards sustainable development is significant. The technological changes have decreased this rate of CO₂ emission to the 19% (IEA, 2015). Organization for Economic Cooperation and Development (OECD, 2011), argues that holistic approaches to sustainable manufacturing, extending beyond the boundaries of the company, would yield better environmental performance improvements. Over the decades, manufacturing industry realized the impact of manufacturing practices on the natural environment. Increasingly, stakeholders including regulators, customers, shareholders, board members and employees are asking organizations to adopt sustainable manufacturing practices (Naffziger, Ahmed and Montagno, 2003). The rise of the Malaysian manufacturing sector has been a



revolution, especially for the last 35 years. This sector has reached well in the top 20 biggest manufacturing sectors in the world. Moreover, manufacturing sector of Malaysia is the biggest source of bringing money into the country, as figures indicate that it does not contribute only in 20% of the country's exports share, means the remaining 80% is by this sector. Furniture industry is the highest energy intensive when explored the classification of low carbon di oxide (CO₂) discharge (Department of Statistics, Malaysia, 2015).

Over the years, the manufacturing industry has implemented programs to improve process effectiveness. However, despite of all its effectiveness in the production process, manufacturing industry is facing a real challenge instigated by the stakeholders (i.e. customers, policy makers, regulatory authorities and society). Stakeholders are consistently pressurizing manufacturers to integrate the social and environmental factors in their production process to protect society and environment from negative effects of the manufacturing process. Some companies are committed to reducing negative impacts of their operations on the environment (Diaz-Elsayed *et al.*, 2013; Deif, 2011).

Recently, most frequent technological changes have been occurred in the manufacturing industry for achieving sustainability in manufacturing (Fullerton, Kennedy and Widener, 2014; Ghosh, 2012; Ramesh and Kodali, 2012; Karim, and Arif-Uz-Zaman, 2013; Agus and Hajinoor, 2012; Diaz-Elsayed *et al.*, 2013; Deif, 2011; Haapala, *et al.*, 2013; Garetti and Taisch, 2012). The latest developments in the manufacturing industry occurred under the umbrella of the sustainability. Sustainability defined the three pillars model i.e. economy, society and environment (Sudin, 2011; De Giovanni, 2012). These developments are based on technological advancements. These changes also reshaped workers job in the manufacturing industry (Sudin, 2011; De Giovanni, 2012). This alteration caused the significant changes in the primary roles of workers.

Sustainable manufacturing performance can be defined as sustainable production, sustainable manufacturing is defined as the creation of manufactured products that use processes that are non-polluting, conserve energy and natural resources, and are economically sound and safe for employees, communities, and consumers (Lowell Center, 1998). This definition leads us to the concepts of integration of technology and human. Recent studies reveal that green HR practices have positive association with the sustainable manufacturing performance (De



Giovanni, 2012). However, most of the work on sustainable manufacturing is either objective or longitudinal in nature. Sustainability index and environmental index have longitudinal measures to compare the sustainability across the globe over the years (Esty *et al.*, 2005; Knoepfel, 2001; Emerson *et al.*, 2012). Few studies are cross-sectional in nature (Sudin, 2011; De Giovanni, 2012), these studies expose the role of HR in achieving sustainability, but still it is required to investigate how workers can contribute to the sustainable manufacturing performance?

Gîfu, Ionescu and Teodorescu (2014) argue that employee's empowerment in making designs and to perform changes in processes helps in both process and product improvements (Gîfu, Ionescu and Teodorescu, 2014). Daily and Huang (2001) indicated that the top management should provide employees empowerment in decision making relative to the environmental issues. The employees who have more sense of control over their work and engaged in to the decision making process are more likely to be concern about the all dimension of the product and process improvement during manufacturing process. Despite of these studies (Sudin, 2011; De Giovanni, 2012; Daily and Huang, 2001), literature on how employee empowerment is related to the improvement in sustainable manufacturing performance is limited. Thus, this provides opportunity to capitalize on the relationship of the employee empowerment and sustainable manufacturing performance to fill the gap in literature. This leads to the first research question of the current study "What is the effect of employee empowerment on sustainable manufacturing performance (Social performance, environmental performance and economic performance)?"

Researchers recommended the optimization of the social elements (human interaction) with the technical elements (processes, technology) within an organization can lead to humanization of working conditions and improve the quality of work life for employees (Hyer *et al.*, 1999; Applebaum, 1997; Trist and Bamforth, 1951). On the other hand, employee empowerment can influence quality of work life. Organizations that encourage employee empowerment would usually see an increased workforce commitment and humanization of the workplace, which ultimately can improve quality of work life (Barling *et al.*, 2003; Podsakoff *et al.*, 1997; Cohen *et al.*, 1997). Empowered employees can influence work unit outcomes by taking ownership of the process (Spreitzer, 1995; Ashforth, 1989; Treville and Antonakis, 2006; Liden *et al.*, 2000). However, the empirical evidence to claim the relationship of the employee empowerment and quality of work life is limited. The current study aims to



investigate the relationship of employee empowerment and quality of work life. Thus, second research question of the current study is “What is the effect of employee empowerment on employee quality of work life?”

Worker quality of work life can enhance the SMP through the provision of a safer and cleaner physical work environment, opportunities to socially interact with colleagues, assurance of job security, and a feeling of job satisfaction (Phusavat *et al.*, 2009; Lau and May, 1998). Physical context of the workplace help workers to be generous in terms of social interaction with colleagues and they feel more responsibility towards the improvement of economic efficiency and environmental protection (Das *et al.*, 2008). Studies (Phusavat *et al.*, 2009; Lau and May, 1998; Das *et al.*, 2008) mentioned that QWL is important factor for enhancing the manufacturing performance either directly or indirectly. However, these studies have not tested the relationship empirically in the context of economic, social and environmental performance. This leads to the third research question “What is the effect of employee quality of work life on sustainable manufacturing performance (Social performance, environmental performance and economic performance)?” and fourth research question “To examine the mediating effect of employee quality of work life between the relationship of employee empowerment and sustainable manufacturing performance?” of the current study.

1.5 Research questions

This study aims to address following research questions

1. What is the effect of employee empowerment on sustainable manufacturing performance (Social performance, environmental performance and economic performance)?
2. What is the effect of employee empowerment on employee quality of work life?
3. What is the effect of employee quality of work life on sustainable manufacturing performance (Social performance, environmental performance and economic performance)?
4. Does employee quality of work life mediate the relationship between the employee empowerment and sustainable manufacturing performance?

1.6 Research objective

Research questions of the study lead to objective to conduct research. The objectives of the study are

- 1 To examine the impact of employee empowerment on sustainable manufacturing performance (Social performance, environmental performance and economic performance).
- 2 To evaluate the effect of employee empowerment on employee quality of work life.
- 3 To examine the impact of employee quality of work life on sustainable manufacturing performance (Social performance, environmental performance and economic performance).
- 4 To evaluate the mediating effect of employee quality of work life between the relationship of employee empowerment and sustainable manufacturing performance.

1.7 Research scope

Developing countries are consistently facing energy, environmental and economic crisis. So the importance of manufacturing industry sustainability has gained more weight. Manufacturing sector is the biggest contributor of the energy consumption and environmental pollution in Malaysia (Government of Malaysia, 2014) which ultimately brings negative effects to the economy of the country. Most of energy consumption and wastage finally makes addition to environmental pollution occurs during the transformation process. Technology and skilled human resource are involved during the Transformation process. One factor which is most studied for sustainability during the recent years is technology but other factors are neglected.

The current study focuses on how human factor affect the sustainable manufacturing and would investigate the relationship of employee empowerment and quality of work life with the sustainable manufacturing performance. Therefore, study focuses on the manufacturing industry in Malaysia. The study was conducted in the manufacturing sector of the Malaysia, but the results can be generalized to the industries in other countries later.

The main focus of the current study is to test the relationship between employee empowerment and sustainable manufacturing performance with mediating role of employee quality of work life. Thus, the scope of the current study consisted on the employee empowerment, quality of work life, social performance, environmental performance and the economic performance of the manufacturing sector.

1.8 Research significance

A review of literature has exposed that the focus of researchers and practitioners from the last decade tilted towards studying and practicing sustainable manufacturing practices. This results in significant reduction of damage to the environment and society caused by the manufacturing practices. Literature has also revealed that increase in the renewable energy practices, remanufacturing and recycling has dramatically reduce the resource consumption (OECD, 2011) which ultimately result into conservation of natural environment.

Advocates of the lean production system argue that the sustainable manufacturing is an extension of lean production systems (Paul, 2014; Bergmiller, 2006; Bergmiller and McCright, 2009). Lean production concept eliminates 7 seven types of waste from the production process, transcendence towards the sustainable manufacturing by adding some new types of waste management (energy use, pollution control, etc.). These theories lead to the need for a rational contextual investigation of sustainable manufacturing process. Moreover, the role of HR is somehow acknowledged in the literature to achieve sustainability, but work design practices which required to integrate the workers job to the sustainability is still needs to be investigated. Thus, the current study contributes by investigating the relationship of employee empowerment and quality of work life with mediating role of quality of work life.

In the context of Malaysian Manufacturing Industry, the study contributes for the policy reforms about the green manufacturing initiatives. The Malaysian government invested a huge amount in green technology to become an environmental friendly economy. However, the results are still not there. Most probably the missing link is how to integrate human work practices with technology. For this reason the current study is vital for policy reforms.

1.9 Operational definitions

Study mainly focused on the employee empowerment, QWL for SMP. Thus variables of interest need to be operationally define for clear understanding of the concepts. This section provides the operational definitions of the variables.

1.9.1 Sustainable manufacturing performance

Sustainable Manufacturing is a manufacturing process without compromising of future requirements (OECD, 2011). The major focus of the study is to operationalize this definition to save triple bottom-line, i.e. social, economic, and environmental resources should not be affected during the manufacturing process. The study operationalized the sustainable manufacturing on the basis of social, environmental and economic performance.

1.9.2 Employee empowerment practice

The work practice of employee empowerment is defined as an individuals' cognitive state of mind which is characterized by a sense of perceived control, perceived competence, and goal internalization (Menon, 2001). Study operationalized the employee empowerment construct as a 2nd order construct on the basis of four sub constructs i.e. perceived control, perceived competency, physical context and goal internalization

1.9.3 Quality of work life

QWL is defined as the effectiveness of the work environment that transmit to the meaningful organizational and personal needs in shaping the values of the employees that support and promote health and wellbeing, job security, job satisfaction, competency development and balance between work and non-work life (Rethinam and Ismail, 2008). The current study operationalized the construct on the basis of physical context of the worker, workers job satisfaction, workers job security and social context.

REFERENCES

- Agus, A. (2011). Enhancing production performance and customer performance through total quality management (TQM): strategies for competitive advantage. *Procedia-Social and Behavioral Sciences*, 24, 1650-1662.
- Agus, A. and Shukri Hajinoor, M. (2012). Lean production supply chain management as driver towards enhancing product quality and business performance: Case study of manufacturing companies in Malaysia. *International Journal of Quality and Reliability Management*, 29(1), 92-121.
- Agus, A., & Sagir, R. M. (2001). The structural relationships between total quality management, competitive advantage and bottom line financial performance: An empirical study of Malaysian manufacturing companies. *Total Quality Management*, 12(7-8), 1018-1024.
- Ahearne, M., Mathieu, J. and Rapp, A. (2005). To empower or not to empower your sales force? An empirical examination of the influence of leadership empowerment behavior on customer satisfaction and performance. *Journal of Applied psychology*, 90(5), 945.
- Ahire, S.L., Golhar, D.Y. and Waller, M.A. (1996). Development and validation of TQM implementation, *Decision Sciences*, 27 (23-56).
- Ahmed, N. U., Montagno, R. V. and Firenze, R. J. (1998). Organizational performance and environmental consciousness: an empirical study. *Management Decision*, 36(2), 57-62.
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.
- Alfes, K., Shantz, A. D., Truss, C. and Soane, E. C. (2013). The link between perceived human resource management practices, engagement and employee behaviour: a moderated mediation model. *The international journal of human resource management*, 24(2), 330-351.



- Allen, E. and Brady, R. (1997), "Total quality management, organisational commitment, perceived organisational support and intraorganisational communication", *Management Communication Quarterly*, Vol. 10 No. 3, pp. 316-41.
- Allison, P. D. (2002). *Missing data*. Thousand Oaks, CA: Sage
- Ameling, M., Wuensch, D. and Nietzold, F. (2010, October). Energy management in manufacturing based on plant integration. In *APMS 2010 International Conference on Advances in Production Management Systems* (Vol. 11, p. 13).
- Amenumey, E. K., & Lockwood, A. (2008). Psychological climate and psychological empowerment: an exploration in a luxury UK hotel group. *Tourism and Hospitality Research*, 8(4), 265-281.
- Amran, A., Zain, M. M., Sulaiman, M., Sarker, T., & Ooi, S. K. (2013). Empowering society for better corporate social responsibility (CSR): The case of Malaysia. *Kajian Malaysia*, 31(1), 57.
- Anastas, P. T., & Zimmerman, J. B. (2003). Peer reviewed: design through the 12 principles of green engineering. *Environmental science & technology*, 37(5), 94A-101A.
- Anderson, J.C., Rungtusanatham, M. and Schroeder, R.G. (1994). A theory of quality management underlying the Deming management method. *Academy of Management Review*, 19, 472-509.
- Andrew, D., Head of Environmental Policies Division, OECD Trade and Agriculture Directorate, Seminar: 2011-05-31
- Appelbaum, S. H., Karasek, R., Lapointe, F. and Quelch, K. (2015). Employee Empowerment: Factors affecting the consequent success or failure (Part II). *Industrial and Commercial Training*, 47(1).
- Applebaum, E. (1997). The impact of new forms of work organization on workers. Economic Policy Institute.
- Arbuckle, J. L. (2011). *IBM SPSS Amos 20 user's guide*. – Amos Development Corporation, SPSS Inc
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of marketing research*, 396-402.
- Armstrong, M. and Taylor, S. (2014). *Armstrong's handbook of human resource management practice*. Kogan Page Publisher



- Asaro, P. M. (2000). Transforming society by transforming technology: the science and politics of participatory design. *Accounting, Management and Information Technologies*, 10(4), 257-290.
- Aspinwall, E., & Elgharib, M. (2013). TPM implementation in large and medium size organisations. *Journal of Manufacturing Technology Management*, 24(5), 688-710.
- Azen, R. and Budescu, D. V. (2003). The dominance analysis approach for comparing predictors in multiple regression. *Psychological methods*, 8(2), 129.
- Babbie, E. (2010). *The Practice of Social Research-12/E*.
- Babiak, K. and Trendafilova, S. (2011). CSR and environmental responsibility: motives and pressures to adopt green management practices. *Corporate social responsibility and environmental management*, 18(1), 11-24.
- Bacharach, D., Powell, B., Bendoly, E. and Richey, G. (2006). Organizational citizenship behavior and performance evaluations: exploring the impact of task interdependence. *Journal of applied psychology*, 91 (1), 193-201.
- Bacharach, S. and Lawler, E. (1980). *Power and politics in organizations*. San Francisco, CA: Jossey-Bass.
- Bagozzi, R. P. and Fornell, C. (1982). Theoretical concepts, measurements and meaning. *A second generation of multivariate analysis*, 2(2), 5-23.
- Bagozzi, R.P., Yi, Y. and Phillips, L.W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36 (3), 421-458.
- Bai and Ng. (2005). Tests for skewness, kurtosis and normality for time series data. *Journal of Business and Economic Statistics*, 23(1), 49-60.
- Ballinger, T. P., Hudson, E., Karkoviata, L. and Wilcox, N. T. (2011). Saving behavior and cognitive abilities. *Experimental Economics*, 14(3), 349-374.
- Balogen, J. (2003). From blaming the middle to harnessing its potential: Creating change intermediaries. *British journal of management*, 14, 69-83.
- Balogen, J. and Johnson, G. (2004). Organizational restructuring and middle manager sense making. *Academy of Management Journal*, 47, 523-549.
- Balogun, J. (2003). From blaming the middle to harnessing its potential: Creating change intermediaries. *British journal of Management*, 14(1), 69-83.
- Balogun, J., & Johnson, G. (2004). Organizational restructuring and middle manager sensemaking. *Academy of management journal*, 47(4), 523-549.



- Baron, R. M. and Kenny, D. A. (1986). The Moderator-Mediator Distinction in Social Psychological Research: Conceptual, Strategic and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Barrick, M., Bradley, B. and Colbert, A. (2007). The moderating role of top management team interdependence: implication for real teams and working groups. *Academy of Management Journal*, 50 (3), 544-557.
- Becker, G. S. (1996). *Accounting for tastes*. Harvard University Press.
- Bergenwall, A. L., Chen, C. and White, R. E. (2012). TPS's process design in American automotive plants and its effects on the triple bottom line and sustainability. *International Journal of Production Economics*, 140(1), 374-384.
- Berglund, M. and Karlton, J. (2007). Human, Technology and Organizational aspects influencing the production scheduling process. *International Journal of Production Economics*, 110, 160-174.
- Bergmiller, G. G. (2006). Lean manufacturers transcendence to green manufacturing: Correlating the diffusion of lean and green manufacturing systems.
- Bergmiller, G. G. and McCright, P. R. (2009, May). Parallel models for lean and green operations. In Proceedings of the 2009 Industrial Engineering Research Conference.
- Berry, M. A. and Rondinelli, D. A. (1998). Proactive corporate environmental management: A new industrial revolution. *The Academy of Management Executive*, 12(2), 38-50.
- Bhasin, S. and Burcher, P. (2006). Lean viewed as a philosophy. *Journal of manufacturing technology management*, 17(1), 56-72.
- Bhattacharjee, A. (2012). Social science research: principles, methods and practices.
- Biazzo, S. and Panizzolo, R. (2000). The assessment of work organization in lean production: the relevance of the worker's perspective. *Integrated Manufacturing Systems*, 11(1), 6-15.
- Block, P. (2002). *The answer to how is yes: Acting on what matters*. San Francisco, CA: Berrett-Koehler.
- Boiral, O. (2006). Global warming: should companies adopt a proactive strategy?. *Long Range Planning*, 39(3), 315-330.



- Bonavia, T. and Marin, J. (2006). An empirical study of lean production in the ceramic tile industry in Spain. *International journal of Operations and Production Management*, 26 (5), 505-531.
- Boone, H. N. and Boone, D. A. (2012). Analyzing likert data. *Journal of extension*, 50(2), 1-5.
- Bowen, F.E., Cousins, P.D., Lamming, R.C. and Faruk, A.C. (2001a), "Horses for courses: explaining the gap between the theory and practice of green supply", *Greener Management International*, Vol. 35, pp. 41-60.
- Bowen, F.E., Cousins, P.D., Lamming, R.C. and Faruk, A.C. (2001b), "The role of supply management capabilities in green supply", *Production and Operations Management*, Vol. 10 No. 2, pp. 174-89.
- Brennan, M. (1991). Mismanagement and quality circles: how middle managers influence direct participation. *Employee Relations*, 13 (5), 22-32.
- Brown, K., Willis, G., Prussia, G. (2000). Predicting safe employee behavior in the steel industry: development and test of sociotechnical model. *Journal of Operations Management*, 18, 445-465.
- Brundtland, G. H. (1987). Report of the World Commission on environment and development: "our common future." United Nations.
- Bryman, A. (2012). *Social Research Methods*.
- Bryman, A. and Bell, E. (2007). *Business research strategies. Business research methods*.
- Bryman, A. and Bell, E. (2015). *Business research methods*. Oxford University Press, USA.
- Bryman, A., & Bell, E. (2011). Ethics in business research. *Business Research Methods*.
- Buckley, M.R., Cote, J.A. and Comstock, S.M. (1990). Measurement errors in the behavioral sciences: The case of personality/attitude research. *Educational and psychological measurement*, 50, 447-474.
- Buckley, R. and Pannell, J. (1990). Environmental impacts of tourism and recreation in national parks and conservation reserves. *Journal of Tourism Studies*, 1(1), 24-32.
- Bunse, K., Vodicka, M., Schönsleben, P., Brühlhart, M. and Ernst, F. O. (2011). Integrating energy efficiency performance in production management–



gap analysis between industrial needs and scientific literature. *Journal of Cleaner Production*, 19(6), 667-679.

Burns, J.M. (1978). *Leadership*. New York, NY: Harper and Row

Busck, O., Knudsen, H. and Lind, J. (2010). The transformation of employee participation: Consequences for the work environment. *Economic and Industrial Democracy*.

Byrne, B. M. and van De Vijver, F. J. (2010). Testing for measurement and structural equivalence in large-scale cross-cultural studies: Addressing the issue of nonequivalence. *International Journal of Testing*, 10(2), 107-132

Caffyn, S. (2001). Development of a continuous improvement self-assessment tool. *International Journal of Operations & Production Management*, 19(11), 1138-1153.

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

Cao, J., Meador, M. A., Baba, M. L., Ferreira, P. M., Madou, M., Scacchi, W., ... and Zhang, X. (2013). Implications: Societal Collective Outcomes, Including Manufacturing. In *Convergence of Knowledge, Technology and Society* (pp. 255-285). Springer International Publishing.

Carayon, P. (2006). Human Factors of complex sociotechnical systems. *Applied ergonomics* 37, 525-535.

Carlson, M. (2013). *Performance: A critical introduction*. Routledge.

Carter, C. R. and Carter, J. R. (1998). Interorganizational determinants of environmental purchasing: initial evidence from the consumer products industries*. *Decision Sciences*, 29(3), 659-684.

Chase, R. B. and Jacobs, F. Robert/Aquilano, Nicholas J. (2006): *Operations management for competitive advantage*.

Chebat, J. C. and Kollias, P. (2000). The impact of empowerment on customer contact employees' roles in service organizations. *Journal of Service research*, 3(1), 66-81.

Chen, H. T. (2006). A theory-driven evaluation perspective on mixed methods research. *Research in the Schools*, 13(1), 75-83.

Cherns, A. (1976). The principles of sociotechnical design. *Human Relations*, 29 (8), 783-792.



- Cherns, A. (1987). Principles of sociotechnical design revisited. *Human Relations*, 40 (3), 153-162.
- Cheung, G.W. and Rensvold, R.B. (2002).Evaluating goodness of fit indexes for testing measurement invariance.*Structural Equation Modeling*, 9 (2), 233-255.
- Chien, M. K. and Shih, L. H. (2007). An empirical study of the implementation of green supply chain management practices in the electrical and electronic industry and their relation to organizational performance.*International Journal of Environment Science and Technology*, 4(3), 383-394.
- Christina, S., Waterson, P., Dainty, A. and Daniels, K. (2015).A socio-technical approach to improving retail energy efficiency behaviours. *Applied ergonomics*,47, 324-335.
- Clarkson, P. M., Overell, M. B. and Chapple, L. (2011).Environmental reporting and its relation to corporate environmental performance. *Abacus*,47(1), 27-60.
- Clegg, C.W. (2000). Sociotechnical principles for system design. *Applied Ergonomics*, 31, 463-477.
- Clelland, C. L. T., Levy, B., McKie, J. M., Duncan, A. M., Hirschhorn, K. and Bancroft, C. (2000).Cloning and characterization of human PREB; a gene that maps to a genomic region associated with trisomy 2p syndrome.*Mammalian Genome*, 11(8), 675-681.
- Closs, D., Jacobs, M., Swink, M. and Webb, G. (2008). Towards a theory of competencies for the management of product complexity: six case studies. *Journal of Operations Management*, 26 (X), 590-610.
- Cole, L. W. (1992). Empowerment as the key to environmental protection: the need for environmental poverty law. *Ecology LQ*, 19, 619.
- Conger, J. and Kanungo, R. (1988). The empowerment process: integrating theory and practice. *Academy of Management Review*, 13, 471-482.
- Cooper, D. R. and Schindler, P. S. (2011). *Business Research Methods* (11th ed.). New York: McGraw-Hill/Irwin.
- Corsun, D. L. and Enz, C. A. (1999).Predicting psychological empowerment among service workers: The effect of support-based relationships. *Human relations*, 52(2), 205-224.
- Cote, J.A. and Buckley, R.M. (1988). Measurement Error and Theory Testing in Consumer Research: An Illustration of the Importance of Construct Validation. *Journal of Consumer Research*, 14 , 579-82.



- Creswell, J. (2009). *Research design: Qualitative, quantitative and mixed methods approaches*. SAGE Publications, Incorporated.
- Crossby, P. B. (1979). Quality is free.
- Cua, K. O., McKone, K. E. and Schroeder, R. G. (2001). Relationships between implementation of TQM, JIT and TPM and manufacturing performance. *Journal of operations management*, 19(6), 675-694.
- Cunningham, D., & Duffy, T. (1996). Constructivism: Implications for the design and delivery of instruction. *Handbook of research for educational communications and technology*, 170-198.
- Dahlgaard, J. J., & Mi Dahlgaard-Park, S. (2006). Lean production, six sigma quality, TQM and company culture. *The TQM magazine*, 18(3), 263-281.
- Daily, B. F. and Huang, S. C. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations and Production Management*, 21(12), 1539-1552
- Daily, B. F., & Huang, S. C. (2007). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management*, 21(12), 1539-1552.
- Daily, B. F., Bishop, J. W. and Massoud, J. A. (2012). The role of training and empowerment in environmental performance: A study of the Mexican maquiladora industry. *International Journal of Operations and Production Management*, 32(5), 631-647.
- Dalpiatz, F., Giorgini, P. and Mylopoulos, J. (2013). Adaptive socio-technical systems: a requirements-based approach. *Requirements engineering*, 18(1), 1-24.
- Dankbaar, B. (1997). Lean production: denial, confirmation or extension of sociotechnical systems design? *Human Relations*, 50 (5), 567-584.
- Davenport, T. H. (2013). *Thinking for a living: how to get better performances and results from knowledge workers*. Harvard Business Press.
- Davis, M. C., Challenger, R., Jayewardene, D. N., & Clegg, C. W. (2014). Advancing socio-technical systems thinking: A call for bravery. *Applied ergonomics*, 45(2), 171-180.
- Dawes, J. G. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5 point, 7 point and 10 point scales. *International journal of market research*, 51(1).



- De Giovanni, P. (2012). Do internal and external environmental management contribute to the triple bottom line?. *International Journal of Operations and Production Management*, 32(3), 265-290.
- DeCroix, G. A., Song, J. S. and Zipkin, P. H. (2009). Managing an assemble-to-order system with returns. *Manufacturing and service operations management*, 11(1), 144-159.
- Deif, A. M. (2011). A system model for green manufacturing. *Journal of Cleaner Production*, 19(14), 1553-1559.
- Deming, W. E. (1982). *Quality, productivity and competitive position*. Massachusetts Institute of Technology Center for Advanced En.
- Denison, D. (1990). *Corporate culture and organizational effectiveness*. New York, NY: Wiley.
- Denison, D., Nieminen, L. and Kotrba, L. (2014). Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys. *European Journal of Work and Organizational Psychology*, 23(1), 145-161.
- Dennis, P. (2007). *Lean production simplified*, 2nd edition. New York, NY: Productivity Press.
- Denton, D. W. (2012). Enhancing instruction through constructivism, cooperative learning and cloud computing. *TechTrends*, 56(4), 34-41.
- Denzin, N. K. and Lincoln, Y. S. (2008). *Collecting and interpreting qualitative materials* (Vol. 3). Sage.
- Department of Statistics Malaysia.(2015). *Census of Distributive Trade*.from Department of Statistics, Malaysia
- Despeisse, M., Mbaye, F., Ball, P. D., & Levers, A. (2012). The emergence of sustainable manufacturing practices. *Production Planning & Control*, 23(5), 354-376.
- Diaz-Elsayed, N., Jondral, A., Greinacher, S., Dornfeld, D. and Lanza, G. (2013). Assessment of lean and green strategies by simulation of manufacturing systems in discrete production environments. *CIRP Annals-Manufacturing Technology*, 62(1), 475-480
- Dillman, D. A. (1978). *Mail and telephone surveys* (Vol. 3). Wiley Interscience.
- Dincer, I., & Rosen, M. A. (2005). Thermodynamic aspects of renewables and sustainable development. *Renewable and Sustainable Energy Reviews*, 9(2), 169-189.



- D'Innocenzo, L., Luciano, M. M., Mathieu, J., Maynard, T. and Chen, G. (2014, January). Empowered to Perform: A Multi-level Investigation of Empowerment on Performance in Hospital Units. In *Academy of Management Proceedings*(Vol. 2014, No. 1, p. 12263). Academy of Management.
- Doolen, T. L., Hacker, M. E. and Van Aken, E. (2006).Managing organizational context for engineering team effectiveness. *Team Performance Management: An International Journal*, 12(5/6), 138-154.
- Dornfeld, D. (2009). Opportunities and challenges to sustainable manufacturing and CMP. In *MRS Proceedings* (Vol. 1157, pp. 1157-E03).Cambridge University Press.
- Dornfeld, D., Yuan, C., Diaz, N., Zhang, T. and Vijayaraghavan, A. (2013).Introduction to Green manufacturing.In *Green Manufacturing* (pp. 1-23).Springer US.
- Druskat, V. U., & Wheeler, J. V. (2003). Managing from the boundary: The effective leadership of self-managing work teams. *Academy of Management Journal*, 46, 435–457.
- Dudek-Burlikowska, M. (2010). Aspects of improving the organization directed to the quality. *Archives of materials science and engineering*, 43(2), 101-108.
- Dundon, T. and Gollan, P. J. (2007).Re-conceptualizing voice in the non-union workplace. *The International Journal of Human Resource Management*,18(7), 1182-1198.
- Ehnert, I. and Harry, W. (2012). Recent developments and future prospects on sustainable human resource management: introduction to the special issue.*Management revue*, 221-238.
- Elkington, J. (2004). Enter the triple bottom line. The triple bottom line: Does it all add up, 1-16.
- Elzen, B., Geels, F. W. and Green, K. (Eds.). (2004). *System innovation and the transition to sustainability: theory, evidence and policy*. Edward Elgar Publishing.
- Emerson, E. (1995). *Challenging behaviour: Analysis and intervention in people with learning disabilities*.Cambridge University Press, 40 West 20th Street, New York, NY 10011-4211.
- Emerson, J. W., Hsu, A., Levy, M. A., de Sherbinin, A., Mara, V., Esty, D. C. and Jaiteh, M. (2012). Environmental performance index and pilot trend



environmental performance index. New Haven: Yale Center for Environmental Law and Policy.

Emery, F. (1959). Characteristics of socio-technical systems. In Emery, F. (ed.), *The Emergence of a New Paradigm of Work*. 1978, pp. 38–86.

Emery, F.E. and Trist, E.L. (1972). *Towards a Social Ecology*. New York, NY: Plenum Press.

Epstein, M. J. and Buhovac, A. R. (2014). *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. Berrett-Koehler Publishers.

Esty, D. C., Levy, M., Srebotnjak, T. and De Sherbinin, A. (2005). *Environmental sustainability index: benchmarking national environmental stewardship*. New Haven: Yale Center for Environmental Law and Policy, 47-60.

Ettlie, J. E. (1988). *Taking charge of manufacturing: How companies are combining technological and organizational innovations to compete successfully*. Jossey-Bass Inc., Publishers.

Facteau, J., Dobbins, G., Russell, J., Ladd, R. and Kudisch, J. (1995). The influence of general perceptions of the training environment on pretraining motivation and perceived training transfer. *Journal of Management*, 21 (1), 1-25.

Fawcett, S. E. and Pearson, J. N. (2015). Requirements and benefits of implementing just-in-time manufacturing for small-firm manufacturers. *Journal of Small Business Strategy*, 1(2), 10-26.

Feldman, J. M. and Lynch, J. G. (1988). Self-generated validity and other effects of measurement on belief, attitude, intention and behavior. *Journal of applied Psychology*, 73(3), 421.

Fernandez, S. and Moldogaziev, T. (2013). Employee empowerment, employee attitudes and performance: Testing a causal model. *Public Administration Review*, 73(3), 490-506.

Field, A. P. (2005). Is the meta-analysis of correlation coefficients accurate when population correlations vary?. *Psychological methods*, 10(4), 444

Finch, B. and Cox, J. (1986). An examination of just-in-time management for the small manufacturer: with an illustration. *International Journal of Production Research*, 24 (2), 329-342.

Fincham, R. and Rhodes, P. (2005). *Principles of organizational behaviour*. OUP Oxford.



- Fisher, K. (1986). Management roles in the implementation of participative management systems. *Human Resources Management*, 25 (3), 459-480.
- Florida, R., 1996. Lean and green: the move to environmentally conscious manufacturing. *Calif. Manage. Rev.* 39 (1), 80-105.
- Floyd, S. and Wooldridge, B. (1992). Middle management involvement in strategy and its association with strategic type: a research note. *Strategic Management Journal*, 13, 153-167.
- Flynn, B.B., Schroeder, R.G. and Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations Management*, 11, 339-366.
- FMM Directory (2014). *Malaysian Industries*, 45th Edition. Federation of Malaysian Manufacturers.
- Foley, J. R. and Polanyi, M. (2006). Workplace democracy: why bother?. *Economic and Industrial Democracy*, 27(1), 173-191.
- Frone, M. R. (1999). Interpersonal conflict at work and psychological outcomes: testing a model among young workers. *Journal of occupational health psychology*, 5(2), 246.
- Fullan, M. (2014). *Leading in a culture of change personal action guide and workbook*. John Wiley and Sons.
- Fullerton, R. R., Kennedy, F. A. and Widener, S. K. (2014). Lean manufacturing and firm performance: The incremental contribution of lean management accounting practices. *Journal of Operations Management*, 32(7), 414-428.
- Gabriel, A. S., Frantz, N. B., Levy, P. E. and Hilliard, A. W. (2014). The supervisor feedback environment is empowering, but not all the time: Feedback orientation as a critical moderator. *Journal of Occupational and Organizational Psychology*, 87(3), 487-506.
- Gao, Y., Li, J., & Song, Y. (2009, August). Performance evaluation of green supply chain management based on membership conversion algorithm. In *2009 ISECS International Colloquium on Computing, Communication, Control, and Management* (Vol. 3, pp. 237-240). IEEE.
- Garetti, M. and Taisch, M. (2012). Sustainable manufacturing: trends and research challenges. *Production Planning and Control*, 23(2-3), 83-104.
- Geels, F. W. (2005). *Technological transitions and system innovations: a co-evolutionary and socio-technical analysis*. Edward Elgar Publishing.



- Geels, F. W. (2010). Ontologies, socio-technical transitions (to sustainability) and the multi-level perspective. *Research policy*, 39(4), 495-510.
- Gefen, D. (2000). E-Commerce: the role of familiarity and trust. *Omega* 28,725-737.
- Geffen, C. A. and Rothenberg, S. (2000). Suppliers and environmental innovation: the automotive paint process. *International Journal of Operations and Production Management*, 20(2), 166-186.
- George, D. and Mallery, P. (2006). *SPSS for windows step by step: A simple guide and reference* (Allyn Bacon, Boston).
- Ghosh, A. K. (2013). Employee empowerment: a strategic tool to obtain sustainable competitive advantage. *International Journal of Management*,30(3), 95.
- Ghosh, M. (2012). Lean manufacturing performance in Indian manufacturing plants. *Journal of Manufacturing Technology Management*, 24(1), 113-122.
- Gimenez, C., Sierra, V. and Rodon, J. (2012). Sustainable operations: Their impact on the triple bottom line. *International Journal of Production Economics*, 140(1), 149-159.
- Gimenez-Espin, J. A., Jiménez-Jiménez, D. and Martínez-Costa, M. (2013). Organizational culture for total quality management. *Total Quality Management and Business Excellence*, 24(5-6), 678-692.
- Giorgi, A. (1992). Description versus interpretation: Competing alternative strategies for qualitative research. *Journal of phenomenological psychology*,23(2), 119-135.
- Glavic, P. and Lukman, R. (2007). Review of sustainability terms and their definitions, *Journal of Cleaner Production*, 15(18), 1875-1885. <http://dx.doi.org/10.1016/j.jclepro.2006.12.006>
- Golhar, D., Deshpande, S. and Ahire, S. (1997), "Supervisors' role in TQM and non-TQM firms", *International Journal of Quality & Reliability Management*, Vol. 14 No. 6, pp. 555-68
- González-Benito, J. and González-Benito, Ó. (2006). A review of determinant factors of environmental proactivity. *Business Strategy and the environment*,15(2), 87-102.
- González-Benito, J. and González-Benito, Ó. (2008). Operations management practices linked to the adoption of ISO 14001: An empirical analysis of Spanish manufacturers. *International Journal of Production Economics*,113(1), 60-73.



- González-Benito, J., & González-Benito, Ó. (2005). Environmental proactivity and business performance: an empirical analysis. *Omega*, 33(1), 1-15.
- Grant, C. (2013). A Partnership for Creating Successful Partnerships. *Information Technology and Libraries*, 29(1), 5-7.
- Greene, R. J. (2015). Effective Rewards Strategies for Mergers, Acquisitions and Joint Ventures/Alliances. *Compensation and Benefits Review*, 0886368714565061.
- Griffin, R. and Moorhead, G. (2011). *Organizational behavior*. Cengage Learning.
- Griffiths, B. (2012). Manufacturing paradigms: the role of standards in the past, the present and the future paradigm of sustainable manufacturing. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 0954405412447695.
- Grint, K., & Woolgar, S. (2013). *The machine at work: Technology, work and organization*. John Wiley & Sons.
- Guest, D. W. and Teplitzky, A. L. (2010). High-performance environmental management systems: Lessons learned from 250 visits at leadership facilities. *Environmental Quality Management*, 20(1), 25-38.
- Gully, S. M., Devine, D. J., & Whitney, D. J. (2012). A meta-analysis of cohesion and performance effects of level of analysis and task interdependence. *Small Group Research*, 43(6), 702-725.
- Guzzo, R. A. and Shea, G. P. (1992). Group performance and intergroup relations in organizations. *Handbook of industrial and organizational psychology*, 3, 269-313.
- Guzzo, R. A., Noonan, K. A. and Elron, E. (1993). Employer influence on the expatriate experience: limits and implications for retention in overseas assignments. *Research in personnel and human resource management*, 323-338.
- Haapala, K. R., Zhao, F., Camelio, J., Sutherland, J. W., Skerlos, S. J., Dornfeld, D. A., and Rickli, J. L. (2013). A review of engineering research in sustainable manufacturing. *Journal of manufacturing Science and Engineering*, 135(4), 041013.
- Hackman, J. R. (1990). *Groups that work and those that don't* (No.E10 H123). Jossey-Bass.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. and Sarstedt, M. (2013). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.



- Hair, Black, Babin anderson and Tatham. (2006). *Multivariate data analysis* (Vol. 6): Pearson Prentice Hall Upper Saddle River, NJ.
- Hair, J. F. anderson, R. E., Tatham, R. L. and William, C. (1998). Black (1998), *Multivariate data analysis*.
- Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Englewood Cliffs: Prentice Hall.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Hair, Sarstedt, Ringle and Mena. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433.
- Handfield, R. B., Walton, S. V., Seegers, L. K. and Melnyk, S. A. (1997). 'Green' value chain practices in the furniture industry. *Journal of Operations Management*, 15(4), 293-315.
- Hanna, M., Newman, W. and Johnson, P. (2000). *International Journal of Operations and Production Management*, 20 (2), 148-165.
- Harmon, H.H. (1976). *Modern Factor Analysis* (3rd eds). Chicago, University of Chiacago Process .
- Harrison, J. and John, C. S. (2013). *Foundations in strategic management*. Cengage Learning.
- Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of Management Review*, 20(4), 986-1014.
- Hart, S. L. (1997). Beyond greening: Strategies for a sustainable world. *Harvard Business Review*, 75(1), 66-76.
- He, Y., Liu, F., Cao, H. and Zhang, H. (2005). Process planning support system for green manufacturing and its application. *Computer Integrated Manufacturing System*, 11(7), 975-980.
- Henderson, A., Burmeister, L., Schoonbeek, S., Ossenber, C. and Gneilding, J. (2014). Impact of engaging middle management in practice interventions on staff support and learning culture: a quasi-experimental design. *Journal of nursing management*, 22(8), 995-1004.
- Hendricks, K. B. and Singhal, V. R. (2003). The effect of supply chain glitches on shareholder wealth. *Journal of Operations Management*, 21(5), 501-522.



PT TATHAM
PERPUSTAKAAN TUN AMINAH

- Henson, R. K. and Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, 66, 393-416
- Hermann, B. G., Kroeze, C., & Jawjit, W. (2007). Assessing environmental performance by combining life cycle assessment, multi-criteria analysis and environmental performance indicators. *Journal of Cleaner Production*, 15(18), 1787-1796.
- Heyden, M. L., Koene, B. A., Fourne, S. and Murumägi, M. (2013, January). Examining Role Involvement of Top and Middle Management in Organizational Change. In *Academy of Management Proceedings* (Vol. 2013, No. 1, p. 16601). Academy of Management.
- Higgs, M., Plewnia, U. and Ploch, J. (2005). Influence of team composition and task complexity on team performance. *Team Performance Management: An International Journal*, 11(7/8), 227-250.
- Hill, A. (2010). *The Encyclopedia of operations management*. Eden Prairie, MN: Clamshell beach press.
- Hoerr, J. & Zellner, W. (1989) Go team! *Business Week*, July 10: 56-62.
- Hollenbeck, J. R., Ilgen, D. R., Segoe, D. J., Hedlund, J., Major, D. A. and Phillips, J. (1995). Multilevel theory of team decision making: Decision performance in teams incorporating distributed expertise. *Journal of Applied Psychology*, 80(2), 292.
- Honold, L. (1997). A review of the literature on employee empowerment. *Empowerment in organizations*, 5(4), 202-212.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Articles*, 2.
- Hopp, W. and Spearman, M. (2004). To Pull or Not to Pull: What is the Question? *Manufacturing and Service Operations Management*, 6 (2), 133-148.
- Hsu, C. W., Kuo, T. C., Chen, S. H., & Hu, A. H. (2013). Using DEMATEL to develop a carbon management model of supplier selection in green supply chain management. *Journal of Cleaner Production*, 56, 164-172.
- https://www.statistics.gov.my/index.php?r=column/cpublication&menu_id=S2E5ZklhckxmejVSaFFJb29acXZvUT09
- Hu and Bentler (1999). Findings. *Structural Equation Modelling*, 11, 320-341.



- Huber, V.L. and Brown, K. (1991). Human resource issues in cellular manufacturing: A sociotechnical analysis. *Journal of Operations Management*, 10 (2), 138-159.
- Hugo, G. (1996). Environmental concerns and international migration. *International migration review*, 105-131.
- Hunt, C. B. and Auster, E. R. (1990). Proactive environmental management: avoiding the toxic trap. *Sloan management review*, 31(2), 7-18.
- Hupp, T. and Polak, C. (1995). Designing work groups, jobs and work flow. San Francisco, CA: Jossey-Bass
- Huse and Cummings (1985). Organization development and change. Western Publishing Company.
- Hussein, A., Case, K., Chatha, K. A., Imran, S., Imran, M. and Masood, T. (2014). Organizational Design: Need for a Socio-technical Inclusive System Design Approach to meet 21st Century Workforce Challenges. *Advances in Social and Organizational Factors*, 12, 441.
- Hut and Molleman (1998). Empowerment and team development. *Team Performance Management Journal*, 4, 53-66.
- Huy, Q. In praise of middle manager. (2001). *Harvard Business Review*, 79 (8), 72-79.
- Hyer, N. L., Brown, K. A., & Zimmerman, S. (1999). A socio-technical systems approach to cell design: case study and analysis. *Journal of Operations Management*, 17(2), 179-203.
- Igbaria, M., Zinatelli, N., Cragg, P. and Cavaye, A. L. (1997). Personal computing acceptance factors in small firms: a structural equation model. *MIS quarterly*, 279-305.
- Industrial Engineer. (2007). Sustainable Universe. *Industrial Engineer*, 39(12), 37-37.
- International Energy Agency (IEA) (2015). CO2 Emissions from Fossil Fuel Combustion. http://www.iea.org/Textbase/publications/free_new_Desc.asp?PUBS_ID=1825
- Ishikawa, K. (1985). What is total quality control?: the Japanese way (Vol. 215). Englewood Cliffs, NJ: Prentice-Hall.
- Jabbour, A. B. L. and Jabbour, C. J. (2009). Are supplier selection criteria going green? Case studies of companies in Brazil. *Industrial Management and Data Systems*, 109(4), 477-495.
- Jabbour, C. J. C., de Sousa Jabbour, A. B. L., Govindan, K., Teixeira, A. A. and de Souza Freitas, W. R. (2013). Environmental management and operational



PT. PIAUTAHM
PUSAT PENELITIAN DAN PENGEMBANGAN ILMU DAN TEKNOLOGI INDUSTRI

performance in automotive companies in Brazil: the role of human resource management and lean manufacturing. *Journal of Cleaner Production*, 47, 129-140.

Jackson, S., Schuler, R., & Werner, S. (2011). *Managing human resources*. Cengage Learning.

Jaiswal, D. and Dhar, R. L. (2016). Impact of perceived organizational support, psychological empowerment and leader member exchange on commitment and its subsequent impact on service quality. *International Journal of Productivity and Performance Management*, 65(1), 58-79.

Jamieson, D. W., & Worley, C. G. (2008). The practice of organization development. *Handbook of organization development*, 1, 99-122.

Jaques, E. (Ed.). (2013). *The changing culture of a factory* (Vol. 7). Routledge.

Jarvenpaa, S. (1989). The effect of task demands and graphical format on information processing strategies. *Management Science*, 35, 285-303.

Jasiulewicz-Kaczmarek, M. (2013). The role of ergonomics in implementation of the social aspect of sustainability, illustrated with the example of maintenance. *Occupational Safety and Hygiene*, 47-52.

Jayal, A. D., Badurdeen, F., Dillon, O. W. and Jawahir, I. S. (2010). Sustainable manufacturing: Modeling and optimization challenges at the product, process and system levels. *CIRP Journal of Manufacturing Science and Technology*, 2(3), 144-152.

Jennifer Ho, L. C. and Taylor, M. E. (2007). An Empirical Analysis of Triple Bottom-Line Reporting and its Determinants: Evidence from the United States and Japan. *Journal of International Financial Management and Accounting*, 18(2), 123-150.

Johnson, B. and McClure, R. (2004). Validity and reliability of a shortened, revised version of the Constructivist Learning Environment Survey (CLES). *Learning Environments Research*, 7, 65-80

Joiner, T. A. (2007). Total quality management and performance: The role of organization support and co-worker support. *International Journal of Quality & Reliability Management*, 24(6), 617-627.

Jöreskog, K. G., & Sörbom, D. (1989). *LISREL 7 user's reference guide*. Scientific Software.

Juran, J. M. (1988). *Juran on planning for quality*. New York, NY: Free Press.



- Kalleberg, A. L., Nesheim, T. and Olsen, K. M. (2009). Is participation good or bad for workers? Effects of autonomy, consultation and teamwork on stress among workers in Norway. *Acta Sociologica*, 52(2), 99-116.
- Kane, K., Chiru, C., & Ciuchete, S. G. (2012). Exploring the eco-attitudes and buying behaviour of Facebook users. *Amfiteatru Economic*, 14(31), 157.
- Kanter, R. M. (1983). *The change masters: Binnovation and entrepreneurship in the American corporation*. Touchstone Book.
- Karim, A. and Arif-Uz-Zaman, K. (2013). A methodology for effective implementation of lean strategies and its performance evaluation in manufacturing organizations. *Business Process Management Journal*, 19(1), 169-196.
- Katzenbach, J. R. and Smith, D. K. (1993). *The wisdom of teams: Creating the high-performance organization*. Harvard Business Press.
- Kaufman, B. (2003). High level employee involvement at Delta airlines. *Human Resource Management*, 42 (2), 175-190.
- Keller, T., & Dansereaul, F. (1995). Leadership and empowerment: A social exchange perspective. *Human Relations*, 48(2), 127-146.
- Keltner, D., Gruenfeld, D. H. and Anderson, C. (2003). Power, approach and inhibition. *Psychological review*, 110(2), 265.
- King, A. and Lenox, M. (2001). Lean and Green? An empirical examination of the relationship between lean production and environmental performance. *Production and Operations Management*, 10(3), 244–256. <http://dx.doi.org/10.1111/j.1937-5956.2001.tb00373.x>
- King, A.A., Lenox, M.J., 2001. Lean and green? An empirical examination of the relationship between lean production and environmental performance. *Prod. Operations Manage.* 10 (3), 244e256.
- King, W., Fowler, S. and Zeithaml, C. (2001). Managing organizational competencies for competitive advantage: The middle management edge. *Academy of Management Executive*, 15 (2), 95-106.
- Kirkman, B.L. and Rosen, B. (1999). Beyond self-management: antecedents and consequences of team empowerment. *Academy of Management Journal*, 42, 58-74.
- Klagge, J. (1998). The empowerment squeeze-views from the middle management position. *Journal of Management development* 17 (8).



PT. ALTAUTHM
PERPUSTAKAAN TOKOH MINAH

- Klassen, R. D. and Whybark, D. C. (1999). The impact of environmental technologies on manufacturing performance. *Academy of Management journal*, 42(6), 599-615.
- Klidas, A. K. (2002, October). The Cultural Relativity of Employee Empowerment: Findings from the European Hotel Industry. In *EuroCHRIE International Conference on Cross Cultural Challenges in the Tourism Industry: The Educational Answers* (Vol. 31).
- Kline R. (2005). *Principles and Practice of Structural Equation Modeling*, 2nd edn, Guilford Press, New York.
- Kline, T. J. and Dunn, B. (2000). Analysis of interaction terms in structural equation models: A non-technical demonstration using the deviation score approach. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 32(2), 127.
- Kline. (2010). *Principles and practice of structural equation modeling*: Guilford press.
- Knoepfel, I. (2001). Dow Jones sustainability group index: A global benchmark for corporate sustainability. *Corporate Environmental Strategy*, 8(1), 6-15.
- Koh, P. S., Laplante, S. K., & Tong, Y. H. (2007). Accountability and value enhancement roles of corporate governance. *Accounting & Finance*, 47(2), 305-333.
- Kotrba, L. M., Gillespie, M. A., Schmidt, A. M., Smerek, R. E., Ritchie, S. A. and Denison, D. R. (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. *Human relations*, 65(2), 241-262.
- Koufterous, X., Vonderembse, M. and Doll, W. (1998). Developing measures of time based manufacturing. *Journal of Operations Management*, 16 (X), 21-41.
- Kouzes, J. and Posner, B. (1987). *The leadership challenge*. San Francisco, CA: Jossey-Bass
- Kozlowski, S. and Bell, S. (2003). Work groups and teams in organizations. In Borman, W., Iigen, D. and Klimoski, R. (Eds), *Handbook of psychology: Industrial and organizational psychology*, 12, 333-375, London: Wiley.
- Kozlowski, S. and Bell, S. (2003). Work groups and teams in organizations. In Borman, W., Iigen, D. and Klimoski, R. (Eds), *Handbook of psychology: Industrial and organizational psychology*, 12, 333-375, London: Wiley.



- Kraut, A., Pedigo, P., McKenna, D. and Dunnette, M. (1989). *Academy of Management* 3 (4), 286-293.
- Krejcie, R. V. and Morgan, D. W. (1970). Determining sample size for research activities. *Educ psychol meas.*
- Kuhn, T. S. (1962). *The structure of scientific revolutions.* University of Chicago.
- Kull, T. J., Ellis, S. C. and Narasimhan, R. (2013). Reducing Behavioral Constraints to Supplier Integration: A Socio-Technical Systems Perspective. *Journal of Supply Chain Management*, 49(1), 64-86.
- Kumar, S. and Phrommathed, P. (2005). *Research methodology* (pp. 43-50). Springer US.
- Kuo-Wei, L. (2005). Managerial Thinking in the 21st Century. *Journal of American Academy of Business*, 6 (1), 195-199.
- Lai, K. H., & Cheng, T. E. (2005). Effects of quality management and marketing on organizational performance. *Journal of Business research*, 58(4), 446-456.
- Langfred, C. (2005). Autonomy and performance in teams: the multilevel moderating effect of task interdependence. *Journal of Management*, 31 (4), 513-529.
- Laschinger, H. K. S., and Fida, R. (2013). A time-lagged analysis of the effect of authentic leadership on workplace bullying, burnout, and occupational turnover intentions. *European Journal of Work and Organizational Psychology*, 1-15.
- Laschinger, H. S., & Fida, R. (2013, January). Longitudinal analysis authentic leadership on workplace bullying, burnout and turnover intentions. In *Academy of Management Proceedings* (Vol. 2013, No. 1, p. 10065). Academy of Management.
- Lawler III, E. E. (1986). *High-Involvement Management. Participative Strategies for Improving Organizational Performance.* Jossey-Bass Inc., Publishers, 350 Sansome Street, San Francisco, CA 94104.
- Lawler, E. E., Mohrman, S. A. and Ledford, G. E. (1992). *Employee involvement and total quality management: Practices and results in Fortune 1000 companies.* Jossey-Bass Inc Pub.
- Lawler, E. E., Mohrman, S. A. and Ledford, G. E. (1995). *Creating high performance organizations: Practices and results of employee involvement and total quality management in Fortune 1000 companies.* San Francisco, CA: Jossey-Bass.



- Lee WGK (2006). Baines T, Tjahjono B, *et al.* Towards a conceptual framework of manufacturing paradigms. *SIMTech Reports*; 7(3).
- Lee, M. and Koh, J. (2001). Is empowerment really a new concept?. *International journal of human resource management*, 12(4), 684-695.
- Lee, S. and Ebrahimpour, M. (1984). Just-in-Time production system: some requirements for implementation. *International Journal of Operations and Production Management*, 4 (4), 3-15.
- Leiter, M. P., Day, A. L., Harvie, P. and Shaughnessy, K. (2007). Personal and organizational knowledge transfer: Implications for worklife engagement. *Human Relations*, 60(2), 259-283.
- Leonardi, P. M. (2012). Materiality, sociomateriality and socio-technical systems: what do these terms mean? How are they related? Do we need them?. *Materiality and organizing: Social interaction in a technological world*, 25-48.
- Lewis, M. A. (2000). Lean production and sustainable competitive advantage. *International Journal of Operations & Production Management*, 20(8), 959-978.
- Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. *Health promotion practice*, 1524839915580941.
- Lezaun, J. (2011). Offshore democracy: launch and landfall of a socio-technical experiment. *Economy and Society*, 40(4), 553-581.
- Li, Suhong, S. Subba Rao, T. S. Ragu-Nathan and Bhanu Ragu-Nathan. "Development and validation of a measurement instrument for studying supply chain management practices." *Journal of Operations Management* 23, no. 6 (2005): 618-641.
- Lichtman, M. (2012). *Qualitative Research in Education: A User's Guide: A User's Guide*. Sage.
- Liker, J. (2004). *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*. New York, NY: McGraw Hill.
- Likert, R. (1961). *New Patterns of Management*. New York, NY: McGraw-Hill.
- Lin, L. H. (2014). Organizational Structure and Acculturation in Acquisitions Perspectives of Congruence Theory and Task Interdependence. *Journal of Management*, 40(7), 1831-1856.



PTTA UTHM
 PERPUSTAKAAN UNIVERSITI TEKNIKAL MELAKA

- Lindell, M. and Whitney, D. (2001). Accounting for common method variance in cross sectional research designs. *Journal of applied Psychology*, 86 (1), 114-121
- Lingard, L., Albert, M. and Levinson, W. (2008). Grounded theory, mixed methods and action research. *Bmj*, 337(aug07_3), a567-a567.
- Liu, H., Chen, W., Kang, Z., Ngai, T. and Li, Y. (2005). Fuzzy multiple attribute decision making for evaluating aggregate risk in green manufacturing. *Tsinghua Science and Technology*, 10(5), 627-632.
- Liu, F., Yin, J. X., Cao, H. J., & He, Y. (2005). Investigations and practices on green manufacturing in machining systems. *Journal of Central South University of Technology*, 12(2), 18-24.
- Logan, M. S. and Ganster, D. C. (2007). The effects of empowerment on attitudes and performance: The role of social support and empowerment beliefs. *Journal of Management Studies*, 44(8), 1523-1550.
- Lovins, A. B., Lovins, L. H. and Hawken, P. (1999). A road map for natural capitalism. *Harvard Business Review*, 77(3), 145-158.
- MacKinnon, D. P. (2000). Contrasts in multiple mediator models. *Multivariate applications in substance use research: New methods for new questions*, 141-160.
- Manzini, E. Vezzoli. (2002). *Product-Service Systems and Sustainability*.
- Marchington, M. (2005). *Fragmenting work: Blurring organizational boundaries and disordering hierarchies*. Oxford University Press on Demand.
- Marcus, A. and Fremeth, R. (2009). Green management matters regardless. *Academy of Management Perspectives*, 23 (3), 17-26.
- Markey, R., & Patmore, G. (2009). The Role of the State in the Diffusion of Industrial Democracy: South Australia, 1972—9. *Economic and Industrial Democracy*, 30(1), 37-66.
- Markley, M. J. and Davis, L. (2007). Exploring future competitive advantage through sustainable supply chains. *International Journal of Physical Distribution and Logistics Management*, 37(9), 763-774.
- Marks, M. A., Mathieu, J. E. and Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of management review*, 26(3), 356-376.



PTTA UTHM
PERPUSTAKAAN TUN AMINAH

- Martínez-Jurado, P. J., & Moyano-Fuentes, J. (2014). Lean management, supply chain management and sustainability: a literature review. *Journal of Cleaner Production*, 85, 134-150.
- Massoud, J. A., Daily, B. F. and Bishop, J. W. (2011). Perceptions of environmental management systems: an examination of the Mexican manufacturing sector. *Industrial Management and Data Systems*, 111(1), 5-19.
- Matell, M. S. and Jacoby, J. (1971). Is There an Optimal Number of Alternatives for Likert Scale Items? Study. *Educational and psychological measurement*, 31, 657-674.
- Mathieu, J. E., Gilson, L. L. and Ruddy, T. M. (2006). Empowerment and team effectiveness: an empirical test of an integrated model. *Journal of applied psychology*, 91(1), 97.
- Maxwell, D. and Van der Vorst, R. (2003). Developing sustainable products and services. *Journal of Cleaner Production*, 11(8), 883-895.
- Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review*, 62, 279-299.
- Maynard, M. T., Mathieu, J. E., Gilson, L. L., O'Boyle, E. H. and Cigularov, K. P. (2013). Drivers and outcomes of team psychological empowerment: a meta-analytic review and model test. *Organizational Psychology Review*, 3(2), 101-137.
- McClelland, D.C. (1975). *Power: The inner experience*. New York, NY: Irvington Press.
- McLachlin, R. (1997). Management initiatives and just-in-time manufacturing. *Journal of Operations Management*, 15, 271-292
- McPeak, C., Devirian, J. and Seaman, S. (2010). Do environmentally friendly companies outperform the market? *Journal of Global Business Issues*, 4, 61-66.
- McWilliams, A. and Siegel, D. (2000). Corporate social responsibility and financial performance. *Strategic Management Journal*, 21(5), 603-609.
- Menguc, B., Auh, S., & Ozanne, L. (2010). The interactive effect of internal and external factors on a proactive environmental strategy and its influence on a firm's performance. *Journal of Business Ethics*, 94(2), 279-298.



- Menguc, B., Auh, S., Fisher, M. and Haddad, A. (2013). To be engaged or not to be engaged: The antecedents and consequences of service employee engagement. *Journal of Business Research*, 66(11), 2163-2170.
- Menon, S. (2001). Employee empowerment: An integrative psychological approach. *Applied Psychology*, 50(1), 153-180.
- Menzel, S., & Teng, J. (2010). Ecosystem services as a stakeholder-driven concept for conservation science. *Conservation Biology*, 24(3), 907.
- Meyerson, S. L., & Kline, T. J. (2008). Psychological and environmental empowerment: Antecedents and consequences. *Leadership & Organization Development Journal*, 29(5), 444-460.
- Mills, P. and Ungson, G. (2003). Reassessing the limits of structural empowerment: organizational constitution and trust as controls. *Academy of Management Review*, 28 (1), 143-153
- Milne, M. J. and Gray, R. (2013). Whither ecology? The triple bottom line, the global reporting initiative and corporate sustainability reporting. *Journal of business ethics*, 118(1), 13-29.
- Mintzberg, H., Lampel, J., Quinn, J. and Ghoshal, S. (2003). The strategy process: concepts, contexts, cases. Upper Saddle River, NJ: Prentice Hall.
- Mitchell, R. J. (1993). Path analysis: pollination. *Design and analysis of ecological experiments*. Chapman and Hall, New York, New York, USA, 211-231.
- Mitchell, T. R., & Silver, W. S. (1990). Individual and group goals when workers are interdependent: Effects on task strategies and performance. *Journal of applied psychology*, 75(2), 185.
- Mittal, V. K. and Sangwan, K. S. (2014). Development of a model of barriers to environmentally conscious manufacturing implementation. *International Journal of Production Research*, 52(2), 584-594.
- Molina-Azorín, J. F., Claver-Cortés, E., Pereira-Moliner, J. and Tarí, J. J. (2009). Environmental practices and firm performance: an empirical analysis in the Spanish hotel industry. *Journal of Cleaner Production*, 17(5), 516-524.
- Monden, Y. (1983). Toyota Production Systems. Norcross, GA: Industrial engineering and management press.
- Monden, Y. (2011). Toyota production system: an integrated approach to just-in-time. CRC Press.



- Moniz, A. (2012). Anthropocentric-based robotic and autonomous systems: assessment for new organisational options. Decker, M.; Gutmann, M.: *Robo- and Informationethics: Some Fundamentals*. Zurich, 123-157.
- Morse, J. M., Barrett, M., Mayan, M., Olson, K. and Spiers, J. (2008). Verification strategies for establishing reliability and validity in qualitative research. *International journal of qualitative methods*, 1(2), 13-22
- Motwani, J., Mirchandani, D., Madan, M., & Gunasekaran, A. (2002). Successful implementation of ERP projects: evidence from two case studies. *International Journal of Production Economics*, 75(1), 83-96.
- Muijs, D. (2010). *Doing quantitative research in education with SPSS*. Sage.
- Naffziger, D. W., Ahmed, N. U. and Montagno, R. V. (2003). Perceptions of environmental consciousness in US small businesses: An empirical study. *SAM Advanced Management Journal*, 68(2), 23.
- Nahm, A. Y., Rao, S. S., Solis-Galvan, L. E., & Ragu-Nathan, T. S. (2002). The Q-sort method: assessing reliability and construct validity of questionnaire items at a pre-testing stage. *Journal of Modern Applied Statistical Methods*, 1(1), 15.
- Nambiar AN. (2010). Modern manufacturing paradigms – a comparison. In: Proceedings of the international multiconference of engineers and computer scientists (IMECS 2010), Hong Kong, 17–19.
- Narasimhan, R., Swink, M. and Kim, S.W. (2006). Disentangling leanness and agility: An empirical investigation. *Journal of Operations Management*, 24, 440-457.
- National Green Technology Policy of Malaysia (2009). Ministry of Energy, Green Technology and Water. Available at <http://www.ktak.gov.my/template01.asp?contentid=253>, last accessed on (12-10-2015)
- Newman, I., Ridenour, C. S., Newman, C. and DeMarco, G. M. P. (2003). A typology of research purposes and its relationship to mixed methods. In A. Tashakkori and C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 189-208). Thousand Oaks, CA: Sage
- Nguyen, N. C. and Bosch, O. J. (2013). A systems thinking approach to identify leverage points for sustainability: a case study in the Cat Ba Biosphere Reserve, Vietnam. *Systems Research and Behavioral Science*, 30(2), 104-115.
- Nielsen, J. F., & Pedersen, C. P. (2003). The consequences and limits of empowerment in financial services. *Scandinavian Journal of management*, 19(1), 63-83.



PTTA UTHM
PERPUSTAKAAN TUKU TUNJAMINAH

- NSDC. (2013). SME Annual Report 2012/13 (pp. 37-45). Malaysia.
- Nsenduluka, E. (2008). *Organizational and group antecedents of workgroup innovativeness in a service industry* (Doctoral dissertation, Victoria University).
- O'Creevy, M. Employee involvement and the middle manager: evidence from a survey of organizations. *Journal of Organizational Behavior*, 19 (1), 67-84.
- Ohno, T. (1988). *Toyota Production System: Beyond Large Scale Production*. Cambridge, MA: Productivity Press
- Ones, D. S., & Dilchert, S. (2012). Environmental sustainability at work: A call to action. *Industrial and Organizational Psychology*, 5(4), 444-466.
- Ones, D. S., Dilchert, S., & Viswesvaran, C. (2010). Cognitive abilities.
- Oppenheim, A. N. (1966). *Questionnaire design and attitude measurement. sot I*.
- Organization for Economic Co-Operation and Development (OECD), Published 2008, *Glossary of statistical terms*, <<http://stats.oecd.org/glossary/detail.asp?ID=1767>>, Retrieved 2011-06-08
- Organization for Economic Co-Operation and Development (OECD), Published 2011, *Green Growth*, <www.oecd.org/greengrowth>, Retrieved 2011-06-01"
- Orlitzky, M., Siegel, D. S. and Waldman, D. A. (2011). Strategic corporate social responsibility and environmental sustainability. *Business and society*, 50(1), 6-27.
- O'Toole, J. (1995). *Leading change : overcoming the ideology of comfort and the tyranny of custom*. San Francisco, CA : Jossey-Bass Publishers
- Owen, G. (2012). *Industrial policy in Europe since the Second World War: what has been learnt?*.
- Pallant, J. (2005). *SPSS survival manual: a step by step guide to data analysis using SPSS for windows (Version 12)*. 2nd ed. Maidenhead: Open University Press.
- Pappas, J., Flaherty, K. and Wooldridge, B. (2003). Achieving strategic consensus in the hospital setting: A middle management perspective. *Hospital Topics: Research and perspective on healthcare*, 81 (1), 15-22.
- Parker, L. E. and Price, R. H. (1994). Empowered managers and empowered workers: The effects of managerial support and managerial perceived control on



PTTA UTHM
PEPUSATAKAN TUN AMINAH

workers' sense of control over decision making. *Human Relations*, 47(8), 911-928.

Pasmore, W. A. (1988). *Designing effective organizations: The sociotechnical systems perspective*. New York, NY: Wiley.

Paul, I. D., Bhole, G. P. and Chaudhari, J. R. (2014). A review on green manufacturing: It's important, methodology and its application. *Procedia Materials Science*, 6, 1644-1649.

Peccei, R. and Rosenthal, P. (2001). Delivering customer-oriented behaviour through empowerment: An empirical test of HRM assumptions. *Journal of Management Studies*, 38(6), 831-857.

Pentlicki, J. H. (2014). *Barriers and success strategies for sustainable lean manufacturing implementation: A qualitative case study* (Doctoral dissertation, University of Phoenix).

Pereira-Moliner, J., Claver-Cortés, E., Molina-Azorín, J. F., & Tarí, J. J. (2012). Quality management, environmental management and firm performance: direct and mediating effects in the hotel industry. *Journal of Cleaner Production*, 37, 82-92.

Pettersen, J. (2009). *Translating lean production: from managerial discourse to organizational practice*.

Pfeffer, J. (1981). *Power in organizations*. Marshfield, MA: Pitman.

Pine II and Gilmore (1998). "Welcome to the experience economy", *Harvard Business Review*, Vol. 76, July-August, pp. 97-105.

Podsakoff, P.M., Mackenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, 88 (5), 879-903.

Polcari, M. R. (2007). A total approach to industry sustainability. *Semiconductor International*, 30(1), 108-108.

Pondeville, S., Swaen, V. and De Rongé, Y. (2013). Environmental management control systems: The role of contextual and strategic factors. *Management Accounting Research*, 24(4), 317-332.

Porter, M. E. and van der Linde, C. (1995). Green and competitive. *Harvard Business Review*, 73(5), 120-134.



PTFAUTHM
 REPOSITORI TUNBUK MINAH

- Potoski, M. and Prakash, A. (2005). Covenants with weak swords: ISO 14001 and facilities' environmental performance. *Journal of policy analysis and management*, 24(4), 745-769.
- Power, D. J., Sharda, R., & Burstein, F. (2015). *Decision support systems*. John Wiley & Sons, Ltd.
- Prajogo D.I. , Sohal A.S. (2001), TQM and innovation: a literature review and research framework, *Technovation* 21, 539-558
- Prajogo, D. I., & Sohal, A. S. (2006). The relationship between organization strategy, total quality management (TQM) and organization performance—the mediating role of TQM. *European Journal of Operational Research*, 168(1), 35-50.
- Preacher, K. J. and Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods*, 40(3), 879-891
- Preacher, K. J., Rucker, D. D. and Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods and prescriptions. *Multivariate behavioral research*, 42(1), 185-227.
- Psoinos, A. and Smithson, S. (2002). Employee empowerment in manufacturing: a study of organizations in the UK. *New Technology, Work and Employment*, 17 (2), 132-148.
- Puranam, P., Raveendran, M., & Knudsen, T. (2012). Organization design: The epistemic interdependence perspective. *Academy of Management Review*, 37(3), 419-440.
- Purcell, J. (2003). *Understanding the people and performance link: unlocking the black box*. CIPD Publishing.
- Raja, M. I. (2011). *Lean manufacturing-an integrated socio-technical systems approach to work design* (Doctoral dissertation, Clemson University).
- Ramesh, V. and Kodali, R. (2012). A decision framework for maximising lean manufacturing performance. *International Journal of Production Research*, 50(8), 2234-2251
- Ramus, C. A. (2001). Organizational support for employees: Encouraging creative ideas for environmental sustainability. *California Management Review*, 43(3), 85-105.



PTFAUTHM
 PERPUSTAKAAN TEKNOLOGI DAN INOVASI

- Ramus, C. A. (2002). Encouraging innovative environmental actions: what companies and managers must do. *Journal of world business*, 37(2), 151-164.
- Ramus, C. A. and Killmer, A. B. (2007). Corporate greening through prosocial extrarole behaviours—A conceptual framework for employee motivation. *Business Strategy and the Environment*, 16(8), 554-570.
- Ramus, C. and Steger, U. (2000). The roles of supervisory support behaviors and environmental policy in employee ecoinitiatives at leading edge european companies. *Academy of Management Journal*, 43 (4), 605-626.
- Ramus, C. and Steger, U. (2000). The roles of supervisory support behaviors and environmental policy in employee ecoinitiatives at leading edge european companies. *Academy of Management Journal*, 43 (4), 605-626.
- Randolph, W. (1995). Navigating the journey to empowerment. *Organizational Dynamics*, 23 (4), 19-32.
- Randolph, W. A. and Kemery, E. R. (2011). Managerial use of power bases in a model of managerial empowerment practices and employee psychological empowerment. *Journal of Leadership and Organizational Studies*, 18(1), 95-106.
- Rao, P. (2002). Greening the supply chain: a new initiative in South East Asia. *International Journal of Operations and Production Management*, 22(6), 632-655.
- Rao, P. and Holt, D. (2005). Do green supply chains lead to competitiveness and economic performance?. *International Journal of Operations and Production Management*, 25(9), 898-916.
- Rasli, A. (2006). *Data Analysis and Interpretation-A Handbook for Postgraduate Social Scientists (+ CD)*. Penerbit UTM.
- Rasmussen, M. B., Hansen, T., & Nielsen, K. T. (2011). New tools and strategies for the inspection of the psychosocial working environment: The experience of the Danish Working Environment Authority. *Safety science*, 49(4), 565-574.
- Reed, M. S. (2008). Stakeholder participation for environmental management: a literature review. *Biological conservation*, 141(10), 2417-2431.
- Renwick, D. W., Redman, T. and Maguire, S. (2013). Green human resource management: a review and research agenda*. *International Journal of Management Reviews*, 15(1), 1-14.



PTFAUTHM
PERPUSTAKAAN FAKULTAS TEKNIK DAN ILMU MATEMATIKA

- Rietveld, T. and Van Hout, R. (1993). *Statistical techniques for the study of language and language behaviour*. Walter de Gruyter.
- Riordan, C., Vandenberg, R. and Richardson, H. (2005). Employee involvement climate and organizational effectiveness. *Human Resource Management*, 44 (4), 471-488.
- Riordan, C., Vandenberg, R. and Richardson, H. (2005). Employee involvement climate and organizational effectiveness. *Human Resource Management*, 44 (4), 471-488.
- Ritchie, J., Spencer, L. and O'Connor, W. (2003). Carrying out qualitative analysis. *Qualitative research practice: A guide for social science students and researchers*, 219-262.
- Robèrt, K. H., Daly, H., Hawken, P., & Holmberg, J. (1997). A compass for sustainable development. *The International Journal of Sustainable Development & World Ecology*, 4(2), 79-92.
- Robson, C. (2002). Real world research. 2nd. Edition. Blackwell Publishing. Malden.
- Rogelberg, S. G. and Luong, A. (1998). Nonresponse to mailed surveys: A review and guide. *Current Directions in Psychological Science*, 7(2), 60-65.
- Rogelberg, S.G. and Stanton, J.M. (2007). Understanding and dealing with organizational survey non response. *Organizational research methods*, 10 (2), 195-209.
- Rogers, R. D., Seddon, K. R., & Volkov, S. (2003). Green industrial applications of ionic liquids (NATO Science Series II: Mathematics, Physics and Chemistry, 92).
- Rothenberg, S., Pil, F. K., & Maxwell, J. (2001). Lean, green, and the quest for superior environmental performance. *Production and Operations Management*, 10(3), 228-243.
- Rouleau, L. and Balogun, J. (2011). Middle managers, strategic sensemaking and discursive competence. *Journal of Management Studies*, 48(5), 953-983.
- Rue, L.W. and Byars, L.L. (2003). *Management: Skills and application* (10th eds). New York, NY: McGraw-Hill.
- Rusinko, C. A. (2007). Green manufacturing: an evaluation of environmentally sustainable manufacturing practices and their impact on competitive outcomes. *Engineering Management, IEEE Transactions on*, 54(3), 445-454.



- Saadatian, O., Haw, C., Mat, S., Sopian, K., Dalman, M., & Salleh, E. (2011). Sustainable development in Malaysia-planning and initiatives. In *WSEAS Conference*.
- Saavedra, R., Earley, P. C. and Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of applied psychology*, 78(1), 61.
- Salas, E., Rosen, M. A., Burke, C. S. and Goodwin, G. F. (2009). The wisdom of collectives in organizations: An update of the teamwork competencies. *Team effectiveness in complex organizations. cross-disciplinary perspectives and approaches*, 39-79.
- Sangwan, K. S. (2006). Performance value analysis for justification of green manufacturing systems. *Journal of Advanced Manufacturing Systems*, 5(01), 59-73.
- Sarkis, J. (1995). Manufacturing strategy and environmental consciousness. *Technovation*, 15(2), 79-97.
- Sarkis, J. (1999). How green is the supply chain? Practice and research. *Graduate School of Management, Clark University, Worcester*, 1-40.
- Sarkis, J. and Cordeiro, J. J. (2001). An empirical evaluation of environmental efficiencies and firm performance: Pollution prevention versus end-of-pipe practice. *European Journal of Operational Research*, 135(1), 102-113. [http://dx.doi.org/10.1016/S0377-2217\(00\)00306-4](http://dx.doi.org/10.1016/S0377-2217(00)00306-4)
- Sarkis, J. and Rasheed, A. (1995). Greening the manufacturing function. *Business Horizons*, 38(5), 17-27.
- Saunders, M. N. (2011). *Research methods for business students*, 5/e. Pearson Education India.
- Savely, S. M., Carson, A. I. and Delclos, G. L. (2007). An environmental management system implementation model for US colleges and universities. *Journal of Cleaner Production*, 15(7), 660-670.
- Sawhney, R., Teeparakul, P., Bagchi, A., Li, X., 2007. En-lean: a framework to align lean and green manufacturing in the metal cutting supply chain. *Int. J. Enterprise Netw. Manage.* 1 (3), 238e260.
- Schlesinger, L. A. and Oshry, B. (1984). Quality of work life and the manager: Muddle in the middle. *Organizational Dynamics*, 13(1), 5-19.
- Schumacker, Randall E. and Richard G. Lomax. (2004). *A beginner's guide to structural equation modeling*. Psychology Press.



- Seager, T. P. (2004). Understanding industrial ecology and the multiple dimensions of sustainability. *Strategic Environmental Management*, 17-70.
- Segars, A. H. (1997). Assessing the unidimensionality of measurement: A paradigm and illustration within the context of information systems research. *Omega*, 25(1), 107-121.
- Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: a meta-analytic review. *Journal of Applied Psychology*, 96(5), 981.
- Seibert, S., Silver, S. and Randolph, W. (2004). Taking empowerment to the next level: a multiple level model of empowerment, performance and satisfaction. *Academy of Management Journal*, 47 (3), 332-349.
- Sekaran, U. (2003). Research method for business: A skill Approach. *New Jersey: John Willey and Sons, Inc.*
- Sekaran, U. Bougie, R.(2013). *Research methods for business: A skill building approach.*
- Sekaran, Uma and Bougie, Roger. (2011). *Research Methods for Business: A Skill Building Approach* (5th ed.). United Kingdom: John Wiley and Sons Ltd.
- Senge, P. (1990). The fifth discipline: the art and practice of the learning organization. New York, NY: Currency Doubleday
- Shah, R. and Ward, P. (2003). Lean Manufacturing: Context, practice bundles and performance. *Journal of Operations Management*, 21, 129-149.
- Shani, A.B., Grant, R., Krishnan, R. and Thompson, E. (1992). Advanced Manufacturing Systems and Organizational Choice: Sociotechnical Systems Approach. *California Management Review*, 34 (4), 91-111.
- Sharma, N. (2003). The role of pure and quasi-moderators in services: an empirical investigation of ongoing customer–service-provider relationships. *Journal of Retailing and Consumer Services*, 10(4), 253-262.
- Sharma, S., Durand, R. M. and Gur-Arie, O. (1981). Identification and analysis of moderator variables. *Journal of marketing research*, 291-300.
- Shields, M. D. (1995). An empirical analysis of firms' implementation experiences with activity-based costing. *Journal of Management Accounting Research*, 7, 148.
- Shiino, J. (1999). Seventh report: Consider production system of architecture: Green manufacturing system. *Architectural Product-Engineering*, 401, 96-101.



PEPUSATKAN TUNKU TUKAMINAH

- Shingo, S. (1983). A revolution in manufacturing: the SMED system. Japanese Management Association, Japan
- Shrout, P. E. and Bolger, N. (2002). Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological methods*, 7(4), 422.
- Simons, R. (2013). Levers of control: how managers use innovative control systems to drive strategic renewal. Harvard Business Press.
- Simpson, D. F. and Power, D. J. (2005). Use the supply relationship to develop lean and green suppliers. *Supply chain management: An international Journal*, 10(1), 60-68.
- Singh, R., Miller, T., & Sonenberg, L. (2014, December). A preliminary analysis of interdependence in multiagent systems. In *International Conference on Principles and Practice of Multi-Agent Systems* (pp. 381-389). Springer International Publishing.
- Smith, A. and Stirling, A. (2008). Social-ecological resilience and socio-technical transitions: critical issues for sustainability governance.
- Smith, M. and Carayon, P. (1995). New technology, automation and work organization: stress problems and improved technology implementation. *International Journal of Human Factors Manufacturing*, 5 (1), 99-116.
- Smith, R. T. and Melnyk, S. A. (1996). Green manufacturing: Integrating the concerns of environmental responsibility with manufacturing design and execution. *Dearborn, MI: Society for Manufacturing Engineering*.
- Sohal, A. and Egglestone (1994). Lean production: Experience among Australian organization. *International Journal of Operations and Production Management*, 14 (11), 35-51.
- Somech, A., Desivilya, H. and Lidogoster, H. (2009). Team conflict management and team effectiveness: effects of task interdependence and team identification. *Journal of Organizational Behavior*, 30, 359-378.
- Spear, S. and Bowen, K. (1999). Decoding the DNA of the Toyota Production System. *Harvard Business Review*, September-October.
- Spears, L. C. (1998). *Insights on leadership: Service, stewardship, spirit and servant-leadership*. John Wiley and Sons.



PTTA UTHM
 PERPUSTAKAAN TUNJUK TINDAKAN AMALAH

- Spoonley, P. (2001). Technological and social changes into the third millennium and the impact on refrigeration. *International Journal of refrigeration*, 24(7), 593-601.
- Spreitzer, G. (1995). Psychological Empowerment in the workplace: dimensions, measurement and validation. *Academy of Management Journal*, 38 (5), 1442-1465.
- Sriparavastu, L. and Gupta, T. (1997). An empirical study of just-in-time and total quality management principles implementation in manufacturing firms in the USA. *International Journal of Operations and production management*, 17(12), 1215-1232.
- Stansinopoulos, P., Smith, M. H., Hargroves, K. and Desha, C. (2013). *Whole system design: an integrated approach to sustainable engineering*. Routledge.
- Stashevsky, S. and Lampert, S. (2014). Does the Likert scale fit the information age?. *Values in Shock The role of contrasting management, economic and religious paradigms in the workplace*, 429.
- Stevens, J. P. (2012). *Applied multivariate statistics for the social sciences*. Routledge.
- Stewart, D. and Grout, J. (2001). The human side of mistake proofing. *Production and Operations Management Journal*, 10 (4), 440-459.
- Sudin, S. (2011, June). Strategic Green HRM: A proposed model that supports corporate environmental citizenship. In *International Conference on Sociality and Economics Development, IPEDR (Vol. 10, pp. 79-83)*.
- Sugimori, Y., Kusunoki, K., Cho, F. and Uchikawa, S. (1977). Toyota Production System and Kanban system, materialization of JIT and respect for human system. *International Journal of Production Research*, 15 (6), 553-564.
- Sumukadas, N. (2005). Employee involvement: a hierarchical conceptualization of its effect on quality. *International Journal of Quality and Reliability Management*, 23 (2), 143-161.
- Sun, T., Zhao, X. W., Yang, L. B. and Fan, L. H. (2012). The impact of psychological capital on job embeddedness and job performance among nurses: a structural equation approach. *Journal of Advanced Nursing*, 68(1), 69-79.
- Sutor, L. (2007). Green manufacturing comes of age. *Control Engineering*, 54(11), 69-72.
- Suzaki, K. (1985). Japanese manufacturing techniques: their importance to U.S. manufacturers. *Journal of Business Strategy*, 10 - 19.



- Suzuki, E., Tagaya, A., Ota, K., Nagasawa, Y., Matsuura, R. and Sato, C. (2010). Factors affecting turnover of Japanese novice nurses in university hospitals in early and later periods of employment. *Journal of Nursing Management*, 18(2), 194-204.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA*. Thomson/Brooks/Cole.
- Tabachnick, B. G., Fidell, L. S. and Osterlind, S. J. (2001). Using multivariate statistics.
- Talib, F., Rahman, Z., & Qureshi, M. N. (2013). An empirical investigation of relationship between total quality management practices and quality performance in Indian service companies. *International Journal of Quality & Reliability Management*, 30(3), 280-318.
- Tan, A. R., Matzen, D., McAloone, T. C., & Evans, S. (2010). Strategies for designing and developing services for manufacturing firms. *CIRP Journal of Manufacturing Science and Technology*, 3(2), 90-97.
- Taylor, F.W. (1911). *The principles of scientific management*. New York, NY: Harper and Row.
- Taylor, F.W. (1947). *Shop Management and Principles of Scientific Management*. New York, NY: Harper and Row.
- Taylor, J. and Felten, D. (1993). *Performance by design: sociotechnical systems in north america*. Englewood Cliffs, NJ: Prentice Hall.
- Theyel, G. (2000). Management practices for environmental innovation and performance. *International Journal of Operations & Production Management*, 20(2), 249-266.
- Thomas, K. and Velthouse, B. (1990). Cognitive elements of empowerment: an interpretive model of intrinsic task motivation. *Academy of Management Review*, 15, 666-681.
- Thompson, J. (1967). *Organizations in action*. New York, NY: McGraw-Hill.
- Treville, S. and Antonakis, J. (2006). Could lean production job design be intrinsically motivating? Contextual, configural, level of analysis issues. *Journal of Operations Management*, 24, 99-123.
- Trist, E. (1981). *The evolution of sociotechnical systems: A conceptual framework and a action research program*. Summer.
- Trist, E. and Bamforth, K. (1951). Some social and psychological consequences of the longwall method of coal mining. *Human Relations*, 4(1), 3-38.



PTTA UTHM
 PERPUSTAKAAN TUN AMINAH

- Tseng, M. L., Tan, R. R. and Siriban-Manalang, A. B. (2013). Sustainable consumption and production for Asia: sustainability through green design and practice. *Journal of Cleaner Production*, 40, 1-5.
- Tung, A., Baird, K. and Schoch, H. (2014). The relationship between organisational factors and the effectiveness of environmental management. *Journal of environmental management*, 144, 186-196.
- Ulrich, D. (2013). *Human resource champions: The next agenda for adding value and delivering results*. Harvard Business Press.
- Vachon, S. and Klassen, R. D. (2006). Green project partnership in the supply chain: the case of the package printing industry. *Journal of Cleaner production*, 14(6), 661-671.
- Vachon, S. and Klassen, R. D. (2008). Environmental management and manufacturing performance: The role of collaboration in the supply chain. *International journal of production economics*, 111(2), 299-315.
- Valentino, C.L. and Brunell, F. (2004). The role of middle managers in the transmission and integration of organizational culture. *Journal of Healthcare Management*, 49 (6), 393-404.
- van den Bergh, J. C. M. and Bruinsma, F. (2008). The transition to renewable energy: background and summary. *Managing the Transition to Renewable Energy: Theory and Practice from Local, Regional and Macro Perspectives*, ISBN 9781847202291, 1-11.
- Van Hoek, R. I. (1999). From reversed logistics to green supply chains. *Supply Chain Management: An International Journal*, 4(3), 129-135.
- Van Winkle, B., Allen, S., DeVore, D. and Winston, B. (2014). The Relationship Between the Servant Leadership Behaviors of Immediate Supervisors and Followers' Perceptions of Being Empowered in the Context of Small Business. *Journal of Leadership Education*, 13(3), 70-82.
- Vandenberg, R., Richardson, H. and Eastman, L. (1999). The impact of high involvement work processes on organizational effectiveness: a second order latent variable approach. *Group Organization Management*, 24 (3), 300-339.
- Vidyarthi, P. R., Anand, S. and Liden, R. C. (2014). Do emotionally perceptive leaders motivate higher employee performance? The moderating role of task interdependence and power distance. *The Leadership Quarterly*, 25(2), 232-244



PTTA UTHM
 PERPUSTAKAAN TEKNOLOGI DAN INDUSTRI

- Geibler, J., Liedtke, C., Wallbaum, H. and Schaller, S. (2006). Accounting for the social dimension of sustainability: experiences from the biotechnology industry. *Business Strategy and the Environment*, 15(5), 334-346.
- Voss, C. and Robinson, S. (1987). Application of Just-in-Time manufacturing techniques in the United Kingdom. *International Journal of Operations and Production Management*, 7 (4), 46-52.
- Waage, S. A. (2007). Re-considering product design: a practical “road-map” for integration of sustainability issues. *Journal of Cleaner production*, 15(7), 638-649.
- Wageman, R. (1995). Interdependence and group effectiveness. *Administrative science quarterly*, 40 (1), 145-180.
- Wageman, R., & Baker, G. (1997). Incentives and cooperation: The joint effects of task and reward interdependence on group performance. *Journal of organizational behavior*, 18(2), 139-158.
- Wagner, M. (2008). Empirical influence of environmental management on innovation: evidence from Europe. *Ecological Economics*, 66(2), 392-402.
- Walker, G. H., Stanton, N. A., Salmon, P. M., Jenkins, D. P., Monnan, S. and Handy, S. (2012). Communications and cohesion: a comparison between two command and control paradigms. *Theoretical Issues in Ergonomics Science*, 13(5), 508-527.
- White, R., Pearson, J. and Wilson, J. (1999). JIT Manufacturing: a survey of implementations in small and large U.S. manufacturers. *Management Science*, 45 (1), 1-15.
- White R. (1959). Motivation reconsidered: the concept of competence. *Psychological Review*, 66 (5), 297-333.
- Williams, L. J. and Brown, B. K. (1994). Method variance in organizational behavior and human resources research: Effects on correlations, path coefficients and hypothesis testing. *Organizational Behavior and Human Decision Processes*, 57(2), 185-209.
- Wilmont, W. and Hocker, J.L. (2001). *Interpersonal conflict*. New York, NY: McGraw-Hill.
- Wilson, J. (2000). Fundamentals of ergonomics in theory and practice. *Applied ergonomics*, 31 (6), 557-567



- Wilson, J. R. (2014). Fundamentals of systems ergonomics/human factors. *Applied ergonomics*, 45(1), 5-13.
- Wilson, M. A., Goettemoeller, D. M., Bevan, N. A. and McCord, J. M. (2013). Moral distress: levels, coping and preferred interventions in critical care and transitional care nurses. *Journal of Clinical Nursing*, 22(9-10), 1455-1466
- Wiskerke, J. S. C., & van der Ploeg, J. D. (Eds.). (2004). *Seeds of Transition: Essays in Novelty Production, Niches and Regimes in Agriculture*. Uitgeverij Van Gorcum.
- Wojtowicz, B., Hagen, B. and Van Daalen-Smith, C. (2013). No place to turn: Nursing students' experiences of moral distress in mental health settings. *International Journal of Mental Health Nursing*, doi: 10.1111/inm.12043
- Wolcott, H. F. (1994). *Transforming qualitative data: Description, analysis and interpretation*. Sage.
- Womack, J. and Jones, D. (1996). *Lean Thinking*. Free Press.
- Womack, J., Jones, D. and Roos, D. (1990). *The Machine That Changed the World : The Story of Lean Production*. New York, NY: Rawson Associates.
- Wong, E. and Hajek, B. (2012). *Stochastic processes in engineering systems*. Springer Science and Business Media.
- Wood, R. and Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, 14 (3), 361-384.
- Wood, S. and de Menezes, L. M. (2011). High involvement management, high-performance work systems and well-being. *The International Journal of Human Resource Management*, 22(07), 1586-1610.
- Wood, S. J. and Wall, T. D. (2007). Work enrichment and employee voice in human resource management-performance studies. *The International Journal of Human Resource Management*, 18(7), 1335-1372.
- Wooldridge, B. and Floyd, S. W. (1990). The strategy process, middle management involvement and organizational performance. *Strategic Management Journal*, 11(3), 231-241.
- Wu, H. J. and Dunn, S. C. (1995). Environmentally responsible logistics systems. *International Journal of Physical Distribution and Logistics Management*, 25(2), 20-38.



- Wu, S. J. and Zhang, D. (2013). Analyzing the effectiveness of quality management practices in China. *International Journal of Production Economics*, 144(1), 281-289.
- Yang, M. G. M., Hong, P., & Modi, S. B. (2011). Impact of lean manufacturing and environmental management on business performance: An empirical study of manufacturing firms. *International Journal of Production Economics*, 129(2), 251-261.
- Yang, Y., Lu, G. H., Guo, X., & Yamamoto, R. (2003). Greenness assessment of products in PLCA by DEA approach. *Materials Transactions*, 44(4), 645-648.
- Yousaf, N. (2006). Top Management Commitment for TQM – A Process Model. Pakistan's 10th International Convention on Quality Improvement, November 27-28, Lahore, Pakistan.
- Yu, V., Ting, H. I. and Wu, Y.-C.J. (2009). Assessing the greenness effort for European firms: A resource efficiency perspective. *Management Decision*, 47, 1065-1079.
- Yüksel, H. (2008). An empirical evaluation of cleaner production practices in Turkey. *Journal of Cleaner Production*, 16(1), S50-S57.
- Zailani, S., Jeyaraman, K., Vengadasan, G. and Premkumar, R. (2012). Sustainable supply chain management (SSCM) in Malaysia: A survey. *International Journal of Production Economics*, 140(1), 330-340.
- Zhang, D., Linderman, K. and Schroeder, R. G. (2014). Customizing quality management practices: A conceptual and measurement framework. *Decision sciences*, 45(1), 81-114
- Zhao, X., Sum, C. C., Qi, Y., Zhang, H., & Lee, T. S. (2006). A taxonomy of manufacturing strategies in China. *Journal of Operations Management*, 24(5), 621-636.
- Zhu, Q. and Sarkis, J. (2004). Relationships between operational practices and performance among early adopters of green supply chain management practices in Chinese manufacturing enterprises. *Journal of operations management*, 22(3), 265-289.
- Zhu, W., May, D. R. and Avolio, B. J. (2004). The impact of ethical leadership behavior on employee outcomes: The role of psychological empowerment and authenticity. *Journal of Leadership and Organizational Studies*, 11(1), 1-26.



- Zibarras, L., & Ballinger, C. (2011). Promoting environmental behaviour in the workplace: A survey of UK organisations. *Going green: The psychology of sustainability in the workplace*, 84-90.
- Zikmund, W., Babin, B., Carr, J. and Griffin, M. (2012). *Business research methods*. Cengage Learning.
- Zutshi, A. and Sohal, A. (2004). Environmental management system adoption by Australasian organisations: part 1: reasons, benefits and impediments. *Technovation*, 24(4), 335-357.



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH