

**INVESTIGATING THE INFLUENCE OF WORK SAFETY SCALE (WSS) ON
SAFETY BEHAVIOUR: A STUDY AMONG EMPLOYEES OF A UTILITY
COMPANY**

MAITHILY A/P KARUPPIAH

MASTER OF SCIENCE (MANAGEMENT)

UNIVERSITI UTARA MALAYSIA

JANUARY 2011

**INVESTIGATING THE INFLUENCE OF WORK SAFETY SCALE (WSS) ON
SAFETY BEHAVIOUR: A STUDY AMONG EMPLOYEES OF A UTILITY
COMPANY**

By:

MAITHILY A/P KARUPPIAH

A thesis submitted to the College of Business in partial fulfillment of the requirements
for the degree of Master of Science (Management),
Universiti Utara Malaysia

January 2011

DECLARATION

I declare that all the thesis work described in this dissertation was my own work (unless otherwise acknowledged in the text) and that none of the thesis work has been previously submitted for any academic Masters programmes. All sources of quoted information have been acknowledged through references.

Date: *15th JANUARY 2011*

Student Signature: *[Signature]*

PERMISSION TO USE

In presenting this thesis as partial requirements for the Master of Science (Management) in Universiti Utara Malaysia, I agree that the University may make it freely available for inspection. I further agree that the permission for copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor, or in his absence, by the Dean of College of Business. It is understood that any copy or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from the thesis.

Request for permission to copy or make other use of material in this thesis in whole or in part should be addressed to:

**Dean (Research and Post Graduate)
Collage of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman
Malaysia**

ABSTRACT

This study is to determine the influence of the five facets of Work Safety Scale (WSS) on compliance with safety behaviour among the employees of a utility company in Malaysia. The study was held as there were only limited studies on safety being carried out in utility industry. Trainings and awareness programs had been aggressively put into actions to get the staffs involvement and commitment over safety; yet there are still incidents and accidents occurring on safety issues. In addition, this study also investigates how the safety perception measurement contributes to the safety behavior among the employees in utility industry. A total of 110 questionnaires had been distributed to the sample chosen on the study consisting of five independent variables of Work Safety Scale that are: (a) job safety, (b) co-worker safety, (c) supervisor safety, (d) management safety practices and (e) satisfaction of the safety programme. All those independent variables later will be measured on the perception of workplace safety towards the compliance of safety behaviour as the determinants (dependent variable). Finally, the finding of the study presented that co-worker safety, supervisor safety, management safety practices and safety programmes are significantly related to compliance safety behaviour whilst job safety have no any intercorrelation to safety behaviour in the study.

ABSTRAK

Kajian ini adalah untuk mengkaji samada lima faktor dalam skala keselamatan kerja mempengaruhi tabiat keselamatan dikalangan pekerja syarikat utiliti di Malaysia. Kajian ini telah dijalankan kerana kajian mengenai keselamatan di sektor utiliti adalah sangat terhad dan masih terdapat banyak kes kemalangan dan kecelakaan yang melibatkan pekerja dalam sektor ini. Di samping itu, kajian ini juga penting dalam mengetahui bagaimana persepsi seseorang tentang keselamatan akan mempengaruhi perlakuannya terhadap keselamatan dalam sektor utiliti negara. Dalam kajian ini, sebanyak 110 set soal selidik telah diedarkan kepada 'sample' yang dipilih. Soal selidik ini mengandungi lima komponen pembolehubah tidak bersandar dalam skala keselamatan kerja iaitu: a) keselamatan kerja b) keselamatan rakan sekerja c) keselamatan supervisor d) amalan keselamatan organisasi e) kepuasan program keselamatan. Semua pembolehubah ini kemudiannya akan dilihat pada persepsi keselamatan di tempat kerja dan pengaruhnya terhadap tabiat keselamatan seperti yang ditetapkan. Hasil kajian juga mendapati persepsi keselamatan rakan sekerja, supervisor, amalan keselamatan organisasi dan kepuasan program keselamatan mempunyai hubungan yang paling baik dalam mempengaruhi tabiat keselamatan warga kerja dalam industri ini.

ACKNOWLEDGEMENT

First and foremost, I praise and thank GOD for giving me the strength, patience, courage, and ability to complete this thesis without any distraction.

Next, I would like to extend my special thanks and gratitude to my supervisor, Dr. Chandrakantan Subramaniam for his guidance, insight and encouragement in the writing and completion of this thesis. His support and patience throughout the journey is immeasurable and the appreciation is extended from the bottom of my heart.

I would also like to extend my appreciation to my classmates, office staffs, colleagues and friends for their continuous support and co-operation in supporting my initiative and offering me their time and efforts in making this thesis writing a successful one.

Finally, thanks a million to my parents and my lovely sisters who have been insisting me to pursue my studies. Thank you for all the support, guidance, and love given and the most important were the trust and belief in me throughout the years.

TABLE OF CONTENTS

	Page
Declaration	ii
Certification Of project paper	iii
Permission to use	iv
Abstract	v
Acknowledgments	vii
Table of contents	viii
List of Table	x
List of Figure	xi
 CHAPTER 1	 INTRODUCTION
1.1 Background of the Study	1
1.2 Problem Statement	3
1.3 Research Question	9
1.4 Research Objectives	9
1.5 Significance of the Study	10
 CHAPTER 2	 LITERATURE REVIEW
2.1 Introduction	12
2.2 Empirical study on safety performance	12
2.3 The Relationship between Workplace Safety Scale (WSS) and Safety Performance.	20
2.3.1 Job Safety on Safety Performance	20
2.3.2 Co-worker on Safety Performance	23
2.3.3 Supervisor Safety on Safety Performance.	24
2.3.4 Management Safety on Safety Performance.	27
2.3.5 Satisfaction of Safety Programs on Safety Performance.	28
2.4 Summary	30
 CHAPTER 3	 METHODOLOGY
3.1 Introduction	32
3.2 Theoretical Framework	32
3.3 Conceptual Definition	34
3.4 Operational Definition	34
3.4.1 Independent Variables	35
3.4.2 Dependent Variables	36
3.5 Instrument Scale	36

3.6	Population	37
3.7	Sampling	38
3.7.1	Sampling Techniques	38
3.8	Unit of Analysis	39
3.9	Data Collection	39
3.9.1	Data Collection Techniques	
3.10	Translation	40
3.11	Pilot Test	41
3.12	Data Analysis	42
3.13	Summary	42
CHAPTER 4	RESULTS AND DISCUSSIONS	
4.1	Introduction	43
4.2	Response Rate	43
4.3	Profile of Respondents	43
4.4	Reliability Analysis	46
4.5	Descriptive Statistics of Variables	47
4.6	Intercorrelations	48
4.7	Regression Analysis	50
4.8	Summary	51
CHAPTER 5	CONCLUSION & RECOMMENDATION	
5.1	Introduction	52
5.2	Recapitulation of Results	52
5.3	Discussion	53
5.3.1	Job safety with compliance safety behaviour	53
5.3.2	Co-worker safety with compliance safety behaviour	53
5.3.3	Supervisor safety with compliance safety behaviour	54
5.3.4	Management safety practices with compliance safety behaviour	55
5.3.5	Satisfaction of safety programmes with compliance safety behaviour	55
5.4	Implication	56
5.4.1	Theoretical Implication	
5.4.2	Practical Implication	
5.5	Limitation	57
5.6	Future Studies	58
5.7	Conclusion	59
REFERENCES		60
APPENDIX A:	WSS of the five facets	65
APPENDIX B:	The compliance safety behaviour	65
APPENDIX C:	SPSS Output	73

LIST OF TABLE

3.2	Tested Alphas of Variables – Pilot Study	41
4.1	Demographic Scale of Respondents	45
4.2	Reliability coefficients for each variable	46
4.3	Frequencies of Variables	47
4.4	Pearson correlation coefficients analysis results	49
4.5	Linear regression results	51

LIST OF FIGURE

3.1	Framework of the Study	33
-----	------------------------	----

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Workplace safety is emerging as one of the key risk management and regulatory compliance focus areas among many global companies (Vredenburg, 2002). It measures some important factors such as job safety, coworker safety, supervisor safety, management safety practices, compliance with safety behaviors and satisfaction with the safety programmed (Hayes, 1998). The current trend in modern technological society's emphasis safety conscious attitude on the part of employers of labour, individual employee, self employed, designers, importers, exporters suppliers and landlords (Adebiyi, 2007).

Studies demonstrate that between 5 percent and 15 percent of accidents are caused by inherent job hazards and 85 percent to 95 percent are caused due to what employers do or fail to do (Encarta, 1999; Darby, 2005). It is also reported that there exists immense correlated between safety and productivity; and cost and suffering (Williams, 1984; Duignan, 2003; Fayad *et al.*, 2003; Inegbenebor & Olalekan, 2002). Although several approaches have been employed to safety performance evaluation, absolute safety for humans and property is still an illusion where factory machines and oil exploration facilities are still claiming human lives or limbs. In the USA, about 6,500 American workers die each year because of accidents (Encarta, 1999). National Safety Council (2004) also reported that on an average day, 14 people are killed and more than 10,400 people are disabled at work. Whereas, in UK, 1.6 million injury accidents and 27 million non-injury accidents are being recorded annually

The contents of
the thesis is for
internal user
only

REFERENCES

- Adebiyi, K.A, Owaba, O.E.C, Waheed, M.A (2007), *Safety Performance Evaluation Model: A Review*.
- Arezes, P.M & Miguel, A.S. (2003), *The Role of Safety Culture in Safety Performance Measurement*.
- Chandrakantan Subramaniam (2004), *Human Factors Influencing Fire Safety Measures*, Disaster Prevention and Management, Vol.13.
- Clarke, S. (2002), *The Contemporary Workforce: Implications for Organizational Safety Culture*.
- Conger, S. (2002), *Fostering a Career Development Culture: Reflection on the Role of Managers, Employees and Supervisors*, Career Development International, 371-375.
- Cooper, M.D, Phillips, R.A (2004), *Exploratory Analysis of the Safety Climate and Safety Behavior Relationship*.
- Cooper, M. (1998), *Current Issues in Health and Safety Issues in The UK*, Journal of European Industrial Training, 354-361.
- Dodge, R.B (1998), *Unintentional Learning and Occupational Health and Safety Experience*.
- Donald, I. (1996), *Managing safety: An Attitudinal- Based Approach to Improving safety in Organizations*, Leadership and Organizational Development Journal.

- Fuller, C.W (1999), *An Employee- Management Consensus Approach To Continuous Approach In Safety Management*, Loughborough University, UK.
- Fuller, C.W (1999), *Benchmarking Health and Safety Performance through Company Safety Competitions*, Loughborough University, UK.
- Fuller, C.W. (1997), *Key Performance Indicator for Benchmarking Health and Safety Management in Intra and Inter Company Comparisons*, Benchmarking for Quality Management and Technology, Vol. 4.
- Fuller, C.W (1999), *Benchmarking Health and Safety Performance through Company Safety Competitions*, Benchmarking An International Journal, Vol. 6.
- Griffin, M.A, Neal, A. (2000), *Perceptions of Safety at Work: A Framework for Linking Safety Climate to Safety Performance, Knowledge, and Motivation*.
- Hammond, M. (2002), *Behaviour- Based Risk Management System: Reducing Costs By Changing Attitudes*.
- Harvey, J., Bolam, H., Gregory, D. & Erdos, G. (2000), *The Effectiveness of Training to Change Safety Culture and Attitudes Within A Highly Regulated Environment*.
- Hassan Ali, Nor Azimah Chew Abdullah, Chandrakantan Subramaniam (2009), *Management Practice in Safety Culture and Its Influence on Workplace Injury: An Industrial Study in Malaysia*.
- Hayes, B.E, Perander, J, Smecko, T. & Trask, J. (1998), *Measuring Perceptions of Workplace Safety: Development and Validation of the Work Safety Scale*, Journal of Safety Research, Vol. 29.

- Hopfl, H. (1994), *Organizational Transformation and Commitment to Safety*, Disaster Prevention and Management, Vol.3.
- Ibrahim M. Shaluf & Fakharu'l-razi Ahmadun (2003), *Major Hazard Control: The Malaysian Experience*.
- Lukic, D., Margaryan, A. & Littlejohn, A. (2010), How Organization Learn from Safety Incidents: A multifaceted Problem, *The Journal of Workplace Learning*, Vol. 22.
- Marsh, T.W, Robertson, I.T, Duff, A.R, Phillips, R.A, Cooper, M.D & Weyman, A. (1995), *Improving Safety Behaviour Using Goal Setting and Feedback*, Leadership & Organization Development Journal, Vol. 16.
- Meacham, B.J (1999), *Integrating Human Behaviour and Response Issues Into Fire Safety management of facilities*.
- Mearns, K. & Havold, J.I (2003), *Occupational Health and Safety and The Balanced Scorecard*, The TQM Magazine, Vol.15.
- Molenaar, K.R., Park, J.I. & Washington, S. (2009), *Framework for Measuring Corporate Safety Culture and Its Impact on Construction Safety Performance*, Journal of Construction Engineering & Management
- Moore, D.T (2004), *Curriculum at Work: An Educational Perspective on the Workplace as a Learning Environment*, The Journal of Workplace Learning, Vol. 16.
- .Navon, T.K, Naveh, E. & Stern, Z. (2006), *Safety Self- efficacy and Safety Performance*, International Journal of Healthcare Quality Assurance, Vol.20.

- Neal, A., Griffin, M.A., Hart, P.M (2000), *The impact of organizational climate on safety climate and individual behavior.*
- Neal, A., Griffin, M.A. (2006), *A Study of the Lagged Relationships Among Safety Climate, Safety Motivation, Safety Behavior, and Accidents at the Individual and Group Levels.*
- Nor Azimah Chew Abdullah, Spickett, J.T, Rumchev, K.B, Satvinder S. Dhaliwal, Yang, M.G. (2009), *Managing Safety: The Role of Safety Perceptions Approach to Improve Safety in Organizations.*
- Parker, S.K., Axtell, C.M & Turner, N. (2001), *Designing a Safer Workplace: Importance of Job Autonomy, Communication Quality, and Supportive Supervisors*, Journal of Occupational Health Psychology, Vol. 6.
- Pitt, M. (2007), *Keeping the Workplace Safe*, Human Resource Management International Digest, pg. 43.
- Salaheldin I. Salaheldin & Mohamed Zain (2007), *How Quality Control Circles Enhance Work Safety: A case Study*, The TQM Magazine, Vol.19.
- Soediono, M. & Kleiner, B.H (2002), *Development Concerning the Occupational Safety and Health*, Vol. 44.
- Tierney, P (1999), *Work Relations as a Precursor to a Psychological Climate for Change: The Role of Work Group Supervisors and Peers*, Journal of Organizational Change Management, Vol.12.
- Uma Sekaran & Bougie, R. (2010), *Research Methods for Business: A Skill Building Approach.*

Vassie, L. (1998), *A Proactive Team- Based Approach To Continuous Improvement In Health and Safety Management*, Loughborough University, UK.

Vassie, L. (2000), *Managing Homeworking: Health and Safety Responsibilities*, Employees Relations, Vol.22.

Waring, A. (1996), *Corporate Health and Safety Strategy*.

Woollatt, C. (1996), *Managing Safely*, Industrial Management and Data Systems, pg 20- 22.

Yu, C.K & Bob Hunt (2004), *A Fresh Approach To Safety Management System In Hong Kong*, Emerald Group Publishing Limited.

Zacharatos, A., Barling, J. & Iverson, R.D. (2005), *High-Performance Work Systems and Occupational Safety*, Journal of Applied Psychology, Vol. 90.