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A STUDY ON UNSAFE ACT, UNSAFE CONDITION AND
COMMUNICATION BARRIER FOR FALL FROM HEIGHT ACCIDENT
IN CONSTRUCTION INDUSTRY

By



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UUM
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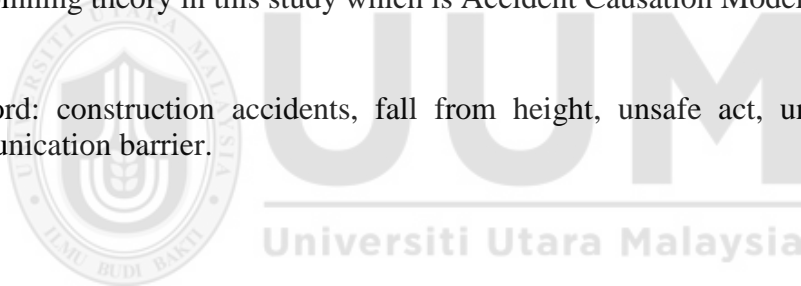
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ABSTRACT

Malaysian construction industry growth is expected to fluctuate since it was announced by the Finance Minister as part of the infrastructure project for Malaysian Budget 2020. In Malaysia, construction industry is one of the sectors which contribute to fall from height accidents. It is one of the important issues that need to be addressed by every organization in order to understand the impacts on the organizations including the workers. Currently, fall from height accidents is a challenge that many organizations struggle to overcome. Thus, to gain better understanding, this study identifies the factors that influence fall from height accidents. The main purpose of this study is to investigate the safety problem when working at height in construction site, to identify the factors that cause fall from height accidents and to analyze the factors that influence the accident and the prevention. For data collection, 264 set of questionnaires were distributed to 12 different construction sites with two (2) target levels which is supervisors and site workers. The data collected were analyze using SPSS Version 26 and the result gain through analysis of Pearson correlation and Multiple regression indicated that unsafe act, unsafe condition and communication barrier have positive relationship with fall from height accident. These finding provides useful information to the organization regarding their employees' well-being. Besides that, it helps to enhance the underpinning theory in this study which is Accident Causation Model.

Keyword: construction accidents, fall from height, unsafe act, unsafe condition, communication barrier.



ABSTRAK

Pertumbuhan industri pembinaan di Malaysia dijangka mengalami peningkatan sejak diumumkan oleh Menteri Kewangan sebagai sebahagian daripada projek infrastruktur di dalam Belanjawan Malaysia 2020. Di Malaysia, industri pembinaan merupakan salah satu sektor yang menyumbang kepada kemalangan akibat terjatuh dari tempat tinggi. Ianya merupakan salah satu isu penting yang perlu ditangani oleh setiap organisasi bagi memahami impak terhadap sesebuah organisasi termasuk pekerja. Pada masa ini, kemalangan akibat terjatuh dari tempat tinggi adalah salah satu cabaran yang dihadapi oleh banyak organisasi. Oleh itu, untuk mendapatkan pemahaman yang lebih baik, kajian ini dijalankan untuk mengenal pasti faktor-faktor yang mempengaruhi kemalangan akibat terjatuh dari tempat tinggi. Tujuan utama kajian ini adalah untuk menyiasat masalah berkaitan keselamatan semasa bekerja di tempat tinggi di tapak pembinaan, untuk mengenal pasti faktor-faktor yang menyebabkan kemalangan akibat terjatuh dari tempat tinggi dan menganalisis faktor-faktor yang mempengaruhi kemalangan akibat terjatuh dari tempat tinggi serta langkah pencegahan. Untuk tujuan pengumpulan data, sejumlah 264 set soal selidik telah diedarkan ke 12 tapak pembinaan yang berlainan dengan dua (2) golongan sasaran iaitu penyelia dan pekerja. Data yang dikumpul telah dianalisis menggunakan SPSS Versi 26 dan hasil keputusan diperoleh melalui analisis korelasi Pearson dan regresi berganda menunjukkan bahawa perbuatan tidak selamat, keadaan tidak selamat dan halangan komunikasi mempunyai hubungan positif dengan kemalangan akibat terjatuh dari tempat tinggi. Penemuan ini dapat membantu menyediakan maklumat yang berguna kepada organisasi berhubung kesejahteraan pekerja mereka. Selain itu, ianya dapat membantu memperkukuhkan teori yang menjadi asas di dalam kajian ini iaitu menerusi Model Penyebab Kemalangan.

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Kata kunci: Kemalangan di tapak bina, terjatuh dari tempat tinggi, perbuatan tidak selamat, keadaan tidak selamat, halangan komunikasi.

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List of Abbreviation

DOSH	Department of Occupational Safety and Health
FMA	Factories and Machinery Act
NIOSH	National Institute of Occupational Safety and Health
NPD	Non-Permanent Disability
OSHA	Occupational Safety and Health Act
OYAGSB	Othman Yeop Abdullah, Graduates School of Business
PD	Permanent Disability
PPE	Personal Protective Equipment
PWD	Public Works Department
SOCISO	Social Security Organization
SKALA	Sistem Kawal dan Lapor
SPSB	Sistem Pemantauan Senggaraan Bersepadu
SPSS	Statistical Package for Social Science
UUM	Universiti Utara Malaysia
WHO	World Health Organization



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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The World Health Organization (WHO) defines a fall as “*an event which results in a person coming to rest inadvertently on the ground or floor or other lower level*”.

In United States, fall from height remains the largest cause of work-related deaths in the construction sector. According to a report by National Institute of Occupational Safety and Health (NIOSH) on Fatality Assessment and Control Evaluation Program, 42% of deaths in construction between year 1982 and 2015 involved fall from height. This finding indicates that the danger of falling from height is not being controlled and given priority in terms of its devastating impact on the well-being and safety of the workers (Busch, 2019).

In United Kingdom, Work at Height Regulations was implemented in 2015 to safeguard those who work at height. Despite various regulations, guidelines and training being provided, there are still more than 1,000 deaths and 4,000 injuries involving falls from height recorded every year in Europe. Although the majority of accidents can be avoided by knowledge and

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Appendix A



OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
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UUM/OYAGSB/R-4/4/1
15 January 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam

DATA COLLECTION

COURSE: Research Paper
COURSE CODE: BPMZ69912
LECTURER: Prof. Madya Dr. Nor Azimah Chew bt. Abdullah

This is to certify that the following is a postgraduate student from Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia. She is pursuing the above mentioned course which requires her to undertake an academic study and prepare an assignment. The details are as follows:

NO.	NAME	MATRIC NO.
1.	Siti Ummi Sarah Binti Othman	824195

In this regard, I hope that you could kindly provide assistance and cooperation for her to successfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"SERVING THE NATION"
"KEDAH AMAN MAKMUR – HARAPAN BERSAMA MAKMURKAN KEDAH"
"KNOWLEDGE VIRTUE SERVICE"

Yours faithfully

ROZITA BIN RAMLI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c - Student's File (824195)

Universiti Pengurusan Terkemuka
The Eminent Management University



Appendix B



Othman Yeop Abdullah Graduate School of Business (OYAGSB)
School of Business Management (SBM)
Masters of Science (Occupational Safety & Health Management)

Survey Questionnaire

Dear respondent,

I am student from Universiti Utara Malaysia (UUM), pursuing Masters of Science (Occupational Safety & Health Management). Currently, I am conducting a survey entitled "A Study On Unsafe Act, Unsafe Condition And Communication Barrier For Fall From Height Accident In Construction Industry". The aim of this survey is to study and understand the factors that influence fall from height accident.

This survey will take approximately 10 minutes to complete. Your response are vital to complete this study. Your participation is greatly appreciated.

Please be assured that all the information collected will be treated with the strictest confidentiality and used for academic purposes only.

I greatly appreciate you for taking the time and effort in completing this questionnaire. Thank you for your cooperation. Should you need any further information, please do not hesitate to call me at 012-5204078.

Student's Name : Siti Umami Sarah Binti Haji Othman

Supervisor's Name : Prof. Madya Dr. Nor Azimah Chew Binti Abdullah

Section A: Respondent Background

Project Name :

Please tick (\checkmark) the answers below:

1) Gender:

Male Female

2) Marital status:

Single Married Divorced/Widow

3) Age:

\leq 20 years old

21 to 25 years old

26 to 30 years old

31 to 35 years old

36 to 40 years old

\geq 41 years old

4) Type of position:

Supervisor Site worker

5) Year of experience working in construction field:

\leq 1 year

2 to 5 years

6 to 9 years

\geq 10 years

6) Location of the project:

Kedah Perlis

The following statement is your opinion regarding the items in the questionnaire. Please tick (✓) an appropriate answer to indicate to what degree you agree or disagree for each of the statements.

(Kenyataan berikut adalah pendapat anda mengenai perkara-perkara di dalam soal selidik. Sila tandakan (✓) pada jawapan yang sesuai untuk menunjukkan sejauh mana anda bersetuju atau tidak bersetuju untuk setiap kenyataan.)

Section B: Type of Fall From Height Accident at Construction Site

Level of Measurement (Tahap Ukuran)

1	Strongly disagree (<i>sangat tidak setuju</i>)
2	Disagree (<i>tidak setuju</i>)
3	Slightly disagree (<i>sedikit tidak setuju</i>)
4	Slightly agree (<i>sedikit setuju</i>)
5	Agree (<i>setuju</i>)
6	Strongly agree (<i>sangat setuju</i>)

To what degree you agree or disagree with the type of fall from height accident that occur at your workplace.

(Sejauh mana anda bersetuju atau tidak bersetuju dengan jenis kemalangan akibat jatuh dari tempat tinggi yang berlaku di tempat kerja anda.)

B	Type of Fall from Height Accidents	1	2	3	4	5	6
B1	Fall from roof <i>(Jatuh dari bumbung)</i>						
B2	Fall from scaffolding <i>(Jatuh dari perancah)</i>						
B3	Fall from working platform <i>(Jatuh dari pelantar kerja)</i>						
B4	Fall from ladder <i>(Jatuh dari tangga)</i>						

Section C: Relationship Between Unsafe Act and Fall From Height Accident

Level of Measurement (Tahap Ukuran)

1	Strongly disagree (<i>sangat tidak setuju</i>)
2	Disagree (<i>tidak setuju</i>)
3	Slightly disagree (<i>sedikit tidak setuju</i>)
4	Slightly agree (<i>sedikit setuju</i>)
5	Agree (<i>setuju</i>)
6	Strongly agree (<i>sangat setuju</i>)

To what degree you agree or disagree that unsafe act contribute to fall from height accidents.

(Sejauh mana anda bersetuju atau tidak bersetuju bahawa perbuatan tidak selamat menyumbang kepada kemalangan akibat jatuh dari tempat tinggi.)

C	Unsafe Act (Perbuatan Tidak Selamat)	1	2	3	4	5	6
C1	Not wearing personal protective equipment (PPE) (safety harness, safety boot and safety helmet) when working at height. <i>(Tidak memakai alat perlindungan diri (cagak keselamatan, kasut keselamatan dan topi keselamatan) semasa bekerja di tempat tinggi.)</i>						
C2	Wear personal protective equipment (PPE) but do not wear it properly when working at height. <i>(Memakai alat perlindungan diri tetapi tidak memakai dengan betul semasa bekerja di tempat tinggi.)</i>						
C3	Wear defective personal protective equipment (PPE) when working at height. <i>(Memakai alat perlindungan diri yang rosak semasa bekerja di tempat tinggi.)</i>						

C	Unsafe Act (<i>Perbuatan Tidak Selamat</i>)	1	2	3	4	5	6
C4	Use defective tools (working platform, scaffolding and handrail) when working at height. <i>(Menggunakan peralatan yang rosak (pelantar kerja, perancah dan susur tangan) semasa bekerja di tempat tinggi.)</i>						
C5	Use improper body positioning and posture when working at height. <i>(Menggunakan kedudukan dan postur badan yang tidak betul semasa bekerja di tempat tinggi.)</i>						
C6	Not aware for the safety of themselves and others when working at height. <i>(Tidak menyedari keselamatan diri sendiri dan orang lain semasa bekerja di tempat tinggi.)</i>						

Section D: Relationship Between Unsafe Condition and Fall From Height Accident

Level of Measurement (Tahap Ukuran)

1	Strongly disagree (<i>sangat tidak setuju</i>)
2	Disagree (<i>tidak setuju</i>)
3	Slightly disagree (<i>sedikit tidak setuju</i>)
4	Slightly agree (<i>sedikit setuju</i>)
5	Agree (<i>setuju</i>)
6	Strongly agree (<i>sangat setuju</i>)

To what degree you agree or disagree that unsafe condition contribute to fall from height accidents.

(*Sejauh mana anda bersetuju atau tidak bersetuju bahawa keadaan tidak selamat menyumbang kepada kemalangan akibat jatuh dari tempat tinggi.*)

D	Unsafe Condition (Keadaan Tidak Selamat)	1	2	3	4	5	6
D1	Ignore the cleanliness of the construction site. (<i>Mengabaikan kebersihan tapak bina.</i>)						
D2	Working at crowded and narrow space. (<i>Bekerja di tempat yang sesak dan sempit.</i>)						
D3	Do not follow the work safety procedure when working at height. (<i>Tidak mematuhi prosedur kerja selamat semasa bekerja di tempat tinggi.</i>)						
D4	Still working even in a bad weather conditions. (<i>Masih bekerja walaupun di dalam keadaan cuaca buruk.</i>)						

D	Unsafe Condition (Keadaan Tidak Selamat)	1	2	3	4	5	6
D5	Working in unprotected working area (no safety net been installed). <i>(Bekerja di kawasan yang tidak dilindungi (tiada jaring keselamatan di pasang)).</i>						



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Section E: Relationship Between Communication Barrier and Fall From Height Accident

Level of Measurement (Tahap Ukuran)

1	Strongly disagree (<i>sangat tidak setuju</i>)
2	Disagree (<i>tidak setuju</i>)
3	Slightly disagree (<i>sedikit tidak setuju</i>)
4	Slightly agree (<i>sedikit setuju</i>)
5	Agree (<i>setuju</i>)
6	Strongly agree (<i>sangat setuju</i>)

To what degree you agree or disagree that communication barrier contribute to fall from height accidents.
(Sejauh mana anda bersetuju atau tidak bersetuju bahawa halangan komunikasi menyumbang kepada kemalangan akibat jatuh dari tempat tinggi.)

E	Communication Barrier (Halangan Komunikasi)	1	2	3	4	5	6
E1	Dissemination of information among supervisor and worker is not clear. <i>(Maklumat yang disampaikan di antara penyelia dan pekerja tidak jelas.)</i>						
E2	Poor communication between supervisor and worker. <i>(Komunikasi yang lemah di antara penyelia dan pekerja.)</i>						
E3	Language barrier between supervisor and worker. <i>(Halangan perbezaan bahasa di antara penyelia dan pekerja.)</i>						
E4	Poor understanding of the safety signage. <i>(Kefahaman yang lemah terhadap papan tanda keselamatan.)</i>						