



QUALITY AWARENESS MODEL ON FIRE SAFETY EQUIPMENT FOR BUDGET HOTELS IN DUBAI



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**QUALITY AWARENESS MODEL ON FIRE SAFETY EQUIPMENT
FOR BUDGET HOTELS IN DUBAI**

Saeed Al Falasi

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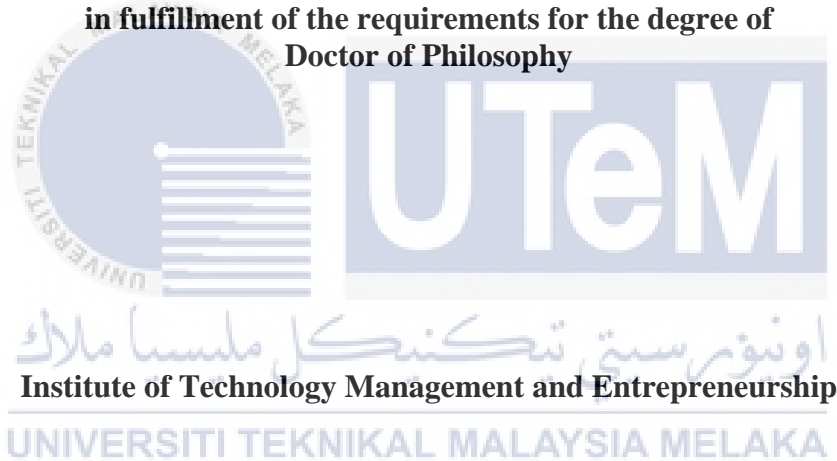
Doctor of Philosophy

2024

**QUALITY AWARENESS MODEL ON FIRE SAFETY EQUIPMENT FOR
BUDGET HOTELS IN DUBAI**

SAEED AL FALASI

**A thesis submitted
in fulfillment of the requirements for the degree of
Doctor of Philosophy**



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2024

DECLARATION

I declare that this thesis entitled “Quality Awareness Model on fire safety equipment for budget hotels in Dubai“ is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



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APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of Doctor of Philosophy.

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Supervisor Name :...PM Dr. Suriati Akmal.....
Date :.....29/06/2024.....

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DEDICATION

I dedicate this thesis to my family.



ABSTRACT

Fire safety remains a critical concern, especially in regions like the Middle East. Despite the implementation of national codes addressing fire safety in the UAE, concerns persist due to non-compliance issues and the use of flammable materials in construction, especially among budget hotels. This research investigates the dynamics of fire safety awareness, particularly focusing on the behavior of building occupants in Dubai's hospitality sector. By employing the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), the research aims to identify the factors influencing individuals' attitudes, intentions, and behaviors towards fire safety equipment usage among budget hotels in Dubai. A quantitative methodology driven by questionnaire was conducted and the data were collected from 221 respondents working in 1 to 3-star hotels in Dubai. Structural equation modeling using SmartPLS was used to facilitate data analysis and revealed significant findings. The finding of this research revealed that safety knowledge positively influences attitudes towards fire safety equipment awareness, highlighting the importance of knowledge dissemination initiatives. Furthermore, safety consciousness emerges as a crucial determinant shaping attitudes and intentions towards fire safety practices. Subjective norms and perceived behavioral control are identified as key factors influencing individuals' intentions to engage in fire safety practices. Attitudes towards fire safety equipment positively correlate with intentions, indicating the potential effectiveness of attitude-shaping interventions. Overall, the findings underscore the importance of fostering a safety-oriented culture and promoting awareness among building occupants. This research extends the application of the TRA to the domain of fire safety, shedding light on the underlying psychological mechanisms driving safety-related behaviors. By elucidating these mechanisms, this research advances our understanding of human decision-making processes in the context of fire prevention and safety promotion, ultimately contributing to the refinement and extension of the TRA framework. The practical implications of the study extend to various settings beyond the hospitality sector, offering insights for improving safety culture and mitigating fire-related risks. By elucidating the factors influencing fire safety behavior, the study contributes to the broader goal of enhancing safety and well-being in budget hotels and urban environments.

MODEL KESEDARAN KUALITI PERALATAN KESELAMATAN KEBAKARAN DI HOTEL BAJET DUBAI

ABSTRAK

Keselamatan kebakaran tetap menjadi kebimbangan utama, terutamanya di Timur Tengah. Walaupun terdapat pelaksanaan kod-kebangsaan mengenai keselamatan kebakaran di UAE, kebimbangan masih wujud disebabkan oleh isu ketidakpatuhan dan penggunaan bahan mudah terbakar dalam pembinaan, terutamanya di kalangan bajet hotel. Kajian ini mengkaji kesedaran dinamik keselamatan kebakaran, terutamanya memberi tumpuan kepada tingkah laku penghuni bangunan di sektor hospitaliti Dubai. Dengan menggunakan Teori Tindakan Beralasan (TRA) dan Teori Tingkah Laku Dirancang (TPB), tujuan penyelidikan ini adalah untuk memahami faktor-faktor yang mempengaruhi sikap, niat, dan tingkah laku individu terhadap penggunaan peralatan keselamatan kebakaran di kalangan bajet hotel di Dubai. Kaedah Metodologi secara kuantitatif yang dipandu oleh soal selidik telah dijalankan dan data dikumpulkan daripada 221 responden yang bekerja di hotel bintang 1 hingga 3 di Dubai. Pemodelan persamaan struktur menggunakan SmartPLS digunakan untuk menganalisis data dan mengungkapkan hasil yang signifikan. Kajian menetapkan bahawa pengetahuan keselamatan secara positif mempengaruhi sikap terhadap kesedaran peralatan keselamatan kebakaran, menekankan kepentingan inisiatif penyebaran pengetahuan. Tambahan pula, kesedaran keselamatan muncul sebagai penentu penting yang membentuk sikap dan niat terhadap amalan keselamatan kebakaran. Norma subjektif dan kawalan tingkah laku yang dirasai dikenalpasti sebagai faktor-faktor utama yang mempengaruhi niat individu untuk terlibat dalam amalan keselamatan kebakaran. Sikap terhadap peralatan keselamatan kebakaran berkorelasi positif dengan niat, menunjukkan keberkesanan potensi intervensi pembentukan sikap. Kesimpulannya, hasil kajian ini memberi penekanan terhadap kepentingan memupuk budaya berorientasikan keselamatan dan meningkatkan kesedaran di kalangan penghuni bangunan. Kajian ini meluaskan aplikasi TRA ke dalam domain keselamatan kebakaran, menerangi mekanisme psikologi yang mendasari tingkah laku berkaitan keselamatan. Dengan menjelaskan mekanisme ini, kajian mengemudikan pemahaman terhadap proses pembuatan keputusan manusia dalam konteks pencegahan kebakaran dan promosi keselamatan, akhirnya menyumbang kepada penyempurnaan dan perluasan kerangka TRA. Implikasi praktikal kajian ini meluas kepada pelbagai penetapan di luar sektor hospitaliti, menawarkan wawasan untuk meningkatkan budaya keselamatan dan mengurangkan risiko berkaitan dengan kebakaran. Dengan menjelaskan faktor-faktor yang mempengaruhi tingkah laku keselamatan kebakaran, kajian ini menyumbang kepada matlamat yang lebih luas untuk meningkatkan keselamatan dan kesejahteraan di kalangan bajet hotel dan persekitaran bandar.

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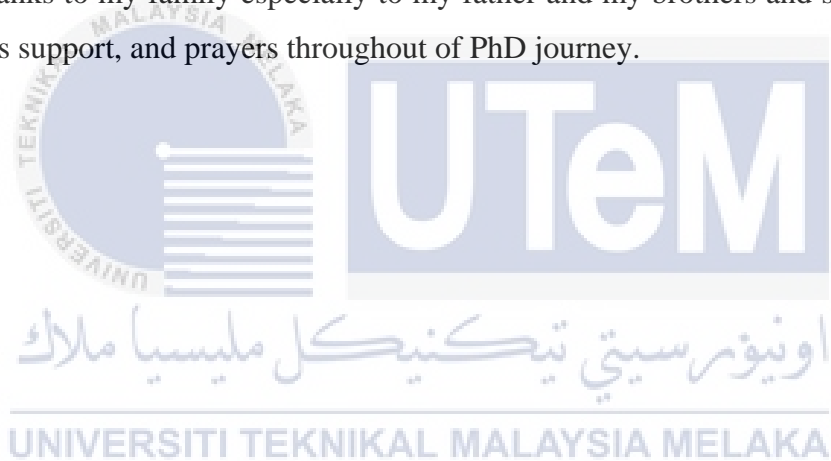


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LIST OF ABBREVIATIONS

UTeM	-	Universiti Teknikal Malaysia Melaka
TPB	-	Theory of Planned Behavior
SEM	-	Structural equation modelling
GCC	-	Gulf Cooperation Council



LIST OF SYMBOLS

- S - The Required Sample Size
- X^2 - The Table Value Of Chi-Square For 1 Degree Of Freedom At The Desired Confidence Level
- N - The Population Size
- P - The Population Proportion (Assumed to Be 0.50 Since This Would Provide The Maximum Sample Size)
- D - The Degree Of Accuracy Expressed As A Proportion (In This Study, It Is Set At 5%). (Confidence Level %95: Margin Of Error % 0.05)



LIST OF APPENDICES

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LIST OF PUBLICATIONS

The followings are the list of publications related to the work on this thesis:

Alfalasi, Saeed, Suriati Akmal, and Halimaton Hakimi. "Quality Awareness on Fire Safety Equipment for A Building. A Review Paper from The UAE Perspective." *resmilitaris* 12.4 (2022): pp. 253-261.

Alfalasi, S., Akmal, S., and Hakimi, H. 2022. A Study on Quality Awareness Model for Fire Safety Equipment in Building: A Systematic Literature. *NeuroQuantology*, 20(11), p. 4537.



CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter aims to establish a comprehensive understanding of the research's underpinning by delineating the background surrounding fire safety quality awareness. It delves into the historical evolution of fire safety standards and practices, highlighting the importance of heightened awareness in safeguarding lives and property. The problem statement elucidates the practical challenges encountered within the United Arab Emirates (UAE), with a specific focus on budget hotels nestled within Dubai's bustling hospitality landscape. These challenges encompass regulatory compliance, resource constraints, and cultural factors that impact the implementation and efficacy of fire safety measures in budget hotel establishments. Furthermore, the chapter articulates a set of research questions and objectives designed to unravel the complexities of fire safety quality awareness in Dubai's budget hotels. These inquiries seek to explore prevailing perceptions, identify systemic deficiencies, and propose actionable solutions to bolster fire safety preparedness and responsiveness.

The significance of the research lies in its potential to mitigate fire-related risks and enhance public safety within Dubai's hospitality sector. By illuminating the gaps in fire safety awareness and enforcement, this study endeavors to catalyze proactive measures that safeguard both guests and hotel personnel against potential hazards. In terms of scope, the research is delimited to the examination of fire safety quality awareness within the context

of budget hotels in Dubai. While the findings may offer insights applicable to broader hospitality settings, the primary focus remains on elucidating the unique challenges and opportunities inherent to budget accommodations in the emirate. Lastly, the chapter concludes by providing a structured outline of the research trajectory, which encompasses a thorough literature review, methodological approach, data analysis procedures, findings, and implications. Through this systematic framework, the study endeavors to contribute meaningfully to the advancement of fire safety practices and regulatory frameworks within Dubai's hospitality industry.

1.2 Background of the Study

The UAE is a federation of seven emirates located in the Middle East region. Currently, the country is moving towards urbanization, modernization and smart city development. As such, the government has been investing heavily in development projects including the development of tourism industry. Due to the geographical location of UAE, the country has become susceptible to fire incidents. For example, fire deaths and injuries in Dubai were reported to accumulate to a total number of 112 and 361 respectively between 2006 and 2013 (Alqassim and Daeid, 2014). This suggests that fire safety has become one of the most critical issues growing in UAE particularly in relation to building damage. As shown in figure 1.1, a number of fire related incidents have been reported in UAE which means that fire safety is important in the country. In particular, budget hotels fires in UAE are apparent due to the increase in high-rise buildings in the country. E and Zhou (2016) asserted that fire safety situations in UAE has been viewed as a priority because of their significant impacts on the society as a whole.

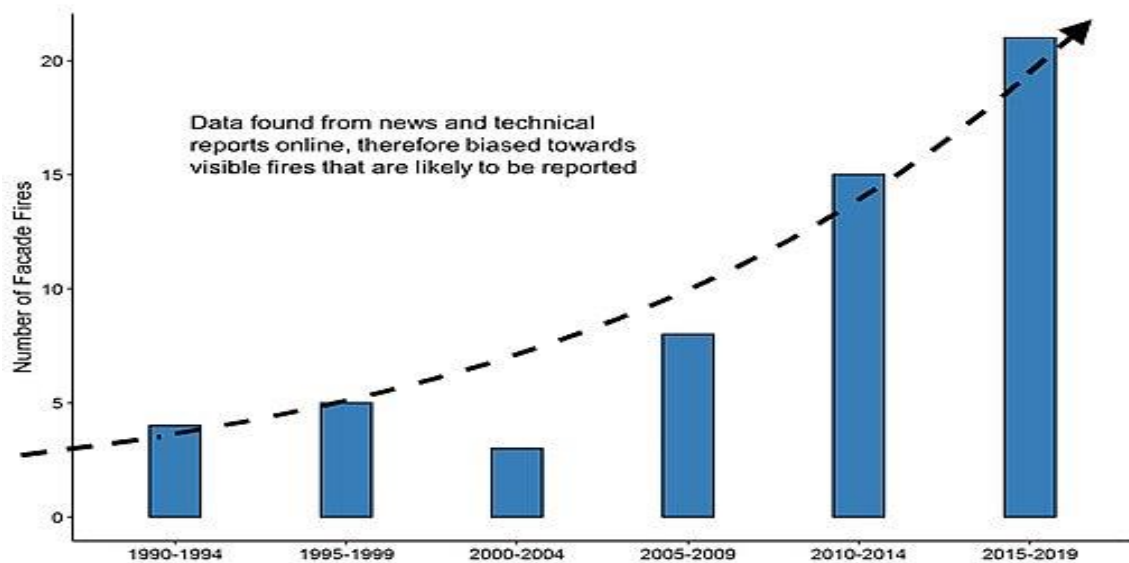


Figure 1.1 Number of Fire Incidents in Dubai, UAE, 1990-2019 (Heidari et al., 2020)

Consequently, fire outbreaks in buildings and facilities present risks to humans and their properties (Kikwasi, 2015). Fire at a 25-storey building (Al Baker Tower 4) in Al Taawun area resulted to the displacement of 125 families News (2017) show the negligence and lack of awareness on fire safety. Although Dubai is known with the excellent performance for fire prevention E and Zhou (2016), the number of fire-related incidents in Dubai from 2006 to 2013 has reached 5490 (Figure 1.3) (Alqassim and Daeid, 2014).

Fires take place without any warning and can originate from various sources. When fire breaks out, building occupants are restricted in the amount of time they have to put out the fire (Agyekum and Ayarkwa, 2016). Thus, the importance of fire safety preparedness and management has become a growing interest in risk management planning. According to Alqassim and Daeid (2014), a typical fire development occurs over four consecutive stages including incipient, growth, fully developed and decay. As such, understanding these development stages can aid in the implementation of fire preventive measures and

investment in appropriate fire safety equipment. In the contemporary era, one of the most effective fire safety equipment in buildings include fire protection system and fire alarms.

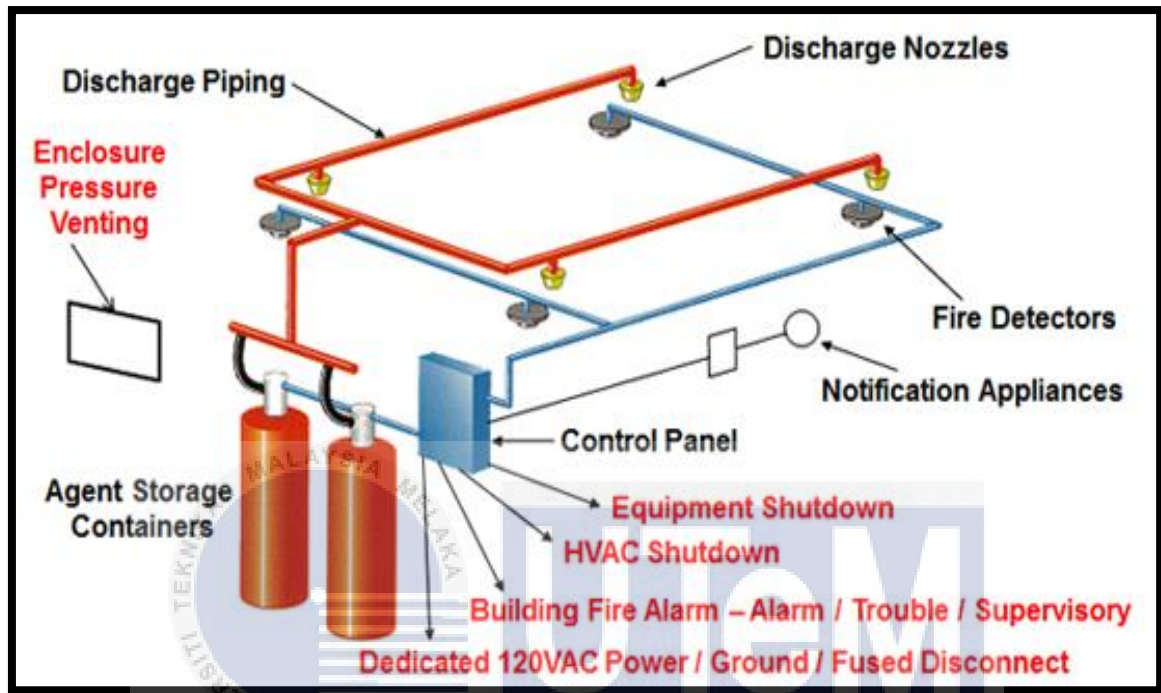


Figure 1.2 Fire Protection System (Solutions, 2022)

Kikwasi (2015) disclosed that 60% of building users do not know how to operate the facilities and 41% are not aware of available escape means in case of fire outbreak.

A study by Yang et al. (2020) revealed that all residents living in budget hotels are not aware about Emergency Operation Centre and majority are not aware whether their buildings are constructed according to the National Building Code and fire safety.

There are a number of factors such as increasing number of buildings, defect as an issue on old buildings and uncertainties that can result to building defects (i.e. natural calamities, terrorist attacks) that contribute to the high risk of probability in terms of the