

PROPENSITY OF ARCHITECTS TO COMMIT FRAUDULENT
CERTIFICATION IN MALAYSIAN HOUSING
DEVELOPMENT PROJECTS

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This project is dedicated to my beloved mother and my lovely wife.

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Throughout the years that I have studied the prescribed education courses in architecture and developed a certain way of thinking based on modern environmental attitudes, it allowed me to gain an awareness of the overall environmental picture, particularly as it relates to housing developments. I am grateful for this unique opportunity to gain so much knowledge and learning notwithstanding that I struggled with the very limited research information available in the public domain in order to understand the complex nature of the public housing development problems, and absorb the practical and theoretical aspects of the progress certification system. All my learning has been focused upon translating it into better housing laws for Malaysia. This research has proved to be an extremely demanding exercise in extending my knowledge and skills in solving problems associated with the fraudulent Certification in the housing development. This thesis proposal is my solution to design a framework in providing the very basic requirements necessary for the certifier's role and responsibility. Hopefully the outcome will be instrumental in eliminating some of the problems currently faced by architects and purchasers when buying new homes. To be able to achieve a satisfactory Certification System, I took into account key aspects of the background of the Housing Development Act, as well as the role and responsibilities of the architect. In addition, I analyzed the certification responsibilities of the accredited Certifier and the architect's fee collection problems within the public housing project's organization. I could not honestly claim to be able to solve all the problems of the housing Certification procedures, but I have identified the Fraudulent Certification within the current system, which can be profitable for the architects, developers, government and house buyers. In this process I have come to understand the essence of housing development knowledge and realized my goal to learn and increase my understanding of its complexities. Particularly I have come to understand that the future is compelling, and I am part of this future.

ABSTRAK

Matlamat utama penyelidikan ini adalah untuk menilai kecenderungan arkitek melakukan perakuan penipuan bagi mengurangkan risiko kejadiannya dalam projek perumahan di Malaysia. Memandangkan pengenalpastian penipuan masih tidak mencukupi dalam industri pembinaan, tesis ini menjelaskan kecenderungan kejadian perakuan penipuan dari perspektif “apa yang berlaku” dan “kenapa ia berlaku” serta akibatnya. Data telah dikumpul dari fail sulit aduan awam yang diarkibkan oleh Lembaga Arkitek Malaysia dan Pertubuhan Arkitek Malaysia serta kajian soal selidik mengenai persepsi arkitek terhadap perakuan penipuan. Hasil kajian menunjukkan bahawa kecenderungan arkitek melakukan perakuan penipuan adalah paling kritikal jika dibandingkan dengan masalah disiplin yang lain dalam projek perumahan di bawah kawalan Akta Pemajuan Perumahan (Kawalan dan Pelesenan) 1966 (Akta 118) termasuk Jadual G dan Jadual H. Kekerapan aduan berkaitan perakuan adalah lebih tinggi dalam projek perumahan di bawah kawalan Akta 118 (65.6%) berbanding semua jenis projek (46.7%) lantas mengimplicasikan bahawa kecenderungan tersebut adalah lebih kritikal bagi projek perumahan. Perakuan kerja yang tidak mematuhi undang-undang berkaitan serta perjanjian menunjukkan kecenderungan tertinggi dan ia memberi kesan yang paling ketara terhadap Perakuan Pemilikan Kosong dan Perakuan Siap dan Pematuhan. Tiga faktor yang boleh menyebabkan perakuan penipuan ialah tekanan kewangan dari pemaju, peluang penyalahgunaan kuasa dan peranan saksama berkaitan perakuan, serta rasionalisasi penafian liabiliti terhadap pembeli rumah oleh arkitek. Ketidakpuasan dengan fi arkitek akibat tekanan dari pemaju mempunyai nilai berat faktor tertinggi, maka ia merupakan faktor utama. Berdasarkan persepsi arkitek, perakuan penipuan memberikan empat masalah berhubung kait iaitu masalah berlarutan kepada arkitek, pemaju, pembeli rumah dan kerajaan; menjejaskan Kod Tatakelakuan Profesional; menjana pendapatan pendahuluan bagi pemaju; dan menipu kepentingan pembeli rumah. Kajian ini mencadangkan enam perkara kritikal untuk penambahbaikan bagi mengurangkan kecenderungan dan risiko perakuan penipuan di konteks Malaysia.

ABSTRACT

The main aim of this research was to assess the propensity of architects to commit fraudulent certification towards mitigating the risk of its occurrence in housing development projects in Malaysia. Considering the identification of fraud was still insufficient in the construction industry, this thesis explained the tendency of fraudulent certification occurrence from the perspective of “what is happening” and “why it is happening”, and the consequences. Data were collected from the confidential public complaint files as archived by *Lembaga Arkitek Malaysia* and *Pertubuhan Arkitek Malaysia*, and architects’ perception of fraudulent certification through a questionnaire survey. The results revealed that the architects’ propensity to commit fraudulent certification was relatively the most critical compared to other disciplinary problems for housing projects governed under the Housing Development (Control and Licensing) Act 1966 (HDA) including Schedules G and H. The frequency of certification-related complaints was higher in housing projects governed under HDA (65.6%) than all projects (46.7%), thus implied that the propensity was more critical for the former. Certification of works not according to the relevant laws and agreement showed the highest propensity, and it affected Vacant Possession Stage Certificate and Certificate of Completion and Compliance the most. Three factors which could contribute to the fraudulent certification were financial pressure by the developers, opportunity in the certification power and impartial certifiers’ role, and rationalization in denial of the architects’ liability to the house buyers. Dissatisfaction with the architectural fees due to being pressured by developers was ranked the highest factor loading, thus it could be the main factor. The architects further perceived four inter-related problems of fraudulent certification, which were contributing problems in a vicious circle to the architects, developers, house buyers and government; damaging the Code of Professional Conduct; generating the developers’ upfront income; and cheating the house buyers’ interests. The study recommended six critical areas for improvement to mitigate the propensity and risks of fraudulent certification in the Malaysian context.

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LIST OF ABBREVIATIONS

AP	-	Advertising Permit
Ar.	-	Architect
AUD	-	Australia Dollar
BC	-	Before Century
BEM	-	Board of Engineer Malaysia
BP	-	Building Plan
BtS	-	Build then Sell
BTS	-	Bartlett's Test of Sphercity
C&S	-	Civil and Structure
CCC	-	Certificate of Completion and Compliance
CD	-	Compact Disc
CFO	-	Certificate of Fitness and Occupation
CIDB	-	Construction Industry Development Board
CMGD	-	Certificate of Making Good Defects
COE	-	Conditions of Engagement
COPC	-	Code of Professional Conduct
CPC	-	Certificate of Practical Completion
CPD	-	Continuing Professional Development
DBKL	-	Kuala Lumpur City Hall
EOT	-	Extension of Time
FA	-	Factor Analysis
GT	-	Grant Thornton
HBA	-	National House Buyers Association of Malaysia
HDA	-	Housing Development (Control and Licensing) Act 1966
HDB	-	Housing Development Board
HDR	-	Housing Development (Control and Licensing) Regulations 1989
KLRC	-	Kuala Lumpur Regional Center for Arbitration

KMO	-	Kaiser-Meyer-Olkin
L&E	-	Loss and Expense
LAD	-	Liquidated Ascertain Damage
LAM	-	<i>Lembaga Arkitek Malaysia</i>
LRB	-	Legal Research Board
MACC	-	Malaysian Anti-Corruption Commission
M&E	-	Mechanical and Electrical
MOW	-	Ministry of Works
OSC	-	One-Stop Center
PAM	-	<i>Pertubuhan Akitek Malaysia</i>
PDF	-	Portable Document Format
PII	-	Professional Indemnity Insurance
PPC	-	Professional Practice Committee
PSP	-	Principal Submitting Person
RAIA	-	Royal Australian Institute of Architects
REHDA	-	Real Estate and Housing Developers' Association Malaysia
RISM	-	Royal Institute Surveyor Malaysia
RM	-	Ringgit Malaysia
RO	-	Research Objective
RO1	-	Research Objective 1
RO2	-	Research Objective 2
RO3	-	Research Objective 3
RO4	-	Research Objective 4
SDBA	-	Street, Drainage and Building Act 1974
SIA	-	Singapore Institute of Architects
SMA	-	Strata Management Act
SOMF	-	Scale of Minimum Fees
SPA	-	Sale and Purchase Agreement
STA	-	Strata Titles Act
STB	-	Sell then Build
TNB	-	<i>Tenaga Nasional Berhad</i>
UBBL	-	Uniform Building By-Laws 1984
UK	-	United Kingdom

US	-	United States of America
USD	-	United States Dollar
UWHLG	-	Ministry of Urban Wellbeing, Housing and Local Government
VP	-	Vacant Possession

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This is a significant research to address the problems of the architects' propensity towards not performing the duties and obligations in certification which is conferred upon them under the housing laws and subsequently leading to ramifications of fraudulent certificates that could compromise the house buyers' interests. The core study of assessing the scale of fraudulent certification and how the fraudulent certification occurred in various significant stages from inception through completion in the Malaysian housing development are covered. Moreover, this research deals with explaining the factors that might contribute to the fraudulent certification and the professional as well as social problems that could arise from it.

1.1 Background

One of the greatest dilemmas of urban comfort has always been that of mobility when a city is increasing in number of citizens who prefer and can afford the luxury of getting around the streets by cars (Serrats, 2008). Whereas, one of the greatest dilemmas of a house buyer was and always will be that of dispute about buying houses from a developer. Moreover, one of the greatest concerns of an architect would be that of being convicted of professional negligence when handling a housing project due to the fraudulent certification.

This research gathers experiences about the architectural practice, similar to what is known as “Ground Truth” in the army. The meaning of Ground Truth is discovering that what has happened and in action on the ground is different from what has been planned for because the commander is not sure whether his strategy could give him a victory or otherwise (Franklin, 2000). For example, an architect could not predict what could happen in the future in terms of liability even though he had well planned for the housing project management from inception until completion. This research gathers data from the practice that represent the architects’ propensity to commit fraudulent certification in housing projects in order to learn from the previous experiences, which is one of the best ways for seeking improvement (Franklin, 2000; HBA, 2002b). Understanding the real problem is essential to assist architects avoid fraudulent certification and the resultant dispute and unwelcomed litigation which would cost time and monies to reach resolutions. According to Franklin (2000), it would save \$30 million worth of time for use in productive work annually if 10% of every 1,000 architects could avoid dispute in their practice.

1.2 Problem Statement

It is common to hear of the economic downturn being put forward as an excuse for abandoned housing projects; it does not take a genius to realize that the factors leading to a project failure are beyond the control of a man in the street who only desires to own a home (HBA, 2005b). When a housing development fails, everyone suffers in terms of broken dreams, wasted time, the fees paid, the possibility of losing one’s savings and portion of one’s Employees Provident Fund savings, being likely burdened with an end-financing loan, and liability. According to HBA (2005a), the Malaysian housing industry is flushed with 695 rogue developers who pose serious threats to house buyers; this figure is large in relation to the total of 4,500 licensed developers. In 2006, the National Consumer Complaints Centre received 1,578 complaints against developers and their consultants for (1) abandoned housing, (2) shoddy workmanship, (3) construction works not in accordance with approved Building Plan (BP) and Sale and Purchase Agreement (SPA), and (4) fraud payments (HBA, 2002c, 2003f, 2005c, 2005e; Umakanthan, 2008). The taxpayers paid the tax,

not knowing that public funds were used to save the failed housing projects (HBA, 2005b). In Malaysia, a total of RM356.2 million had been given out to developers to complete the 74 failed housing projects which involved 17,730 units of houses (including 5,717 units of low-cost houses); if this was not a national disaster, what would it be then (HBA, 2008)?

The Malaysian housing construction is moving towards better quality, but the quality of newly built houses remains an issue. Potential house buyers can only view their homes in attractive glossy marketing brochures as the trend in the Malaysian housing development is to sell the houses to the buyers merely by paper drawings (Bachik, 2003; Umakanthan, 2008). However, such brochures do not contain detailed technical specifications and description of responsibility to the house buyers in case of any defective works, and this subsequently might become a dispute among the house buyers, developers and architects in respect of such responsibility (Hamzah et al., 2011). A house buyer might likely sign the SPA with the developer without being fully aware of the provisions of the agreement. Moreover, several developers did not comply with the 329 cases of Tribunal's decisions even though the Tribunal for Homebuyer Claims is governed under the Housing Development (Control and Licensing) Regulations 1989 (HDR), which means that further costs were wasted for the aggrieved house buyers to claim against the developers (Umakanthan, 2008). Historically, about 60% of cases handled by the Kuala Lumpur Regional Center for Arbitration (KLRC) were construction-based arbitrations. Statistics reflect that there has been a corresponding rise in commercial dispute alongside rapid growth in the Malaysian economy and increasing interconnectivity with the global trade (Rajoo, 2011a, 2011b). Commercial dispute is synonymous with housing construction dispute. It gives a negative impression that housing project costs are increasing, yet the product quality is decreasing; in fact, the conflicting factors could be problems of human conduct and lack of proper technical reference (Jaffar, Tharim, & Shuib, 2011).

The responsibility of developers is to construct quality homes to house buyers who would be proud to own them. This would promote house owning democracy in the country (Bachik, 2000). However, the problems currently faced by house buyers are varied and plentiful. One reason of the predicament is the progressive billing stage payments based on architects' certificates (HBA, 2002d; LRB, 2010b). In such

housing delivery system, the house buyers are required to pay progressive bills according to stages of construction by relying fully on the architects' professional integrity in performing certification and at risk of the developers to complete their houses in good manner (HBA, 2002c, 2005c; Ho & Toh, 2012; Shukor, 2002; Yong, 2011b, 2013; Yong & Ahmad, 2015; Yong & Hamid, 2013). The architects' certification serves to assure proper construction of good quality. This means that the entrusted architects hold high responsibility in their duty of care towards the house buyers and any tendency of conduct to fraudulently issue certificates of works completion and stage payments would bring consequences that threaten the house buyers' interests (Achariam, 2015; HBA, 2002c, 2003f, 2005c, 2005e; PAM, 2005; Yong, 2011b, 2013). The Board of Architects Malaysia or *Lembaga Arkitek Malaysia* (LAM) and the Malaysian Institute of Architects or *Pertubuhan Akitek Malaysia* (PAM) have long recognized the complicated problems in the Schedule of Stage Payment Certificates under the SPA and other legal loopholes that contribute to fraudulent certification (LAM, 2000b; Mohamed, 2001a; Yong, 2011b).

In the average architectural firms in Malaysia, housing projects constitute at least half of the office workload. The exposure to liabilities as a result of handling housing projects is very high relative to the values of the undertaken projects when compared to non-housing projects (Chee, 2002). This is partially due to the fact that architects need to deal with developers as well as answering to house buyers should things go wrong. According to Chan (2010) and Ho and Toh (2012), certification-related public complaints were the highest amongst all the complaints against architects (Figure 1.1). It is perceived that architects involved in housing development who are less conversant with their duties and obligations under the housing laws or exposed to other external factors might misuse the certification powers, hence contributing to fraudulent certification (HBA, 2003f; Shukor, 2002). As stated above, house buyers have to pay whatever monies based on the Stage Completion Certificates, even when the building works are far from reaching the completion stage or even when the projects are abandoned, ultimately contributing towards an omnipresent dilemma to the public, LAM and Ministry of Urban Wellbeing, Housing and Local Government (UWHLG) who would need to pay a tremendous price to resolve this matter (HBA, 2008; Shukor, 2002).

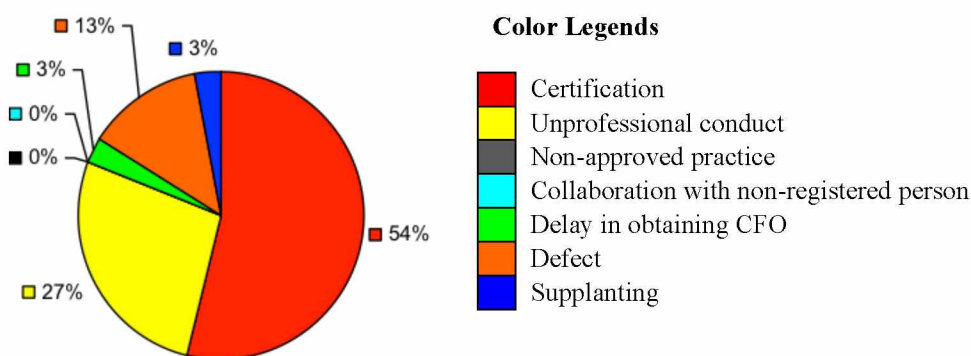


Figure 1.1: LAM statistic of public complaints
Source: (Chan, 2010)

1.3 Research Objectives

The main aim of this thesis is to assess the propensity of architects to commit fraudulent certification towards mitigating the risk of its occurrence in housing development projects in Malaysia. A conceptual framework is established at the end as a schematic representation to explain the critical areas for mitigating the fraudulent certification based on the study findings. The more fraud risks are understood in an organization, the more effective efforts to prevent the fraud are likely to be (Thornton, 2013d). Considering that the identification of fraud is still insufficient and at its infancy stage in the construction industry, this thesis is an attempt to explain the tendency of fraudulent certification occurrence from the perspective of “what is happening” and “why it is happening”, and the consequences of its occurrence in the framework.

The specific research objectives (RO) are set as follows:

1. RO1: To investigate the propensity scale (i.e. tendency level) of fraudulent certification occurrences in housing development projects in Malaysia according to type of housing projects and certificates by collating data of the architectural profession’s governing body LAM.
2. RO2: To investigate the propensity scale (i.e. tendency level) of fraudulent certification occurrences in housing development projects in Malaysia by

collating data of PAM as a verification measure (because it is likely difficult to obtain the fraud statistics accurately from a single source).

3. RO3: To examine the factors which could contribute to architects' propensity to commit fraudulent certification in housing development.
4. RO4: To examine the architects' perception of professional-related and social problems contributed by the fraudulent certification in housing development.

1.4 Research Questions

Based on the research objectives stated above, this thesis attempts to address the following research questions:

1. What is the scale (number and frequency) of fraudulent certification-related complaints received by LAM? How relatively critical is the architectural profession's propensity to commit fraudulent certification in housing projects as a whole compared to other complaints against their professional conduct? How is the occurrence by type of projects and certificates?
2. In comparison, what is the scale (number and frequency) of fraudulent certification-related complaints received by PAM? How is the occurrence by type of projects and certificates? Do the two data sets from LAM and PAM give similar findings in verifying the architects' propensity to commit fraudulent certification?
3. Why might architects be propelled to commit fraudulent certification in housing projects? From the architects' perception, what are the factors which could contribute to fraudulent certification?
4. What are the professional-related and social problems contributed by fraudulent certification to the architectural profession, house buyers, developers, government and public at-large? How do the architects perceive the above consequences of fraudulent certification?

1.5 Literature Review

The literature review in this thesis covers three major aspects, i.e. (1) the theory of fraud in general, (2) the legal profession of architects related to certification including the architects' duties and obligations under the relevant laws, and (3) contributing factors and problems of fraudulent certification in Malaysian housing development projects. The review discusses the core elements of fraud as illustrated by the fraud triangle and relates them to the possible architects' propensity for fraudulent certification. The review of the architects' legal profession also identifies tort and professional negligence and how they are related to fraudulent certification. In order to understand fraudulent certification specifically in housing development, the review includes the housing development system in Malaysia, principles and provisions of the SPA, statutory laws and acts that are related to the certifiers' duties and obligations, stages of housing development progress, and housing certification procedure.

Several literatures are reviewed to discuss the present scenario, contributing factors and problems of architects' propensity to commit fraudulent certification under the above housing system in Malaysia. The literature review makes reference to numerous available sources including (1) LAM, (2) PAM, (3) National House Buyers Association of Malaysia (HBA), (4) Real Estate and Housing Developers' Association Malaysia (REHDA), (5) UWHLG, (6) Housing Controller, (7) local authorities, (8) Malayan Law Journal, (9) Street, Drainage and Building Act 1974 (SDBA), (10) Uniform Building By-Laws 1984 (UBBL), (11) Housing Development (Control and Licensing) Act 1966 (HDA), (12) Professional Architects Practice Notes, and (13) other relevant statutory requirements.

1.6 Identification of Research Gap

Essentially, the identification of fraud is still insufficient in the construction industry because fraud is often placed low on the agenda in the companies (Thornton, 2013d). Although fraudulent certification has been occurring in housing projects, it

has not been researched widely by the architectural academia including in Malaysia. Table 1.1 summarizes the existing studies related to fraud in housing construction industry. As shown, the studies are relatively focused and thus more limited to the housing end-product quality itself (building aspects) (Ahmed and Stephenson, 1997; Dahlan, 2006; Hamzah et al., 2011; HBA, 2008; Husin et al., 2011; Radzuan et al., 2011; Thornton, 2013b, 2013c; Usilappan, 2013). Relatively few researches look into fraud in construction industry empirically from the scope of the architects' certification that forms the spine of the housing delivery practice (Franklin, 2000; Hasan et al., 2011).

The housing development is a very vital part of the economy and it is crucial to ensure a good implementation mechanism. According to Dahlan (2006) and Usilappan (2013), the Malaysian housing delivery system has not been sufficiently researched especially from the legal aspects. This is closely related to the stage completion certification mechanism as conferred on the architectural profession under the housing laws. Further studies are required to provide up-to-date information and assess the actual implementation of the core of the delivery system which is the architects' certification (Usilappan, 2013).

Table 1.1: Existing researches on fraud in housing construction industry

Authors	Year	Scope of research
Ahmed and Stephenson	1997	Predicting defect system in housing construction
Franklin	2000	Architects' professional practice
Dahlan	2006	Abandoned housing project
HBA	2008	Completion without guarantee
Hamzah et al.	2011	Importance of housing quality
Hasan et al.	2011	Competent skill in construction project
Husin et al.	2011	Safety element of low-cost housing project
Radzuan et al.	2011	Building condition survey report
Thornton	2013b	Fighting construction fraud
Thornton	2013c	Fraud threat to the global growth in construction industry
Usilappan	2013	Sustainable housing

Source: Compiled from (Ahmed & Stephenson, 1997; Dahlan, 2006; Franklin, 2000; Hamzah et al., 2011; Hasan et al., 2011; HBA, 2008; Husin et al., 2011; Radzuan et al., 2011; Thornton, 2013b, 2013c; Usilappan, 2013)

Thornton (2013b, 2013c) emphasized that more efforts need to be put in fraud education because lack of in-depth knowledge of fraud is one of the biggest fraud risks. At present, there is fundamental lack of authoritative figures on the scale of fraud in the real estate and construction industry (Thornton, 2013b, 2013c). Similarly, there is

also lack of consolidated authoritative figures to systematically represent the tendency level of fraudulent certification occurrence in the architectural profession in Malaysia. Moreover, Hasan et al. (2011) identified the difference between the effectiveness of learning and practice environments on the competency skills in construction projects. The emphasis was gaining insight into the different perceptions of industry and academia. According to Hasan et al. (2011), there was a significant divergence in their perceptions, yet the actual perception of architects has not been studied in detail. Hence, this thesis is to primarily fill the above research gap by empirical study of the actual tendency of fraudulent certification occurrence in housing projects using two data approaches, particularly (1) collated authoritative figures from the professional board and institute, i.e. LAM and PAM, respectively, and (2) architects' own perception or understanding of fraudulent certification, in order to build systematic knowledge of fraud in the housing construction industry.

1.7 Research Methodology

This study is a descriptive research and partially an explanatory research in assessing the propensity of architects to commit fraudulent certification in housing development projects in Malaysia. According to de Vaus (2001), descriptive research is fundamental to the research enterprise in that it improves our understanding and knowledge of the social structure. For example, it has been demonstrated historically that accurate descriptions of the level of unemployment or poverty are essential in social policy reforms towards eliminating the social problems (de Vaus, 2001). Punch (2014) further affirmed that descriptive knowledge can be powerful as it is a first step towards explanation; if we want to know why something happens, it is essential to have a good description of exactly what happens. Moreover, a full description often gives clues to explanation. Hence, although descriptive studies are sometimes given a lower status than explanatory studies, the former is very valuable in certain situations. For example, when a research topic is quite new in the field, it is very sensible to focus on systematic description which can also improve understanding of what factors to concentrate on for later explanatory study (Punch, 2014). In this study, considering the lack of basic knowledge of fraudulent certification as discussed in Section 1.6, the

descriptive research is mainly selected to provide detailed account of the propensity scale or tendency level of fraudulent certification occurrence in different types of housing projects and stages of certification under the housing laws. In other words, the description is useful in response to the question of “what is happening” on ground in the practice. Further, the study extends to explanatory research to find out explanations about “why” the propensity level is such, i.e. why the architects might be driven by certain factors to issue fraudulent certificates, and its resultant problems to the profession and public at-large.

Two major types of research data were collected, which are (1) the confidential public complaint files as archived by LAM and PAM, and (2) architects’ perception of fraudulent certification. The former involves statistical meta-analysis of available data from LAM and PAM to draw detailed descriptions. Meanwhile, the latter was conducted through a questionnaire survey among professional architects in Malaysia and assisted in explaining the factors leading to fraudulent certification as well as the associated problems. The research data were analyzed in the SPSS V.18 software using descriptive and factor analyses as quantitative methods.

1.8 Scope and Limitations of Research

This research focuses on the propensity of professional architects to commit fraudulent certification in housing development projects in Malaysia. The study analyses the confidential public complaint files as archived by LAM and PAM as an indicator of the propensity level. According to Albrecht et al. (2009), complaints are valid fraud symptoms and customers who are the house buyers in this study are in the best position to detect fraud. This research does not specifically distinguish fraudulent certification as criminal or civil cases, hence does not deal with the prosecution outcome of the complaints either as court or tort cases, respectively. The study refers to the theory of fraud that can be found in other fields including Albrecht and Albrecht (2004), Albrecht et al. (2009), Holt and Klass (2011) and Thornton (2013d) due to the infancy of this research topic in the architectural profession. Moreover, the scope of

the study in the housing development and architects' certification aspects mainly refers to those outlined in the housing laws of Malaysia.

The public complaint files data are limited between years 2001 and 2012 since these are the only available data in LAM and PAM archives. Permission was obtained from LAM and PAM to access the confidential files. The discussion of the study findings does not disclose names of any parties involved in the complaints in order to keep the confidentiality of the data. Meanwhile, the survey of architects' perception of fraudulent certification was carried out among the professional architects in Malaysia.

1.9 Expected Findings and Significance of Research

This research is expected to provide findings of the architects' propensity and their understanding of fraudulent certification in housing development projects in Malaysia. Detailed statistics of the fraudulent certification-related complaints by house buyers according to type of housing projects and certificates will be compiled and analyzed. Further, a conceptual framework that explains the propensity level, factors which could contribute to fraudulent certification, and the professional-related and social problems contributed by the fraudulent certification in housing development will be drawn.

The above findings will clarify the actual tendency level of fraudulent certification occurrence in the architectural profession in Malaysia and whether it is a relatively critical risk in the architects' professional conduct. The results will also identify which housing type and certification stage might be more at risk. Findings of the architects' perception will give a diagnostic indication of their understanding of competency skills in housing certification to clarify any difference in perception. The findings will contribute to improve knowledge of fraud and fraud education towards mitigating the risk of fraudulent certification occurrence in the architectural profession and housing development projects in Malaysia in the future. Beyond this, the knowledge will lead to future proposal of appropriate measures to mitigate the factors

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