

Risk Management on Design Works in Malaysia

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Abstract: Construction project is shrouded with various aspects of risks related to design professionals and design works. The parties involved must be able to manage the risks to complete a construction project successfully. This study aims to assess factors, associated with design professionals and design works, under the traditional procurement route in Malaysia. The study has also investigated the role of Malaysian law in corresponding to the practices of standard risk management by the parties involved. An in-depth, semi-structured interview was applied to gather the information from practitioners involved in design for more than 10 years. The findings showed that the level of understanding among the respondents can be improved. Several aspects of the law of contract, tort, and statutory provisions have to be addressed to correspond to design risk management needs. The law has been considered as an efficient force in ensuring proper risk management practice among the designers. The lack of effort undermined the crucial role of the law itself. It was found out that there are certain aspects of the law that are not being fully understood by the respondents; therefore, this factor also leads to the occurrence of design related risks.

Keywords: Construction, Design Risk, Law, Risk Management

I. INTRODUCTION

The magnitude of construction industry has been noted on the basis of economic activities, nation-wide employments, Gross Domestic Products (GDP), benefit of investment, and government revenues (Nawi et al., 2014). Due to dynamic and complex nature of activities within construction industry, it needs large sums of capital and resources. One of the major risks in construction is the design risks; such as, design quality and communication framework (Dey, 2009).

The construction industry is statistically one of the most hazardous industries in many countries (Marta Gangolells et al., 2010). Moreover, the construction industry lack sustainability, fragmentation, and less productivity due to combination of problems that have aroused recently (Nawi et al., 2011). Risks in construction related to professional designers and design works may come in many forms. It is extremely common for the designers to come up with new and noble design, while competing for business. There is an increase in the risks, associated with innovation when it is being applauded.

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The construction industry in Malaysia plays a significant role in the development of socio and economic infrastructures and buildings. The Malaysian construction industry is urged to use Industrialized Building System (IBS) to cope up with the influx of foreign labour work in the construction sector (Kamar et al., 2010). The law plays a significant role during the whole risk management process, which may be effectively thought for the formulation of law and establishment of legal framework. It is essential to analyse how those potential risk factors related to human actions could cause human sufferings. These actions could be protected by the legal terms; so that, risk of damage cannot occur at all. Any law is needed to address the public safety, security, clarity, flexibility, transparency, and adaptability. Use of risk and risk management knowledge can effectively serve these purposes in meaningful ways (Raquib, 2002). This purpose is in line with the objectives of the law itself, either by refraining people to commit certain acts, or binding people to do certain acts. The purpose of limiting the speed limit is to protect human lives and properties in a better way. It may be perceived that if lawyers and legal administrators learn risks and related management procedures, existing legal framework may be stronger.

The Malaysian construction needs to change conventional method to IBS for better productivity and construction quality. It also helps in reducing risks that are related to occupational health and safety, and further helps in achieving ultimate goal of reducing overall cost of construction (Nawi et al., 2012; Sew, et al. 2011). The IBS system involves the manufacturing of components using machine, formworks, and other types of mechanical equipments. The construction parties have not accepted IBS in Malaysia because it has failed to deal with the risks in IBS projects adequately.

The actual sharing of risk, indemnities, and provisions for supporting insurances have been determined by the wording of the relevant contract documents. The standard forms of contract usually share the risk between them because other areas of risks are not caused by the actions of either party. Edwards (1995) further elaborated basic requirements for risk transfer, means of transferring the risk, and manner to resist risk transfer. The basic requirements for risk transfer include;

- Ability to undertake a hazardous task.
- Willingness to take the risk.
- Financial capability if the risk event occurs.
- Continued existence and adequate finance during period of liability.



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Risky activities can be transferred by contracts and subcontracts as the risky work is undertaken by others. It might include the removal of support from adjacent land, the escape of fire, or dangerous substances. The property, vehicle, and machinery leases involve the transfer of the repair/maintenance responsibility. The risks associated with transfer of financial consequences include;

- Indemnities - agreements to pay costs of losses to property, damages for liability.
- Hold harmless agreements - types of indemnity dealing with legal liability claims.
- Sureties - agreements by a third party within the framework of the main contract to pay money in the event of non-performance by one of those main parties.
- Bonds - agreements to pay money if quality or fitness for purpose are not met.
- Guarantees: agreements to provide recompense for inadequate products or services.
- Liquidated damages - agreement to provide recompense for the effects of delay.

The transfer of risk can be resisted for a number of reasons. For example, the receiving party may not want to accept those risks because of its own risk management controls. Accordingly, Edwards (1995) listed various ways for the receiving party to resist risk transfer, which includes:

- A refusal to accept certain proposed clauses.
- A refusal to provide retrospective collateral warranties, guaranties, and so on.
- An insistence on additional specific exemption clauses to avoid certain exceptional risks, obligations, or the possible consequences.

Secondly, the law may directly impose certain duties and obligations upon the architect. The law plays an important role in risk management process;

“Department of Occupational Safety and Health (DOSH) is in the final stage of introducing a new set of regulations, which will require employers to manage safety and health at work sites systematically. One of the main elements in the regulations is the requirement for employers to conduct hazards identification, risk assessment and risk control at the construction sites.”

Problem Statement

Design errors are major factors in landslide and building failures in Malaysia. Gue and Tan (2006) have conducted 49 cases studies on building failures and landslides in Malaysia.

Gue et al. (2000) investigated common mistakes, involving consultants in engineering project. The study revealed that engineering assessments for design; such as evaluation of long term settlement and fill compression problems, are inadequate. The mistakes or errors in the design tend to occur because of poor checking and reviewing process and improper engineering specifications are not specifically tailored for a specific project. The engineering assessments for design failed to highlight or coordinate with other design engineers, who take over the site for subsequent engineering design, including; performance of the platform. Moreover, it fails to provide professional advice to the non-professional client on their commercial decisions, which subsequently has design implications. This study has analysed understanding of experience designers (architect and

engineer) on design related risks and laws as efficient design risk management tool. For this purpose, the study has selected the purview of PAM 2006 Form of Building Contract and Institutions of Engineers Malaysia (IEM) Standard Form of Contract. The Malaysian construction industry is widely dominated by the traditional structure of contracting. The selection of PAM 2006 Form and the IEM Conditions of Contract reflected the traditional method of contracting in Malaysia. The method of contracting in Malaysia is based on the fact that both contract forms have been widely used throughout Malaysia. PAM 2006 Form and IEM Conditions of Contract have been selected because both forms have been sanctioned by the respective professional bodies of architect and engineer in Malaysia. According to Patten (2003), architects and engineers are taken together because the two professions share common feature of design and the supervision of building a design. It is obvious that, among others, design error is identified as a major factor in building failure; therefore it is considered as an important risk factor to be managed. Gue and Wong (2008) suggested that policies and legislations play an important role in design risk management, apart from other risk management strategies.

Aim of the Study

The present study has been conducted to analyze the understanding of experience designers on design related risks, and their understanding on the role of law in managing such risks.

Methodology

The study has adopted semi-structured and in-depth interviews to obtain in-depth responses on the research problem. The topic of the research may seem to be incriminating the respondents, particularly on their understanding of the law. It is important to adopt suitable and proper methods to gather information from the respondents. Semi-structured, in-depth interview, with the possibility to probe the problem in question has been considered as an appropriate method, despite of the above mentioned issue.

Sampling and Respondents

The respondents for in-depth interview were professional architects and engineers, registered with Pertubuhan Arkitek Malaysia (PAM) and the Institution of Engineers Malaysia (IEM). The respondents for interview consist of thirteen (13) architects and seventeen (17) engineers, who were involved in the construction industry with minimum 10 years' experience. This is in line with the classification of senior architect, as defined by the American Institute of Architects (AIA). A senior architect/designer is defined as licensed architect or non-registered graduate with more than 10 years of experience. With reference to the engineers, civil and structural engineers have been selected because this group of engineers are directly involved in the building and construction process. Data from architect and engineer has provided clearer pictures on the research problems from the

perspectives of both profession, which is directly related to design works in construction. The respondents were scrutinized and selected on the basis of registry of respective professional bodies.

Drafting of the interview questions

The flow of the interview draft was started from critical issues that were identified from literature review. Thereon, the interview questions were formulated. Extensive literature reviews provide useful information in the drafting of the in-depth interview. It is important to design the interview in 2 ways, namely open and close ended questions due to the nature of the research. Accordingly, the research requires the evaluation of the respondents understanding on issues that are unfamiliar to them, including risk management and law. The respondents might feel offended or incriminated without proper drafting. The mixture of both approaches is important to gather the right opinions on critical issues without offending or incriminating the respondents. The draft of interview questions were sent to be scrutinized by distinguished academicians in construction industry before actual interview sessions were conducted. Respondents from architectural profession were known as Respondent A; while, respondents from engineering profession were known as Respondent E. Data from both profession groups reflect the opinion of professional designers. Within the approach of qualitative study, transcript of the interviews were coded and analyzed. In addition, quantitative approach has also been adopted with regards to the data collected.

II. ANALYSIS FROM THE INTERVIEWS

In-Depth Identification of Risks Related To Design Works

The respondents need to give their in-depth opinion on risks related to professional designers and design works related to the research questions. The risks, based on findings of earlier questionnaire survey, might emanate from the contract, legal provisions, and the incapability of the designer himself. In-depth interview has given detail information on risks related to professional designers and design works. Respondents of the interview were asked to explain risks related to professional designers and design works. The respondents gave various aspects of design related risks with reference to this particular interview question.

The respondents gave various risks elements in relation to their works. According to Respondent E15, poor design and negligent supervision were quoted as risk factors. Respondent E15 further elaborated that poor design can be in the sense that the engineer prepares a design without properly considering the load bearing of the land. Respondent E14 also agreed that negligent supervision is a risk factor. The constant interference of the client with design works and architect fails to keep proper

documentations of his works. He said that the client should know the structure of the contract and duties of each party. Respondent E12 stated that risk related to engineers and design works include client interference with design works. According to Respondent E7, failures to fulfil the statutory requirements and clients' unprofessional attitude with the design works are the risks related to engineers and design works.

With reference to respondent architect, similar risks were cited during the interview sessions. According to Respondent A1, risks related to professional designers in their duties include duty to supervise documentation of the designer's works. It is important for an architect to properly record their works. Proper records of the works enable the architects to execute their works according to the work plan. Apart from this insufficient documentation of the designers' works, insufficient brief by the client was also quoted as possible risk elements. Respondent A2 stated that insufficient brief causes delay in the completion of the design, as the designer need to revert back to the client for further details. Two architect respondents, Respondent A9 and Respondent A10, elaborated extensively on risks related to professional designers and design works. Their lists were inclusive of all other risk elements as stated by other respondents

Certificate of Completion and Compliance (CCC) is relatively new requirement in Malaysia. Professional designers can be appointed as "Principal Submitting Person" under the requirement. Principal Submitting Person is responsible for the certification of the completion and compliance of the project. With reference to this, 6 engineer respondents and 6 architect respondents stated this requirement as an added responsibility, in addition to their existing duties and liabilities. According to Respondent E7, the new CCC requirements centralised the responsibility over certification of compliance and completion of a project on a submitting person. Moreover, it has poised more risks to the professional designers, as architect or engineer, who are appointed as the submitting person.

III. FINDING

As a whole, risks in relation to professional designers and design works as perceived by the respondents are illustrated in Table 1. The table also stated a number of replies and overall replies percentages. Missing column in the table refers to number of respondents, who did not consider the elements stated as risk related to design.

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Table.1 Risks Related to Professional designers and Design Works

Design Related Risk	Total Respondents	Replies	Percentage (%)	Missing	Percentage (%)	Rank
Negligent supervision	30	17	57	13	43	1
Poor design	30	15	50	15	50	2
Insufficient documentation of the designer's works	30	14	47	16	53	3
Client interference with design work	30	13	43	17	57	4
CCC requirements as added responsibility	30	12	40	18	60	5
Insufficient brief by the client	30	11	37	19	63	6
Risk in contract	30	10	33	20	67	7
Failure to comply with statutory requirement	30	9	30	21	70	8
Low understanding on part of the contractor	30	8	27	22	73	9

The respondents were asked about risks related to professional designers and design works. The risk elements stated by the respondents can be linked to negligence of the parties related to the project as well as risk related to the traditional procurement route and legal provisions. Negligence supervision, poor design, insufficient documentation on the designer's works, interference by the client, insufficient brief by the client, failure to comply with statutory requirement, and low understanding on part of the contractor can be categorized as negligent act by the parties involved in the project.

General observation of the percentage indicates insufficient understanding on part of the respondents related to risk elements of different designs. For instance, based on the ranking of the replies, the highest percentage on risk element in design works was merely fifty seven percent (57%). With reference to poor design as an element of risk, it was quoted by fifty percent (50%) of the respondents; while, the rest did not see it as a risk. It is submitted that the designers have to fully understand the risks involved before proper risk management can be exercised.

Factors Leading To Design Related Risks

There are various factors of risks quoted by the respondents. The respondents were specifically asked to explain the factors, leading to occurrence of risks related to professional designers and design works. According to engineer Respondent E1, factors that lead to design related risks are insufficient experience, poor management over the design process, changes of requirements from the local authorities, and pressure from the client. Respondents E7, E9, E9 and E12, agreed that pressure from the client leads to design risk. Respondent E1 elaborated that poor management can be in the form of poor coordination by lead designer over other design involved in the project. He explained that it is normal for engineer or architect to lead the design team. If lead consultant failed to coordinate properly among all designs involved in a particular project,

it tends to create problems as the designs are interconnected with each other. Detail information on risk factors enable proper application of risk management strategy. Identification of the risks and its factors will enable the performance of efficient risk management regime.

Another engineer respondent E7 added further on the risk factor, namely personal negligence in performing the design duty. An example for personal negligence cited by him can be in form of miscalculation by the engineer over the load bearing of land. The lack of enforcements by relevant authorities also leads to design risk. Similar risk factors were also cited by architect respondents. Respondents A2 specifically cited all risk factors as listed by other respondents. Respondent A8 gave the same illustration with Respondent E1 on citing poor management over the design process. The lead designer have to properly control different aspects of designs through proper coordination of all consultants in a project. Respondent A10 stated that introduction of CCC as a replacement for CF is a clear example for this. According to him, CF requires various agencies to give approval, but CCC centralised the approval on architect. From the interviews involving both engineers and architects, risk factors in connection to professional designers and design works have been listed in table 2.

Table. 2 Factors Leading to Design Related Risks

Risk Factors	Total Respondents	Replies	Percentage (%)	Missing	Percentage (%)	Rank
Lack of experience	30	17	57	13	43	1
Poor control over the design process, such as coordination of the design works with other consultants	30	16	53	14	47	2
Pressure from the client	30	16	53	14	47	3
Change of requirements from the local authorities	30	11	37	19	63	4
Lack of enforcements by the relevant authorities	30	10	33	20	67	5
Personal negligence in performing the design duty	30	8	27	22	73	6

The risk factors as listed by the respondents can be summarized as internal and external factors. The internal factors are related to the designer himself, such as lack of experience, poor control over the design process, and personal negligence in performing the design duties. External factors as quoted by the respondents are pressure from the client, change of requirements from the local authorities, and lack of enforcement by the authorities.

These risk factors have to be addressed properly in managing the risks related to design works.

Effects of Risk Occurrence

Twenty three respondents agreed that risks related to professional designers and design works affect the completion time of the project. For instance, Respondent A4 gave an example how completion time is affected by

referring to a scenario where design has been prepared on the basis of insufficient brief. Under this circumstance, more time is needed to furnish the contractors with relevant details of the design scheme during construction period. As a result, time of completion is likely to be prolonged. Respondent A2 and Respondent E7 gave similar examples on how the quality might be jeopardised. Accordingly, client interference with the design work was earlier quoted as a possible risk to professional designers. The interference was generally due to project cost factor. In such situation, the designer needs to prepare a design with lower quality as to conform to the client's direction.

Table 3 has shown the risk effects on the project by architect and engineer respondents. Missing column represents those who did not consider the element as possible risk effect.

Table. 3 Risk Effects on the Project

Risk Effects On The Project	Total Respondents	Replies	Percentage (%)	Missing	Percentage (%)	Rank
Effect on project completion time	30	23	77	7	23	1
Effect on project cost	30	21	70	9	30	2
Effect on quality	30	16	54	14	46	3

The effect of risks occurrence as listed by the respondents rightfully correspond to the effect of risks as stated by Kashiwagi (2006). Accordingly, risk will affect the proper performance of a project, in term of time, cost, and quality. The effect is well connected to professional designers and design works. The proper risk management would benefit the project in term of time, quality, and cost. It has to be noted that the percentage of respondents agreed with respective elements differs; while, the elements were rightfully listed by the respondents. For instance, seventy seven percent (77%) of the respondents agreed that risk will have effect on completion time, but the percentage among respondents drops to seventy percent (70%) with regards to effect of risk on cost of project. On another point, merely 54% of total respondents understood that risk occurrence can affect the project quality. The understanding of respondents on effect of risk is still insufficient.

The Yardstick With Reference To Standard of Care in Performing the Duty

The law has imposed certain standards to be observed by professional designers in performing their duties. The purpose of the law in securing the safety and welfare will only be served, if it has been properly observed. Failure to adhere to the standards will expose the professional designers to legal action and defeat the whole purpose of the law as part of risk management tool. The yardstick of the Malaysian law in determining due care and diligence is based on *Bolam v Friern Hospital Management Committee* [1957] 1 WLR 582. Here the court will look at the acceptable practice of other reasonable architect facing similar issue. In this regard, the respondents were asked to explain their understanding about standard care required in absolving them from liability. The collected data has indicated the understanding of the respondents on the law has been imposed upon them.

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The first standard quoted on proper execution of the duties is measured by referring to the industry standard, namely by looking at the practice of the industry as a whole. The measurement can be done by following the guidelines provided by respective professional bodies. Respondent E9 stated that standard can be achieved by following the guidelines provided by the professional body. Respondents A5 stated that one way of keeping embrace with the developments is by attending the courses and seminars organised by the governing body. Another way of ensuring the standard of care is properly executed through discussion and agreement with the client.

According to the standard stated by the law in *Bolam v Friern Hospital Management Committee* [1957] 1 WLR 582, the court will look at the acceptable practice of other reasonable architect facing similar issue. Under the law, this duty is known as reasonable skill and care. Accordingly, 63% of the respondents have quoted this standard to be observed when executing the duties. According to 33% of the respondents standards can be fulfilled by having an agreement with the client over the matter. A standard agreed upon by the designer and client will be amounted to a

contract. According to Cornes (1989), the employer's approval of drawings need to be obtained; however, that approval will not usually absolve the designer from liability for negligence. The employer rely on the skill and care of the designer in a specialist field in which the employer may has no detailed knowledge.

On the contrary, agreement between the professional designers and client amounted to a contract. For instance, in a design and built contract, the designer contracted to produce a building fit for the purpose. Accordingly, the building has to perform the exact purpose of it being built, as the designer has warranted for the fitness of purpose. Failure will open the designer for legal risk, although he has performed his duty in accordance to the practice of other designers. This principle was laid by the Court of Appeal in *George Hawkins v Chrysler (UK) Limited and Burne Associates* (1986) 38 BLR 36. The overall view of the data on respondents' perception over yardstick with reference to standard of care in the performance of their duty is illustrated in Table 4. The respondents who did not accept particular point as yardstick of measurement of their duty are presented under the column 'Missing.'

Table 4 The Yardstick With Reference To Standard of Care in Performing the Duty

Standard Of Care In Performing Professional Duty	Total Respondents	Replies	Percentage (%)	Missing	Percentage (%)	Rank
Standard measured by the industry, as practiced by the profession as a whole. It follows the guidelines provided by the respective professional bodies.	30	19	63	11	37	1
The standard of duty to be executed has to be discussed and agreed upon with the client	30	10	33	20	67	2
The standard of duty to be executed has to follow the practice of the industry, and later to be agreed upon by the client	30	1	3	29	97	3

Duties of Designer under Standard Form of Contract

The duties of professional designers can be derived from the contractual provisions of the standard form of contract. Relevant list of duties as stated in the Memorandum of Agreement and Condition of Engagement must be read together for understanding the illustration of the contractual duties under the contract. The scope of duties was presented to the respondents, where the respondents were asked on how these scopes of duties are being illustrated by the

contract. In this regard, the interview respondents were asked to give their opinion on the duties of professional designers as illustrated by the contract. The replies have given a better picture on the sufficiency of existing contract provisions in relation to proper performance of designers' duties. The duties of professional designers have been identified by respondents and elaborated under the contract to include administration of contract, role as lead consultant, inspection of works, certification of works, variations advice, insurance, and coordination of design duties (Table 5).

Table. 5 Duties and Liabilities of Designer under Standard Form of Contract

Duties Of Designer Under Standard Form Of Contract	Total Respondents	Replies	Percentage (%)	Missing	Percentage (%)	Rank
Administration of contract	30	21	70	9	30	1
Variations advice	30	18	60	12	40	2
Role as lead consultant	30	16	54	14	46	3
Inspection of works	30	15	50	15	50	4
Insurance	30	14	47	16	53	5
Coordination of design duties	30	13	43	17	57	6
Certification of works	30	12	40	18	60	7

The above list was quoted by the respondents as scope of duties has been sufficiently illustrated by the contract. Overall view of the findings show that the percentage of the respondents on the sufficiency of the contract varies on the basis of duties of designer. While, 70% agreed that the contract has sufficiently elaborated the duty of designer on administration of the contract. 40% of the respondents agreed with sufficiency of the building contract in illustrating the duty on certification of works. It shows that there are mixes of opinion on the sufficiency of the contract in illustrating duties of professional designers. Accordingly, views of the respondents on the sufficiency of the contract in illustrating the duties of designer have accepted cautiously.

Responsibility of Lead Designer over Fault by Other Consultants Engaged by Him

Table. 6 Responsibility of Lead Designer over Fault of other Consultants Engaged by Him

Responsibility Of Lead Designer	Total Respondents	Replies	Percentage (%)	Missing	Percentage (%)	Rank
Being professionals who are governed by their owned charter, other consultants should be responsible for their works, either they are engaged by the lead designer or not.	30	20	67	10	33	1
The architects bear responsibility for the whole team if the other consultant at fault is engaged by him.	30	10	33	20	67	2

According Cornes (1989), there will be a chain of contracts in a situation, where the lead designer engaged another consultants. In this regard, if there is a failure in the specialist design, the employer will be able to sue the designer in contract and the designer will in turn be able to sue the specialist designer in contract. With reference to this, in a case where the consultant is engaged by the lead designer, the responsibility over the consultant works is in the hand of the lead designer. The lead designer can be sued by the client for the consultant negligence. The lead designer can, in turn, sue the consultant. In this scenario, the lead designer has to ensure that the consultant will be able to meet the claim made against him. If the consultant is not able to meet the demands, the lead designer will have to bear the responsibility towards the client without the opportunity to cover his remedies. Only 33% of the respondents understood the lead designer responsibility; whereas, 67% of the respondents were unclear on this.

The respondents were asked about the responsibility of lead designer/consultant for the whole design scheme under traditional form of contract. With reference to this, the respondents gave two different views. The first opinion is that the lead designer hold responsibility for the whole team if the other consultant is at fault is engaged by him. Respondent A8, with 19 years of working experience stated that the responsibility for the whole designing team lies under the architect, as he is the one who engaged the team. The other view is that every consultant should be responsible for their works, either they are engaged by the lead designer or not. Respondent A3 submitted that it is the responsibility of each professional, regardless the fact that the rest of the team was engaged by the lead designer. Table 6 has shown the respondents’ perception regarding the responsibility of lead designers.

Responsibility over Advice Given by Professional designers

Part of the designers’ duty is to give advice to the client, with relation to his works. It is a normal practice for professional designers to advice the client on selection of contractor and other consultants. Therefore, the respondents were asked about their understanding on the responsibility over the advices given. There were two versions given by the respondents pertaining to the matter. The first view is that the professional designers will be responsible for the negligence of the contractor/other consultants, since the advice is acted upon by the client. This is evidenced from the wordings of few respondents. Another view given over this point is that the responsibility remains with the contractor/other consultants.



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The designer cannot be held liable for other people's negligence. For instance, Respondent A10 stated that each designer has to be responsible for his works. The fact that the consultant's selection was made by client on the basis of architect's advice does not free the consultant from his liability.

It is important for the professional designers to clearly understand their duties and responsibilities. The duty of

designer is to give professional advice to the client, with regards to the design. The understanding of respondents on advice given by professional designers has been shown in Table 7. Table has also indicated the numbers of respondents who were unsure over whose responsibility it is, with regards to advice given by professional designers.

Table. 7 Responsibility over Advice Given by Professional Designers

Responsibility Over Advice Given By Professional designers	Total Respondents	Replies	Percentage (%)	Missing	Percentage (%)	Rank
The professional designers will be responsible for the negligence of the contractor/other consultants, since the advice is acted upon by the client	30	14	47	16	53	1
It remains the responsibility of the contractor/other consultants, the professional designers cannot be held liable for other people's negligence	30	13	43	17	57	2
Not sure whose responsibility it is	30	3	10	17	90	3

The replies indicated that the respondents were in mix opinion on the responsibility over given advice. 47% of the respondents were clear that the designer will be held liable for a professional advice given in the course of the professional duty. It is important to improve the designers understanding in this point considering the effect of misunderstanding the responsibility over advice given.

Professional Indemnity Insurance as a Risk Management Tool

One of the ways in managing risk is by transferring or allocating the risks to other parties. Insurance has been regarded as a form of risk transfer. Thus, with reference to professional designers, Professional Indemnity Insurance is considered as a relevant risk management tool. This question was drafted with the objective of getting the respondents' perceptions on existing Professional Indemnity Insurance available in Malaysia. According to Robinson et al (1996), insurance may be described as a voluntarily assumption of specified risk in return for an agreed payment. An insurance contract effects the transference of specified financial risk from the party initially subject to it (the insured), to the insurer (usually an insurance company) for a fee (usually called the 'premium').

Accordingly, the interview respondents were asked about their opinion on professional indemnity insurance as risk management tool. Generally, professional indemnity insurance is meant to transfer the risks related to the works of professional designers to the insurance provider for certain premium sums. All the respondents agreed that professional indemnity insurance is an important risk management tool. The fact that all respondents were having the same view on insurance as an important risk management tool indicated their understanding on the importance to cover their work through insurance.

IV. CONCLUSION

The gathered data has exposed the understanding of respondents over risk related to professional designers and design works. Design risk elements and factors leading to the occurrence of the risks were identified during the interview. Apart from this, the interview replies depicted the respondents' level of understanding on various branches of laws related to the management of design related risks. Further improvement on the understanding of professional designers on risks related to design and the laws as an important design risk management is needed.

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Conflict of Interest

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