

A Study on Malaysian Legal Framework and Risk Management: Design Works

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Abstract

The construction industry is subject to more risk and uncertainty than many other industries. Construction projects are associated with various aspect of risks, be it risks associated with the feasibility stage, design stage, construction stage and post construction stage. This paper is meant to address two main concerns. The first objective is to identify the understanding of Malaysian architects on risks related to design and the management of such risks. Secondly, this paper will look into the architects' apprehension on laws corresponding to the notion of proper risk management framework. A set of questionnaire was sent to the respondents; the PAM registered architects, with the view of securing data from the respondents on risks related to design, risk management and the PAM standard form of building contract and the general law on design risk management. The findings will be analyzed in contrast with the theoretical framework derived from the literature reviews on design related risks, risk management and the law.

Based on the replies received, the respondents, irrespective of their years of experience and frequency in dealing with the PAM 1998 Form of Building Contract (PAM 1998) agreed that there are risks involved with design works. These risks must be properly addressed to ensure the success of the project. In addition to that, most of the respondents agreed that the risks originated from the same sources. The respondents also agreed on the scope of their duty to be fully scrutinized in order to avoid risks. However, while most agreed on the basic element of risk management, mix views were evidenced on risk response method. With reference to the legal framework, most respondent understand the laws regulating their duties and generally accept the law as an important risk management tools. Nevertheless, respondents misconception of the law as well as the insufficiency of the legal provisions itself pertaining to architects and design works may defeated the whole purpose of establishing a proper framework for risk management.

Keywords

Legal framework, Risk Management, Design risk, Construction industry, Malaysia

1. Introduction

The construction industry is associated with various aspects of risks. In order to complete the project successfully, the parties involved must be able to manage the risks associated with the project. Although the need and importance of risk management cannot be denied, the practice among the players in the construction industry does not reflect such urgency. In many cases, damages can be avoided if proper risk

management has been properly executed. In the event where risks still occurred, failure to exercise risk management policies will result to no protection available for the parties.

Risk management is very important in controlling and minimizing the effects of risk on a project. In addition to that, it may as well contribute to proper performance of the project, particularly in the sense of quality, time and cost. However, despite the importance of risk management, the Malaysian construction community are still lacking with respect to proper risk management practice. Within the scope of design works and the architect as lead designer in a traditional procurement route in Malaysia, the risks associated are not properly managed. Various measures to improve the matter can be done, which include through the means of law. The spirit of risk management is similar with the soul of the law, namely to address the public safety, security, clarity, flexibility, transparency and adaptability. However, in order to achieve the objective and establishing a proper framework for risk management, the Malaysian law needs to be scrutinized, since various loopholes can be traced.

This paper is the first phase of a research designed to achieve the above objective. Since the research involves two different disciplines and practices, namely the application of law in the construction industry, it has to be properly structured. As such, the first step taken to effect the above is by having a general overview of the problem statement. This aim is achieved through questionnaire survey, where it serves as a tool to gather the general perception of the practitioners on risks related to design and their apprehension of the law. Once the relevant issues related to the problem statement has been piloted and critical areas of the research have been identified, further in-depth data collection instruments will be applied.

Accordingly, to achieve the research objectives, we need to identify the risks associated with design works and architects, as well as the practice adopted to manage the risks. Theoretical notions on risks and risk management from literature review provide the basis of proper risk management practice. On the face of this, an overview on the practical apprehension of the architects on the subject matter is gathered through a set of questionnaire survey, where architects registered with PAM are selected as respondent. From the replies, we can identify the understanding of the respondents on risks related to design works, the proper manner of managing it as well as the understanding of the architects on the current law available with the purpose of managing such risks. From the data collected, we can move on to identify the legal framework corresponding to the objective of managing the risks. Recommendations on improving the laws available in Malaysia can be done based on the outcome of the analysis.

2. Literature Review

2.1 Design and Risk

In order to understand the perspective of risks related to design works, specifically in relation to architect and design works, we have to look at the definition of design. Generally, for the purpose of description, design can be termed as (David Cornes, 1989):

- All the decisions that need to be made as to the location in three dimensions of every component part of the project, the definition of the quality and quantity (including the specification of workmanship) of each component and how each fits in with another;
- All the same decisions in relation to any temporary works (not being part of the finished project) needed to achieve the construction of the project. On this point, all standard forms of building contract assume that the temporary works should be left to the contractor on the basis that he is best placed to deal with such matters.

With reference to the definition of risk, Cooper and Chapman (1987) defined it as:

“Risk is the exposure to the possibility of economic or financial loss or gain, physical damage or injury, or delay, as a consequence of the uncertainty associated with pursuing a particular course of action.”

According to the British Standard on risk (BS 4778, 1991 Part 3 – in Royal Society, 1991) risk is: “a combination of the probability, or frequency, of the occurrence of a defined hazard and the magnitude of the consequences of the loss.”

The Royal Society of United Kingdom, in one of the findings of its study (Royal Study, 1991) termed risk as:

“Risk is the probability that an adverse event occurs during a stated period of time.”

Risk management, therefore, can be well illustrated in the words of MA Raquib (2002) as a systematic process for identifying and evaluating pure loss exposures faced by an individual or an organization and for selecting and administering the most appropriate techniques for treating such loss exposures.

Based from the above definitions of risk, it can be noted that the term risk incorporates three essential elements, namely probability of occurrence, potential loss and time. Accordingly, the existence of such elements within the context of the definition of design can be regarded as design risk.

2.2. The Essentials of Risk Management

Risk management practice, according to Jaafari and Anderson (1995), can be classified into three different stages:

1. Risk identification
2. Risk analysis
3. Risk response

2.2.1 Risk identification

According to Williams (1995), the identification of each risk is the important steps in risk management. However, this task is the most difficult during the whole process. Accordingly, with the identification of the source of each risk and its element will enable it to be separated from other risk elements. By giving due consideration over each influencing factors will ease the process of analyzing and management of the risks (Bajaj, J., 1997). The most important thing to ask during risk identification process is (Godfrey, P., 1996).

“What are the discrete features of the project (risk sources) which might cause such failure?”

Once the influencing factors have been identified, the risk can be analysed and proper response can be strategize.

2.2.2 Risk analysis

Risk analysis is defined as the quantification of risk as the magnitude and frequency or time frame of each event. Each event may be a single incident or an aggregation of incidents (Jaafari and Anderson, 1995). In conducting risk analysis, various techniques can be applied, such as code optimization, sensitivity analysis, probabilistic analysis, Monte Carlo simulation and kinetic tree analysis. By conducting risk analysis, we will be able to quantify the effects of the major risks which have been identified earlier. Nevertheless, it was submitted that risk analysis has not been constantly conducted in construction projects (Hayes, R., Perry, J. *et al.*, 1986). Generally, commercial pressures were often invoked by the clients, contractors, and consultants in avoiding analytical approach over the risks, even though the benefit of risk management cannot be denied.

2.2.3 Risk response

Once the risk has been identified and analyzed, the parties involved have to make a decision in responding to the risks. Accordingly, the higher the degree of risk involved, equal response must follow. Various ways are relevant with regard to risk response, such as avoidance of the risk, reducing, transferring or even absorbing it. These steps can be taken single handedly or in combination, depending on the circumstances. The most efficient response to risk is by allocating it to other parties who are in the best position to accept it (Anthony Mills, 2001). The practice of allocating the risks has always be in line with the spirit of building contract, where the purpose of the contract is to determine and distributing the rights and obligations of each parties involved. Under the traditional scheme of contracting, for instance, during the tendering process, the contractor will evaluate the cost of the project and place his bid with certain volume of contingencies fund included as a way of responding had something bad happened during the course of the project. Nevertheless, it is submitted that this practice was done blindfolded, since no scientific premium calculation is carried out, due to the absence of formal risk analysis. Risk contingencies have always be the practice based on past experience, concealed or hidden within the bid process (Anthony Mills, 2001).

With reference to the above, it is clear that risk management has other major benefits, in addition to the chances of project completion on time and within budget, such as (Anthony Mills, 2001).

1. Enable decision making to be more systematic and less subjective.
2. Allow the robustness of projects to specific uncertainties to be compared.
3. Make the relative importance of each risk immediately apparent.
4. Give an improved understanding of the project through identifying the risks and thinking through response scenarios.
5. Have a powerful impact on management by forcing a realization that there is a range of possible outcomes for a project.

2.3. The Law

It must be noted the role of law is significant during the whole risk management process. Risk management is an area, which may be effectively thought of in the formulation of law and establishment of legal framework. It is essential to analyze how those potential risk factors related to human actions could cause human sufferings. Those actions could be protected by legal terms so that risk of damage cannot occur at all. Any law should 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 (MA 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 basic example of the role of law within this context is the regulation of speed limit on highways. The purpose of limiting the speed limit is to protect human lives and properties in a better ways. It may be perceived that if lawyers and legal administrators learn risks and related management procedures, existing legal framework may be more stronger, as risk management encompasses a 'shield guard' to protect human lives and properties (MA Raquib, 2002).

The present awareness of Malaysian construction community over the importance of risk management has increased and steps have been taken to improve the present scenario. This is evidenced based on the opening remark by YB Dato' Fong Chan Onn, the Minister at the Malaysian Ministry of Human Resource, delivered during a dialogue session between the Minister of Human Resource and the CEO of construction company in Malaysia on 7th March 2006:

“... 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.”

Nevertheless, it is submitted that the Malaysian law provisions on establishing a solid ground for risk management practice is insufficient and still lack of positive development, in particular risks related to design works. For instance, in the United Kingdom, the Construction (Design and Management) Regulations 1994 was placed to ensure that the risk related to design is addressed by placing certain specific legal duties on designers. The CDM Regulations are meant to improve the overall management and co-ordination of health, safety and welfare throughout all stages of a construction project, with the purpose of reducing the number of serious and fatal injuries. Unfortunately, similar legislation is not available in Malaysia.

Another example can be related to the requirement of insurance cover in a construction project. While there are provisions on requiring the architect to maintain certain amount of professional indemnity insurance coverage, it is submitted that the policy coverage available is still lacking in providing sufficient protections to the parties involved. Among the reasons, *inter alia*, the wordings of the insurance contract do not adequately reflect the needs of the construction industry, since the language and drafts of the insurance contract was mainly the works of the insurer. Basically, standard policy form for professional indemnity insurance is not available and each of the few insurers underwriting this special type of insurance has a different wording. Although minimum basic wording still applies, the task of understanding the exact meaning of the contract of insurance, as expressed in the policy, is not an easy one. (Nael G. Bunni, 2003)

In addition to the above, the architects in his duty as lead consultant may well be held responsible for the works of other designer. In a construction project, not all design will be prepared by the architect. Under certain circumstances, other consultants such as engineer, contractor or sub-contractor is responsible for certain part of the design works. For instance, the sub-contractor, to certain extent, does play some role in designing part of the project as illustrated in the case of *Holland Hannen And Cubbits (Northern) Limited v Welsh Health Technical Services Organisation*, where the sub-contractor was responsible for the preparation of design for windows in the construction of Rhyl Hospital. However, the sub-contractor failed to insert the details of sealant to be used in his design. On this matter, the court held that the details of the sealants are necessary for the works to be properly completed. Particularly, on this matter, the court held that the details of the sealants are necessary for the works to be properly completed:

“I think that the reality is that, as was recognized by the direct contract and as [the sub-contractor] themselves admitted, [the sub-contractor] were the designers of the windows assemblies. They should have submitted full particulars of their designs, including details of sealants, to [the architect] for approval. Inevitably, that approval would have been of a somewhat formal character, since [the sub-contractor] and not [the architect] were the experts with regards to sealants as they were with regards to windows generally, but the effect would have been to make quite certain that the sealants become part of the contract works.”

Under the above circumstances, if the lack of details in the design prepared by the sub-contractor caused damages on the employer's part, there is no professional indemnity insurance coverage to protect the employer against such loss. Alternatively, the employer may look for other avenue to cover his losses. In turn, he might sue the architect, being the lead designer of the whole scheme, especially when it is known that the architect is protected by the professional indemnity insurance. John Parris (1987) suggests that ‘...knowledge that a professional is insured can constitute an incitement to issue a writ...’

It is to be noted that the above issue on liability of architect as lead consultant for the works of other designers trigger an interesting point of view with regard to the understanding of Malaysian architects of their legal responsibility. Accordingly, the architect, while discharging his duty, can still be held liable under various conditions, such as in accordance to the principle of *Hedley Byrne*. The perception of the Malaysian architect on this point is will be studied, as part of the research objectives. Failure to understand the duty under the law may lead to various risks.

Apart from the issue on professional indemnity insurance, another area where Malaysian law is at *lacuna* is on the matter of latent defects policy. In the United Kingdom, the latent defects insurance or the inherent defects insurance has been common (Levine and Wood, 1991), but such insurance policy is not practiced in Malaysia. The policy provides that, subject to any exclusion, cover against defects in the design, materials or construction of the building which are not discovered until some time after its completion. This policy is a first party policy which allows the insured to make a claim for the cost of rectification of defects and frequency; it takes the form of a ten-year non-cancellable policy.

By virtue of the above examples, it is submitted that the legal provisions available in Malaysia related to design risk management is insufficient, and the door is still widely open to be explored. Any law should address the public safety, security, clarity, flexibility, transparency and adaptability. Use of risk and risk management knowledge can effectively serve this purpose in meaningful ways.

3. Research Framework and Methodology

It must be noted the role of law is significant during the whole risk management process. Risk management is an area, which may be effectively thought of in the formulation of law and establishment of legal framework. It is essential to analyze how those potential risk factors related to human actions could cause human sufferings. Those actions could be protected by legal terms so that risk of damage cannot occur at all. Any law should 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 (MA Raquib, 2002).

It is submitted that the Malaysian law has not been instrumental in promoting and establishing a proper risk management framework. With reference to design related risks and the law, as far as this research is concerns, we need to, firstly, identify the risks associated with architects and design works.

According to Malcolm Taylor (2000) there are a numbers of risks embodied in the standard forms of building contract available in the industry. The risks illustrated are connected to standard forms regulating the traditional procurement route, where a lead consultant will be responsible for the rest of the professionals involved in the project. Within this purview, the Malaysian PAM 1998 Form of Building Contract is selected as major reference in the questionnaire, since PAM forms has been widely used throughout Malaysia since 1969. In addition to this the selection of PAM 1998 Form is due to the fact that the Form has been sanctioned by the Pertubuhan Arkitek Malaysia (PAM), the Malaysian professional body of registered architect. Accordingly, under the Malaysian traditional procurement route, the lead consultant has always been the architect; thus he bears the responsibility, particularly on design matters.

Another source of risk in relation to design is related to the structure of the traditional procurement route widely applied in Malaysia. This type of risk can be related to the general structure of the traditional procurement route itself, or may exist as a result of *lacuna* in the relevant form of contract embodying the traditional system. For example, under the traditional route, the first step in design is the briefing process from the client to the architect and other professional designers of the project. All necessary information will be delivered to the designing team. Based on the details obtained from the client, the designing team

will come up with sketch plans, which includes the outline proposals and the scheme design. From this, the working drawings will come into picture. At this point, brief should not be modified.

However, it must be noted that, briefing is not simply a question of the client specifying what is wanted so that the design team can get on with instructing the construction team. In fact, it is one of the most difficult parts of construction design. The development of a good brief is an active process on behalf of the designer and the client. Such a document sets out a design philosophy which should be sufficiently comprehensive to guide all design decisions on a project, but this ideal is rarely achieved in practice. The complexity of the information processing exercise is due to the involvement of many specialist designers, each contributing a small part to the overall picture. Moreover, each of these parts interacts with the other. The co-ordination and integration of such a diverse range of inputs is a daunting task. This is why many projects are tendered on incomplete information (John Murdoch and Will Hughes, 1996). In such circumstances, the project is exposed to various risks elements, particularly on the design aspect.

Accordingly, as illustrated above, the risks associated with architects and design works are two folded. Within these scopes, a set of questionnaire was drafted, with the purpose of identifying the design related risks, risk management and the law. The questionnaire will enable us to look at design related risks, risks management and the law as understood by the practicing respondents. Proper understanding of the risks, risks management and the relevant laws by the respondents in contrast to the theoretical framework is important in determining the adequacy of the law itself. In short, the questionnaire will provide general overview on design risk, risk management and law. In-depth interviews will follow, subsequent to the findings of the questionnaire.

The questionnaire was structured into four parts, namely Part A, Part B, Part C and Part D. Part A is meant to identify the respondents understanding of the risks involved. Part B is drafted to look at the respondents understanding of risk management practice. The respondents understanding of proper risk management practice is very essential in order to scrutinize the law, which meant to complement a proper risk management framework. In relation to this, the respondents understanding of the law regulating their duties is tested in the subsequent Parts of the questionnaire. Part C emphasized on the contractual duties of the architects, while Part D is mainly focused on their understanding of the general law regulating their works.

The first draft of the questionnaire was first scrutinized by a focus group consist of 5 architects. After that, another draft of the questionnaire was sent for pilot study to 200 architects. 24 replies received out of 200 sent. The questionnaire was restructured based on the replies, and once completed, the final set was sent to 1000 registered architects in Malaysia. Within the period of 9 months, due reminder has been sent via phone calls, emails as well as resending the copy of questionnaire, but only 49 respondents replied.

4. Discussion and Analysis of Results

For this report, a descriptive approach will be applied in analyzing the data. The descriptive approach will illustrate design related risks, risks management and the law as comprehended by the respondents.

The respondents are classified based on their experiences, in term of number of years they have been practicing as an architect as well as the frequency in dealing with the PAM 1998 Form of Building Contract.

From the replies, the respondent has been classified into 4 groups, namely those who have been practicing for 1-10 years, 11-20 years, 21-30 years and 31-40 years. Within these year groups, the majority percentages are respondents who have been practicing between 11-20 years.

As for the frequency of the respondents in dealing with the PAM 1998 Form of Building Contract, 80.9% of the respondents admitted that they dealt with the Form very frequently or frequently in the course of their works.

4.1. Part A: Risks Related to Design and Architect

From the data, 93.6% of the respondents agreed that there are risks involved in the construction industry, which include risks related to design. There are no differences of opinion on this point between the year groups or level of experience. Similarly, majority of the respondents also agreed that the risks, if properly managed, may contribute to proper performance of the project, in term of quality, time and cost and vice versa. It illustrates their understanding on the importance of managing the risks.

On the sources of risks, 74.5% of the respondent stated that the risks are connected to the provisions of the building contract and the structure of the traditional procurement system. However, the understandings of the respondents on other sources of risks vary. Only 52.2% and 53.2% agreed, 32.6% and 34% disagreed and 15.2% and 12.8% were unsure, that the risks may also resulted from the provisions of Memorandum of Engagement and Codes of Professional Conduct respectively.

With reference to the above, while most of the respondents agreed that there are risks involved in design works and understanding the risks is importance to ensure proper performance of the project, their misunderstanding of the sources may jeopardized the whole concept. It is submitted that the sources of risks need to be properly identified and addressed. One of the ways is through legal provisions, by providing a better contractual framework that may minimize the potential risks.

4.2. Part B: Design Related Risks and Risk Management

With reference to risk management, majority of the respondents agreed that risk identification (97.8%), risk analysis (89.1%) and risk response (87%) are the essential elements in risk management practice. In short, it illustrates that most of the respondents have the basic understanding on risk management.

However, the respondents understanding on the steps to be performed differ, where 21.7% were of the opinion that efficient risk analysis does not require the identification of all possible risks, whereas 69.6% thought otherwise. 8.7% were unsure on this point. Theoretically, it is essential to identify all the risks before proper risk analysis can take place.

The respondents also differ on the risk response method. While majority accepts risk avoidance and risk reduction as a proper risk response method, with 80.4% and 93.3% agreed respectively, many disagree or not sure with risk transfer/allocation and risk absorbance as options in responding to the risks. 20% disagreed with risk transfer/allocation and 35.6% were unsure. Only 44.4% agreed to this method. On risk absorbance, 28.9% disagreed, 35.6% unsure and 35.6% agreed.

Subsequent to the above, only 56.5% agreed that the allocation of risks to the party that is in the best position to accept the responsibility as an efficient risk response strategy. The above illustration with regard to percentage of respondents on risk allocation also rationalizes the finding that only 57.8% understood the role of the contract in risk allocation. Many do not understand the purpose of the contract, where 28.9% were unsure of it, and 13.3% disagreed on the role of the contract with regard to risk allocation.

While the respondents' opinion varies on proper risk response method, majority of the respondents agreed on the areas of their works that need to be emphasized to fulfill certain standard as part of risk mitigation process. They agreed that, the drawings and specifications need to:

- a) meet the client's requirement (87%)
- b) define the scope of works completely (93.5%)
- c) comply with the rules and regulations stipulated ((89.1%)
- d) respect the project cost limit or budget (82.2%)
- e) are sufficient for tender purposes and unambiguous (84.8%)
- f) are practical and buildable (84.8%)
- g) are completed in the stated contract period (78.3%)
- h) ensure a safe working environment during and after construction (89.1%)

Looking at the above illustrations, it is obvious that many of the respondents have a misconception on the role of the contract as an avenue to manage the risks. Generally, quite a number of respondents do not realize the proper steps in managing the risks, the risk management methods and its importance, the essence and importance of risk allocation and its relation to the contract. Based on the above, it is essential to have a proper contract, which can promote and develop a sound risk management practice among the architects.

4.3. Part C: Risks Related to Architect and Design Works Under the Traditional Procurement System Embodying PAM 1998 Form of Building Contract

The construction contract has to support the risk management framework, to ensure that the risks are properly managed. Instead of that, a contract which was drafted insufficiently or poorly might be the cause of risks. Having that in mind, the respondents were asked to give their opinion on PAM 1998 Form. As illustrated by PAM 1998 Form, architect means the architect registered with the Board of Architects Malaysia. Under the normal circumstances, the architect registered with the Board is governed by the Conditions of Engagement and the Codes of Professional Conduct, when entering into an agreement for architectural consultancy services, as stated in Rule 29 of the Architects Rule 1996. Therefore, the Conditions of Engagement and the Codes of Professional Conduct has to be read together with the provisions of PAM 1998 Form, whenever it related to architect and design works.

Accordingly, since the purpose of the report is to gather general overview on risks related to design, risks management and the law, it is suffice that the analysis be made based on response given on PAM 1998 Form.

76.1% of the respondents rated the PAM 1998 Form as sufficiently outlined the responsibilities of the architect. 17.4% rated it as average, whereas only 6.5% were dissatisfied and rated it as poorly drafted, in term of outlining the responsibilities.

With regard to the sufficiency of the Form in coordinating the responsibility of architect, design professional, client and contractor, 76.1% of the respondents rated the Form as very good/good, 21.7% accepted it as average while 2.2% consider the Form as poor/very poor.

The respondents were asked on the provisions of the Form, whether proper performance of the provisions stated in the contract can be sufficiently accepted as an efficient risk management practice. On this point, merely 57.8% rated the Form as very good/good in establishing a proper risk management practice. 33.3% rated it as average and 8.9% consider the Form to be very poor/poor with regard to the above.

Relevant to the above, the percentage of the respondents in accepting the Form to be very good/good in providing acceptable level of protection is low. Only 40% agreed that the Form has been sufficiently provided such protection, 42.2% rated it as average and 17.8% consider the Form to be very poor/poor.

Considering the above replies as a whole, it is clear that the PAM 1998 Form can be further improved. This is in fact very much needed since many comments have been made on PAM 1998 Form, in particular

on the above issues. Based on the replies, while a number of respondents were slightly satisfied with the performance of the Form with regard to outlining the responsibilities of the architect and coordinating such duties among relevant parties involved in the construction industry, on which if not properly addressed by the contract may lead to the occurrence of risks and problems, many were not satisfied with the Form as establishing a proper risk management framework as a whole and the level of protection available under the contract.

4.4. Part D: Legal Framework on Design Risks Management

The law should be sufficient, clear in its term and adequately understood by the parties, with the view of safeguarding the rights and providing ample protection to all parties involved. Accordingly, it has been the philosophy of the law itself; to protect the rights, property and life.

The architects have to adequately understand the law that governs their duties and responsibilities. Failure to properly understand the law might well lead to the occurrence of potential risks.

Basically, a strong percentage of 95.6% agreed that it is essential to understand the law, as part of risk management practice.

Based on the questionnaire, 80% of the respondents understood that their duties and obligations are governed by the law of contract. 17.8% were not sure and only 2.2% disagreed with the above.

However, the percentage dropped when the respondents were asked about law of tort. Merely 65.9% agreed that they are governed by law of tort. 31.8% were unsure and 2.3% disagreed. Such percentage is alarming, in contrast with the respondents understanding on the importance of understanding the law as part of risk management practice.

On the statutory provisions, 79.5% agreed, 18.2% were unsure and 2.3% disagreed.

Looking at level of understanding of the respondents, while their perception on the law in general is important, they have to embrace other branches of law apart from law of contract alone. This is so, since, for instance, the understanding on tort is very much important. Basically, with regard to architect, the law of tort covers various aspects of their works, such as in a matter of negligence, trespassing and establishing the standard of care to be performed. Failure to understand this will jeopardize their works and lead to potential risks.

On the role of law with reference to risk management, 70.5% agreed that the Malaysian law plays an important role. 22.7% were not sure and 6.8% disagreed. In particular, 45.5% of the respondents were of the opinion that the Malaysian law has been good in imposing the duty on the architect to exercise the basic element of risk management practice in design works. On properly allocating the risks related to design works to the most appropriate party to manage it, merely 48.9% agreed that the law has been good in that sense. Similarly, only 51.2% rated the Malaysian law as being good in establishing the standard of acceptable risk management policy.

With reference to the above, it is difficult to apprehend the understanding of the respondents on the role of law and risk management framework, when a number of the respondents does not really grasp the whole scope of law governing them. Nevertheless, from the other perspective, even when the respondents understood just certain branches of law, they perceived that the provisions of that particular law has not been sufficient to cater the need of establishing a proper risk management framework, as evidenced by the replies on issues such as imposing the duty on the architect to exercise the basic element of risk management practice in design works, properly allocating the risks related to design works to the most appropriate party to manage it and establishing the standard of acceptable risk management policy.

5. Conclusion

Adapting the descriptive approach, the analysis provides us with information that majority of the respondents to this study understand there are risks involved in design, the importance of risk management as well as the importance of law in managing such risks. Nevertheless, there are numbers of respondents who are unclear or having a misconception on the scope of the law governing their works and its role in risk management. Such perception may lead to potential risks. The occurrence of risks is more likely, in addition to the above, due to the insufficiency of the law itself. Various aspects of the law have not being instrumental in providing a better risk management structure. On the face of this, the data illustrates that PAM 1998 Form does not sufficiently support a proper risk management structure. This point need to be further clarified, in particular on the areas where the contract is lacking. It is necessary especially when, based on the survey, mix opinions were given on risks transfer/allocation as a risk management strategy. Accordingly, this approach is regarded as one of efficient risk response strategy. Risk allocation is an essential element of a contract, and may contribute to better management of risks.

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