



The Institution Engineers, Malaysia

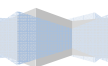
Position Paper for Project Management Consultancy Relevancy in Local Context

Position Paper for PMC Relevancy in Local Context

Position Paper ~ Project Management Consultancy (PMC) by Ir. Dr. Ahmad Anuar

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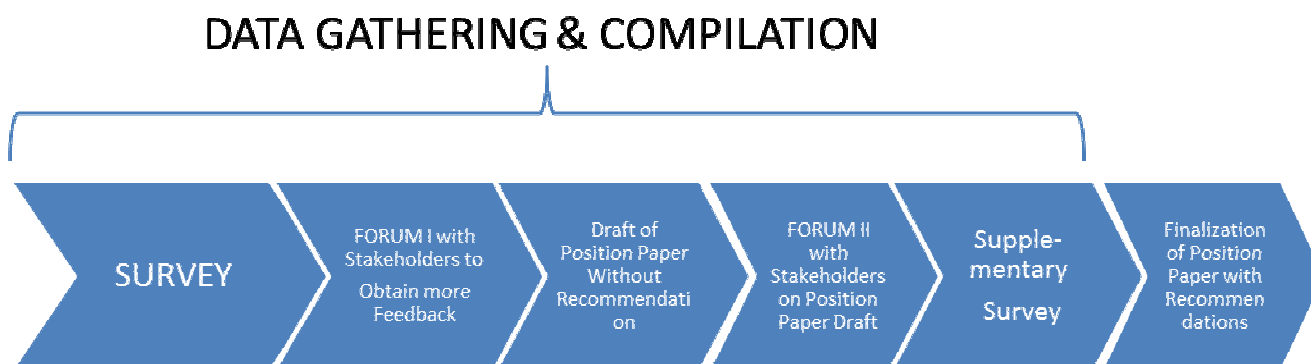


Abbreviations

1. Executive Summary

The concept of Project Management Consultancy (PMC) services is to improve the efficiency and effectiveness of a project to ensure its successful completion. However, negative feedback from the industry coupled with previous bad track records of PMC service providers have led to a nationwide misconception on the benefit of PMC in the construction industry. Following this, the Project Management Technical Division (PMTD) of the Institute of Engineers, Malaysia (IEM) has been approached to provide a position paper on this phenomenon.

PMTD conducted a structured approach in generating this position paper as follows:



From the survey and the feedback obtained from the two forums, a number of results surfaced. The findings are summarized below:-

Firstly, clients were more inclined to outsource PMC as they neither had the expertise nor the resources intrinsically.

Secondly, the perception of PMC effectiveness in the management of a project corresponds to a client's understanding of the PMC's value added to the project. In this respect, the added value is the PMC's project management systems, processes, tools and resources in managing the site contractors and the design consultants. The PMC's unbiased position that has no commercial relationship with any particular element of the project (unlike the contractor or the design consultants) reinforces the value to the client in successfully completing the project.

Thirdly, this study revealed a neutral view on the PMC capability in the market which needs to be improved, especially the competency aspects.

Lastly, while it was stated that the industry understood what was required from a PMC service provider, some of these service providers did not understand the same.

To address the issues and concerns arising from the data and findings above, the following recommendation are proposed.

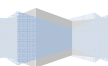
Position Paper for PMC Relevancy in Local Context

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- An establishment of a governing body to:
 - determine a clear definition of scope , roles, responsibilities and liabilities of PMC.
 - identify and recognize public and/or private entities that are capable of providing training in project management within the standards set by the said governing body.
 - issue certificates of competency to individuals and corporate bodies and maintain a register of competent individuals and corporate bodies in project management

- A structured training approach should be designed and sanctioned by the above said governing body and a government body.

- The selection of PMC should be based on the PMC companies registered with the said governing body



2. Listing of Position Paper Committee (PPC) Members

Upon establishment of the PPC to initiate this position paper in 2009, the composition of the members were the following:

- | | | |
|--------|---|--------|
| (i) | First Admiral Dato' Ir. Hj. Ahmad Murad Hj. Omar (Rtd.) | - IEM |
| (ii) | Ir. Lee Boon Chong | - IEM |
| (iii) | Ir. Faizal A. Sanusi | - IEM |
| (iv) | Ir. Mustaffa Tek | - IEM |
| (v) | Ir. Frankie Chong | - IEM |
| (vi) | Mr. S. Arokiadass | - PSDC |
| (vii) | En. Muhammed Amin Aminul Zaman | - PSDC |
| (viii) | Sr. Azizah Mohd Yusoff | - CIDB |

At the time of publishing this position paper to date, the composition of the members were the following:

- | | | |
|--------|----------------------------|-------|
| (ix) | Ir. Lee Boon Chong | - IEM |
| (x) | Ir. Faizal A. Sanusi | - IEM |
| (xi) | Ir. Dr. Ahmad Anuar Othman | - IEM |
| (xii) | Ir. Mustaffa Tek | - IEM |
| (xiii) | Engr. Kangasingam K. P. | - IEM |

3. The Issues

A multiplicity of diverse projects grew sporadically from all industrial sectors in Malaysia to facilitate the nation's development towards an industrialized state. The advent of project management therefore, was identified as an essential tool to effectively and efficiently implement these projects to successful completion.

These projects, particularly the mega projects, were incepted in the mid 1990's to present date and the management of these projects was undertaken by organizations that intrinsically had the knowledge, experiences and systems for its accomplishment. At that time, these organizations were typically either outsourced to foreign companies or local organizations which had foreign expertise infused into their organizations by way of "body shopping" expatriates or joint venturing with foreign companies. Examples of prominent public projects in Malaysia that were managed during that period include the North-South Expressway, the Kuala Lumpur Telecommunications Tower, the Petronas Twin Towers, and the Kuala Lumpur International Airport.

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In the year of 2000s, some of these local organizations had acquired some project management knowhow from technology transfer with the intention of carrying out project management consulting in house and offering this service out to the local market. Soon after, other local companies claimed to have this expertise as well, presumably for the purpose of profiting from the demand of this service which is Project Management Consultancy (“PMC”).

Though PMC services have been widely used to improve efficiency of a project, there has been a decline of service demand in the recent years, particularly due to the negative feedback from the industry with respect to the benefit and effectiveness of such service. The level of confidence by the Ministry of Works also declined as some public projects handled by a few PMCs, who claimed to be able to do PMC or deliver PMC services were unable to be completed within the scheduled duration. A few previous bad track records of PMC service delivery have led to a nationwide misconception of the benefits of PMCs to the clients, especially in the construction industry.

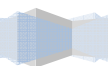
The Project Management Technical Division (“PMTD”) of IEM has been approached to provide a position paper on this phenomenon and in doing so PMTD has conducted a pulse survey to ascertain the relevance of PMC in today’s context in Malaysia. In conjunction with the survey, PMTD had also drawn opinions from within its committee members and other relevant industry members such as government bodies (e.g. JKR, CIDB, MOD, etc.), Government Linked Companies and private entities (oil & gas companies, property developers, consultants, etc.).

The aim of this Position Paper is to provide a stand point from IEM with regards to the relevance of PMC in local and current context by considering various views from stakeholders of this initiative. It is with high expectation that this position paper will ultimately lead to a change of current perception of PMC, thereby reviving the keenness to employ PMC as a key professional service component to all national developments.

4. Background

In preparing the position paper, several approaches were devised by IEM to progressively elicit and collate information and views from stakeholders. This process consisted of the steps mentioned below where each succeeding step was designed to reinforce the results of the preceding step.

Figure 1: IEM Approach for the Position Paper



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<p>Step 1: Survey 2009</p>	<p>Objective: To determine the level of agreement regarding project management consultancy (PMC). The survey is an important study to understand the general perception of the relevancy of PMC.</p> <p>Scope: To conduct a questionnaire survey, which was divided into two sections; (a) demographics (general information of the respondent and the organization); and (b) the level of satisfaction on services provided by PMC.</p>
<p>Step 2: Forum I Aug. 2009</p>	<p>Objectives:</p> <ul style="list-style-type: none"> To agree on a clear definition of Project Management Consultancy (PMC) and the general roles and responsibilities of PMC. To deliberate and achieve a consensus on the relevance of PMC in today's project environment in the Malaysian context. To adopt and accept propositions and resolutions of the forum for further action. <p>Scope: To have the views and resolutions on the issue "Is Project Management Consultancy still relevant today?"</p>
<p>Step 3: Position Paper Draft 2010</p>	<p>Objective: To prepare a draft position paper for the preliminary endorsement by the IEM Position Paper Coordinating Committee reflecting the views from both the consensus (survey) and the forum for further action with a view to presenting the same to relevant authorities for consideration and adoption.</p> <p>Scope: To analyze and present the findings and outcome of both the survey and the Forum 1.</p>
<p>Step 4: Forum II Feb 2011</p>	<p>Objectives:</p> <ul style="list-style-type: none"> To present the summarized contents of the draft position paper and solicit feedback from the forum participants with respect to its methodology, findings and draft conclusion, and proposed next steps. To obtain any further feedback from the forum participants with respect to the four parameters of the survey questionnaire. <p>Scope: To refine the draft Position Paper for the endorsement by the IEM Position Paper Coordinating Committee.</p>
<p>Step 5: Supplementary Survey 2013</p>	<p>Objectives: To determine the level of agreement regarding project management consultancy (PMC) with the sampling done in year 2013.</p> <p>Scope: To validate the data and findings of the analysis of the initial survey and the feedback and findings of Forum I and Forum II given the time lag to progress the Position Paper</p>
<p>Step 6: Adopted Position Paper</p>	<p>Objectives:</p> <ul style="list-style-type: none"> To finalize the Position Paper for endorsement by Position Paper Coordinating Committee. To get the approval from IEM Council for release to the government.

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2013	Scope : To produce the final Position Paper with recommendations.
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Source IEM

5. Survey

A survey was conducted by IEM by sending questionnaires out to IEM members. IEM has received the feedback and presented the outcome in the position paper. Below are the parameters measured with regards to the demographics of the respondents.

Figure 2: Demographic parameters

Organization	Public or Private
Nature of Organization	Client/service provider/contractor
Industry	Building & infrastructure/Oil & Gas /Information Technology (IT) /Manufacturing / Others
Dominate Role	Managerial/Specialist supervisor/Professional/Others
Working Experience (years)	More than 20/between 15-20/between 10-14/between 5-9 years/Less than 5
Total value of project involved (RM million)	More than 500/Between 300-500/Between 150-300/Between 50-150/Less than 50

Source IEM

In preparing the second part of the questionnaire, the measurement criteria for assessing PMC relevancy were identified and used as a basis to develop what is known as the “expert” questionnaire. The concepts that were used to measure the level of satisfaction pertaining to the relevancy of PMC are as follows;

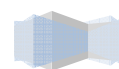
Outsourcing versus In-House

The questions in this category were meant to measure the respondents’ inclination either to outsource the Project Management (PM) functions or to perform it in-house.

Perception of PMC Effectiveness

These questions were used to measure the respondents’ perception of the effectiveness of PMC’s in performing the Project Management function.

Understanding the PM Concept



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These questions were used to gauge the respondents' knowledge of the PM concept. These responses would be useful to understand PM concepts based on standard industry practice and to correlate between the level of understanding on PM Concept and the credibility of the responses.

Perception of PMC capability in the market

These questions were used to gauge the respondents' perception of PMC's capability in the market. The responses in this category were used to support the Outsourcing vs. In House argument.

5.1 Survey Methodology

The verified measurement criteria from the survey constituted the industry wide survey, which was circulated via e-mail to practitioners in the industry who had recent hands-on experience working with PMCs in construction projects. The list of targeted respondents and their contact details was obtained from the Institute of Engineers Malaysia. The respondents were requested to rate the extent to which they agreed or disagreed on each question using a five-point *Likert* scale (1=strongly disagree and 5 = strongly agree). Using the same scale, a simple score is given to each rate of agreement, with 1 and 5 given to the lowest and the highest frequency percentage respectively. The median score is given as 3.

Based on the scores, the average index was then calculated to determine the ranking of each constructability measurement being considered. The demographics and the relevancy of PMC were tabulated based on the result obtained from the industry-wide survey.

The analysis on the demographics was to ensure the credibility of both the respondents and the responses. The questions were directed to obtain general information of the respondent and the organization. In addition to the basic information, the respondents were also requested to furnish the industrial sector attached to, the dominant role taken, working experiences and the total value of the projects that they were involved.

5.2 Survey Outcome

The outcome of the survey were divided into two (2) categories namely the demographics and the relevancy of project management.

5.2.1 Demographics

Figure 3: Demographic results

Demographics		Percentage
(a) Organization	Public	7.8
	Private	92.2
	Total	100.0
(b) Nature of organization	client	16.7

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Demographics		Percentage
	service provider	58.3
	contractor	25.0
	Total	100.0
(c) Industrial sector	Building & infrastructure	67.6
	Others	14.5
	Oil & Gas	10.6
	Manufacturing	5.6
	Information Technology	1.7
	Total	100.0
(d) Dominant role	Professional	59.7
	Managerial	32.4
	Others	4.5
	Specialist supervisor	3.4
	Total	100.0
(e) Working experience (years)	More than 20	29.2
	Between 5-9	21.9
	Between 10-14	21.3
	Between 15-20	14.0
	Less than 5	13.5
	Total	100.0
(f) Total value of project involved(RM million)	More than 500	42.9
	Between 150-300	16.4
	Less than 50	16.4
	Between 50-150	14.7
	Between 300-500	9.6
	Total	100.0

Source IEM

From the information gathered, most of the respondents were from the private sector of which more than half are service providers. Close to about 70 percent were directly under the building and infrastructure industrial sector of which more than two thirds taking professional and managerial roles respectively. More than 50 percent of the respondents had more than 15 years of working experience and close to half of the respondents have or are currently involved in projects worth more than RM 300 million.

(I) Total Respondents and IEM members by industrial sector

Industrial sector	Survey Respondents	Percentage	IEM Members	Percentage
Building & infrastructure	121	67.6	9,684	64.2
Information Technology	3	1.7	19	0.1
Manufacturing	10	5.6	2,691	17.9

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Oil & gas	19	10.6	2,156	14.3
Others	26	14.5	522	3.5
Total	179	100.0	15,072	100.0

5.2.2 Project Management Relevancy

Outsourcing versus In-House

Figure 4: Project management relevancy results (outsourcing versus in-house)

	Satisfaction level	Average	Ranking
Outsourcing vs. in-house	Strongly disagree	1.7	5
	Disagree	2.7	3
	Neither agree or disagree	3.8	2
	Agree	4.3	1
	Strongly agree	2.5	4

Source IEM

There is a significant response in agreement (agree and strongly agree) in outsourcing PMC. The indication is such towards outsourcing because of the perceived benefit compared to PMC cost.

Perception of PMC Effectiveness

Figure 5: Project management relevancy results (Perception of PMC effectiveness)

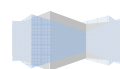
	Satisfaction level	Average	Ranking
Perception of PMC effectiveness	Strongly disagree	1.5	5
	Disagree	3.0	3
	Neither agree or disagree	3.8	2
	Agree	4.3	1
	Strongly agree	2.5	4

Source IEM

There is significant response in agreement (agree and strongly agree) to the effectiveness of a Project Management Organization (PMO). The majority of the respondents acknowledged the benefits of a PMO and its structure.

Understanding the PMC Concept

Figure 6: Project management relevancy results (Understanding the PM concept)



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	Satisfaction level	Average	Rank
Understanding the PM concept	Strongly disagree	1.2	5
	Disagree	2.1	4
	Neither agree or disagree	3.1	3
	Agree	4.6	1
	Strongly agree	4.1	2

Source IEM

The majority of the respondents were in agreement (agree and strongly agree) that PMC requires adequate procedures, specific tools, good track record and financial strength. The respondents have also agreed that project management function is a professional discipline having guidelines, standards and acting in an objective and professional manner.

Perception of PMC capability in the market

Figure 7: Project management relevancy results (Perception of PMC capability in the market)

	Satisfaction level	Average	Ranking
Perception of PMC Capability in the Market	Strongly disagree	1.0	5
	Disagree	2.9	3
	Neither agree or disagree	4.3	2
	Agree	4.8	1
	Strongly agree	2.1	4

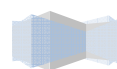
Source IEM

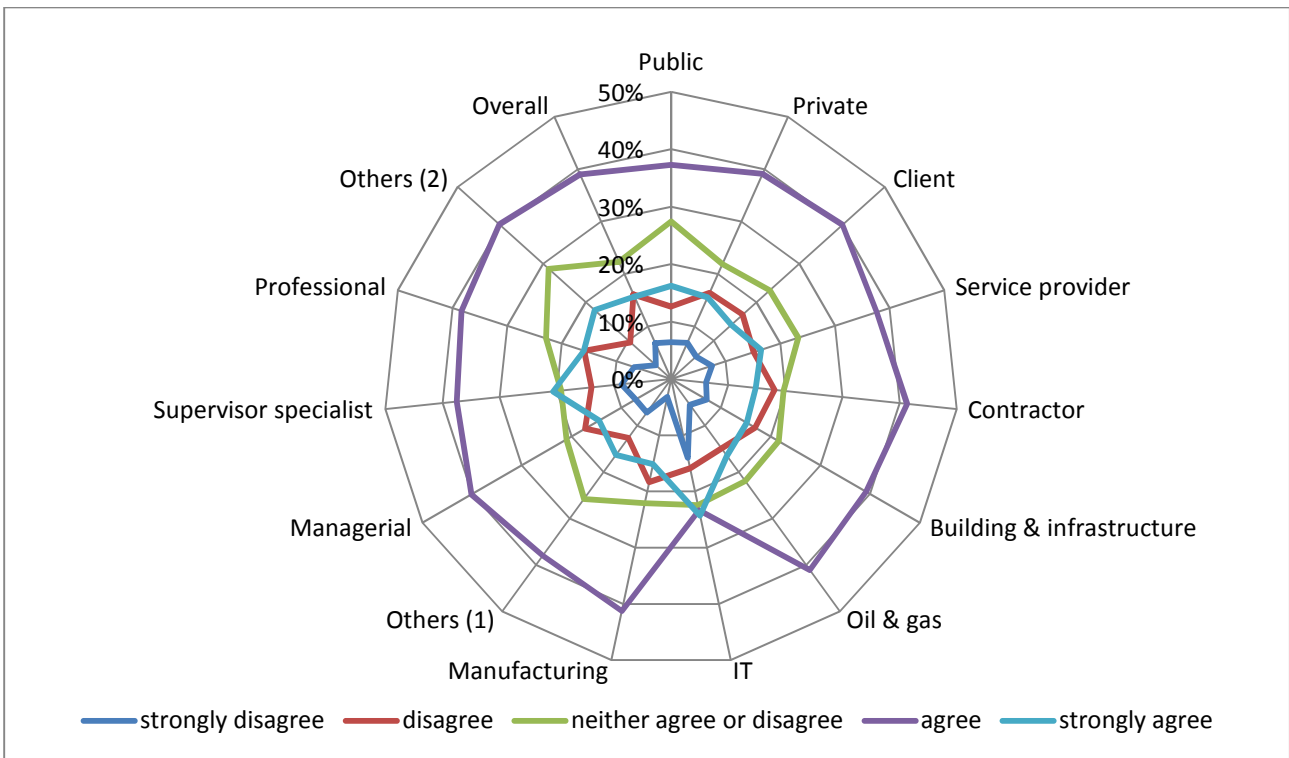
There is a significant response in agreement that the outsourced PMC have some expertise. There is marginal response in agreement that local PMCs have adequate experience, high knowledge, adequate tools, and systems & procedures to perform their function.

The overall responses from the industry-wide survey (as shown in Figure 8 below) revealed that more than half from the total number of respondents are in the agreement to the importance of project management functions. However there were some concerns on the assurance with respect to the capability of local PMCs where almost one quarter out of the total number of respondents has shown some level of disagreement, whilst some have remained neutral on the overall roles of PMC.

To illustrate the consistency of response, the various colored outlines in the radar chart below depict that no significant overlapping of responses occur and hence the credibility of the response can be reflected in the conclusion of this paper.

Figure 8: Overall level of agreement





Source IEM

Both the public and private organizations were in the same level of agreement (agree and strongly agree) on the importance of project management functions. Further down in terms of the nature of the organization (client, consultant or a contractor), three groups were showing the same level of agreement when it comes to the value of project management.

The different levels of engineering sectors, mainly building & infrastructure, oil and gas, manufacturing and IT have shown an overall statistical contribution of more than 50 percent each, for both the agree and strongly agree level of agreement correspondingly. The same levels of agreement were also recorded in terms of profession, namely managerial, supervisor specialist, professionals and others.

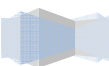
6. Forum I

6.1 Forum I Methodology

The first forum on the 'Relevancy of Project Management Consultancy' was held on 17th August 2009 at the IEM Auditorium, Wisma IEM. As the ensuing step in preparing the position paper, the forum was organized to gather views and inputs from various stakeholders and practitioners.

The panelists that attended the forum were from the following organizations:

- SIRIM Bhd.
- Jabatan Kerja Raya (JKR)



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- Project Management Institute, Malaysia (PMI)
- The Institution of Engineers, Malaysia (IEM)
- Professional Services Development Corporation (PSDC)

6.2 Forum I Outcome

Outsourcing versus in-house

The rationale for clients to outsource PMCs is to improve business focus, liberate resources for core business and allow access to high capabilities. It is generally accepted that clients are either resource challenged or unable to develop project management best practices and therefore seek others to reach high capabilities. Here delegation of project management brings the necessary experience and expertise, the methodology, professionalism and best practices towards the success of a project. Below are some of the feedback and viewpoints from project practitioners and stakeholders on the argument of outsourcing against in-house PMCs.

- IEM is of the view that project management functions do not always necessarily to be outsourced. Outsourcing this function depends on both external and internal factors; external factors can be the availability of capable project management Consultants; the levels of expertise within the different areas of Project Management of PMC's (e.g. scope control, schedule control, cost control, quality control, contracts administration, etc.) and internal factors can be the adequacy of PM expertise and resources to perform the PM functions, economies of scale, and so forth.
- According to them, PMCs have been unprofessionally conducted in many instances when applied to conventional type of projects, but for those who have been involved in plant engineering, oil and gas, petrochemical and power plants, PMC has always been engineering led, technology and innovation driven. In harmonization term, it is called as integrated engineering services under the World Trade Organization (WTO).
- The Construction Industry Development Board (CIDB) gave the statistics that in the past five years, 30 percent of project management consultancy firm had projects worth less than RM 100 million, 20 percent had projects worth RM 100-250 million and 24 percent had projects worth more than RM 250 million. The rest (26 percent) of the PMCs claimed to have no projects.
- CIDB concluded that within that time, about 32 percent of PMCs reported that the value of their biggest projects were worth less than RM50 million, 27 percent with projects valued between RM50-RM100 million, 18 percent with projects valued at more than RM100 million while 23 percent had no projects.
- JKR advocated the in-house approach. JKR consists of three sectors, namely, the specialist sector, the business sector and the management sector which supports all other sectors. When a project comes to the business sector, they appoint project managers, with support from all other in-house consultants, and

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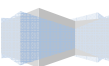
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create a project team. The project manager is in charge from planning to design, procurement and construction with input from specialist branches throughout the project lifecycle.

Perception of PMC Effectiveness and its Capability in the Market

Project management function is perceived to be objective and professional and can be effective in controlling the project scope, cost, schedule and quality. Below are some of the feedback and viewpoints from project practitioners and stakeholders on the argument of the perception of project management consultancy effectiveness and its capability in the market.

- PSDC is of the view that the independent role of project management in protecting client's overall interest is assured as it is the project manager's main interest. Independent project management will result in the right balance throughout the project amongst scope, budget, quality, time, information and organisation, thus forcing all parties involved to clearly focus on client's aim and objectives. Only then can the client focus on his principal role in the project without placing a load on his organisation, thus retaining his valuable resources for his core business.
- SIRIM believes that it is time to re-evaluate and re-establish PMC with a clearer definition, scope, roles and responsibilities. Some of the areas which need emphasis with respect to PMC effectiveness is the re-establishment of formal training facility or modules, certifying competent project managers and team members, standardising PMC legal documents and having an appreciable scale of fees.
- PSDC believes that PMC is relevant for two major reasons; firstly PMC can contribute in ensuring or enhancing quality of projects and secondly, PMC has the ability to enhance exports, which Malaysian based PMCs have either overlooked or failed to procure opportunities in the Middle East. Despite the same faith in PMC, projects were not given to Malaysian companies due to the fact that local companies have been perceived to have poor track record, process and system and capabilities.
- Nevertheless the perception is that Malaysian based PMC capabilities seem to be inclined more towards the Asian region. It is therefore critical that PMC needs to be explored further beyond the Asian region to take advantage of other regional assignments and developments.
- CIDB's survey on the qualifications of technical personnel of PMCs revealed that 75 percent holds a degree, 13 percent holds a diploma and 10 percent holds some sort of certificate while 2 percent holds a diploma not related to construction. Only 28 percent of the companies surveyed have attended project management related training. The study also showed that only 8 percent of project management companies have ISO 9001 certification. This is still poor by international standard to be internationally recognized as project managers.



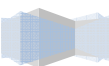
Understanding the PMC

In general, there is clearly understanding of project management functions, roles, structures, methodology and guidelines by various parties. Below are some of the feedback and viewpoints from project practitioners and stakeholders on the argument of understanding the project management concept.

- PSDC stressed that PMCs must possess project management capabilities, which are described as the six PMC elements. Firstly, PMCs must have a process and system of management. Secondly, they must have the right reputation, which comes in two forms, namely, track records, experiences and the projects that have been managed, as well as a quality assurance system in the form of ISO. The other elements are physical hardware (equipment, technologies), innovations, financial and, lastly, human capital. In order to implement projects effectively, a PMC requires a good leader with technical competencies, as well as the right knowledge, skills and attitude.
- PSDC advised that PMC should be more methodical when it comes to PMC's project implementations and executions. PSDC suggested that a regulatory framework is needed to safeguard performance standard and quality of service by PMCs.
- IEM stated that CPC code No. 8673 refers to the Integrated Engineering Services which covers the scope of feasibility analysis of the project, design, procurement and completion. PMC is relevant throughout the scope in ensuring integration of engineering services and the final delivery of the project.
- IEM strongly advised that projects either in the form of PMC or EPCC have to maintain a strong level of documentations. IEM emphasised that a good delivery system encompasses complete reports from the design stage till the delivery of the project. The reports which are revised several times in detail will be a great source of reference and a training manual for both the operation and maintenance team.
- JKR on the other hand explained that they are working towards enhancing project management practises by providing guidelines. For the past years, they had come up with the JKR Project Management Competency Standards for their project managers, a Competency Based Assessment System based on the Australian Institute of Project Management (AIPM) and Acquisition Categorisation of Projects (ACAT I, II, III, IV and V). Currently, they are promoting risk management in certain categories of projects. They have also just launched the Malaysian Asset & Project Management Association (MAPMA).

7. Forum II

7.1 Forum II Methodology



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The second forum on the 'Relevancy of Project Management Consultancy' was held on 26th February 2011 at the IEM Auditorium, Wisma IEM. The forum was organized to gather more views and inputs from various stakeholders and practitioners, before the finalization of the position paper.

The panelists that attended the forum were from the following organizations:

- KLIA Consultancy Services Sdn Bhd
- Association of Consulting Engineers Malaysia (ACEM)
- Construction Industry Development Board Malaysia (CIDB)
- The Institution of Surveyors, Malaysia (ISM)
- Pertubuhan Akitek Malaysia (PAM)

7.2 Forum II Outcome

Outsourcing versus in-house

The feedback and comments were consistent with the findings of the survey and Forum 1. Project owners or clients were more inclined to outsource project management as opposed to performing it in-house. Clients outsource if they do not possess the expertise or if the project is of a large size.

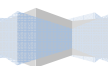
Perception of PMC Effectiveness

There were more positive than negative feedbacks from the panelists and participants on the perception of PMC effectiveness. While there are some project owners that recognized the need and effectiveness of PMC, there were some who were unable to determine the value added by PMC.

In a project there are the three constraints of time, cost and scope which are the responsibility of various parties depending on the situation. In the example of time overruns, it is conventionally mapped to the contractor's liquidated damages clause during construction. If the project encounters cost overrun, it may be due to poor cost estimation performed by the quantity surveyor who can be held accountable.

If the final product of the project did not meet the specifications set by project owner or industry standards, then the designer may face professional negligence claims by the project owner. Hence, it is clear that for any input into a project to add value, there should be corresponding responsibility, accountability and liability. This begs a question as to the value added by the PMC or its effectiveness in the project as the question of PMC's liability remains unanswered.

In support of PMC's effectiveness in terms of the values it adds to the project effort, a remark was made that PMC manages the processes involved in ensuring project successful completion. In doing so, the PMC/PMO



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holds itself out to possess the systems, tools, expertise, resources, soft and hard skills to perform the services. The product or service provided by the PMC is intangible which is likely to be the reason why it is difficult to determine its liability. Another aspect of the value added by PMC is its impartiality in managing the project and thus being able to protect the interest of the project owner. As stated before, the discipline consultants (e.g. architects, engineers, quantity surveyors, etc.) have professional liabilities and construction contractors have commercial liabilities in their contract.

The PMC may not have any direct liabilities with respect to the project's tangible deliverables. The PMC's liabilities would be their performance deliverables set in their contract with their client which makes them (the PMC) the party best suited to protect the interest of the project owner in ensuring that other discipline consultants and the contractor perform.

In short, the function of the PMC has a direct bearing to the effectiveness of the project progress as this organization is unbiased and oversees (and drives) the performance of the design consultants and the contractor(s) who have commercial liabilities in their respective deliverables.

Perception of PMC Capability in the Market

There was positive and negative feedbacks from the panelists with respect to the PMC capability in the market. This appears to be consistent with the feedback from both survey and the previous forum.

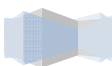
A panelist remarked that to increase a positive perception of PMC capability in the market, it would be necessary to have a government body to control the registration of both individuals and companies who are providing PMC services. The criteria for registration must be through an accreditation process by way of a structured and formalized training regime for individuals; it was suggested that CIDB enforces this action (only for the construction industry).

For PMC companies, apart from having personnel who were registered as competent project management professionals with the said government body, the company itself must show evidence of possessing systems, tools, standards, procedures and methodologies and the appropriate ability to apply these elements. For PMC registration, it was suggested that the Ministry of Finance enforce this action.

By having the above registration of individuals and bodies corporate, the forum felt that the industry's perception of PMC capability will be enhanced.

Understanding the PMC Concept

In the ensuing discussion, the forum understood what was required from a PMC; i.e. possessing systems, tools, standards, procedures and methodologies with the appropriate experienced and skilled resources to perform its



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obligations. In tandem with this is the formulation of an appropriate project management organization depending on the nature of the project.

Project management organization generally refers to the generic project organization structures that are more likely to be common across industries. The differences mentioned by the panelists may refer to industry specific project life cycle, technical work organizing process, regulatory requirements etc.

However, a panelist remarked that there are some PMC's who do not understand their scope and what is required from them. The PMC is required to be involved at every stage of the project or its lifecycle (from inception to design to procurement to construction and finally to handover). They are required to use their planning skills to ensure that the efforts of the various resources are integrated in a cohesive and effective manner so that it is cost and time efficient in identifying risks in each stage of the project. They are also required to use their soft skills (e.g. communication, leadership, conflict-resolution, etc.) in the due execution of each stage of the project to ensure that the progress of the project is smooth.

The problem-solving and decision-making skills of PMC help identify problems, assess impacts and generate solution options like trade-offs for the final decision by the project sponsor, owner or customer. It is generally not the PMC who makes the decision on the trade-off of triple constraints.

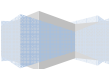
In essence, the PMC who utilizes the concepts of project management best practices and applications at the various stages of the project lifecycle will be able to ensure successful project completion.

8. Supplementary Survey

As there was significant time lag between the initial survey (done in 2009) and the final drafting of this Position Paper in 2013, a Supplementary Survey was carried out in between December 2012 and February 2013 to validate the data, findings and analysis of the initial survey as well as to validate the feedback and findings gathered from the industry stakeholders who participated in Forum I and Forum II.

8.1 Survey Methodology and Outcome

A. Demographic



- 1) Altogether there are 80 respondents taking part in this survey with break down as follows:

Public/Government = 9 (11.3%)

Private = 71 (88.8%)

- 2) They are from three different natures of organization, namely

Project sponsor (client) = 20 (25%)

Service Provider (Consultant) = 40 (50%)

Works Executor (Contractor) = 20 (20%)

- 3) The respondents represented the following industrial sector

a) Building and infrastructure – 35 (43.8%)

b) Oil and gas – 10 (12.5%)

c) IT – 15 (18.8%)

d) Aviation and maritime – 1 (1.3%)

e) Manufacturing – 3 (3.8%)

f) Others – 16 (20%)

- 4) In term of their dominant role they can be classified as

a) Managerial (e.g. Project Manager, Engineering Manager, Construction Manager) – 52 (65.0%)

b) Specialist Supervisor (e.g. Lead Engineer, Commissioning Supervisor) – 3 (3.8%)

c) Professional (Engineer, Architect, QS) – 17 (21.3%)

d) Others – 8 (10%)

- 5) Most of the respondents have more than 10 years of experience. Details are provided below:

More than 20 years = 19 (23.8%)

15 – 20 years = 17 (21.3%)

10-14 years = 21 (26.3%)

5 – 9 YEARS = 17 (21.3%)

Less than 5 years = 6 (7.5%)

- 6) Total value (RM) of projects that they have been involved since beginning of their career are listed below:

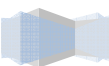
More than 500 million = 21 (26.3%)

300 million – 500 million = 8 (10%)

150 million – 300 million = 9 (11.3%)

50 million to 150 million = 11 (13.8%)

Less than 50 million = 31 (38.8%)



From the above analysis it can be concluded that the respondents possess adequate years of experience, where their involvement in projects ranging from RM 50 million to more than RM 500 million. As such the answer provided by them can be considered as reliable.

B. PMC Relevancy

The survey consists of 17 questions whereby the respondent has indicated his or her level of agreement on the questions posed to them. The Likert Scale ranging from '1' strongly disagree to '5' strongly agree is used to measure the respondent's agreement.

The questionnaire aims toward measuring three important concepts, namely Outsourcing vs. In-House, Perception of PMC Effectiveness and Understanding the PM Concept. The first concept could not be measured in this supplementary survey because two questions (Question 10 and 16) were responded in a manner that was difficult to analyse by a significant number of respondents.

However the second and third concept could be measured using frequency and percentile.

Scores by organization on perception of PMC effectiveness and understanding the Project Management concept are given in Table 1 below.

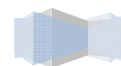
Table 1: PMC Effectiveness and Understanding PM Concept

Nature of Organization	Mean Score (1 to 5)	
	Perception of PMC Effectiveness	Understanding the PM Concept
Project sponsor (Client)	3.52	3.68
Service Provider (Consultant)	3.62	3.88
Works Executor (Contractor)	3.38	3.80

From Table 1, the mean score for project sponsor, service provider and works executor are 3.52, 3.62 and 3.38 respectively, Based on the relatively high score, it can be concluded that generally the respondent agreed on the effectiveness of PMC.

They also show relatively high understanding on the PMC concept where the mean score are 3.68, 3.88 and 3.80 respectively. It can be concluded that the respondent really understood the concept behind PMC.

Independent t-test is used to measure if there is any significant difference in perceiving PMC effectiveness between public sector and private sector. The test reveals that there is no significant difference in perception.



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Again t-test is adopted to measure whether there is any significant difference in understanding of PMC concept between public sector and private sector. The test indicates that there is no significant difference.

Another aspect to be measured is to find out between in-house or outsourcing of PMC.

Scores by organization on three questions related to this issue are given in Table 2 below.

Table 2: In-house vs Outsource of PMC

Nature of Organization	B3-A project can be better controlled if PM is outsourced.	B6- Do you believe that PM function can act in an objective & professional manner as part of the client organization.	B8- The project sponsor or client organization are able to setup a Project Organization that meets your criteria.	B17- Do you agree that PMC outsourcing is too expensive.
Project sponsor (Client)	2.70	3.95	3.70	3.47
Service Provider (Consultant)	3.03	3.88	3.45	3.34
Works Executor (Contractor)	2.79	3.80	3.46	3.49

From Table 2, it can be seen clearly that all organizations prefer PMC to be done in-house rather than outsourced where scores for in-house are relatively higher than outsourced. Question B17 clearly shows that the main reason respondent prefers PMC to be done in-house is due to expensive cost if it were outsourced.

As a conclusion, respondents from different nature of organization feels that PMC is still relevant but they share common opinion that the function of PMC is better to be done in-house rather than outsourced due to cost reason.

9. Recommendations

Based on the survey and the two forums conducted, the feedback and viewpoints obtained were mainly consistent, reinforcing one another in that Project Management Consultancy is still relevant. However, the Supplementary Survey revealed that recently, there is an inclination for the industry to perform the PMC in-house as the cost of outsourcing is a factor.

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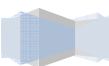
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Hence, to ensure that this discipline sustains its level of professional recognition and standing in the industry; and, to continuously improve itself, IEM would therefore put forward a few recommendations in this paper representing its position on the issue of PMC relevancy in the local context mainly for the construction industry. IEM recommends the following:-

- An establishment of a governing body for the purpose of:
 - determining a clear definition of scope , roles, responsibilities and liabilities of PMC
 - setting a standard by which to assess and certify competency and knowledge level of intending PMCs.
 - identifying and recognizing public and/or private entities that are capable of providing training in project management within the standards set.
 - issuing certificates of competency to individuals and corporate bodies that have fulfilled the criteria set, and thereby maintaining a register of competent individuals and corporate bodies in project management.

- This governing body is proposed to be comprised of stakeholders in the industry. For the initial startup the composition is proposed as follows:
 - IEM
 - BEM
 - PWD
 - ACEM
 - CIDB
 - PAM
 - LAM
 - RISM
 - BQSM
 - ACPM

To lead this body, it is expected at this time that CIDB take this position as the development of the construction industry where project management is an input function to this end is under CIDB's purview.



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It is envisioned that at a later time, this governing body may choose to be a regulator couched under a statute; however, it is proposed that at the initial stage, this governing body report to the Ministry of Works as it is the regulator related to the construction industry.

- A structured training approach should be designed and sanctioned by the above said governing body and a government body. The said governing body can lead this activity but it should be supported by other industry stakeholders (e.g. MAPMA, PMI, ACPM, etc.).

- The selection of the PMC should be based on the PMC companies registered with the said governing body; however, the following is the recommended criteria:
 - A minimum of three company directors
 - Directors of the company is to be a registered professional engineer
 - Directors of the company shall have at least 10 years' relevant experience in project management (validated by said governing board)
 - a company with a Paid Up Capital of RM 250,000

These recommendations above will be channeled to the government for follow-up actions if deemed necessary through its relevant authorities and agencies.

