

## **PROJECT MANAGEMENT MATURITY: SOME RESULTS FROM INDONESIA**

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# **PROJECT MANAGEMENT MATURITY: SOME RESULTS FROM INDONESIA**

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## **ABSTRACT**

This paper presents the results of a pilot survey aimed at ascertaining the level of project management maturity in Indonesian companies. Kerzner's Level 2 assessment tool was used, which basically assesses maturity levels throughout the various phases of an organization's project management life cycle (ie., its embryonic phases, executive management acceptance phases, line management support, growth phases and maturity phases). This is applied to benchmark 70 respondents working in 6 different types of organizations in Indonesia.

Differences in current and expected future maturity levels were found in the responses of project managers employed by different types of organisations, with Financial Institutions, Consultants and Manufacturers having already reached maturity, while all are expected to reach maturity in the future.. Unexpectedly, no significant differences were found between the results for the various stages of the project life cycle.

Overall, the results confirm that project management methodologies have not yet been used most effectively in Indonesia. Although they show a reasonable level to have been achieved already, there is still quite a lot to do in order to achieve perceived potential. However, with over 85% of respondents believing that implementing project management methods is important or very important, this may be just a matter of time to realise.

## **Key words**

Project management, Effectiveness, Maturity models, Indonesia.

## **INTRODUCTION**

Project Management is defined as "a general purpose management tool that can bring projects to successful completion and to the satisfaction of the project stakeholders, given the traditional constraints, of defined scope, desired quality, budgeted cost, and a schedule deadline. Hence, project management is applicable to any organization with the core objectives of scope, quality, schedule and cost"[1]. The need for project management and the benefits that are possible from implementing project management methodologies are well documented (eg., [1-6]) and in many industries project management has already become both a central activity and the third element of organizational management systems that is bringing balance, harmony, and success in global organizations [1]. Project management provides a special and distinct role (eg., [3] [6-8]), due to the organizational form of traditional structures, which is highly bureaucratic and cannot respond rapidly enough to a changing environment [2].

Although comprising one of the largest population groups in the world, very little is known about the situation in Indonesia. The single previous study reported in Alis [9] showed that, in contrast with western companies, most Indonesian companies considered project management to be a new tool; although there have been project managers in Indonesia for several years, the term project management was confusing for some people; and many indigenous project managers lacked the knowledge and experience of their western counterparts). As a result, Alis concluded that the level of effectiveness of project management in these companies would be rather low.

This paper presents the results of a recent exploratory survey of Indonesian project management to test this empirically together with the related issue of the extent to which project management has matured as a discipline. Overall, the results confirm that project management methodologies have not yet been used most effectively in Indonesia. In addition, responses from those employed by different organisations indicated that currently only Financial Institutions, Consultants and Manufacturers have reached maturity although all are expected to do so in the future. Unexpectedly, no significant differences were found between maturity levels for the various stages of the project life cycle.

## MATURITY MODELS

For organizations to succeed in the global business competition of today, it is necessary that they produce a high standard of performance. Similarly, in the project management area, it is important for project managers to learn best practices to achieve the excellence in project management [10]. One approach to this is through the successful application of strategic planning [10]. Strategic planning for project management in this context means the development of a customized standard methodology for project management that is suitable for each organizational environment [10].

As a subset of strategic planning for project management, project management maturity models provide a means of identifying the necessary steps to be taken, the tasks it is necessary to accomplish, and the sequence of events needed to realise meaningful and measurable results. Basically, the purpose of the maturity model is to provide a framework for improving an organization's business result by assessing the organization's project management strengths and weaknesses, enabling comparisons with similar organizations, and a measure of the correlation between an organization's project management level and actual project performance [11-13].

Maturity models originate from the Software Engineering Institute's (SEI) Capability Maturity Model (CMM), a close approximation being the Project Management Maturity Model (PMMM) (eg., [10,14,15])<sup>1</sup>. This is concerned with five levels, indicating the organization's maturity and capability:

- Level 1: Common Language; where the organization recognizes the importance of project management.
- Level 2: Common Processes; where the organization has used project management methodologies effectively.
- Level 3: Singular Methodology; when the organization starts to recognize the synergistic effect of combining all corporate methodologies into a singular methodology.
- Level 4: Benchmarking; where organizations recognize the necessity to maintain their competitive advantage on a continuous basis.
- Level 5: Continuous Improvement; where an organization evaluates the information obtained through benchmarking.

To assess whether or not project management is being used effectively in an organization, Kerzner's Level 2 assessment tool can be used<sup>2</sup>. This basically assesses project management effectiveness throughout the various phases of the organization's project management life cycle (ie., its embryonic phases, executive management acceptance phases, line management support, growth phases, and maturity phases). Application of this to a sample of Indonesian project management organisations should therefore provide a reasonable indication of their level of effectiveness and maturity.

## THE SURVEY

### Data collection method

A variety of data collection methods were considered. For an exploratory study such as this, a face-to-face questionnaire survey, although likely to provide a 100% response rate, would be a lengthy process in Indonesia. For example, traffic conditions in Indonesia during business hours are very busy, especially in Jakarta and Bandung (where the most suitable respondents are domiciled). Telephone questionnaire, though less resource intensive, is not likely to be acceptable in Indonesia as many potential respondents think that such an approach is impolite outside their immediate circle of friends. Mail questionnaire is also less burdensome on resources, but unlikely to produce a high response rate. Electronic questionnaire also has problems as, for precaution's sake, many people tend to ignore incoming unsolicited email messages with attachments.

Given these considerations, it was decided to utilize all methods together, using a structured questionnaire to avoid possible observer bias. Mail questionnaires were distributed, via several of the researchers' associates, to respondents with whom they are personally acquainted. An electronic questionnaire was also sent by e-mail attachment in Adobe PDF format, which is a more secure format with regard to viruses.

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<sup>1</sup> See [16] for one of the many literature reviews of maturity models.

<sup>2</sup> See [10] for a full account of the use of this instrument.

Other steps were also taken to maximise the accuracy of the data, including the provision of a brief background about project management maturity models within the questionnaire; discussing any unclear questions or concepts with respondents; the provision of a glossary section to explain and clarify any unfamiliar concepts or terminology; and care in selecting the suitable respondents.

### **The questionnaire**

The questionnaire was an adaptation of Kerzner's Level 2 maturity assessment, the layout being designed for ease of understanding by Indonesian respondents. The questionnaire was divided into three major parts (see Appendix A), comprising general information, maturity assessment, and the need for project management.

Part 1 of questionnaire seeks general information concerning the respondents' profile, including their job title and the type, number of employees, annual turnover and size of employing organization. Apart from the type of employing organisation, the results of the other responses to Part 1 are not reported here.

Part 2 contains the main questions used to assess, in terms of its life cycle maturity, the effectiveness of the organisation's project management. The twenty questions in this part are divided into five categories of four questions each: Embryonic Phase, Executive Phase, Line Management Phase, Growth Phase and Maturity Phase. The assessment is based on a Likert Scale – ranging from totally disagree (-3) to totally agree (+3). For the purposes of analysis, the respondents ratings are summed over the questions in each category. To compare the respondents' level of experience and expectations, each statement is divided into what actually happens in the respondents' organization (current state) and what the respondents think it should be in the future (respondents' expectation).

The final part of questionnaire contains an open-ended question aimed at gathering respondents' opinions on their organizations need to implement project management methodologies for projects. The responses to this question was subjectively graded by the researchers on a 1-to-4 scale point depending on their perceived underlying tendency, with 1 being not important, and 4 being very important.

143 questionnaires were distributed to people who are involved in project management, regardless of their core business and their job title. Line managers and their subordinates, together with executive managers, were approached to obtain a variety of views.

## **Results**

### *Response Rate and Data Samples*

77 questionnaires were returned. Of these, 7 contained incomplete answers. Approximately 52 percent of respondents are line managers followed by 31 percent executive managers, with 17 percent engineers and allied disciplines. 30% of the responses are from Consultants (CS), comprising engineering consultants, management consultants and general consultants; 19% from contractors (CT), comprising both construction and non-construction companies; 17% from manufacturers (M); 17% from services providers (SP), comprising mobile phone providers, distributors and agents; 10% from investment companies (I), including holding companies; and 7% from financial institutions (FI), comprising bank and insurance companies.

### *Project Management Maturity*

Tables 1a and 1b summarise the current maturity state and future expectations for the life cycle points for all the organizations. A score of 6 or more indicates maturity [17] and this occurs in 15 (50%) of the results concerning current levels and all of the expected future levels. A glance at the current levels for each point in the life cycle (Table 1a) suggests the differences that occur appear to be due more to differences in organisational type than life cycle point, with the Financial Institutions and Consultants being mature in all lifecycle points and Manufacturers in all points except line management, while the remainder are not mature at any lifecycle point. This is confirmed by a three-way Analysis of Variance. Table 2 provides the standard summary of results for the independent variables TYPE (representing the 6 types of organisation), CYCLE (representing the 5 lifecycles) and STATE (representing current or future maturity levels) – indicating significant TYPE, STATE and TYPE-STATE interaction effects ( $0.05 < p$ ). The box-whisker plot in Fig 1, in which the results are ranked by mean score for current maturity of the organisations, illustrates these quite clearly. This shows the Financial Institutions, Consultants and Manufacturers belong to a group with the higher of the current maturity scores, while the Consultants, Manufacturers and Service providers belong to a

group with the highest of the expected maturity scores. The results also show that, although maturity is anticipated to increase in the future for all organisation types, the amount of increase is the least for the Financial Institutions, followed by Investment Companies. The Service Providers, with the lowest current maturity, have the greatest difference.

PROJECT MANAGEMENT LIFE CYCLE		CT	CS	I	M	SP	FI	OVERALL
EMBRYONIC	MEAN	5.15	7.14	5.71	6.92	4.17	7.80	6.15
	STDEV	3.78	3.41	3.09	1.38	4.73	1.30	1.37
EXECUTIVE	MEAN	5.85	6.14	4.57	6.00	4.50	6.80	5.64
	STDEV	2.08	3.75	2.30	1.76	3.80	1.64	0.92
LINE MANAGEMENT	MEAN	4.92	6.86	4.29	5.83	4.83	8.20	5.82
	STDEV	2.66	2.54	2.43	1.85	3.71	3.77	1.47
GROWTH	MEAN	5.38	6.86	4.86	6.08	5.33	7.80	6.05
	STDEV	2.87	2.69	3.18	1.31	2.57	4.27	1.10
MATURITY	MEAN	5.46	6.14	4.43	6.42	4.17	6.20	5.47
	STDEV	2.18	3.12	2.37	1.73	4.49	2.68	0.97

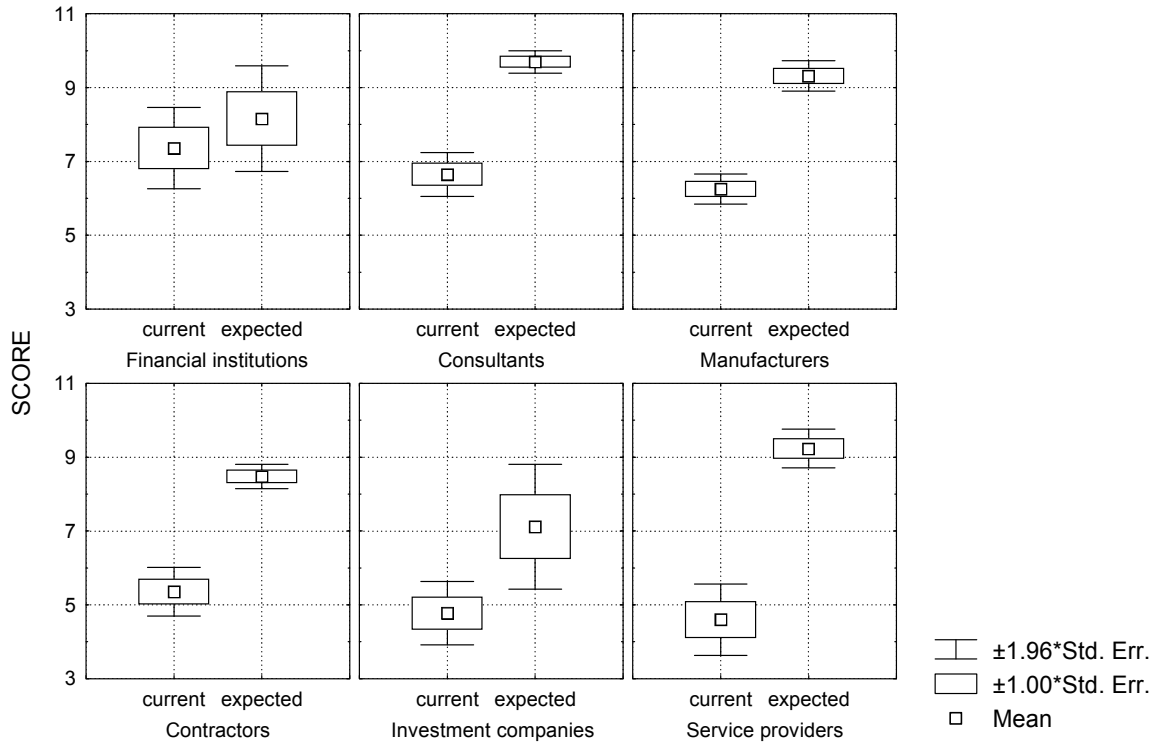
**Table 1a: The Current State of Life Cycle Points**

PROJECT MANAGEMENT LIFE CYCLE		CT	CS	I	M	SP	FI	OVERALL
EMBRYONIC	MEAN	8.54	9.86	7.86	9.50	9.50	7.20	8.74
	STDEV	1.51	1.35	5.01	1.68	2.20	5.40	2.86
EXECUTIVE	MEAN	8.46	9.33	6.43	9.25	9.08	8.00	8.43
	STDEV	1.27	1.93	6.70	1.60	1.98	2.45	2.66
LINE MANAGEMENT	MEAN	8.54	9.90	6.00	9.00	9.25	10.40	8.85
	STDEV	1.05	1.70	6.61	1.48	2.14	2.19	2.53
GROWTH	MEAN	8.31	9.43	7.71	8.92	9.33	8.60	8.72
	STDEV	1.55	1.54	2.81	1.73	2.15	3.29	2.18
MATURITY	MEAN	8.54	9.95	7.57	9.92	9.00	6.60	8.60
	STDEV	1.56	1.40	4.79	1.68	2.22	4.34	2.66

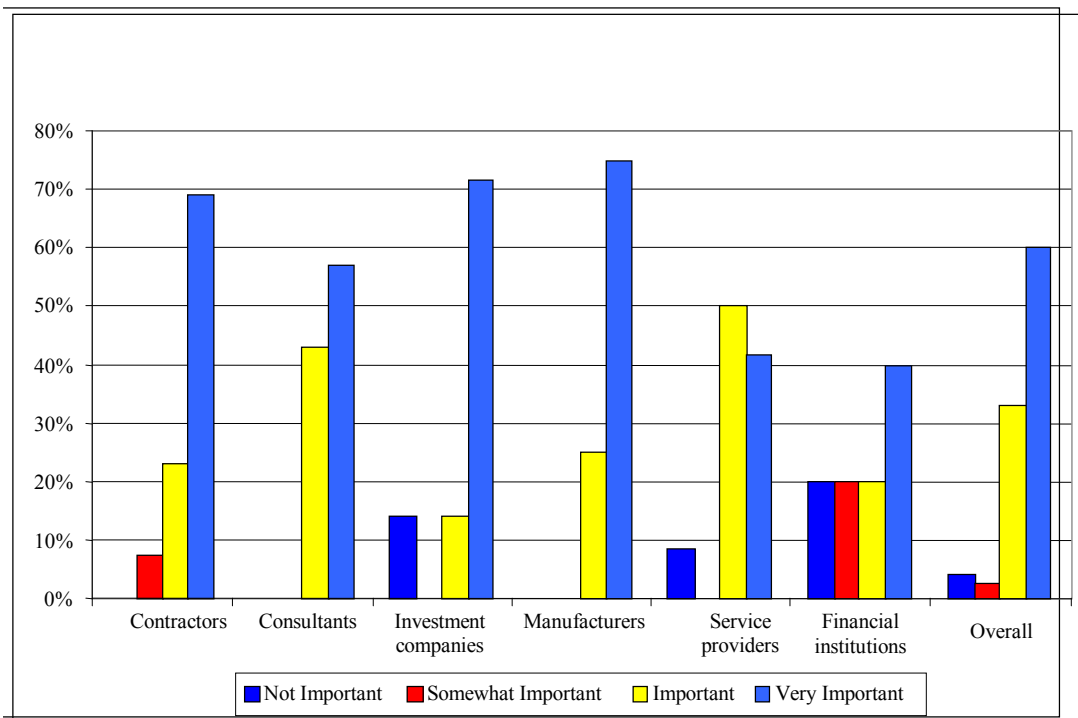
**Table 1b: The Expectation of Life Cycle Points**

Variable	df Effect	MS Effect	df Error	MS Error	F	p-level
TYPE	5	71.253	640	7.424692	9.5968	.0000
CYCLE	4	4.365	640	7.424692	.5880	.6714
STATE	1	1141.289	640	7.424692	153.7153	.0000
TYPE-CYCLE	20	4.676	640	7.424692	.6297	.8920
TYPE-STATE	5	29.376	640	7.424692	3.9565	.0015
CYCLE-STATE	4	1.522	640	7.424692	.2050	.9356
TYPE-CYCLE-STATE	20	1.488	640	7.424692	.2004	.9999

**Table 2: Summary of all Effects**



**Fig 1: Type and current/expected results**



**Fig 2: The Importance of Implementing Project Management Methods**

Fig 2 summarises the results for the perceived importance of implementing project management methods, indicating that, with the exception of the Financial Institutions (which is a rather small sample), over 85% of all respondents rated project management methods as either important or very important.

## CONCLUSIONS

This paper presents the results of an exploratory survey to examine the effectiveness of project management in Indonesia, the little previous work in this having shown this to be quite low. Using project management maturity as a proxy, Kerzner's Level 2 assessment was used and administered by a variety of means.

Differences in current maturity levels were found between different types of organisations to which the project managers in the survey belong, with only Financial Institutions, Consultants and Manufacturers having already reached maturity although all are expected to reach maturity in the future. Unexpectedly, no significant differences were found between maturity levels for the various stages of the project life cycle.

Overall, the results confirm that project management methodologies have not yet been used most effectively in Indonesia. Although they show a reasonable level to have been achieved already (a score of 6 is regarded as a high score), there is still quite a lot to do in order to achieve perceived potential. However, with over 85% of respondents believing that implementing project management methods is important or very important, this may be just a matter of time to realise.

As an exploratory study, details of the existence of any confounding effects could not be treated as yet and the aim was to identify the main issues involved, including the relevance of the Kerzner Level 2 assessment tool in Indonesia. Before the research was conducted, there was absolutely no knowledge of the extent to which the assessment tool could be used without major changes; of the current and expected future levels of project management organisational maturity in the project lifecycle in Indonesia; and of the perceived need for increased use of project management methods in Indonesia. The results of this study have changed that so that is now much clearer what is likely to be needed (1) in doing more work on this topic and (2) in trying to improve the management of projects in Indonesia. The next stage in this work would benefit greatly from the study of the internal validity of using Kerzner Level 2 assessment for Indonesian project management – perhaps on a larger scale and triangulated with interviews to provide a richer level of detail.

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**APPENDIX A: QUESTIONNAIRE****PART 1**

This part takes **approximately 1 minute** to complete. Please choose **only one** answer for following questions, simply answer by circling the letter associated with your answer to indicate yourself.

1. What is your primary job title?
  - a. Corporate Management (including Chairman, President, Proprietor, Partner, Director, Vice President, General Manager, Import/Export Manager, Other corporate title)
  - b. Management (including Project/contract/equipment/service/transport/district manager, Clerk of Work, other technical or operating manager)
  - c. Engineering/Design (including Chief/mechanical/planning engineer, Chief Designer, other engineering/design title)
  - d. Title allied to the field (architect, consultant, surveyor, research & development, supervisor, superintendent, inspector or other allied title)
  - e. Other (please specify)  
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2. What type of organization do you work in?
  - a. Contractor
  - b. Consultant (including project management, engineering, finance, and other consultant company)
  - c. Investment company
  - d. Manufacturer
  - e. Services Provider
  - f. Financial Institution
  - g. Other (please specify)  
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3. How many people are employed at your company?

- a. 1 – 50
- b. 51 – 100
- c. More than 1000

4. What is the annual turnover of your company?

- a. Rp. 100 million – Rp. 500 million
- b. Rp. 500 million – Rp. 1 billion
- c. Over Rp. 1 billion









**PART 3**

Give a **short answer** for following question.

*How important do you think it is for your organization to implement project management methodologies for organization's projects? Please describe your answer shortly.*

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**==== Thank you for your cooperation to fill out this questionnaire**

**=====**

Should you have any queries regarding this questionnaire do not hesitate to contact the researcher e-mail address at