



UNIVERSITI PUTRA MALAYSIA

**RECURRING PROJECT OVERRUN
AND
PROJECT MANAGEMENT PROBLEMS
IN
ENGINEERING AND CONSTRUCTION INDUSTRIES**

LIM CHEONG SENG

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By

LIM CHEONG SENG

**Thesis Submitted in Fulfilment of the Requirement for the
Degree of Doctor of Philosophy in the
Malaysian Graduate School of Management
Universiti Putra Malaysia**

March 2001

DEDICATIONS

To God Almighty - the world's very first Project Manager (Genesis 1:1-31; 2:1-3).
Amen.

To my beloved mother, Madam Ong Soh Hong.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy.

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Chairman: Professor Dr Mohd Zain Mohamed, Ph.D.

Faculty: Malaysian Graduate School of Management

The purpose of this thesis is to present an account of the research conducted in the field of project management (PM). The broad problem area is the recurring project overrun problem. The three issues of concern are (1) the perceptions of a project, PM and their success, (2) the managerial implications of project execution problems, and (3) the verification of Baker's and Turner's theories of project success.

The research made use of preliminary studies (unstructured interviews, case study, pilot study and structured interviews) to identify, refine and focus the issues for research. Survey research is used to derive the conclusive evidences in the Engineering and Construction (EC) industries in Malaysia.

By the use of unstructured interviews, the research identified 28 factors believed to have caused project overrun problems. Among the 28 are four that have never been identified before by previous researchers. In a way, the research showed that unstructured interview is a useful methodology in identifying new ideas.

The four new factors identified are the perceptions of individuals. The perceptions manifested in statements such as “what constitute project success may vary”, “inherited problems from earlier phases”, “management does not care” and “projects are completed anyway”.

The influence and impacts of the ambiguities surrounding a project, PM and their success, on project performance could not have come to light but for the literature survey and unstructured interviews conducted.

In the case study conducted, a list of 135 project execution problems of different type and complexity were identified. The managerial implications in terms of Henri Fayol’s management function were studied. The pilot study and structured interviews helped in confirming the issues for investigation.

The basic survey research then focused on the issues discovered in the exploratory studies for further investigation. Based on the preliminary studies theoretical frameworks and 10 hypotheses were formulated for testing.

The essential finding of the research is that conceptual factors have substantial influence on the recurring project overrun problem. Statistical evidence shows that individual perspective differences would give rise to perceptual differences. The perceptual differences would influence the inhibiting factors. And the inhibiting factors would cause project overrun problem. Other findings of the research are summarised as follows:

1. The perception of a project is based on perspective (be it owner, developer, contractor, consultant, supplier, operator, user, stakeholder or non-stakeholder).
2. Each individual and perspective has an intrinsic viewpoint: macro or micro.
3. Owners, developers, users, operators, stakeholders and non-stakeholders are typically macro view holders.
4. Contractors, suppliers and consultants are typically micro view holders.
5. The macro viewpoint emphasises on completion and satisfaction criteria. Also, the greater the satisfaction level, the lesser would be placed on the completion inadequacies encountered in project execution, the higher the perceived project success.
6. The micro viewpoint emphasises on the completion criterion of time, cost, quality, performance and safety.
7. An individual could shift his perspective and so his viewpoint.

The research's verification of Baker's theory of project success is that it would be supported at the macro level. The generalisation is that at the macro level, project success is not a function of time and cost.

The research's verification of Turner's theory of project success is that it would be supported at the micro level. The generalisation is that at the micro level, project success is a function of time and cost.

The research reveals that the traditional way of managing a project should be given a paradigm shift. The management of a project should be on a holistic approach, i.e. on both macro and micro levels. Project professionals should first recognise the existence of perspective differences and perceptual differences. They should be well prepared, in advance, with the methods of dealing with these perceptual issues if they occur. Hence, project professionals should be multi-skilled. In specific, they should improve their leadership and conceptual skills in handling projects.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk Ijazah Kedoktoran Falsafah

**MASALAH BERULANGAN PROJEK
DAN
MASALAH PENGURUSAN PROJEK
DALAM
INDUSTRI-INDUSTRI KEJURUTERAAN DAN PEMBINA**

Oleh

LIM CHEONG SENG

Mac 2001

Pengerusi: Profesor Dr Mohd. Zain Mohamed, Ph. D.

Fakulti: Pusat Pengajian Siswazah Pengurusan Malaysia

Tujuan tesis ini ialah untuk mengemukakan laporan penyelidikan yang dijalankan dalam bidang pengurusan project. Masalah umumnya ialah masalah berulang projek. Tiga isu yang berkenaan ialah (1) tanggapan sesuatu projek, pengurusan projek dan kejayaannya, (2) implikasi pengurusan atas masalah pelaksanaan project, dan (3) pemeriksaan benar atas teori Baker dan Turner berkenaan kejayaan projek.

Penyelidikan ini menggunakan kajian permulaan (temuduga tidak berstruktur, kajian kes, kajian panduan dan temuduga berstruktur) untuk menunjuk, menyempurna dan menumpu kepada isu-isu untuk di siasat. Penyelidikan tinjauan digunakan untuk memperolehi kenyataan mutamad dalam industri-industri kejuruteraan dan pembinaan di Malaysia.

Dengan kegunaan temuduga tidak berstruktur, penyelidikan ini menunjukkan 28 faktor yang dianggap telah menyebabkan masalah-masalah projek. Antara 28 faktor ini, adalah empat faktor yang tidak pernah ditemui oleh penyelidik-penyelidik sebelum ini. Dalam pada itu, penyelidikan ini menunjukkan bahawa temuduga tidak berstruktur adalah satu kaedah bermafaat untuk menunjukkan idea baru.

Keempat-empat faktor baru tersebut adalah tanggapan individu. Tanggapan ini adalah jelas dalam kenyataan seperti “apa yang menyebabkan kejayaan projek mungkin berubah”, “mewarisi masalah dari fasa terdahulu”, “pengurusan tidak memandang penting” dan “macam manapun projek akan disempurnakan”.

Pengaruh dan kesan daripada kekaburan yang mengelilingi sesuatu projek, pengurusan projek dan kejayaannya, ke atas prestasi projek tidak akan dinyatakan jika bukan kerana tinjauan penulisan dan temuduga tidak berstruktur yang dijalankan.

Dalam kajian kes dijalankan, sesenarai sejumlah 135 masalah pelaksanaan projek yang pelbagai jenis dan pelbagai kesulitan telah dikenalpastikan. Implikasi pengurusan berbentuk fungsi pengurusan Henri Fayol telah dikaji. Kajian panduan dan temuduga berstruktur telah mengesahkan isu-isu yang disiasat.

Kemudiannya, penyelidikan tinjauan asas bertumpukan isu-isu yang ditemui dalam kajian penjelajahan untuk siasatan mendalam. Berdasarkan rangkakerja teori kajian permulaan, 10 hipotesis telah dirumuskan untuk pemeriksaan.

Penemuan penting penyelidikan ini ialah faktor konsep mempunyai pengaruh yang besar ke atas masalah berulang projek. Kenyataan perangkaan menunjukkan bahawa perbezaan perspektif individu boleh menimbulkan perbezaan tanggapan. Perbezaan tanggapan ini akan mempengaruhi faktor menghalang. Dan faktor menghalang ini akan menyebabkan pelbagai masalah projek. Penemuan lain penyelidikan ini adalah diringkaskan seperti berikut:

1. Tanggapan sesuatu projek adalah berasaskan perspektif (biarkan dari segi tuan punya, pemaju, kontraktor, perunding, pembekal, operator, pengguna, orang yang ada kena-mengena (atau stakeholder) atau orang yang tidak ada kena-mengena (atau bukan stakeholder)).
2. Setiap individu dan perspektif mempunyai pandangan hakikat: makro atau mikro.
3. Tuan punya, pemaju, pengguna, operator, stakeholder atau bukan stakeholder, pada kebiasaannya, adalah orang yang berpandangan makro.
4. Kontraktor, pembekal dan perunding, pada kebiasaannya, adalah orang yang berpandangan mikro.
5. Pandangan makro menitikberatkan kriteria kesempurnaan dan kepuasan projek. Pada tahap kepuasan yang tinggi, kurang pertimbangan akan diberi ke atas kekurangan kesempurnaan dalam pelaksanaan projek dan lebih tingginya kejayaan projek diertikan.
6. Pandangan mikro menitikberatkan kriteria kesempurnaan projek seperti masa, kos, kualiti, prestasi dan keselamatan.

7. Seseorang individu boleh menukar perspektifnya dan juga segi pandangannya.

Pemeriksaan penyelidikan ini atas benarnya teori Baker berkenaan kejayaan projek menunjukkan bahawa ianya disokong pada peringkat makro. Kenyataan umumnya ialah pada peringkat makro, kejayaan projek tidak berfungsi masa dan kos.

Pemeriksaan penyelidikan ini atas benarnya teori Turner berkenaan kejayaan projek menunjukkan bahawa ianya disokong pada peringkat mikro. Kenyataan umumnya ialah pada peringkat mikro, kejayaan projek adalah berfungsi masa dan kos.

Penyelidikan ini menunjukkan bahawa cara tradisional mengurus projek seharusnya diberi perubahan paradigma. Pengurusan projek seharusnya berkaedah keseluruhan atau holistik, iaitu pada kedua-dua peringkat makro dan mikro. Ahli profesional projek seharusnya mengenali dahulu wujudnya perbezaan perspektif dan perbezaan tanggapan. Mereka seharusnya bersedia terutamanya dengan kaedah mengurus isu-isu tanggapan jika ia berlaku. Oleh itu, ahli profesional projek seharusnya mempunyai belbagai kemahiran. Pada khususnya, mereka seharusnya memperbaiki memahiran pimpinan dan tanggap dalam urusan projek.

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I certify that an Examination Committee met on 20th June 2000 to conduct the final examination of Lim Cheong Seng on his Doctor of Philosophy thesis entitled “Recurring Project Overrun and Project Management Problems in Engineering and Construction Industries” in accordance with Universiti Petanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

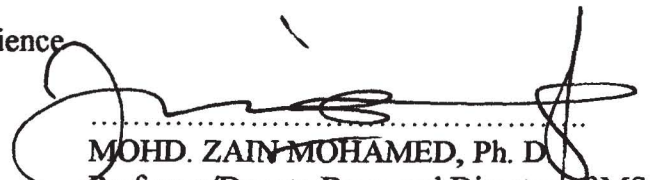
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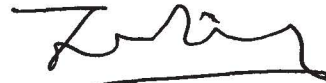


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DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.



.....
Lim Cheong Seng

Date: 6-4-2001

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