The Strategic Project

Manager's Guide

Ir. Dr. Peter Kwan

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The Strategic Project Manager's Guide

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The Strategic Project Manager's Guide

" In dealing with Project management, we need to know the methodology, good analysis, and evidence (sometimes experience) to guide us to formulate a decision at all times. **This book can guide you and sharpen one's decision route.** Remember that every decision has its time factor especially in running a construction project.

Moreover, the author takes a strong approach to tackle decisions in relation to background of Hong Kong and Asian development. This is seldom seen. He made a good decision to select such a topic and well addressed."

By **Mr. Leung Hon Ming**
Registered architect, Authorised Person List 1
Managing Director of Seniorman Design Limited.

Ir. Dr. Peter Kwan **(First revised for e-book Edition in 2017)**

BSc(Eng), DBA, CEng, CDCFM,
FCIBSE, FHKIFE, FIDCE, MCIOB

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1. I am grateful to the following genius who assisted to proofread and make suggestions to this book during my busy time schedule:

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   Mr. Perry S P Lam (ARICS).
   Mr. H M Leung (RIBA), Director of Seniormen Design Ltd.
   Miss M Ying. Director of PSA Management.

2. My thank are also due to my dearest parents, who had taught me endurance and determination; my primary school English teacher Miss L S Cheung, who had given me the biggest assistance in fulfilling my great expectation for university education.

3. I would also like to thank my beloved children, Joseph, Kelly, Christie and Kelwyn Kwan, who had to do their homework themselves while I struggled with sleepiness and laziness when writing this book since 1995.

4. Finally, without HIM and His arrangement, my dreams can never come true. For this, I would like to share two best sentences that I have ever heard in my life:

✦ " Happy are those who dream dreams, and ready to pay for the price to make their dreams come true." – Jonathan Livingstone Seagull.

✦ "神未嘗留下一樣好處不給那行動正直的人！" – 聖經詩篇

Ir. Dr. Peter Kwan
Hong Kong May, 1998

PREFACE

1. In 1978, I was determined to be a mechanical/building services engineer after my second attempt for school certificate examination had not been very successful. At that time, one of my brothers was an electrical engineer, one was a civil engineer and the other one was a building engineer. For ten years, I worked my way up from a technician trainee and became a professional engineer in 1988.

2. After studying and working in Scotland for over ten years, I returned to Hong Kong and worked on the construction of the United Christian Hospital in 1992. From then onwards, I realized how big differences the training and work practices between UK and Hong Kong were. At that time, my ex-colleague Ir. K K Chan (MCIBSE) asked me if I was interested to teach a short course on energy conservation. Of course, I had waited for so long to offer my good training and learned experience in building services engineering and management to my fellow engineers

3. The draft of this copy started in 1995. The core principles of this book came from my six weeks training as a project manager in UK in 1990, together with my 17 years of bitter experience with over 70 number of both public and commercial projects in UK and Hong Kong.

4. Some of the questions in the progress tests were similar to those raised by the students/engineers in my course conducted at the University of Hong Kong SPACE Programme and the Hong Kong Productivity Council.

5. Finally, I am sure that this first book of mine will be of great value to those who are practising in project management, be they the young and the experienced, the engineers or the architects, the surveyors or the project managers, the client or the developers etc. It is also a very useful reference book for the university and college degree students who are taking an advanced subject in project management or construction management.

AUTHOR

Ir. Dr. Peter Kwan. MHTI Dip, TEC Dip, BSc(Eng), DBA, CEng, CDCFM, FCIBSE, FHKIFE, FIDCE, MCIOB began his career by taking an organized training course at the Morrison Hill Technical Institute in 1978. After graduation, he further his study at the then Hong Kong Polytechnic. As he was not satisfied with his development, he applied for a scholarship successfully from the Hong Kong Marine and Fisheries Department and pursued his dream in university education. In 1981, his tears went down his nose as he stepped on the soil of Scotland alone and took a joint honour degree in Naval Architecture and Mechanical Engineering at the University of Glasgow. Later, he also obtained his MBA degree at the University of Strathclyde by specializing in strategic management.

After graduation in 1984, he has been holding earlier responsibilities in UK and HK as consulting engineer, senior project engineer, senior hospital engineer, hotel chief engineer, energy manager, project manager and maintenance manager. He was one of the CIBSE (HK Branch) Principal Interviewers, a registered VTC Engineering Supervisor. He also devoted his evenings in lecturing short courses at the University of Hong Kong, the Hong Kong Polytechnic University, The Hong Kong Baptist University, the Hong Kong Productivity Council and the American Hotel & Motel Association (HK Chapter) till 1999.

How to Use This Book

1. This book is designed for the project manager professionals as a guide to managing projects. It is also useful for the beginners as well as the experienced.

2. It has three distinct key features:

a) The checklist format which is very convenient for the readers to use depending on which stage of the project that it is in.
b) The progress test at the end of each chapter will not only provide quick information on that particular topic but also serve as a memory test for the experienced.
c) The first time ever published overall strategies and total quality management in managing projects on time, cost and quality. (1999)

3. Readers are expected to use this book as follows:

a) For the engineering degree students and beginners, read though the book chapter by chapter. Think hard to understand and visualize the contents with pictures in mind, and then complete the progress tests to strengthen their learning.
b) For the practical engineers, architects, surveyors and managers, this book should be read as a guide and it will remind them the project procedure that they should be implementing. The tests are then for widening their knowledge.
c) For the experienced project management professionals, this is a strategic reference book and the tests will refresh their memory!

Ir. Dr. Peter Kwan **(First revised for e-book Edition in 2017)**

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CONTENT

SECTION 1

STRATEGIC PROJECT MANAGEMENT IN PRACTICE

Chapter 1

Why Projects Fail or Succeed

Chapter 1

Why Projects Fail or Succeed

1.0 Why Projects Fail

2.0 Why Projects Succeed

1.0 Why Projects Fail

1.1 Poor and inexperienced project manager

1.2 Poor project management skills

1.3 Poor Planning and control

1.4 Insufficient resources or support

1.5 Failure to use modern technology

1.6 Poor contractors' performance or low labour productivity

1.7 The project is too large or complicated

1.8 Inappropriate contract strategy

1.9 Unrealistic project requirements

1.10 Late or continuous changes of design

1.11 Exceptional circumstances

1.12 Faulty design, materials and construction workmanship

1.13 Poor coordination and communication among all parties

1.14 Inadequate experience of the contractors

1.15 Fail to identify and concentrate on critical activities

2.0 Why Projects Succeed

2.1 Matching the Project requirements

2.2 Good front end project requirements

2.3 Carry out end Planning

2.4 Good Planning and control

2.5 Appropriate project control

2.6 Willing to change plan and strategy

2.7 Planning to complete

2.8 Managing projects strategically

2.9 Avoid those project failing factors

☞References 2,6,8,9.

Progress Test 1

1. Large projects are less easy to be successful due to its complexity. (True/ False)

2. Which of the following is NOT a key factor for failing projects?

a) poor and inexperienced project manager
b) poor planning and control
c) late and continuous changes of design
d) exceptional circumstances

3. Some projects failed because the project manager cannot identify the critical activities. (True/False)

4. A tight project is a factor for failing project? (True/False)

5. Which one of the following is NOT a criterion for defining whether a project is successful or failing?

a) time b) cost c) quality d) defects rectification

6. Good projects succeed because of:

a) good front end-planning
b) good planning and control
c) managing projects strategically
d) all of the above

7. Good planning and control is an essential project management skill. (True/False)

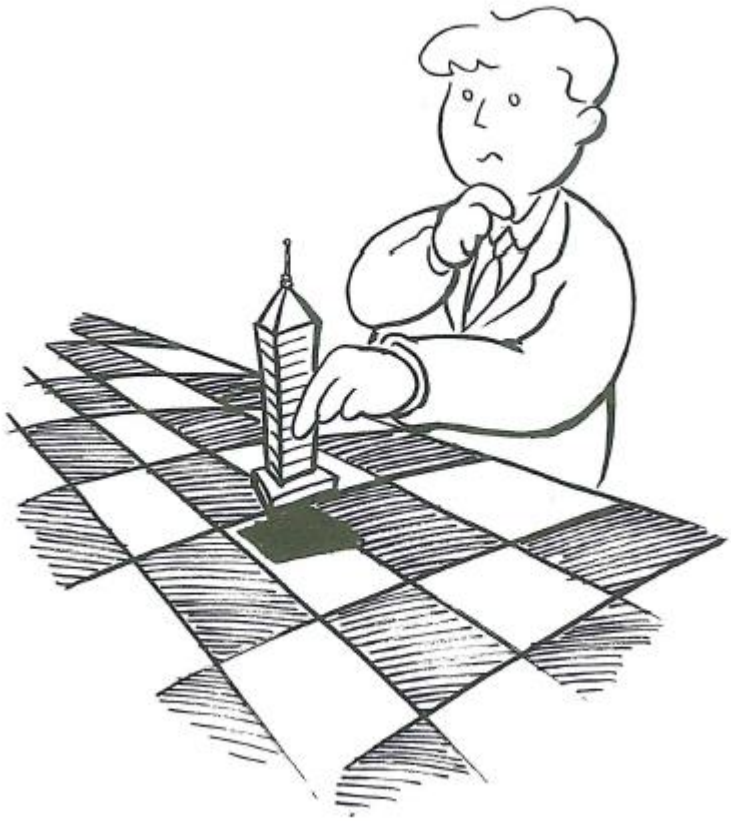
8. A mega-size project is more likely to be successful if a feasibility study is carried out. (True/False)

9. A large project is more likely to be successful if it is broken down into suitably sized packages. (True/False)

10. A project strategy once fixed should not be changed at all. (True/False)

Chapter 2

Strategic Project Management



Chapter 2

Strategic Project Management

1.0 Strategic Planning and Management Process

2.0 Strategic Project Management

1.0 Strategic Planning and Management Process

1.1 Appoint a strategist

1.2 Set objectives

1.3 Strength and weaknesses analysis

1.4 Opportunities and threats analysis

1.5 Develop the strategic alternatives

1.6 Evaluate the strategic solution fitness

1.7 Implement the strategy

1.8 Feedback

2.0 Strategic Project Management

2.1 A strategic plan (Strategy) is a plan of actions

2.2 Definition of project management-the management of a project or a sequence of activities with both human and technical management skills and at the same time achieving the time, cost and quality and those project requirements set.

2.3 Definition of strategic project management-This is the application of the strategic planning and management technique in project management.

☞References 4.

Progress Test 2

1. The key difference in strategic project management and the normal project management is in:

   a) use of good project manager
   b) the application of strategic action plan in project management
   c) emphasis on site control

2. The use of strategic project management is an open loop process. (True/False)

3. In applying the strategic project management technique, it is more useful to analyse the external forces first before analysing the internal strengths. (True/False)

4. A strategy is a planned, systematic long-term strategic approach. (True/False)

5. A strategy which is suitable for one organisation is not necessarily suitable for another one. (True/False)

6. In applying the strategic project management technique, one must have the strategist and the objectives as the starting point. (True/False)

7. "Strategic Fit" means evaluation of the strategic solutions fitting the particular organisation. (True/False)

8. There is not much use in applying the strategic project management technique in very small projects. (True/False)

9. Having applied strategic project management technique, it can guarantee that the project will be successful. (True/False)

10. As projects are getting more and more complicated, applying strategic project management technique is a reasonable approach. (True/False)

Chapter 3

The Strategic Project Manager

Chapter 3
The Strategic project manager

1.0 Definition of a Strategic Project Manager

1.1 A strategic project manager is one who combines strategic planning and management techniques to plan, lead, organise and control a project complying to all project objectives such as time, cost and quality by means of strategic actions or strategies.

2.0 Responsibility of a Strategic Project Manager

2.1 Set targets and objectives

2.2 Keen in front-end planning

2.3 Master-minding the main programme

2.4 Set up the project team and organisation

2.5 Select the key staff

2.6 Formulate policies and project handbook

2.7 Monitor the project execution

2.8 Set Priorities

2.9 Resolve conflicts

2.10 Liaise with clients and other project consultants

2.11 Strong in strategic planning and control

3.0 Qualities of a Strategic Project Manager

3.1 Prefer teamwork rather than working alone

3.2 Commit to technical and managerial responsibilities and not just technical only

3.3 Seek to achieve objectives but not to exceed the objectives

3.4 Willing to take calculated risks rather than to test every opportunity

3.5 Think in terms of short term span rather than in long term span

3.6 Manage people mainly rather than manage things

3.7 Commit to pursue material values instead of intellectual values

3.8 Be flexible and adaptable

3.9 Be initiative and is a good leader

3.10 Be aggressive, confident and persuasive

3.11 Be ambitious, active and forceful

3.12 Be effective as a good communicator and integrator

3.13 With broad scope of personal interest

3.14 Be enthusiastic, imaginative and responsive

3.15 Be able to balance technical solutions with time, cost and quality

3.16 Well organised and disciplined

3.17 Able to identify the critical problems

3.18 Willing to make decisions

3.19 Be comfortable with time management

☞References 2,8,9.

Progress Test 3

1. Which one of the following is NOT a method for resolving the conflicts between the client, the consultants and contractors?

   a) frank discussion to achieve the common targets
   b) emphasize the individual unit goals
   c) discussions among the conflict parties' chairman or chief executive officer
   d) use motivation techniques and emphasis win/win strategies

2. As a senior, how would you respond to an inexperienced or poor project manager (PM) in charge?

   a) give the PM the best support and motivate him/her.
   b) give the PM some directions and if it is still no good, replace the PM with a more capable one.
   c) give the PM some training and put a more senior project manager to supervise the PM

3. How would you participate in project management as a maintenance manager?

   a) be as active as possible and put up your views in maintenance aspects for the project including testing and commissioning works for future operations.
   b) fight for your own interest in operations and maintenance aspects at all costs
   c) be quiet as far as possible and wait until the project is handed over and do your own modifications.

4. When a project is beginning to getting out of control, as a PM, what would you do?

   a) bring every section heads to meetings and outline the problems and invite them to resolve them or you propose some remedial actions.
   b) if it is critical, you step in and give the instructions of once.
   c) you refrain yourself from stepping in and hoping that they will notice your dissatisfactions.

5. When some inadequate quality work had been installed but it does not affect the overall function or quality of the work, what would you do?

    a) investigate the facts, record and reserve your right to ask the contractor to rectify it as and when required.
    b) you insist that this must be rectified even it may take some considerable time.
    c) you let it go easily as it is not important.

6. How would you motivate your Clerk of Works (COW) or Building Services Inspectors (BSI) to be responsible for their works?

    a) use motivation techniques including incentives and promotions.
    b) tell them your thoughts and invite them to express their difficulties and attempt to resolve them.
    c) give them your strict instructions and try to control it as far as possible.

7. As a consultant, how would you treat the client's unreasonable request?

    a) ignore the request indirectly.
    b) advise the client the additional time, cost and quality impact that the unreasonable request will impinge on the project and let the client to decide.
    c) as b) above but strongly advise the client not to proceed.

8. What are the key qualities for a project manager?

    a) strong in planning and control
    b) set priorities and resolve conflicts
    c) forceful and reasonable

9. A project manager has at least 3 key staff, they are the construction manager, the programming manager and the quantity surveying manager. (True/False)

10. A project manager should involve in the technical details but not interfering the relevant design disciplines for their own technical expertise. (True/False)

SECTION 2

THE STRATEGIC PROJECT MANAGEMENT GUIDE

Chapter 4

The Complete Project Management Check Lists

Chapter 4

The Strategic Project Management Checklists

1.0 The Planning and Feasibility Study Stage

2.0 The Design Management and Contract Administration Stage

3.0 The Site Construction Management Stage

4.0 The Operation and Maintenance Stage

1.0 The Planning and Feasibility Study Stage

a) Defining the project needs-define the need in terms of a project brief specifying the time, cost and quality, and clarify the requirements relating to constraints.
b) Evaluating the needs-evaluate the feasibility of the brief, propose and evaluate alternative solutions and options in order to satisfy the requirements.
c) Planning the resources-estimate the resources requiring for this project in terms of total net present value cost duration of construction and operation, the project team members and the technical support and facilities required consider to use in-house staff or out-house staff.
d) Preparing the pre-design-select and purchase or lease a site, and prepare the design, project management brief and project handbook.

2.0 The Design Management and Contract Administration Stage

a) Designing concept-prepare alternative conceptual design outlining the schematic proposals and select the preferred alternative, and develop the preferred design sufficiently to obtain client, users and statutory approval.

b) Developing the design-develop the approved concept design into a design solution fully integrated with construction, structural and services requirements showing major sizes and physical dimensions of the plant, and validate the solution against the brief and constraints and obtain approval.

c) Designing the details-prepare and have approved detail design drawings, specifications, schedules and Bill of Quantities; and finalise the cost estimate and obtain final approval from the client after subjecting to design review if necessary.

d) Preparing the contract-agree and complete negotiation or tender procedures and documentation for selected contractors, nominated subcontractors and suppliers for building engineering and services work; and evaluate the tenderers against the following:

   a. Cost breakdowns of each tender cost item and the overall price
   b. Master programme
   c. Leading project manager, engineer and their proposed project team structure
   d. Similar job references
   e. Their proposed method of construction statements
   f. Any domestic subcontractors
   g. Their opinions on the expected difficulties
   h. Their financial strength in terms of profit and loss account, annual report and cash flow situations
   i. Their current workload

3.0 The Construction Management Stage

a) Starting site works-establish site control and communication procedures and programme via project handbooks and QA system; check the site, utility services, material delivery and access etc.

b) Completing the site construction-check and inspect on site, attend meetings and progress review; test and commission of the systems and defects rectification.

c) Completing the contract-complete final accounts and recommend claims, and agree all consultant professional fees and expenses.

4.0 The Operation and maintenance Stage

a) Operating the building-prepare procedures and organise resources to operate the building after training, and arrange furniture, equipment and staffing.

b) Maintaining the building-determine the maintenance policy, objectives and standards; carry out the maintenance works, project works and defect rectifications.

c) Reviewing the building performance-appreciate and evaluate building performance via design, installation, testing and commissioning; feedback and learn.

d) Renovating or disposing of the building-design and carry out renovation; upgrade works, and demolish or sell the property.

Progress Test 4

1. The complete project management process consists of 4 phases, viz; the planning and feasibility phase, the design management and contract administration phases, the site construction management phase and the occupation and maintenance phases. (True/False)

2. When a project team receives the client's brief, they should:
a) study the brief together
b) evaluate the feasibility of the brief and advise the clients the deliverables.
c) Start working on the conceptual design first and then discuss later.

3. In developing the design, the common way is to forward to the client a few options and let the client choose the preferred design. (True/False)

4. For a large project, once the conceptual design has been approved, the consultant should proceed to the detail design without information on the updated cost and time impact assuming that they are still the same? (True/False)

5. Prior to the contract award, the consultant should be careful for the following:
a) whether the design has been concurred by the client
b) the design has got the most updated cost and time data and the client is aware of the information
c) the client's funding and cashflow is still available

6. In preparing the contract, which of the following must be submitted along with the tender?

a) a construction programme
b) cost break down of the each activity and the schedule of rates
c) the company’s organization chart and the contractor project manager's CV
d) their method statement

7. One of the common errors in site construction management is:

A. unprepared for the site start planning
B. no site accommodation
C. no contract document on site

8. In construction control, the COW/BSI must inspect the site, attend meetings and write up progress reports at least weekly if not daily. (True/False)

9. The most difficult part of a hospital project is not only the complicated E&M services but also the medical equipment delivery. (True/False)

10. For good project management, the PM should also care about the defects rectification and project review during the defects liability period. (True/False)

SECTION 3

GOOD PROJECT MANAGEMENT STRATEGIES

Chapter 5

Project Initiation Strategy

Chapter 5
Project Initiation Strategy

1.0 The Project Brief

2.0 The Project Execution Plan

3.0 The Feasibility Study

4.0 The Project Appraisal and Selection

1.0 The Project Brief

1.1 Location of the project

1.2 Brief title of the project

1.3 Objectives

1.4 Scope of work

1.5 Standard requirements

a) Time
b) Cost
c) Quality

1.6 Other special requirements or constraints

1.7 Standards and free supply drawings

1.8 Liaison officers

1.9 Other consultants and leading designers

2.0 The Project Execution Plan

2.1 A project execution plan is a statement or an action plan of the project objectives and strategies. It is usually produced at the beginning or initial stage of a project.

2.2 It serves as a means of communication and a measuring tool for project control and performance.

2.3 The project execution plan shall comprise the following:

a) The project objectives
b) The scope of work
c) The constraints

d) A cost plan
e) A programme
f) The control procedures and approvals
g) The contract strategy
h) The contingency plan
i) The commissioning proposal
j) The problem areas
k) Any major risks
l) Reporting procedures and reviews

3.0 The Feasibility Study

3.1 Whenever the buildability of a project or its value for money in question, a feasibility study will be conducted to evaluate the following:

a) Its feasibility
b) The possible alternatives for satisfying the requirements
c) The cost options of each alternatives
d) The time scale of each option together with is pros and cons

3.2 In carrying out a feasibility study action plan, the following should be considered:

a) Check the brief
b) Appoint a team leader
c) Clarify the scope of the feasibility study
d) Advise the deliverables
e) Assess the impact of the study in relation to the corporate policy
f) Estimate the resources
g) Establish budget and time scale for the feasibility report
h) Agree the reporting level and format
i) Allocate responsibility and tasks
j) Carry out the study
k) Conclude with a draft report
l) Submit report for comment and amend
m) Submit final report

3.3 Contents of feasibility Study

a) Description and definition of the project
b) Reasons or objectives of the project
c) Method of the project
d) The technical assessment
   - Desk top research
   - Field research
   - Mathematical research

e) The financial assessment
   - Life cycle costing by net present value method
   - Capital cost
   - Services cost
   - Operation cost
   - Maintenance cost
   - Energy cost
f) Risk analysis
g) Resources requirements
h) Alternatives / options
i) Recommendations
j) Contingencies
k) Conclusion
l) Executive summary
m) References

4.0 The Project appraisal and selection

4.1 An appraisal usually consists of the following steps

a) Define the objectives
b) Consider the potions
c) Identify the costs and benefits of each option
d) Discount those costs and benefits which can be quantified by the use of net present value method
e) Weigh up any uncertainties
f) Assess other non-financial factors
g) Draw up the conclusions and present recommendations

☞ References 6.8.9.

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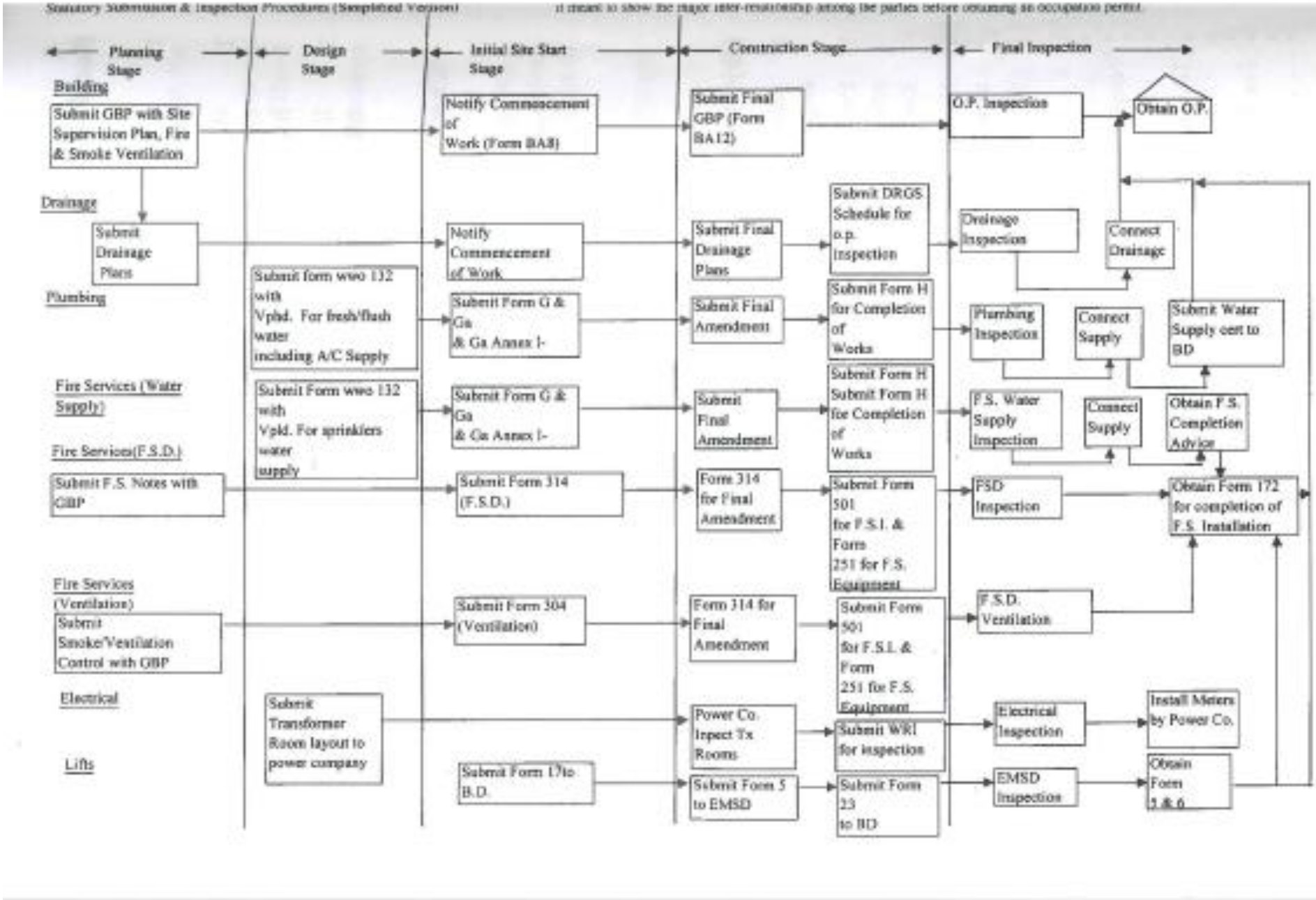

The Strategic Project Manager's Guide

Project management is an art and a science in managing projects on time, cost, quality and perhaps on human relationship. The core principles of this Guide are based on the author's six weeks training as a project manager in UK in 1990. His 17 years of bitter experience in the field of project planning and design, site construction and operation & maintenance with over 70 number of both public and commercial projects make this Guide most practical and comprehensive.

This book covers the fundamental factors for good project managers and good project management; the complete project management process, strategies for planning and design, contract administration and construction management. In addition, the key selling points are the advanced programming and progress management strategy, acceleration and negotiation strategy, claims and extension of time strategy, testing and commissioning strategy, project handover strategy and above all, the invaluable total quality project management strategies for managing renovation and capital projects.

It is most suitable for the university and college degree students, all planning and design engineers, the contract administrators, the resident engineers and site COWs/BSIs; the architects and surveyors, the project managers, the client as well as maintenance engineers involving in project management will also find this book most practical & valuable.

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