**Discussion topics**

**Chapter 1**
The chapter presents a number of construction management scenarios in response to the main question of the chapter: Who can manage construction?

Construction can be managed by designers, customers themselves, contractors, facilities managers, independent project managers and independent construction managers. These companies have different interests in the process and would thus adopt different strategies corresponding to their strengths and weaknesses.

**Discussion topic**
*Is there a preferred way of managing construction and why?*

**Chapter 2**
The complex built environment, which is presented in Figure 2.11 in Chapter 2 is shaped by powerful forces.

**Discussion topic**
*What forces are most likely to shape the built environment in the future?*

**Chapter 3**
There are many practical guides to the set of actions needed to produce a new facility. In various terms they all include seven essential actions (brief, design, plan, procurement, manufacturing, production and commissioning).

**Discussion topic**
*What would it need to be done to consolidate the seven construction actions into a streamlined single process?*

**Chapter 4**
Inherent difficulty is a measure of the complexity and external interference experienced by a construction project organization. Quality of relationships between teams, their number and past performance variability, and external interference all ultimately influence construction efficiency.

Efficiency is inversely related to the number of individual construction teams, their performance variability, external interference and directly related to the quality of relationships between them.

**Discussion topic**
*Impact on efficiency – real life examples.*

**Chapter 5**
Traditional construction was developed over centuries in response to new construction technologies and new demands by construction customers. Fundamental traditional construction provided a basic response to the essential nature of construction.
Discussion topic
Modern day traditional construction – real life examples.

Chapter 6
Design build provides an attractive approach for construction customers frustrated by the failures of traditional construction. Design build enables a customer to enter into a contract with a design build company to produce a new facility for an agreed price by a specified date.

The design build approach often more resembles one of the management approaches rather than a true single point of responsibility.

Discussion topic
Design build vs. management approaches. What are the main differences?

Chapter 7
Construction management requires the customer to provide leadership in establishing the overall objectives for projects, selecting companies to provide the design and management teams, and arranging the finance.

Discussion topic
Major differences between the USA and UK construction management approaches.

Chapter 8
Partnering concentrates on establishing effective relationships in construction projects. It is based on the belief that the highest levels of efficiency result from everyone involved in a project using all the available time and resources cooperating to achieve agreed objectives.

A decision to use project partnering usually comes from discussions between an experienced customer and some of the construction companies they feel comfortable employing. The initial idea may come from the customer or one of the companies.

Discussion topic
Why do some partnering projects fail?

Chapter 9
The highest levels of efficiency are achieved by companies providing a total construction service. The total construction service is provided by several kinds of companies. The largest of these result from organic growth over many decades of building up their experience in a diverse portfolio of projects.

External companies are appointed only for minor and often very specialist works. Subcontracting is used to employ a relatively large number of specialist component suppliers who work on a long-term basis in partnership with the total construction service provider. These arrangements enable effective teams to move from one project to another with only minor changes to the core team membership.

Discussion topic
How can a traditional construction company become a total construction service provider?
Chapter 10
Many experienced customers and construction companies have preferred ways of working which they have developed over many construction projects. However, even these experienced practitioners may benefit from the systematic application of the theory of construction management.

The crucial strategic decision for construction companies is whether they will provide a total construction service so they are responsible for producing complete facilities or specialise in activities which contribute to the production of new facilities so their responsibilities are limited to their own actions and the effects of those actions.

Discussion topic
How will the digital technologies shape the business of construction in the future?

Chapter 11
Unprecedented technological progress in recent decades gives construction management research the tools needed to study the complexity and uncertainty which characterise construction. Building Information Modelling (BIM) is already becoming established at the leading edge of practice. It enables design information to be checked for errors and clashes and evaluated in terms of the likely outcomes in terms of performance, quality, safety, time, cost and other important outcomes.

The theory of construction management provides a basis for coherent construction management strategies. However, the 25 propositions which form the theory need to be tested by research because the only rigorous basis for scientific knowledge is tested propositions.

Discussion topic
Data sources, testing, simulation and the virtual map of construction project performance – the new era of construction management research.