Contract Strategy

Contract strategy means:
selecting organizational and contractual policies
required for executing a specific project

اختيار الهيكل التنظيمي وطريقة التعاقد وطريقة المناقصة التي تحقق أهداف المشروع وتضمن له النجاح
### Contract Strategy

#### Project Objectives

<table>
<thead>
<tr>
<th>1. Time</th>
<th>2. Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Performance</td>
<td>4. Other Objectives</td>
</tr>
</tbody>
</table>

**Time**

- If the top-rank owner objective is to start the project as early as possible to maximize the profit or for political reasons, then a contracting strategy that allows speedy project delivery, such as overlapping design and construction, may become desirable.

**Cost**

- There may be a need for minimum project cost to ensure adequate economic return. The selected contract strategy, therefore, should be flexible to the owner’s cost requirements while also maintaining the other objectives desirable.
**Contract Strategy**

**Project Objectives**

1. Time  
2. Cost  
3. Performance  
4. Other Objectives

**Performance**

- If the performance of the work at top-rank to the owner then a contracting strategy that accommodates changes to achieve a better performance and a teamwork approach may be desirable

**Other Objectives**

- Risk sharing between the owner and the contractor
- Staff training or transfer of technology
- Involving the contractor in the design
- Use of local material and resources
- Choice of labor-intensive construction
- Protection of the environment
Contract Strategy

The Contract

What is a contract?

- Legally binding document that describes the responsibilities and rights of the parties

How are contracts formed?

- Owner issues Invitation for Bids (IFB)
- Contractor prepares and submits bid
- Owner reviews and accepts bid
- A contract document is developed, reviewed, and agreed upon by parties
- The contract is signed by parties
Contract Strategy

The Contract

Contracts documents

- Contract agreement
- General conditions
- Special conditions
- Bills of quantities
- Drawings
- Specifications
- Plans
- Others (Change orders, Warranty,..)

Contracting Stages

When do contracting stages start?

What are contracting stages?

- (Bidding Document)
- Contractor Selection
- (The Agreement)
- تجهيز مستندات المناقصة
- اختيار المقاول
- توقيع العقد

12/10/2013 Emad Elbeltagi
**Contract Strategy**

**Contracting Stages**

**Bidding documents**

- Invitation to bid
- Acceptance form
- Construction Contract

The bidding documents are primarily divided into two stages:

1. **Pre-Bid Stage**: This stage includes:
   - Invitation to bid
   - Acceptance form
   - Construction Contract

2. **Post-Bid Stage**: This stage involves the evaluation and selection of the contractor, which is typically done through a process known as contractor selection.

**Contractor selection**

The contractor selection process involves evaluating potential contractors based on various criteria such as experience, financial stability, and technical capabilities. This process is crucial for ensuring that the contractor chosen is competent and capable of delivering the project as per the requirements.

**References**

- The information provided is based on standard practices in contract management and construction project planning.
- For more detailed information, consult industry-specific guidelines and best practices.
Contract Strategy

The Contract

Contract Strategy

Contract agreement

- Usually includes names of parties, contract price, project duration, and scope of work

The agreement

- The agreement usually includes names of parties, contract price, project duration, and scope of work.

- The agreement often includes terms and conditions that are binding for both parties.

- The agreement may specify the responsibilities of each party.

Contracting Stages

- The agreement is the starting point for the contracting process.

- The agreement is usually signed by both parties.

- The agreement is often subject to legal and regulatory requirements.

- The agreement may be amended or terminated under certain circumstances.

12/10/2013 Emad Elbeltagi
**Contract Strategy**

**The Contract**

**General conditions**
- Responsibilities of each party
- Project Duration
- Establishes the payment process
- Warranty period and process

**Special conditions**
- Describe unique requirements of the project
  - Unusual work hours
  - Site access restrictions
  - Owner-furnished items
  - Other special requirements

12/10/2013  Emad Elbeltagi  

---

**Contract Strategy**

**Organizational Structure (Project delivery methods)**

ويقصد به كيفية تنظيم مرحلة التصميم والتنفيذ والإشراف على التنفيذ أو العلاقة بين أطراف المشروع

- Traditional (General) Approach (طريقة التعاقد العام أو التقليدية)
- Separate Approach (طريقة التعاقد المنفصلة)
- Direct labor force (In-house) (طريقة التنفيذ الداخلي)
- Turnkey approach (طريقة تسليم المفتاح)
- Construction Management (طريقة التعاقد المتخصص)

12/10/2013  Emad Elbeltagi
Contract Strategy

Organizational Structure

Traditional approach (Design-Bid-Build)
Contract Strategy

Organizational Structure

Characteristics
- separation of responsibility in design and construction which are handled by two different organizations
- the owner first hires architect or engineer to design the building or structure using low price or low bid method
- The design professional prepares a design
- the owner selects the general contractor through a bidding process
- the owner holds two separate contracts with the designer and the contractor

Traditional approach advantages
- Price competition
- Total cost is known before construction starts
- Well documented approach used in most governmental projects

Traditional approach disadvantages
- Takes a long time
- Designer does not benefit from contractor experience
- Conflicts between owner & contractor and A/E & contractor
- Changes may lead to disputes and claims

12/10/2013 Emad Elbeltagi
Contract Strategy

Organizational Structure

Separate contracting method

Separate contract method advantages
- Price competition
- Total cost is known before construction starts
- The owner can save profit that goes to the general contractor
- Suitable for projects that need specialized contractors

Separate approach disadvantages
- Needs a qualified project manager
- The owner may be subjected to high risk
- Conflicts between contractors
Contract Strategy

Organizational Structure

Direct labor

- Used by large authorities
- The owner performs both the design and the construction
- May use consultants for some specialized designs

- Most suitable for small projects
- Can be used when expertise are available
- Low risk projects
- Inadequate scope definition

 наблюдения (الإشراف)
Organizational Structure

**Design-build (DB)**
- Used mostly for repetitive typical work
- The contractor performs design and construction
- The owner appoints project manager

The owner appoints project manager

- The contractor performs design and construction
- A single entity performs both design (architectural and engineering) and construction under a single contract
- The DB contractor then estimates the total cost and time needed to design and construct the project
- Construction begins and any changes to the design (within predefined limits) are the responsibility of the DB contractor
- A key advantage of the DB method is that it is not necessary for detailed construction drawings to be complete prior to start of the construction work
**Contract Strategy**

**Organizational Structure**

**Turnkey contract advantages**
- The contractor share or perform the design
- Used for fast-track contracts, construction can start with the design

**Turnkey disadvantages**
- There is little flexibility for the owner to make changes after the initial design is approved and a contract amount is established

---

**Contract Strategy**

**Organizational Structure**

**Construction management**

يقوم المالك بالاستعانة بمقاول متخصص (مقاول إدارة) لتنسيق عملية التصميم والتنفيذ للمشروع وهو يقابل الاستشاري في النظام التقليدي

(مقاول إدارة)  
النائب الإنشائي للمشروع  
النائب الرئيس  
عمال  
عمال  
عمال  
عمال  
عمال

---

12/10/2013 Emad Elbeltagi 27

12/10/2013 Emad Elbeltagi 28
**Contract Strategy**

**Organizational Structure: Construction management**

- Owner retains a construction manager to provide construction management services for a project throughout preconstruction and construction.
- These services may include preparation and coordination of bid packages, scheduling, cost control, value engineering, and construction administration.

**Organizational Structure: Integrated delivery (IPD)**

Functional Organization within the construction industry
Contract Strategy

Organizational Structure: Integrated delivery

- Each step has its own associated handling and processing costs, time
- High levels of fragmentations.
- There are multiple stakeholders involved
- Project communications problems
- The Need for Integrated and Concurrent Engineering Approaches
Contract Strategy

Organizational Structure: Integrated delivery

- (IPD) is a relatively new procurement process that is gaining popularity as the use of virtual design and construction concept expands and the industry learns how to use BIM technology to support integrated teams
- Integrated projects are distinguished by effective collaboration among the owner, designers, contractors and other project participants
- This collaboration takes place from the early design and continues through project handover

Contract Strategy

Organizational Structure: Integrated delivery

- The key concept is that project team works together using the best collaborative to ensure that the project will meet owner requirements at significantly reduced time and cost
- Either the owner be part of the team to help manage the process or a consultant must be hired to represent the owner’s interests, or both may participate
- BIM provides the necessary tools to evaluate the design model to explore various tradeoffs such as cost, energy, functionality, aesthetics, and constructability
Contract Strategy

Organizational Structure: Integrated delivery

- key principles of IPD
- Co-operative working relationship between multiple project stakeholders
- Shared risk and reward
- Open exchange of data using technologies such as BIM
- Early sharing of project information and insight by project stakeholders
- Maximise value to owner by cutting waste and improving efficiency through all project phases.

<table>
<thead>
<tr>
<th>Factor</th>
<th>DBB</th>
<th>IPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teams</td>
<td>Fragmented, assembled on &quot;just-as-needed&quot;</td>
<td>An integrated team entity composed of key project stakeholders</td>
</tr>
<tr>
<td>Process</td>
<td>Linear, distinct, segregated; knowledge gathered &quot;just-as-needed&quot;</td>
<td>Concurrent and multi-level</td>
</tr>
<tr>
<td>Risk</td>
<td>Individually managed</td>
<td>Collectively managed</td>
</tr>
<tr>
<td>Communications</td>
<td>Paper-based, 2 dimensional</td>
<td>Digitally based, virtual; Building Information Modeling</td>
</tr>
</tbody>
</table>

12/10/2013        Enam Elbeltagi
**Contract Strategy**

**Types of Contracts**

Contracts are classified according to the method of payment to the contractor

Contract strategy

Types of Contracts

Contracts are classified according to the method of payment to the contractor

Type of Contracts

What is the difference between cost & price?

Malفرق بين التكلفة والسعار؟

Price

- Margin
  - Profit
    - Risk allowance
    - Financial charge

Cost

- Indirect cost
  - Site overhead
  - Office overhead
- Direct cost
  - Labor
  - Material
  - Equipment
  - Subcontractors
Contract Strategy

Type of Contracts
1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost

Factors favoring the use of a specific contract

- Providing incentive for efficient performance
- Introducing changes during construction
- Allocation of risk between owner & contractor

1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost
Contract Strategy

Type of Contracts

1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost

Unit price contract

<table>
<thead>
<tr>
<th>معلومات تقول بإصدارها المالك أو من يملكه</th>
<th>اسم المالك</th>
<th>الوحدة</th>
<th>القيمة المتبقي للعملية</th>
</tr>
</thead>
<tbody>
<tr>
<td>الإجمالي</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>عدد الوحدة</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Uses the contract strategy in the projects and contracts of the company, which can be used for the client to contract the contract or change it to control the contract on a specific amount and in case of any changes in the project.

12/10/2013  Emad Elbeltagi 41

Contract Strategy

Type of Contracts

1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost

Unit price contract

Contract strategy

<table>
<thead>
<tr>
<th>مميزاته</th>
</tr>
</thead>
<tbody>
<tr>
<td>التصميم المتميز الذي يمكنه تقديم المقاول</td>
</tr>
<tr>
<td>التصميم الدقيق للمشروع لعمال قد يمثل خطرة على المالك أو المقاول (تحميم الأسعار)</td>
</tr>
<tr>
<td>النكلاية النهائية للمشروع غير محددة ولا يمكن معرفتها إلا بعد انتهاء المشروع</td>
</tr>
<tr>
<td>كثررة التزاعات عند إضافة بنود ليست بالثقة</td>
</tr>
</tbody>
</table>

12/10/2013  Emad Elbeltagi 42
**Contract Strategy**

**Loading of Rates**

(تحميل الأسعار)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount (Arabic)</th>
<th>Amount (English)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced Bid</td>
<td>120,000</td>
<td>200</td>
</tr>
<tr>
<td>Unbalanced Bid</td>
<td>67,000</td>
<td>70.67</td>
</tr>
<tr>
<td></td>
<td>32,000</td>
<td>8.00</td>
</tr>
<tr>
<td></td>
<td>100,000</td>
<td></td>
</tr>
</tbody>
</table>

**Contract Strategy**

(تحميل الأسعار)

- زيادة التنافسية في بداية المشروع وذلك لتحسين موقفه المالي
- اكتشافه وجود خطا في حصر كميات الأعمال
- التمرين غير المتزن قد يمثل خطورة على المالك أو المقاول

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount (Arabic)</th>
<th>Amount (English)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced Bid</td>
<td>120,000</td>
<td>200</td>
</tr>
<tr>
<td>Unbalanced Bid</td>
<td>67,000</td>
<td>70.67</td>
</tr>
<tr>
<td></td>
<td>32,000</td>
<td>8.00</td>
</tr>
<tr>
<td></td>
<td>100,000</td>
<td></td>
</tr>
</tbody>
</table>
**Contract Strategy**

**Type of Contracts**

1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost

**Lump Sum** (عقد المقطوعية)

- يتم الاتفاق بين المالك والمقاول على تنفيذ المشروع (أو جزء منه) بسعر إجمالي
- يتولى المقاول (في معظم الأحوال) مسؤولية التصميم والتنفيذ
- يحصل المقاول على حقوقه المالية في نهاية المشروع أو على دفعات

(Low risk projects) يُستخدم للمشاريع المعرفة جيدًا والتي تقل فيها المخاطر

(Turnkey) وتسليم المفتاح (Design-build) يناسب مشروعات التصميم والتنفيذ

---

12/10/2013  Emad Elbeltagi  45

---

**Contract Strategy**

**Type of Contracts**

1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost

**Lump Sum** (عقد المقطوعية)

**ميزاته**
- المالك غير ملزم بالتفاصيل
- المالك على علم مسبق بالالتزامات المالية
- يستفاد من خبرة المقاول في التصميم

**عيوبه**
- لا يسمح بإدخال أي تغييرات في التصميم
- شروط التعاقد مهمة للغاية وآي خلل أو لبس فيها يؤدي إلى منازعات
- يتصل المقاول كل المخاطر التي قد يتحملها المشروع

12/10/2013  Emad Elbeltagi  46
## Contract Strategy

### Type of Contracts

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unit Price</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Lump Sum</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Cost Plus</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Target Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Cost-Plus**

- يتم الاتفاق بين المالك والمقاول على تنفيذ المشروع (أو جزء منه) على أن يسترد المالك كل المصروفات التي تتحملها بالإضافة إلى زيادة نظير الإدارة وهامش الربح.
- الإضافية قد تكون مبلغ ثابت أو نسبة محددة من التكلفة الكلية، أو يتم الجمع بينهما.
- المقاول ملزم بعمل دفائر لإثبات المصروفات الفعلية في الموقع واعتمادها من المالك.
- هذا النوع من أسوأ أنواع العقود بالنسبة للمالك.

---

12/10/2013

Emad Elbeltagi
Contract Strategy

Type of Contracts
1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost

Target Cost ( وعدة التكلفة المستهدفة)

- يتفق المالك والمقاول على تنفيذ المشروع بتكلفة تقديرية تسمى التكلفة المستهدفة
- يحدد المقاول والمالك التكلفة المستهدفة بناءً على البيانات المتوقعة وقت التعاقد
- يتم التعاقد بطريقة cost-plus، وبشرط ألا تزيد التكلفة عن التكلفة المستهدفة
- إذا زادت التكلفة النهائية عن التكلفة المستهدفة يستطيع جزء من ربح المقاول وإذا قلت
  يزيد ربح المقاول بنسبة متفق عليها

12/10/2013 Emad Elbeltagi

Contract Strategy

Type of Contracts
1. Unit Price
2. Lump Sum
3. Cost Plus
4. Target Cost

Target Cost ( وعدة التكلفة المستهدفة)

- أثناء التنفيذ يتم بحث ومناقشة أية تغييرات أو مخاطر
- تغير التكلفة المستهدفة لتتلاحم مع هذه التغييرات
- هذا العقد يشبه تماماً عقد التكلفة بالإضافة والفروق
- الجوهري هو مشاركة المقاول في تحمل جزء من أية
- مصروفات تزيد عن التكلفة المستهدفة للمشروع
- لم يستخدم هذا النوع في مصر حتى الآن

12/10/2013 Emad Elbeltagi
Contract Strategy

Type of Contracts

Target Cost

Example: In one of the projects, the owner and the contractor agreed to use the Target Cost contract under the following conditions:

- Project target cost = LE 750,000
- Contractor fee = LE 90,000
- The contractor will pay 50% of any additional cost
- The contractor will get 50% of any saving

What are the total project price and the contractor profit if:

- a. Actual cost = LE 750,000
- b. Actual cost = LE 900,000
- c. Actual cost = LE 650,000
### Contract Strategy

**Type of Contracts:** Target Cost

<table>
<thead>
<tr>
<th>Case</th>
<th>Target cost (LE)</th>
<th>Actual cost (LE)</th>
<th>Contractor income (LE)</th>
<th>Total project price (LE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>750,000</td>
<td>750,000</td>
<td>90,000</td>
<td>840,000</td>
</tr>
<tr>
<td>b</td>
<td>750,000</td>
<td>900,000</td>
<td>15,000</td>
<td>915,000</td>
</tr>
<tr>
<td>c</td>
<td>750,000</td>
<td>650,000</td>
<td>140,000</td>
<td>790,000</td>
</tr>
</tbody>
</table>

\[
b. \quad 90,000 + (750,000 - 900,000) \times 0.5 = LE 15,000
\]
\[
\text{Project price} = 900,000 + 15,000 = LE 915,000
\]

\[
c. \quad 90,000 + (750,000 - 650,000) \times 0.5 = LE 140,000
\]
\[
\text{Project price} = 650,000 + 140,000 = LE 790,000
\]

---

### Contract Strategy

**Type of Contracts**

1. Unit Price  
2. Lump Sum  
3. Cost Plus  
4. Target Cost

*Risk sharing between owner & contractor*

- **Owner risk:** 100%
- **Contractor risk:** 0%
- **Turnkey:** 100%
- **Lump sum:** 0%
- **Unit price:** 100%
- **Cost plus:** 0%
- **Owner direct force:** 100%

12/10/2013  
Emad Elbeltagi