

Strategic Planning for Contractors

Market Segmentation, Five Forces, Competitive Advantages

401.649 Cost Planning for Construction Projects

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Lecture Outline

- Strategic Planning Steps
- Background of Case Study: Fluor Daniel's Dilemma
- Mission & Goals Statement
- Environment Scan
- Internal Scrutiny
- Formation of Strategies
 - Segmentation Matrix
 - Generic Strategies Matrix
 - Action Plan for Fluor Daniel
 - Resource Allocation for Fluor Daniel

Strategic Planning Steps



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Case Study: Fluor Daniel's Dilemma

- The Company: Fluor Corporation's principal operating business providing a broader range of engineering, construction, maintenance and diversified services
- Organizations: organized into five global operating groups, each consisting of operating companies and offices (more than 15 companies worldwide)

Case Study: Fluor Daniel's Dilemma

Company	Fluor Corporation					
Principal op. Business unit	Fluor Daniel					A.T. Massey Coal
Operation Group, Subsidiary	Energy & Chemicals	Industrial	Government	Enviro. & Telecomm.	Diversified Services	
	<ul style="list-style-type: none"> - Chemicals & Petrochemicals - Petroleum - Production & Pipelines - Power Generation 	<ul style="list-style-type: none"> - Mining & Metals - Electronics - Infrastructure - Prmaeuti - cals, Biotech. & Foods - Alliance with Procter & Gamble 		<ul style="list-style-type: none"> - Fluor Daniel GTI 	<ul style="list-style-type: none"> - Fluor Daniel Tech - Fluor Daniel Consulting - American Equip. Company - SMA Equipment - Stith Equipment - J.W. Burress - TRS Staffing Solution - Technology Services - Maintenance Services - ASI - FCII 	

Case Study: Fluor Daniel's Dilemma

- In 1997, operating earnings fell significantly below expectations (62 percent less than the prior year) for the first time in several years
- Continued strong earning growth from A.T. Massey Coal, the company's coal operation, and the excellent performance of thousands of employees on hundreds of projects around the globe was not enough to offset Fluor Daniel's disappointing level of earnings

Case Study: Fluor Daniel's Dilemma

- Objectives of Strategic Planning: to stop the decrease of operating earnings of the company and to allow the company to keep its leader position in the engineering and construction industry

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Mission & Goals Statement

- Mission Statement
 - Can be revised as planning proceeds
 - Should **not be so broad** as to be vague
 - Should **not be too narrow**

- Goals Statement
 - Should be **specific**
 - Can be financial: e.g., a 2 percent margin after taxes or 30 percent annual return on investment
 - Need to be **communicated to all employees** in a firm

Fluor Daniel's Mission & Goals

Under rapidly changing business environment where the competitive implications of global marketplace continue to cost pressure on the company, Fluor Daniel establishes its mission as *"To assist clients in attaining a competitive advantage by delivering quality services of unmatched value."*

In the light of the current business environment and the company's service-oriented mission, the company's goals are aimed at *"improving earnings and overall profitability to meet its target level of earning, average rate of earning increase in the latest 10 years, and keeping its leader position in the engineering and construction industry"*.

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Environment Scan

- Reviewing external factors that can have an effect on the company but which the company cannot directly control.
- Factors including the general economy, the labor market, the quality and strength of competitors, banking climate, etc.
- Examples
 - The office market is overbuilt
 - Vacancy rates of the office market are in the mid-20s
 - It is difficult to get help in the carpenter

Environment Scan for Fluor Daniel

- US Market
 - Healthy economy and more building opportunities are expected.
 - Cost of equipment purchases will rise sharply. But rental activity for heavy equipment will soar.
 - Private projects will be the single greatest business opportunity. Also, residential building tops the list of biggest opportunities.
 - The lack of a skilled work force poses the greatest challenge to the industry.

Environment Scan for Fluor Daniel

- Overseas Market
 - The competitive implications will continue to put cost pressures on the company's traditional clients.
 - Especially, due to the turmoil in Asian financial market, low-price competition will be accelerated in large capital project with Asian firms.
 - Also, future award trends are difficult to predict with certainty. Furthermore, the volatility in Asian markets could result in the delay of award.
 - Volatile business conditions in certain international markets may cause a number of clients to take a more conservative wait-and-see approach.

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Internal Scrutiny

- Must candidly review the company's internal strengths and weakness
- The best, most achievable strategies arise from candid consideration of what the company is capable of
- Need to be scrutinized compared to competitors
- Accompanied with potential solutions to make up the current weakness
- Examples
 - An experienced engineering department
 - A good reputation in residential building

Internal Scrutiny for Fluor Daniel

- Strength
 - A good reputation as America's most admired company in the engineering and construction industry
 - The company's strategic direction strengthened its attributes including innovativeness, quality of management, ability to attract and retain talented people, etc.
 - In fact, Fluor Daniel has been the industrial leader especially in power plant, manufacturing and industrial process area.

Internal Scrutiny for Fluor Daniel

- Weakness

Segment	Value Activity	Issue	Supportin g Activity	Necessary Action	Priorit y
General	OP	- Low level of net income - Low level of net income per capita *Especially compared to Japanese firm	FI HRM TD	- to improve margins through selectivity - to improve cost management - to downsize & consolidate business units - to restructure organization & human resource	1
	MS	Too dependent on repeat client	HRM	To exploit new client thru aggressive marketing	2
Industry	MS	Decrease in new award especially in mining & metals	HRM	Aggressive marketing	2
Power/ Gov.	MS	Decrease in new award	HRM	Aggressive marketing	1

* Notes

OP: operation

FI: firm infrastructure

TD: technology development

MS: marketing & services

HRM: human resource & management

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Formation of Strategies

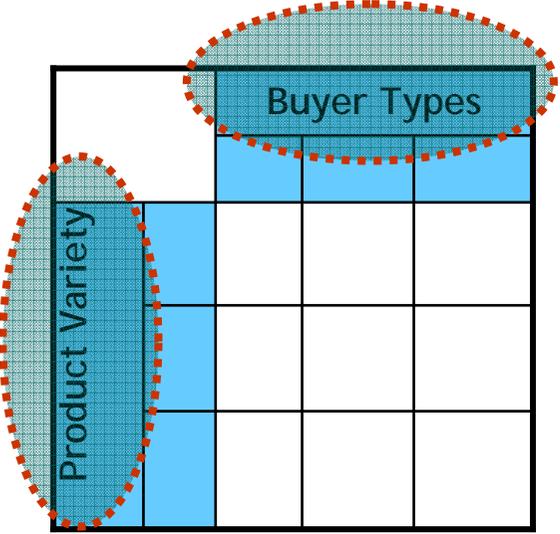
- Strategies are made in the light of:
 - The company's goals
 - Results of environmental scan
 - Observed strengths and weaknesses of the company and its competitors

- By utilizing a series of analysis tools (from Michael Porter's Competitive Advantage)
 - Segmentation Matrix
 - Five Forces
 - Generic Strategies Matrix

Segmentation Matrix

- Useful in identifying:
 - The segments being addressed by the company
 - The segments having the most profit potential for the company
- As a result, helping to find the company's strategic market position
 - That should be focused
 - Where the company has ability to cope with the five forces better than its rivals

Segmentation Matrix



- TV, VCR, Camera ...
- GC, CM, Turnkey...
- and so on...

- Geographical Segments



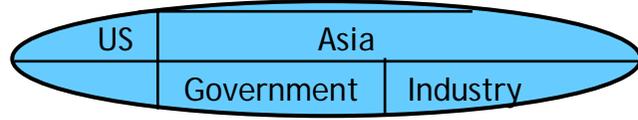
- Client-Type Segments



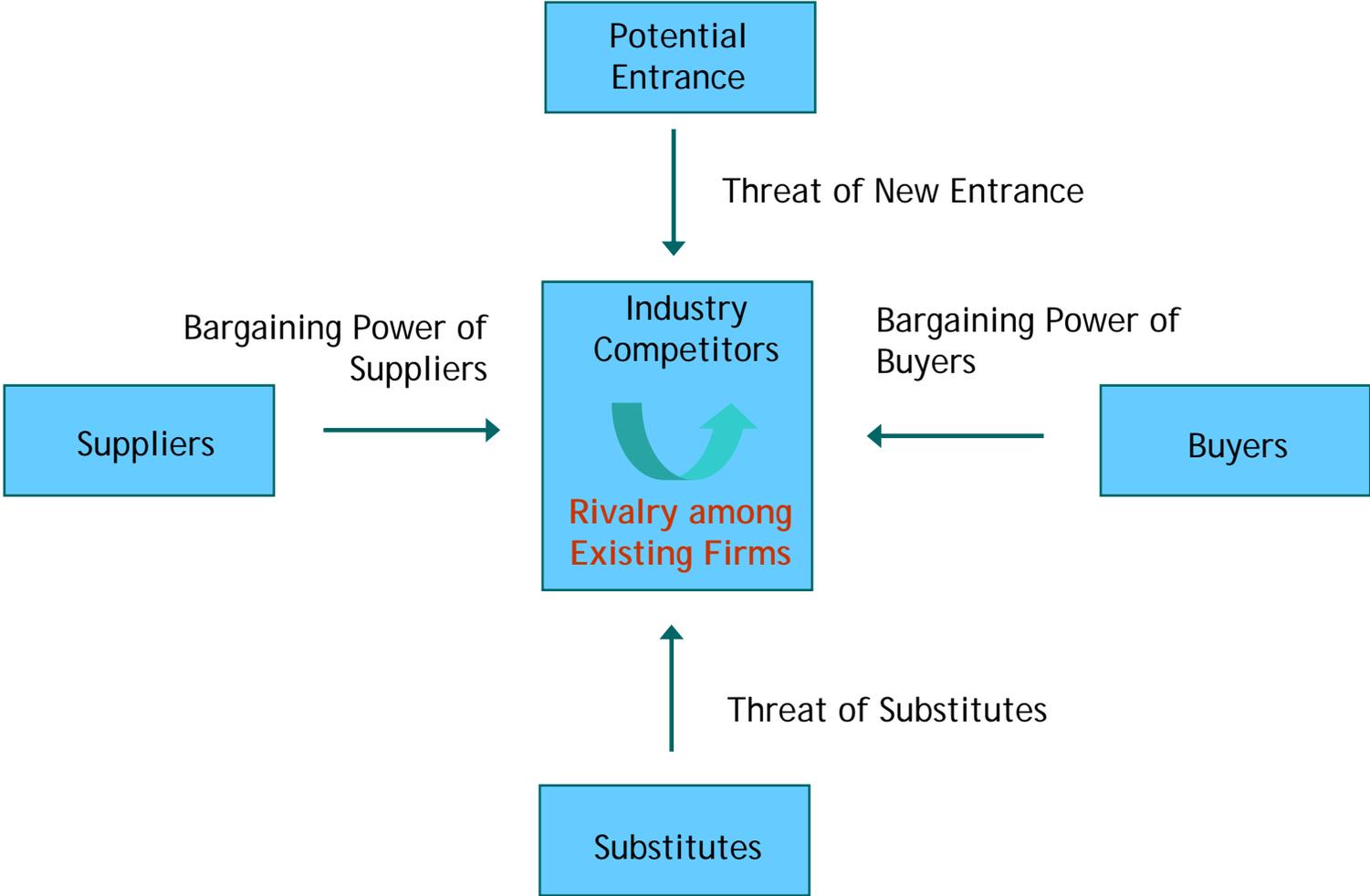
- Contract-Type Segments



- or, if necessary, combinations of the above



Michael Porter's Five Forces



Segmentation Matrix for Fluor Daniel

Description		Buyers																								
		N. America					International																			
							Asia					Europe					S. America					Africa				
		G	P	I	E	T	G	P	I	E	T	G	P	I	E	T	G	P	I	E	T	G	P	I	E	T
Product Variety	GC	FP	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel					
		RB	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				
	CM	FF	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				
		CP	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				
	DB	FP	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				
		RB	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				
	TK	FP	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				
		RB	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				
	BOT	FP	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel	Fluor Daniel				

* Note

Fluor Daniel	Fluor Daniel
ABB	ABB
Bechtel	Bechtel
Kiewit	Kiewit

G: general building
P: process
I: industrial
E: environmental
T: telecommunicatic

GC: general contract
CM: construction manager
DB: design-build
TK: turnkey
BOT: build-operate-transfer

FP: fixed price
RP: reimbursable
FF: fixed fee
CP: cost-plus

Segmentation Matrix for Fluor Daniel

Strategic Positioning

Des.	Fluor's Strategies	Rationale	
		Contents	5 Force
Buyer	Focus on North America and Europe	Avoid competition with Bechtel and ABB already having initiatives in S. America and Africa	Refer to 1
		Less margin in Asia due to the recent financial turmoil in the region	
	New entry into general building market in North America	No big competitors in the current market where Fluor D. can take advantage of its capacity	Refer to 2
		Increased building opportunities in the market	
Keep the current position in P,I,E,T	Environmental scan shows all the industries are growing	Refer to 3	
Product Variety	Exclude fixed price awards	Reduce activities where financial returns are less	
		Eliminate risks of a project such as cost overrun and delay	
	CM	Increase activities that secures higher margins	
	BOT	Secure long-term sound cash flow	
		Increase the company's assets	

5 Force Analysis

Des	1	2	3
Threat of New Entrance	L	H	L
Bargaining Power of Buyers	H	L	H
Threat of Substitutes	L	H	L
Bargaining Power of Suppliers	H	L	H
Rivalry among Firms	H	L	L

Generic Strategies Matrix

- Useful in describing how to compete and where to focus on.
 - Horizontal Axis: Competitive advantage (How to intend to compete)
 - Vertical Axis: Competitive scope

Description		Competitive Advantage	
		Lower Cost	Differentiation
Competitive Scope	Narrow Target Market		
	Broad Target Market		

Generic Strategies for Fluor Daniel

- To avoid possible competitions with top competitors already having their initiatives in a certain market
- To meet the company's goal to increase its profitability
- To take advantage of the company's competitive differentiator which few competitors possess such as good reputation in the industry and capability to execute huge and complex project
- To utilize the company's ability to provide a full range of services, including project financing assistance, combined with extensive global presence

Description		Competitive Advantage	
		Lower Cost	Differentiation
Competitive Scope	Narrow Target Market		Fluor Daniel (Differentiation Focus)
	Broad Target Market		

Action Plan for Fluor Daniel

- Analyses in each previous stage produce the following results, which give the basis for action plans.
 - **Environmental scan** shows that international market will be more competitive and put more cost pressure on the company especially in Asian block, while **the U.S. Market will provide more building opportunities**. Also, it shows the related markets such as Energy & Chemical, Industrial, Environmental, Telecommunication, and Equipment Supply will grow steadily.
 - **Internal scrutiny** shows that **low earning level of the company in 1997 stems mainly from cost overruns in fixed price projects and decrease of new awards in industrial, power and government business segments**. Also, it suggests that in order to make up the company's disadvantages, **improving margins** through selectivity of projects and cost management is most urgently required.

Action Plan for Fluor Daniel

- Segmentation matrix recommends that the company should focus on North America and Europe with a full range of buyer type, and limit to the projects, risks of which it can manage.
- The company's generic strategy to provide differentiated approach to a narrow product type makes the company's goal, increase of its profitability, a good fit.

Action Plan for Fluor Daniel

Mission/ Goal	Strategy	Action Plan
Increase of earning level	Increase selectivity of projects	Narrow target market <u>Buyer type</u> : Focus on North America & Europe <u>Product type</u> : Focus on high-return secured contracting type such as CM and on less risky contracting type such as reimbursable
		Exploit new building opportunities in a general building market in North America and recruit skilled labor for the market
		Exploit new client not sticking to repeat clients
	Improve cost management	Introduce innovative technological method to manage projects
		Downsize & consolidate business units
		Restructure organization & human resource
	Capacities-based competition	Maximize margin using the company's well organized capacities, combined with extensive global presence
keeping its leader position in the industry	Continue the current activities in the traditional market	Invest continuously to keep the leader position in power plant, manufacturing and industrial process area
		Keep relationship with repeat clients as carrying out ongoing projects in non-focused areas
	Take advantage of the company's competitive differentiator	Utilize the company's capability to provide a full range of services, including project financing assistance, combined with extensive global presence
	Increase new awards	Reinforce marketing

Resource Allocation for Fluor Daniel

- In order to implement an action plan effectively, budget, money, people and management of a company should be allocated properly.
- In connection with Fluor Daniel's action plan, the following diagram suggests the most efficient way to allocate resource of the company.
- Priority of any actions should be given to the colored intersections in the diagram.

Resource Allocation for Fluor Daniel

Primary Activities

Support Activities

Description	Inbound Logistics	Operations	Outbound Logistics	Marketing & Sales	Service
Human Res. & Mgt.					
Tech. Development					
Procurement					
Firm Infrastructure					

References

- Avraham Shtub, Jonathan F. Bard, Shlomo Globerson, "Project management : engineering, technology, and implementation", Englewood Cliffs, NJ, Prentice Hall, 1994
- Frederick E. Gould, Nancy Joyce, Chapter 8, "Construction project management", Upper Saddle River, NJ, Prentice Hall, 1999
- James M. Lyneis *, Kenneth G. Cooper, Sharon A. Els, "Strategic management of complex projects: a case study using system dynamics", System Dynamics Review, Vol. 17, No. 3, 2001
- Christopher M. Gordon, "Choosing appropriate construction contracting method", J. of Construction Engineering & Management, Vol. 120, No. 1, 1994
- Feniosky Pena-Mora, Jim Lyneis, "Project control and management", MIT 1.432J Lecture Material, 1998
- Barrie, D.S., and Paulson, B.C., "Professional Construction Management", McGraw Hill, 1992
- Halpin, D.W., "Financial and Cost concepts for construction management", John Wiley & Sons, 1995
- Yehiel Rosenfeld, "Project Management", MIT 1.401J Course Material, 2000
- Sarah Slaughter, "Innovation in construction", MIT 1.420 Course Material, 1999
- Gray and Hughes, "Building Design Management", .
- Murdoch and Hughes, "Construction Contracts: Law and Management", E&FN SPON, 1996
- Gray, Hughes and Bennett, "The Successful Management of Design", Reading, 1994