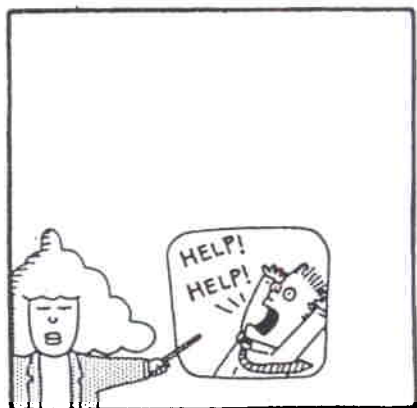
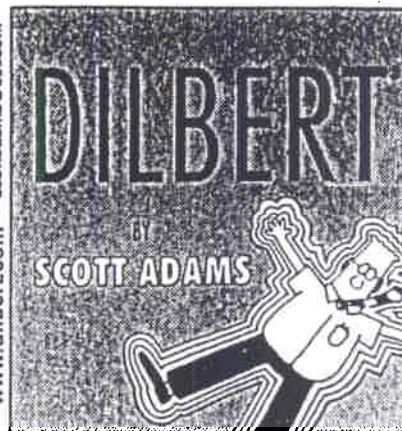


PLANNING AND FORECASTING



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A. Planning

- 1. Primary activity of management**
- 2. Definitions of planning**
- 3. Advantages of planning**

B. Approach to Planning

- 1. Systems approach to planning**
- 2. Hierarchy of planning**

C. Forecasting

- 1. Adjunct to planning**
- 2. Types of techniques/methods**
- 3. Applications of techniques/methods**
- 4. Effectiveness of techniques/methods**
- 5. Limitations of techniques/methods**

MANAGEMENT FUNCTIONS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Planning	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Organizing	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Staffing	.....	XX	XX	.....	XX	XX	.....	XX	.....	.....
Decision Making	.....	.....	XX	.....	.....	.....	.....	.....	.....	.....
Integrating	.....	.....	.....	.....	.....	.....	XX	.....	.....	.....
Activating	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Directing	XX	XX	.....	.....	.....	XX	.....	.....	XX	.....
Commanding	.....	.....	.....	XX	.....	.....	.....	.....	.....	.....
Initiating	.....	.....	.....	.....	.....	.....	.....	.....	.....	XX
Leading	.....	.....	XX	.....	XX	.....	.....	.....	.....	.....
Motivating	XX	.....	XX	.....	.....	.....	.....	.....	XX	.....
Coordinating	.....	.....	.....	XX	.....	XX	.....	XX	.....	.....
Measuring	.....	.....	.....	.....	.....	.....	XX	.....	XX	.....
Correcting	.....	.....	.....	.....	.....	.....	.....	.....	XX	.....
Controlling	XX	XX	XX	XX	XX	.....	.....	XX	.....	XX
Reporting	.....	.....	.....	.....	.....	XX	.....	.....	.....	.....
Budgeting	.....	.....	.....	.....	.....	XX	.....	.....	.....	.....

(1) Cleland & Kocaoglu
 (2) Carlisle
 (3) Babcock

(4) Fayol
 (5) Koontz
 (6) Dale (Gulick)

(7), (8), (9), (10)
 Configurations from
 Karger & Murdick

DEFINITIONS

"a method of identifying objectives and designing a sequence of programs and activities to achieve these objectives"

"an integrative activity which seeks to maximize the effectiveness of an organization as a system in accord with organizational objectives"

"intelligent cooperation with the inevitable"

ADVANTAGES OF PLANNING

1. *Provides sense of direction*
2. *Focuses attention on objectives*
3. *Serves as an integrating force*
4. *Anticipates problems; offsets uncertainty*
5. *Provides guidelines for decision making*
6. *Provides basis for decentralization*
7. *Serves as prerequisite for other functions*
8. *Provides goal achievement motivation*

SYSTEMS APPROACH TO PLANNING

- 1. APPRAISE ENVIRONMENT**
- 2. VISUALIZE ORGANIZATIONAL ROLE**
- 3. PERCEIVE CUSTOMER NEEDS**
- 4. DETERMINE OTHER NEEDS**
- 5. PROVIDE FOR PARTICIPANTS**
- 6. DEVELOP GOALS, OBJECTIVES, AND PLANS**
- 7. DEVELOP FUNCTIONAL EFFORTS**
- 8. DEVELOP DETAILED EFFORTS**

Planning Hierarchy

Strategic Planning
Tactical Planning
Operational Planning

VARIABLES ASSOCIATED WITH DIFFERENT TYPES OF PLANS

<u>CHARACTERISTIC</u>	<u>TYPE OF PLAN</u>		
	Strategic (Long- Range)	Tactical (Annual Operating)	Operational (Short-Range)
Time horizon	over one year	one year	under one year
Purpose	establish objectives and future states	set and implement goals	implement goals
Organizational level involved	top management	top and middle management	middle and lower management
Systems level	external environment	primarily internal environment	internal environment
Activity controlled	total performance, systems relations	task and total performance	tasks, operations
Decision range	relatively enduring	primarily short-term	short-term
Basis for planning	primarily judgmental	exact data and judgmental	exact data and standards
Content	broad, general	specific, detailed	specific, detailed
Predictability	uncertain	quite certain	highly certain
Anticipated accuracy	within 25%	within 5%	within 2 or 3%
Management functions involved	planning dominant	planning and control	primarily control
Management control of variables	slight	significant	almost complete

EXAMPLES OF FORECASTING TECHNIQUES USED IN PLANNING

Brainstorming	Reference Trees
Delphi Technique	Decision Matrices
Expert Opinion	Deterministic Models
Literary Fiction	Probabilistic Models
Scenarios	Operational Simulation
Historical Analogy	Input/Output Tables
Time Series Analysis	PERT/CPM
Morphological Analysis	PPBS

TYPICAL APPLICATIONS OF SELECTED FORECASTING TECHNIQUES

- | | |
|---|---|
| (1) Acquisition Screening
(2) Distribution Planning
(3) Pricing Strategy
(4) Product Life-Cycle Analysis | (5) Product Planning
(6) R&D Planning
(7) Sales Forecasting
(8) Venture Planning |
|---|---|

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regression Analysis			***				***	
Bayesian Analysis			***	***	***			
PERT/CPM					***	***		***
Decision Trees			***					
Exponential Smoothing							***	
Input-Output Analysis					***	***	***	***
Monte Carlo Simulation	***	***			***			***
Queueing Models		***						
Technological Forecasting				***	***	***	***	***

EFFECTIVENESS OF SELECTED FORECASTING TECHNIQUES

	Accuracy			Turning Point ID	Time Required
	Short = 3 mos	Medium 3 mo - 2 yr	Long = 2 yrs		
QUALITATIVE					
Delphi	F - VG	F - VG	F - VG	F - VG	2+ mos
Market Research	E	G	F - G	F - VG	3+ mos
Panel Consensus	P - F	P - F	P	P - F	2+ wks
Historical Analogy	P	F - G	F - G	P - F	1+ mo
TIME SERIES					
Moving Average	P - G	P	VP	P	1 day
Exponential Smoothing	F - VG	P - G	VP	P	1 day
Box-Jenkins	VG - E	P - G	VP	F	1 wk
Trend Projection (Curve Fitting)	VG	G	G	P	2 days
CAUSAL					
Regression Models	G - VG	G - VG	P	VG	1-2 mo
Econometric Models	G - VG	VG - E	G	E	2+ mos
Input-Output Models	NA	G - VG	G - VG	F	6+ mos
Leading Indicator	P - G	P - G	VP	G	1+ mo
Life-Cycle Analysis (S-Curves)	P	P - G	P - G	P - G	1+ mo

EFFECTIVENESS OF SELECTED FORECASTING TECHNIQUES

	Accuracy			Turning Point ID	Cost Estimated
	Short = 3 mos	Medium 3 mo - 2 yr	Long = 2 yrs		
QUALITATIVE					
Delphi	4.0	4.0	4.0	4.0	>\$16,700
Market Research	6.0	4.0	3.5	4.0	>\$25,000
Panel Consensus	2.5	2.5	2.0	2.5	>\$3,800
Historical Analogy	2.0	3.5	3.5	2.5	>\$8,300
TIME SERIES					
Moving Average	3.0	2.0	1.0	2.0	>\$400
Exponential Smoothing	4.0	3.0	1.0	2.0	>\$400
Box-Jenkins	5.5	3.0	1.0	3.0	>\$1,900
Trend Projection (Curve Fitting)	5.0	4.0	4.0	2.0	>\$800
CAUSAL					
Regression Models	4.5	4.5	2.0	5.0	>\$8,300
Econometric Models	4.5	5.5	4.0	6.0	>\$16,700
Input-Output Models	NA	4.5	4.5	3.0	>\$50,000
Leading Indicator	3.0	3.0	1.0	4.0	>\$8,300
Life-Cycle Analysis (S-Curves)	2.0	3.0	3.0	3.0	>\$8,300

BUSINESS CYCLE EXAMPLE LEADING INDICATORS

Based on analyses of the behavior of more than 400 statistical indicators over a long period of time by the National Bureau of Economic Research. Published monthly by the Bureau of the Census, U.S. Department of Commerce, as Business Cycle Developments.

SERIES	SOURCE	AVERAGE LEAD
Business failures, liabilities	Dun & Bradstreet	9 months
Industrial common stock prices	Dow-Jones & Co.	6 months
New orders for durable goods	Department of Commerce	6 months
Residential building contracts	F.W. Dodge Corporation	5 months
Commercial and industrial building contracts	F.W. Dodge Corporation	3.5 months
Average hours worked per week	Bureau of Labor Statistics	3.5 months
New incorporations	Dun & Bradstreet	3 months
Wholesale price index (28 basic commodities)	Bureau of Labor Statistics	3 months