Chapter Two

Project Management Growth: Concepts and Definitions

Chapter 2 1

When to Use Project Management

- Are the jobs complex?
- Are there dynamic environmental considerations?
- Are the constraints tight?
- Are there several activities to be integrated?
- Are there several functional boundaries to be crossed?

Chapter 2 2

The Need For Restructuring

- Accomplish tasks that could not be effectively handled by the traditional structure
- Accomplish onetime activities with minimum disruption to routine business

Chapter 2 3

Restructuring Problems

- Project priorities and competition for talent may interrupt the stability of the organization and interfere with its long-range interests by upsetting the normal business of the functional organization.
- Long-range planning may suffer as the company gets more involved in meeting schedules and fulfilling the requirements of temporary projects.

Chapter 2 4

Restructuring Problems
(Continued)

- Shifting people from the project to project may disrupt the training of new employees and specialists. This may hinder their growth and development within their fields of specialization.

Chapter 2 5

Imperatives

- The time span between project initiation and completion appears to be increasing.
- The capital committed to the project prior to the use of the end item appears to be increasing.
- As technology increases, the commitment of time and money appears to become inflexible.

Chapter 2 6

Imperatives (Continued)

- Technology requires more and more specialized manpower.
- The inevitable counterpart of specialization is organization.
- The above five "imperatives" identify the necessity for more effective planning, scheduling, and control.

Chapter 2 7

Obstacles

- Unstable economy
- Shortages
- Soaring costs
- Increased complexity
- Heightened competition
- Technological changes
- Societal Concerns

Chapter 2 8

Obstacles (Continued)

- Consumerism
- Ecology
- Quality of work

Chapter 2 9

Results of NOT Controlling Obstacles

- Decreased Profits
- Increased manpower needs
- Cost overruns, schedule delays, and penalty occurring earlier and earlier
- An inability to cope with new technology
- R&D results too late to benefit existing product lines
- Temptation to make hasty decisions that prove to be costly

Chapter 2 10

Results of NOT Controlling Obstacles

(Continued)

- Management insisting on earlier and greater return on investment
- Greater difficulty in establishing on-target objectives in real time
- Problems in relating cost to technical performance and scheduling during the execution of the project

Chapter 2 11

Project Management Growth

- Technology increasing at an astounding rate
- More money invested in R&D
- More information available
- Shortening of project life cycles

Chapter 2 12

Early Reasons For Failure

- There was no need for project management.
- Employees were not informed about how project management should work.
- Executives did not select the appropriate projects or project managers for the first few projects.

Chapter 2 13

Early Reasons for Failure
(Continued)

- There was no attempt to explain the effect of the project management organizational structure on the wage and salary administration program.
- Employees were not convinced that executives were in total support of the change (to project management).

Chapter 2 14

Integrative Responsibility

- Total accountability assumed by a single person
- Project rather than functional dedication
- A requirement for coordination across functional interfaces
- Proper utilization of integral planning and control

Chapter 2 15

Advantages

- Easy adaptation to an ever-changing environment
- Ability to handle a multidisciplinary activity within a specified period of time
- Horizontal as well as vertical work flow
- Better orientation toward customer problems
- Easier identification of activity responsibilities
- A multidisciplinary decision-making process
- Innovation in organizational design

Chapter 2 16

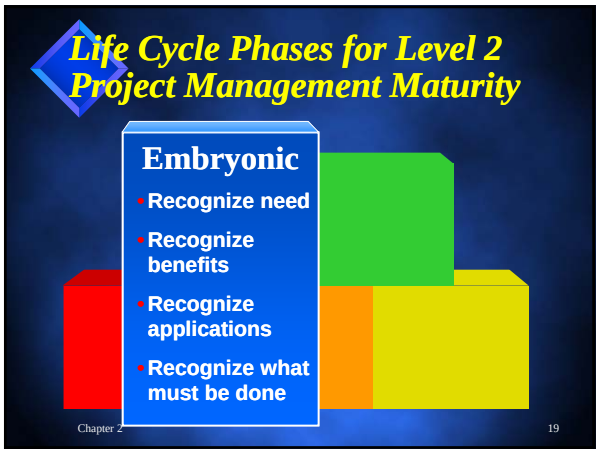
Project Management Evolution

- Biblical Project Management
- Military Project Management
- Space Exploration
- Heavy Construction
- Other

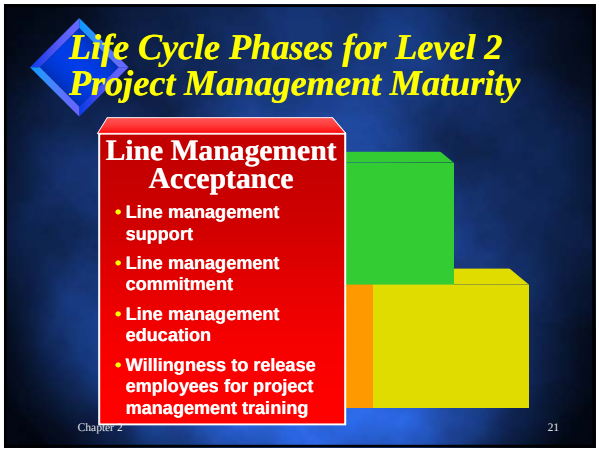
Chapter 2 17

Life Cycle Phases for Project Management Maturity

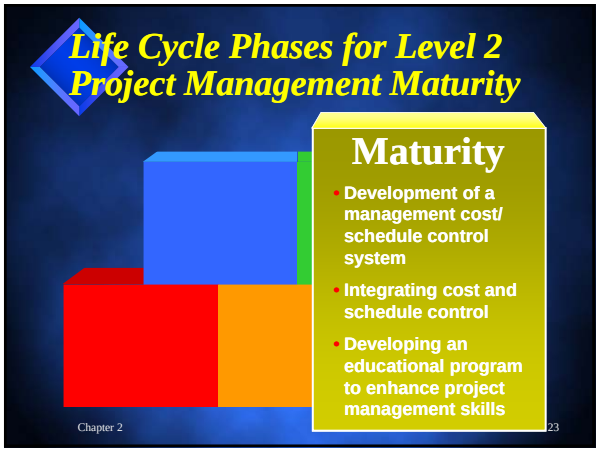
Chapter 2 18


Life Cycle Phases for Level 2 Project Management Maturity
Embryonic
• Recognize need
• Recognize benefits
• Recognize applications
• Recognize what must be done
Chapter 2
19


Life Cycle Phases for Level 2 Project Management Maturity
Executive Management Acceptance
• Visible executive support
• Executive understanding of project management
• Project sponsorship
• Willingness to change way of doing business
Chapter 2
20

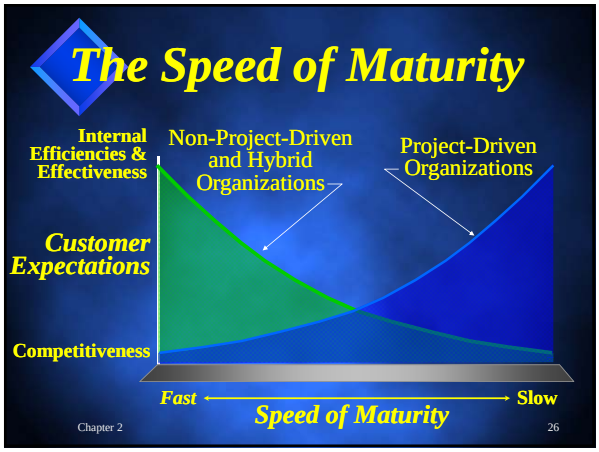

Life Cycle Phases for Level 2 Project Management Maturity
Line Management Acceptance
• Line management support
• Line management commitment
• Line management education
• Willingness to release employees for project management training
Chapter 2
21

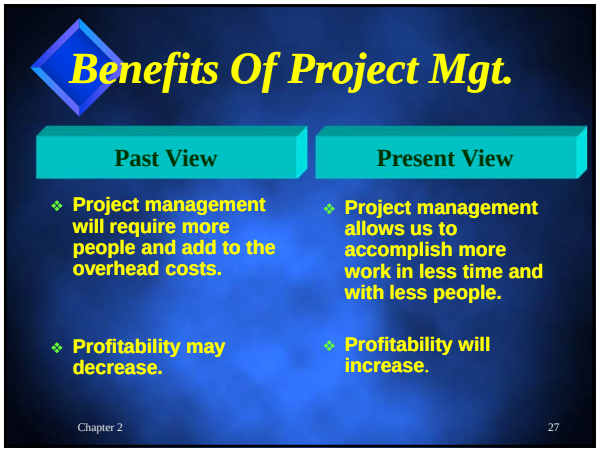

Life Cycle Phases for Level 2 Project Management Maturity
Growth
• Development of a methodology
• Use of life cycle phases
• Commitment to planning
• Minimization of "creeping scope"
• Selection of a project tracking system
Chapter 2
22

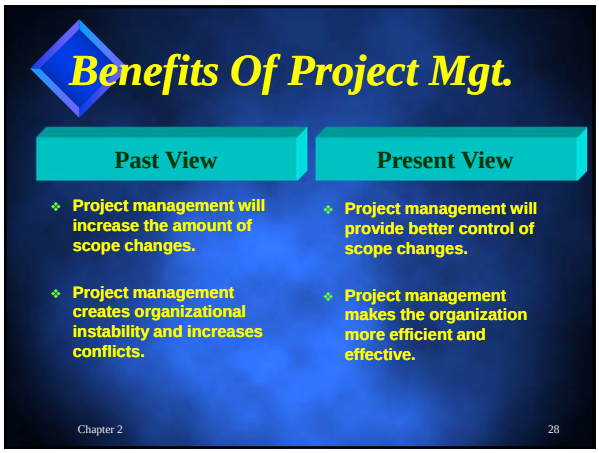

Life Cycle Phases for Level 2 Project Management Maturity
Maturity
• Development of a management cost/ schedule control system
• Integrating cost and schedule control
• Developing an educational program to enhance project management skills
Chapter 2
23

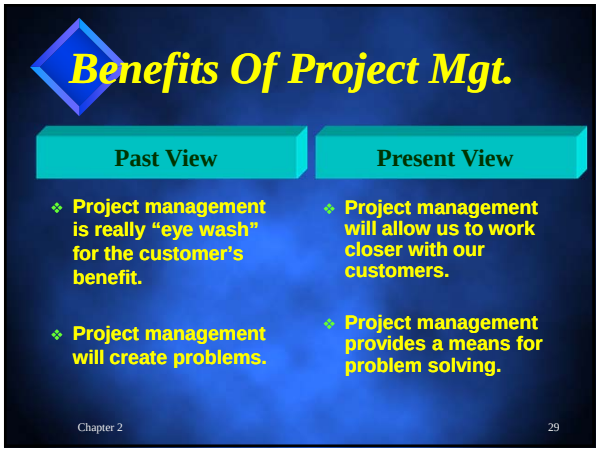

Driving Forces for Maturity
❖ Capital projects
❖ Customer expectations
❖ Competitiveness
❖ Executive understanding
❖ New product development
❖ Efficiency and effectiveness
Chapter 2
24

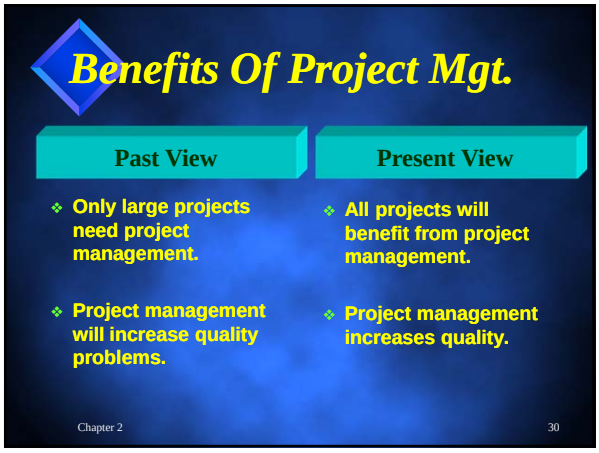

The Components of Survival
Efficiency and Effectiveness
Capital Projects
New Product Development
SURVIVAL
Customer Expectations
Executive Understanding
Competitiveness
Chapter 2
25


The Speed of Maturity
Internal Efficiencies & Effectiveness
Non-Project-Driven and Hybrid Organizations
Project-Driven Organizations
Customer Expectations
Competitiveness
Fast
Slow
Speed of Maturity
Chapter 2
26


Benefits Of Project Mgt.
Past View
Present View
Project management will require more people and add to the overhead costs.
Project management allows us to accomplish more work in less time and with less people.
Profitability may decrease.
Profitability will increase.
Chapter 2
27


Benefits Of Project Mgt.
Past View
Project management will increase the amount of scope changes.
Project management creates organizational instability and increases conflicts.
Present View
Project management will provide better control of scope changes.
Project management makes the organization more efficient and effective.
Chapter 2
28


Benefits Of Project Mgt.
Past View
Project management is really "eye wash" for the customer's benefit.
Project management will create problems.
Present View
Project management will allow us to work closer with our customers.
Project management provides a means for problem solving.
Chapter 2
29


Benefits Of Project Mgt.
Past View
Only large projects need project management.
Project management will increase quality problems.
Present View
All projects will benefit from project management.
Project management increases quality.
Chapter 2
30

Benefits Of Project Mgt.

Past View	Present View
Project management will create power and authority problems.	Project management will reduce the majority of the power struggles.
Project management focuses on suboptimization by looking at only the project.	Project management allows people to make good company decisions.

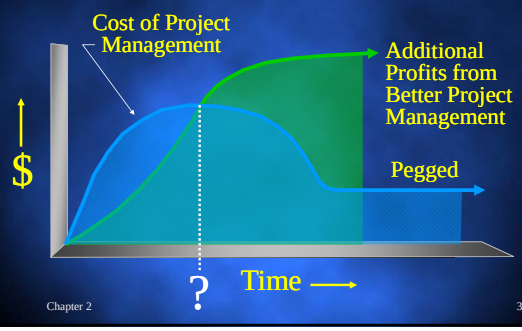
Chapter 2 31

Benefits Of Project Mgt.

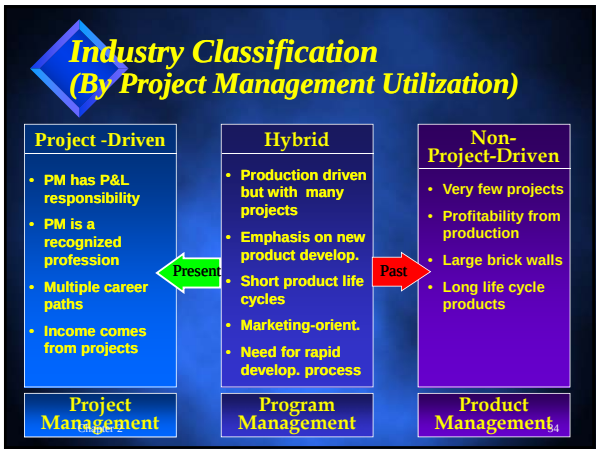
Past View	Present View
Project management delivers products to a customer.	Project management delivers solutions to a customer.
The cost of project management may make us noncompetitive.	Project management will increase our business.

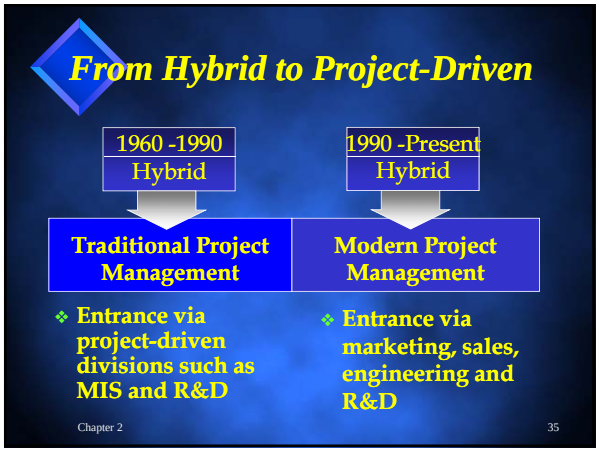
Chapter 2 32

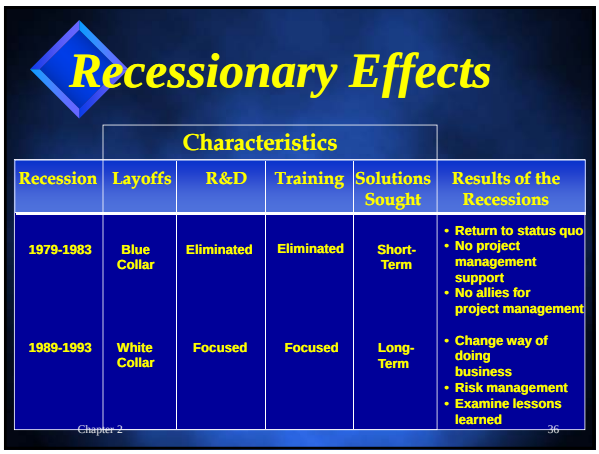
Project Management Costs Versus Benefits

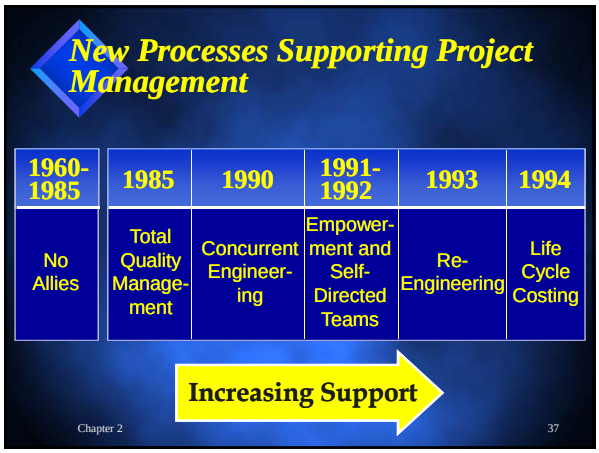


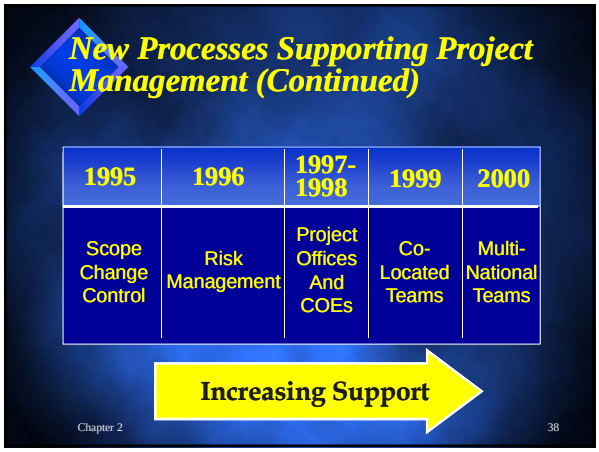
Chapter 2 33

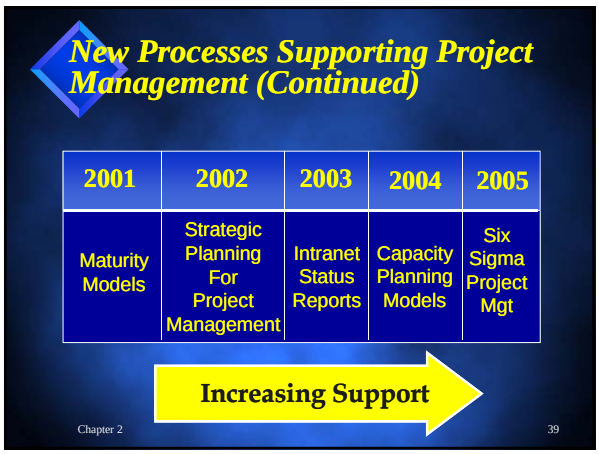

Industry Classification
(By Project Management Utilization)
Project -Driven
• PM has P&L responsibility
• PM is a recognized profession
• Multiple career paths
• Income comes from projects
Hybrid
• Production driven but with many projects
• Emphasis on new product develop.
• Short product life cycles
• Marketing-orient.
• Need for rapid develop. process
Non-Project-Driven
• Very few projects
• Profitability from production
• Large brick walls
• Long life cycle products
Present
Past
Project Management
Program Management
Product Management
Chapter 2
34


From Hybrid to Project-Driven
1960 -1990
Hybrid
1990 -Present
Hybrid
Traditional Project Management
Modern Project Management
Entrance via project-driven divisions such as MIS and R&D
Entrance via marketing, sales, engineering and R&D
Chapter 2
35


Recessionary Effects
Characteristics
Recession
Layoffs
R&D
Training
Solutions Sought
Results of the Recessions
1979-1983
Blue Collar
Eliminated
Eliminated
Short-Term
• Return to status quo
• No project management support
• No allies for project management
1989-1993
White Collar
Focused
Focused
Long-Term
• Change way of doing business
• Risk management
• Examine lessons learned
Chapter 2
36


New Processes Supporting Project Management
1960-1985
No Allies
1985
Total Quality Manage-ment
1990
Concurrent Engineer-ing
1991-1992
Empower-ment and Self-Directed Teams
1993
Re-Engineering
1994
Life Cycle Costing
Increasing Support
Chapter 2
37


New Processes Supporting Project Management (Continued)
1995
Scope Change Control
1996
Risk Management
1997-1998
Project Offices And COEs
1999
Co-Located Teams
2000
Multi-National Teams
Increasing Support
Chapter 2
38


New Processes Supporting Project Management (Continued)
2001
Maturity Models
2002
Strategic Planning For Project Management
2003
Intranet Status Reports
2004
Capacity Planning Models
2005
Six Sigma Project Mgt
Increasing Support
Chapter 2
39

New Processes Supporting Project Management (Continued)

2006	2007	2008	2009
Virtual Project Teams	Lean Project Teams	Best Practice Libraries	Capacity Planning Models

Increasing Support

Chapter 2 40

Definitions: Systems

- Air Force
  - **A composite of equipment, skills, and techniques capable of performing and/or supporting an operational role. A complete system includes related facilities, equipment, material services, and personnel required for its operation to the degree that it can be considered as a self- sufficient unit in its intended operational and/or support environment.**

Chapter 2 41

Definitions: Systems (continued)

- NASA
  - **One of the principal functioning entities comprising the project hardware within a project or program. The meaning may vary to suit a particular project or program area. Ordinarily, a "system" is the first major subdivision of project work (spacecraft systems, launch vehicle systems).**

Chapter 2 42

Definitions: Programs

- Air Force
  - The integrated, time-phased tasks necessary to accomplish a particular purpose.
- NASA
  - A relative series of undertakings that continue over a period of time (normally years) and that are designed to accomplish a broad, scientific or technological goal in the NASA long-range plan (lunar and planetary exploration, manned spacecraft systems).

Chapter 2 43

Definitions: Projects

- NASA/Air Force
  - A project is within a program as an undertaking with a scheduled beginning and end, and which normally involves some primary purpose.

Chapter 2 44

KINDS OF PROJECTS

Once a group of tasks is selected and considered to be a project the next step is to define the kinds of projects encountered. There are four categories of projects:

INDIVIDUAL PROJECTS

Short-duration projects normally assigned to a single individual who may be acting as a project manager and/or a functional manager.

STAFF PROJECTS

These projects that can be accomplished by one organizational unit, say a department. Staff (or a task force) is developed from each section involved. This works best when one functional unit is involved.

Chapter 2 45

SPECIAL PROJECTS

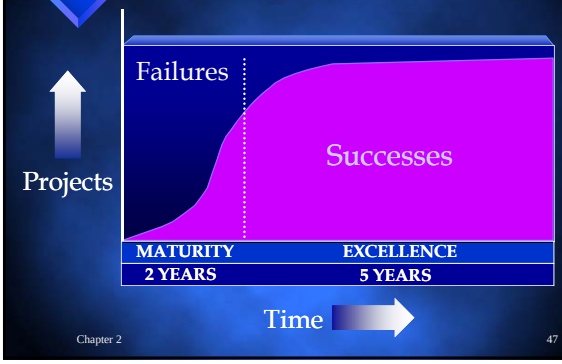
Very often special projects occur which require that certain primary functions and/or authority be assigned temporarily to other individuals or unit. These works best for short-duration projects. Long-term projects can lead to severe conflicts.

MATRIX OR AGGREGATE PROJECTS

These projects require specific (or specialized) input from a large number of functional (or business) units and usually control vast resources.

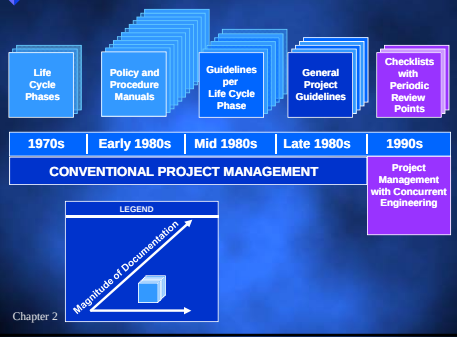
Chapter 2 46

Successes Vs. Failures

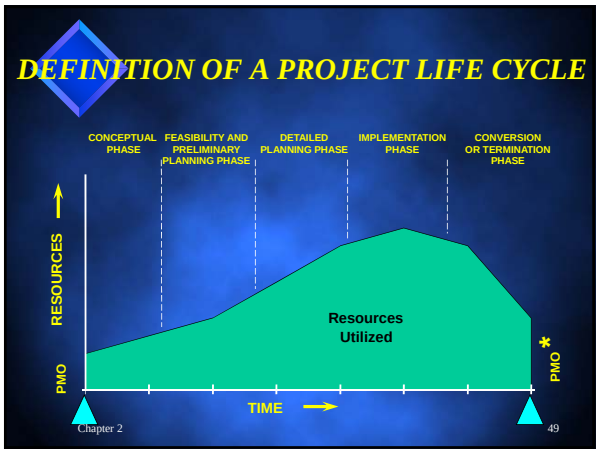


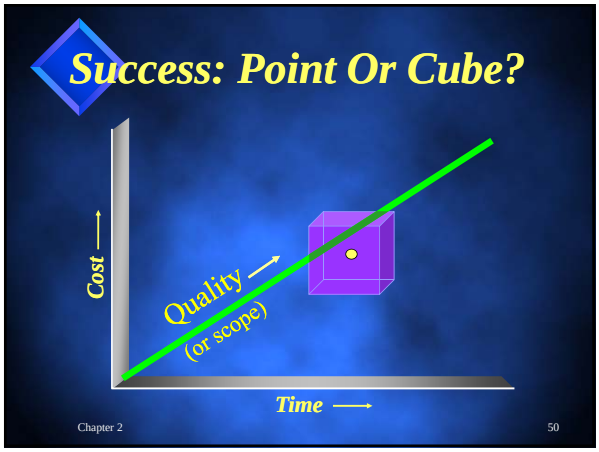
Chapter 2 47

Evolution of Policies, Procedures and Guidelines



Chapter 2 48


DEFINITION OF A PROJECT LIFE CYCLE
CONCEPTUAL PHASE
FEASIBILITY AND PRELIMINARY PLANNING PHASE
DETAILED PLANNING PHASE
IMPLEMENTATION PHASE
CONVERSION OR TERMINATION PHASE
RESOURCES
PMO
Resources Utilized
PMO
TIME
Chapter 2
49


Success: Point Or Cube?
Cost
Quality
(or scope)
Time
Chapter 2
50


The Definition Of Success
SUCCESS
Chapter 2
51

Success

- Definition of Success
  - Primary Factors
    - Within Time
    - Within Cost
    - Within Quality
    - Accepted by The Customer

Chapter 2 52

Success

Secondary Factors:

- Customer Reference
- Follow-on Work
- Financial Success
- Technical Superiority
- Strategic Alignment
- Regulatory Agency Relations
- Health and Safety
- Environmental Protection
- Corporate Reputation
- Employee Alignment
- Ethical conduct

Chapter 2 53

Success

- Critical Success Factors (CSFs) [Focuses on the Deliverables]
- Key Performance Indicators (KPIs) [Focuses on the Execution Metrics of the Process]

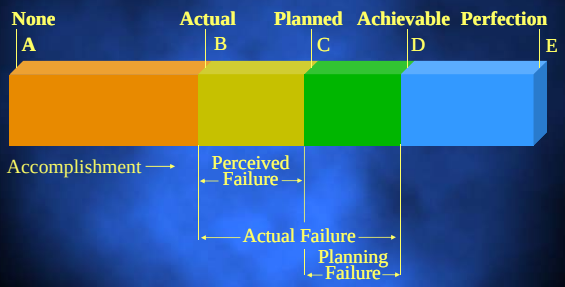
Chapter 2 54

Key Performance Indicators

These are shared learning topics which allow us to maximize what we do right and correct what we do wrong.

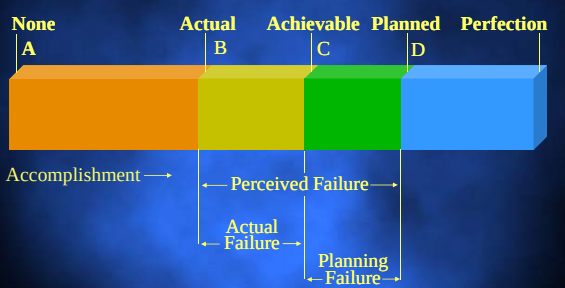
Chapter 2 55

Components of Failure

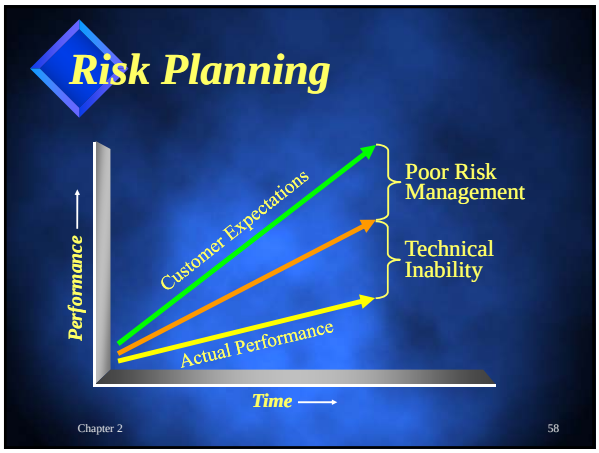


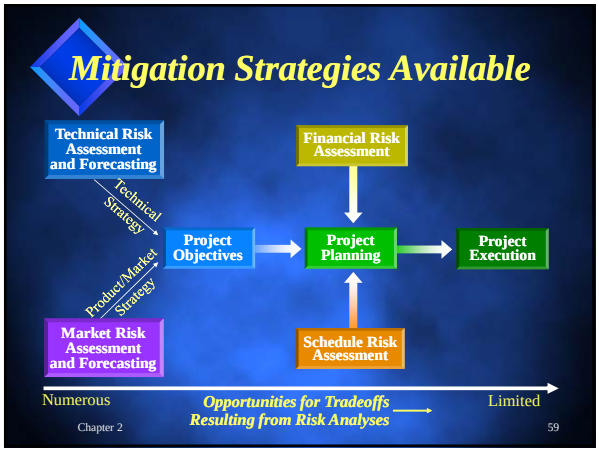
Chapter 2 56

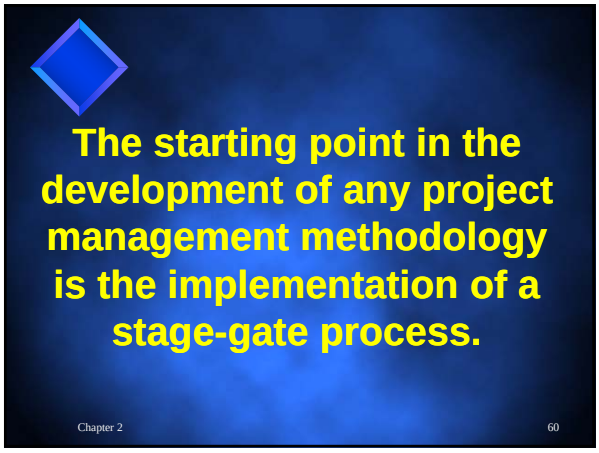
Components of Failure



Chapter 2 57


Risk Planning
Performance
Customer Expectations
Poor Risk Management
Technical Inability
Actual Performance
Time
Chapter 2
58


Mitigation Strategies Available
Technical Risk Assessment and Forecasting
Technical Strategy
Financial Risk Assessment
Project Objectives
Project Planning
Project Execution
Product/Market Strategy
Market Risk Assessment and Forecasting
Schedule Risk Assessment
Numerous
Opportunities for Tradeoffs Resulting from Risk Analyses
Limited
Chapter 2
59


The starting point in the development of any project management methodology is the implementation of a stage-gate process.
Chapter 2
60

Stages

- Groups of series or parallel activities (based upon the risks of the project)
- Managed by cross-functional teams
- To reach a predetermined deliverable established by management

Chapter 2 61

Gates

- Structured decision points at the end of each stage
- Number of gates must be limited

Chapter 2 62

Gatekeepers

- Individuals (i.e. sponsors) or groups of individuals assigned by senior management
- Empowered to enforce the structured process (including change management)
- Authorized to evaluate performance and make decisions
- And willing to provide the team necessary technical and business information

Chapter 2 63

Gatekeeper's decisions

- Proceed to next gate with the original objectives
- Proceed to the next gate with revised objectives
- Delay making a gate decision until further information is obtained
- Terminate the project

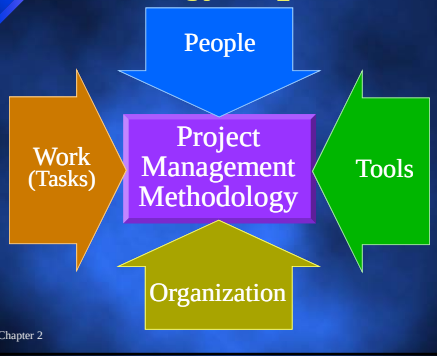
Chapter 2 64

Stage-Gate Failures

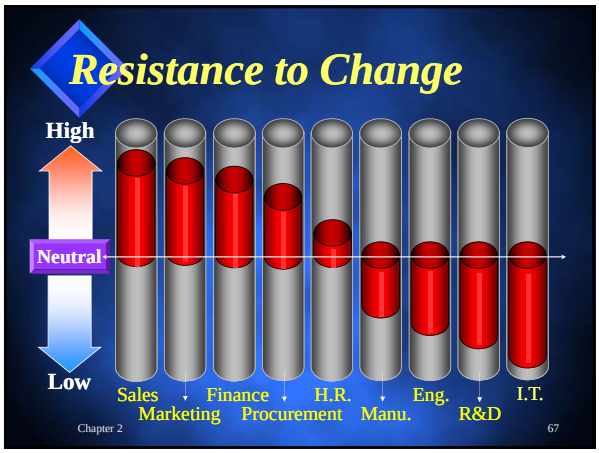
- Assigning gatekeepers and not empowering them to make decisions
- Assigning gatekeepers who are afraid to terminate a project
- Failure to provide the team with information critical to gate reviews
- Allowing the team to focus more on the gates than on the stages

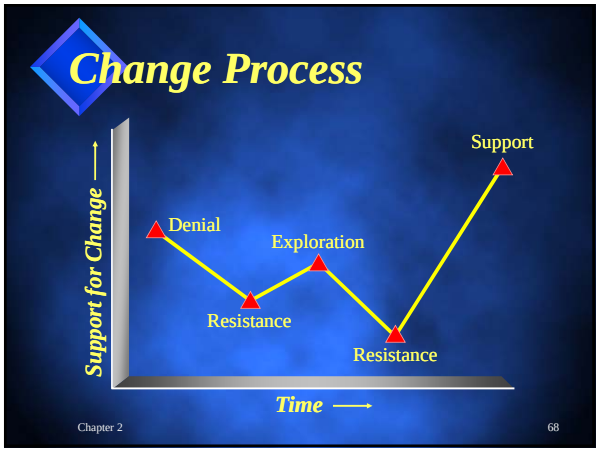
Chapter 2 65

Methodology Inputs



Chapter 2 66


Resistance to Change
High
Neutral
Low
Sales
Marketing
Finance
Procurement
H.R.
Manu.
Eng.
R&D
I.T.
Chapter 2
67


Change Process
Support for Change
Denial
Exploration
Support
Resistance
Resistance
Time
Chapter 2
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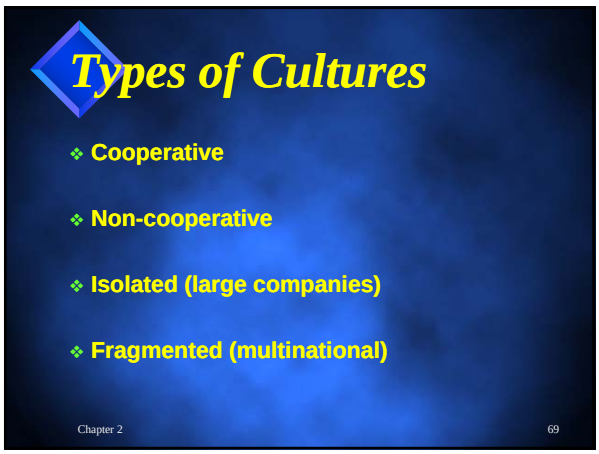
Types of Cultures
Cooperative
Non-cooperative
Isolated (large companies)
Fragmented (multinational)
Chapter 2
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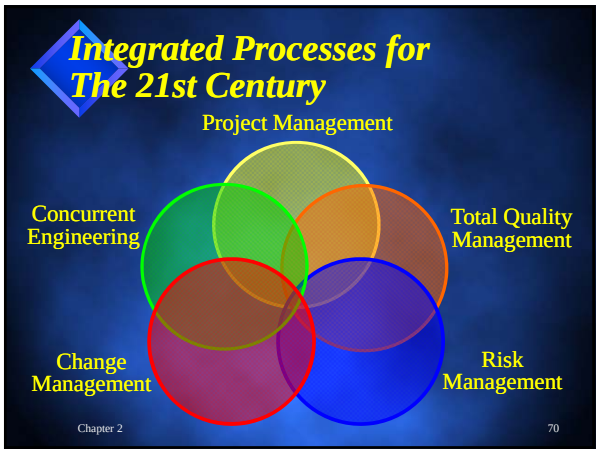
Integrated Processes for The 21st Century
Project Management
Concurrent Engineering
Total Quality Management
Change Management
Risk Management
Chapter 2
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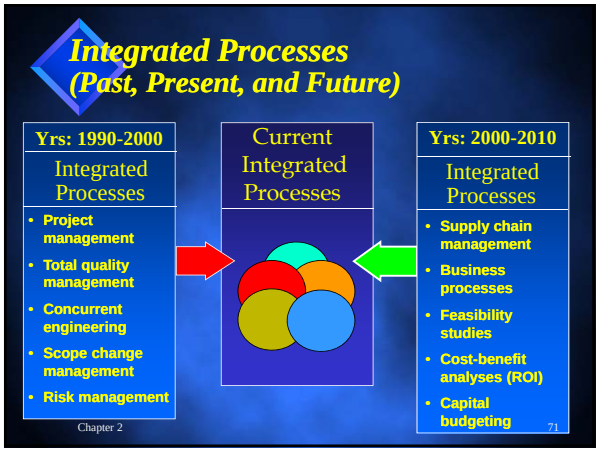
Integrated Processes (Past, Present, and Future)
Yrs: 1990-2000
Integrated Processes
Project management
Total quality management
Concurrent engineering
Scope change management
Risk management
Current Integrated Processes
Yrs: 2000-2010
Integrated Processes
Supply chain management
Business processes
Feasibility studies
Cost-benefit analyses (ROI)
Capital budgeting
Chapter 2
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Multi-project Management
Are the project objectives the same?
For the good of the project?
For the good of the company?
Is there a distinction between large and small projects?
How do we handle conflicting priorities?
Critical versus critical projects
Critical versus non-critical projects
Non-critical versus non-critical projects
Chapter 2
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