

Managing Risks in Structured Project Finance & ERP Systems

A Better Project Risk Management Discipline for All PM Practitioners

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Structured Project Finance

- In the ***structured project finance*** discipline there are many tools and methodologies that can increase one's ability to ascertain and manage risks for a better outcome. From planning to execution, project finance drives a tighter discipline by demanding activities and processes during the planning stage that pay great dividends in successful execution.
- One can clearly see the application of the PMBOK Risk Management processes in this discipline.

Recourse vs. Non-Recourse Financing (structured)

- Gas and Power projects in developing countries are traditionally built as an extension of the assets of an existing company, For example, when a public utility constructs a power plant, funds are provided on the account of the entire company rather than on the account of the new plant. As loan security, lenders have full **recourse** to the assets and revenues of the entire company, rather than recourse only to those funds related to the new power plant.
- An alternative is the formation of a **project company** specifically for construction of the new power plant. The project sponsors contribute equity. The assets and cash flow of the project itself secure debt, not the sponsors' other available resources. This type of borrowing, with no guarantees by sponsors or governments, is described as **non-recourse**. Since the repayment of the loan is primarily dependent on the success of the project, lenders pay close attention to project risks.

Source: *Financing Energy Projects in Emerging Economies*

Overview of Structured Finance Risk Activities

- **Economics**

- Must be able to stand on its own (no outside financial support):
 - Financial Pro-forma - must show the ability of the project to pay its own way
 - Source and Use of Funds must be identified and supported in the project

- **Risk Allocation: Alignment and Buy-In, including...**

- Clear and Appropriate Risk Allocation – to the One who can “best manage” the risk
- **Risk-related Contractual Agreements**
 - Contracts “acceptable” to Lenders
 - Contract Assignments, including “Step In” provisions

← Noted as an OUTPUT
from Risk Response Planning

- **Project Payment Milestone Schedule**, including...

- Monthly expectations (Deliverables) – all activities & payments tied down by month
- Specific tasks detailed with identified requirements for the specific payment
- Clear “physical or documented” proof of actual completion – NO % complete allowed
- ALL cash flow tied to the Project Payment Milestone Schedule – NO exceptions

- **Creditor-Based Governance System**

- All Cash Flow Draw-downs must be approved by Lenders & go through a “Lockbox”
- Draw-downs during construction must be in Project Payment Milestone Schedule
- All Revenues must be under control of lenders and received through a “Lockbox”
- All Cash Flow goes through a “waterfall of accounts” before equity distributions...
- All Lender requirements and approval must be obtained prior to equity distributions

Project Finance Participants and Their Roles

- Project sponsor
- Project company
- Borrowing entity
- Commercial lender
 - Arranging bank
 - Managing bank
 - Agent bank
 - Engineering bank
 - Security agent
- International (multilateral) agencies
- Bilateral agencies
- Rating agency
- Supplier/s
- Output purchaser
- Contractor (usually single point)
- Operator
- Financial advisor
- Technical consultants
- Project finance lawyers
- Local lawyers
- Host government/s
- Insurers

The Need to Understand “Stakeholders”

Stakeholder Risks if they are not managed.

Project Risks

Essential to structuring a project finance package are identification, analysis, mitigation, and **allocation of project risks**. These risks are related to events that could endanger the project during development, construction, and operation.

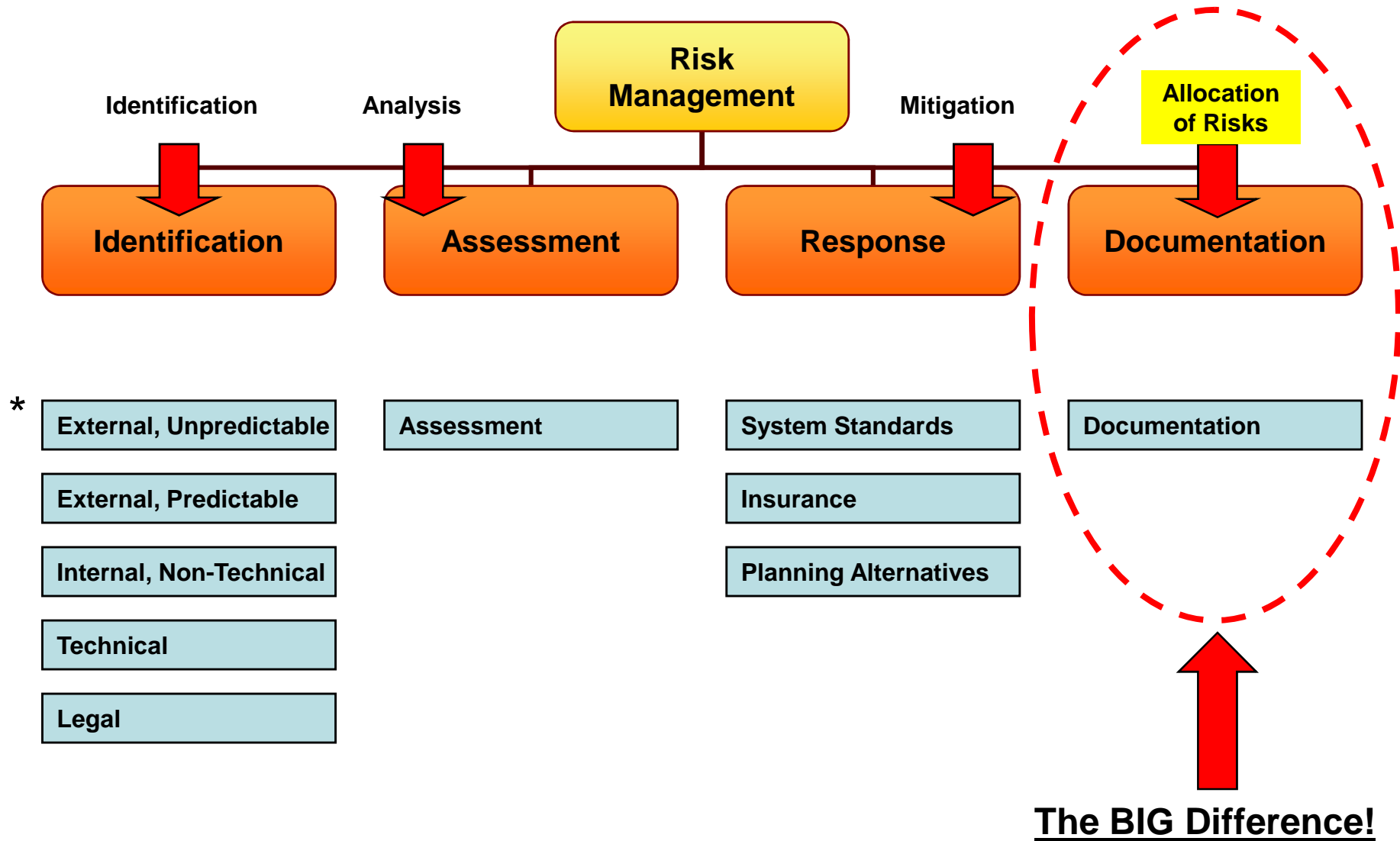
Project Development – **main risk is rejection by the government or financiers**. **Construction** – **main risk is failure to complete the project with acceptable performance levels and within an acceptable time frame and budget**. **Operations** – **main concern is it may not operate on a continuing basis within acceptable economic and technical parameters**.

All risks are initially borne by project sponsors. However, **project sponsors enter into numerous guarantee and contractual arrangements to hedge against risks**. The practice of combining various instruments for guarantees, borrowing, and mobilization of equity is referred to as *financial engineering* and represents the heart of project finance. The hedging arrangements affect not only the liability of the project company but also the willingness of private investors and financiers to support the project. This is the primary reason that project financing has turned into a complex discipline – financial engineering – **involving a “combination of instruments” for guarantees, borrowing, and mobilization of equity**.

Caveat About Risk Allocation

- A project financing invites risk-taking. **All risks in a project financing must be allocated so a non-recourse or limited recourse financing is possible.** This invitation to risk taking is sometimes accepted with an aggressiveness toward a risk that is unsupported by the probabilities of the risk materializing. The project may find that the acceptance of the invitation came attached with a high price. Even if the price is not high, the project sponsors should not declare victory.
- **NOTE: Rather, where the risk-reward equation is out of balance, the situation is created where the participant shortchanged is a prime candidate to trigger a project disaster.**

Risk Management – A 4-Phased Approach



Source: * *Project & Program Risk Management*

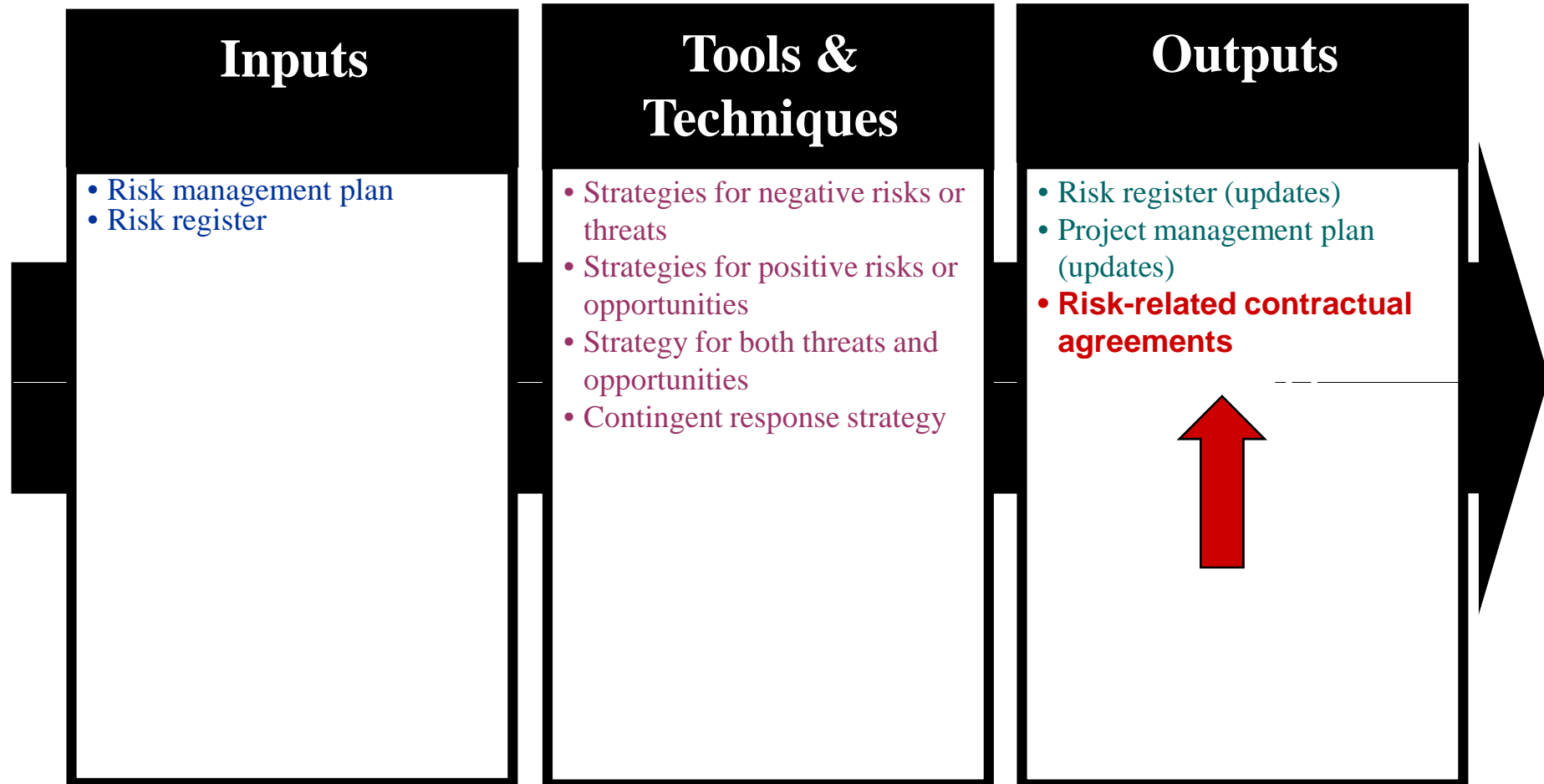
Significant Risks – Lenders Require a Complete Security Package (**Documentation**) Against All

- **Costs** (including construction and operations cost), which may be affected by inflation, interest-rate fluctuations, changing availability and rates of foreign exchange, delays, cost overruns, lack of raw materials, or fuels, and so on.
- **Revenues**, which may be affected by price risk and demand risk, and combine with the above into margin risk.
- **Safety and transferability** of investments and returns.

Accordingly, measures to manage the risk try to convince financiers that

- **Costs** will not exceed the projected levels, and, if they do, some other party will take the burden before the cost increase affects the financing of the project.
- **Revenues** will not fall short of projected levels, and, if they do, some other party will make up the shortfall so the project finances are not hurt.
- **Investment is safe and returns can be transferred** out of the country, or, if funds cannot be transferred, a credible agency will cover legitimate losses.

Risk Response Planning



PMBOK calls for “risk-related contractual agreements” in response planning!

Risk Response Planning – Risk Register Strategies

Strategies for Negative Risks or Threats

- **Avoid**
- **Transfer**
 - Insurance (Transference)
 - Procurement (Transference)
- **Mitigate**
 - Alternative Strategies (Mitigation)

Strategies for Positive Risks or Opportunities

- **Exploit**
- **Share**
- **Enhance**

Strategies for Both Threats and Opportunities

- **Acceptance**
 - Contingency Reserves (Active Acceptance)
 - Contingency Amounts Needed (TIME and MONEY)
 - Reserves (Active and Passive Acceptance)
 - Contingency Response Strategy
 - Contingency Plans (Active Acceptance)

OUTPUTS

- Risk Register (update)
- Project Mgt Plan (update)
- Risk-Related
Contractual Agreements



Introduction to the key
to “Project Finance”
Security Packages,
referred to as the
DOCUMENTATION.

Source: PMBOK, 3rd Edition



Project Executive Group, Inc.
Advisory and Execution Services

Documentation - Security Packages Risks

Organizational documents – such as partnership agreements, joint venture agreement and shareholder agreement

Agreements with Host Country governments – such as a concession agreement, governmental licenses, sovereign guarantee and implementation agreement

Real property agreements – such as title documentation, leases, easements, and construction lay-down rights

Construction documents – such as a construction contract

Technology documents – such as a license agreement

Operation & maintenance documents – such as an operating agreement and a spare parts supply agreement

Fuel supply documents – such as a fuel supply agreement

Utility documents – such as electricity, oil, gas and water agreements

Off-take revenue documents – such as production sale agreements, energy sale agreements, and the like

Transportation documents – such as transportation agreements

Financing documents – such as loan agreements, inter-creditor agreements, and collateral security agreements

Instruments for Guarantees

Guarantee arrangement relating to commercial risks (that is, project completion, cost overrun, delay, fuel supply, operation and maintenance costs, and market demand) are normally arranged during the project preparation between project sponsors and other participants. However, guarantees against political risks (that is, expropriation, nationalization, confiscation, currency inconvertibility, labor behavior, and government regulations) are much more delicate and difficult to handle.

Mitigating risks requires considering all possible sources of guarantee and choosing a mix of instruments to enhance prospects for project financing at the lowest possible cost to project sponsors.

These guarantee instruments are classed in several different ways. The following describe guarantees as applied, respectively, to commercial aspects of project construction and project operation and to mitigating political risk.

Types of Risks – Commercial

CONSTRUCTION RISK

Cost overrun
Completion delay
Increased financial costs

Contractor
Contractor
Banks, other lenders

OPERATION RISK

Unsatisfactory plant performance
Excessive maintenance costs
Fuel supply or fuel cost
for power plants
Insufficient reserves for oil
and gas projects

Contractor, operator
Operator

Fuel supplier

Sponsors

REVENUE RISK

Insufficient sale volume
Low prices

Purchasers of project output

Mitigating Project Commercial Risks

The task has two distinct dimensions.

First, sponsors need to reach agreement with the government or certain government entities about some aspects of marketing the project's output. The government's role varies depending on the country and the type of project. Securing government guarantees and agreements takes a relatively long time to complete, particularly in countries that lack clear precedents.

The **second dimension in mitigating commercial risk involves negotiating with contractors, equipment suppliers, fuel suppliers, operating companies, and so on to determine their willingness to compensate for damages if they fail to fulfill their obligations**. This is a technically complex process, but it is normally accomplished efficiently because it is driven by commercial incentives. **The prerequisites for completion of these negotiations is a firm plan for procurement of goods and services.**

Guarantee instruments for construction risks fall into the following categories:

Construction Guarantee Instruments:

- Sponsor's completion guarantee.
- Lump-sum turnkey contract.
- Bid bond.
- Performance bond.
- Advance payment guarantee.
- Retention money bond.
- Maintenance bond.
- Financial derivatives.

Concerns & Risks:

- Cost overrun
- Completion delay
- Increased financial cost

Risk Mitigation and Guarantee Instruments

- Currency rate & currency swap & options
- Completion guarantee by sponsors
- Turnkey contract with fixed cost; firm completion date and plant performance guarantees; liquidated damages

Guarantee instruments for operation deficiencies fall into the following categories:

Operational Guarantee Instruments:

- Put-or-pay contract.
- Take-or-pay contract.
- Throughput contract.
- Escrow account.

Concerns & Risks:

- Unsatisfactory plant performance
- Excessive maintenance costs
- Fuel supply or fuel cost
- Insufficient oil & gas reserves

Risk Mitigation and Guarantee Instruments:

- Operations & maintenance agreement with reputable operator
- Fuel supply agreement
- Independent resources assessment
- Turnkey contract with fixed cost; firm completion date and plant performance guarantees; liquidated damages

Guarantee instruments for revenue risks fall into the following categories:

Revenue Guarantee Instruments:

- Sponsor's completion guarantee.
- Lump-sum turnkey contract.

Concerns & Risks:

- Insufficient demand
- Insufficient price

Risk Mitigation and Guarantee Instruments:

- Long-term price hedges
- Government guarantee of purchaser's credibility
- Take or pay or throughput agreements

Types of Risks – Political

REGULATORY RISK

Changes in regulatory regime,
including price, environmental
obligations, and so on

Government

TRANSFER-OF-PROFITS RISK

Foreign exchange inconvertibility,
restrictions on transferring funds

Government

OTHER

Expropriation, war, civil unrest

Force Majeure Risk

Natural disasters

Mitigating Project Political Risks

Although mitigating commercial risks represents the most time-consuming aspect of preparing the security package, **the issue of political risk should be addressed at the outset.** Most investors and financiers are convinced that commercial risks can be effectively addressed when the time comes, but they also feel that political risks are out of everybody's control. Thus, they do not take a proposal seriously until they receive some comfort that political risks are manageable. Options for mitigating political risks include several types of guarantees as well as the involvement of certain players – for example, partnership with a key state entity or with powerful local individuals and companies.

Formal guarantees against political risk are provided by the host government and by multilateral and bilateral agencies.

Often, the question is not about choosing one versus another but about **combining** them to provide the most comprehensive coverage at the lowest possible cost.

Guarantee instruments for political (country) risks fall into the following categories:

Political Concerns

- Currency risks – for example, inconvertibility, devaluation, a restrictions on currency imports and exports.
- Taxes and duties – for example, increased taxes on property, production, income, and profits
- Labor risks – for example, changes in laws and regulations dealing with work permits for imported labor, labor unions, and labor compensation
- Government-intervention risks – for example, local government and federal government interference or harassment through licenses, regulations, police, and military.
- Losses from expropriation, nationalization, confiscation, war or revolution.

Risk Mitigation and Guarantee Instruments

- Offshore escrow account
- International Finance Corporation (IFC) “umbrella” protection and partial risk guarantees by World Bank and regional development bank
- Insurance against foreign exchange inconvertibility from multilateral, bilateral, and commercial sources.

Guarantee instruments for Force Majeure (natural disaster) risks fall into the following categories:

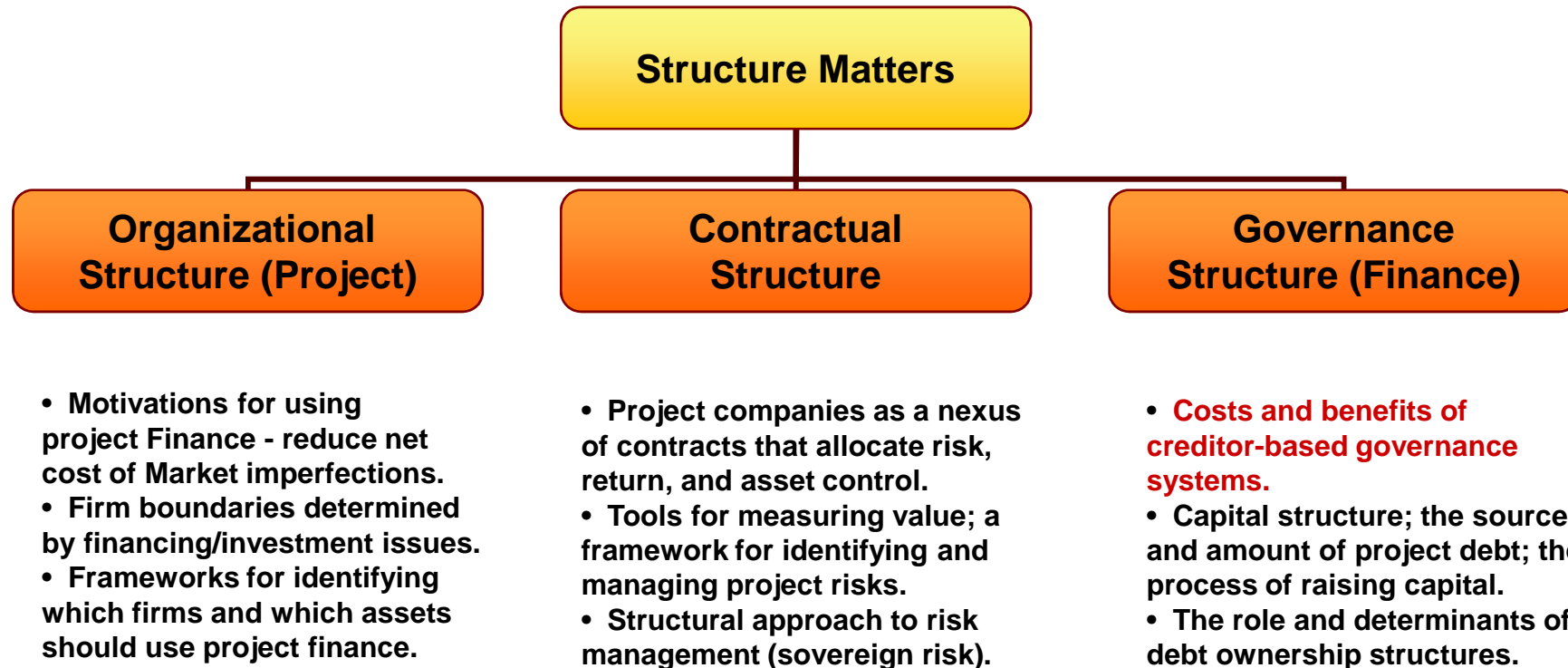
Force Majeure:

- Natural disasters, acts of god, etc. – defined: an event outside of the reasonable control of the effected party to a contract, which it could not have prevented by good industry practices or by the exercise of reasonable skill and judgment.

Risk Mitigation and Guarantee Instruments:

- Force majeure insurance from commercial sources
- Partial risk guarantees by World Bank and regional development banks

Structure Matters...



Risks in Project Finance Structures

Commercial loan financing

- Construction phase
- Operations phase

Export credit financing

- Types of Export-Import financing
 - Direct lending
 - Financial intermediary loans (bank to bank)
 - Interest rate equalization

Bond financing

Specials:

- BOO (Build-Own-Operate)
- BOT (Build-Own-Transfer)
- BOOT (Build-Own-Operate-Transfer)

Lease financing

- Advantages to the Project company
 - Control over the project
 - Total financing
 - Lower financing costs
 - Tax deductibility of rent
 - Shifting of residual risks
 - Equity risk-taker replaces lender as financing source

Co-financing

Production payments

Forward purchase agreements

Risks in Project Finance “Ownership” Structures

Pre-development activities

- Definition of the project
- Exclusivity
- Roles and responsibilities
- Tasks and schedule
- Cost funding
- Management and voting
- Abandonment
- Confidentiality
- Anti-trust and restrictive trade practices

Determining the structure to use

- Need for leverage
- Grade of investment
- Tax laws and treaties
- Project management
- Accounting treatment and objectives
- Lender preferences
- Transferability of equity interests

Avoiding parent company direct involvement

Special-purpose nature of project company

Host country investment requirements

Corporation: selection reason, management

Gen'l partnership: liability, reason, collateral

Ltd. partnership: reason, management

Limited Liability Company: op'g agreement

Joint Venture:

- Reason for selection
- Types
- Project management
- Conflicts of interest
- Nature of liability

European Economic Interest Groupings

Development consortium

Preserving flexibility

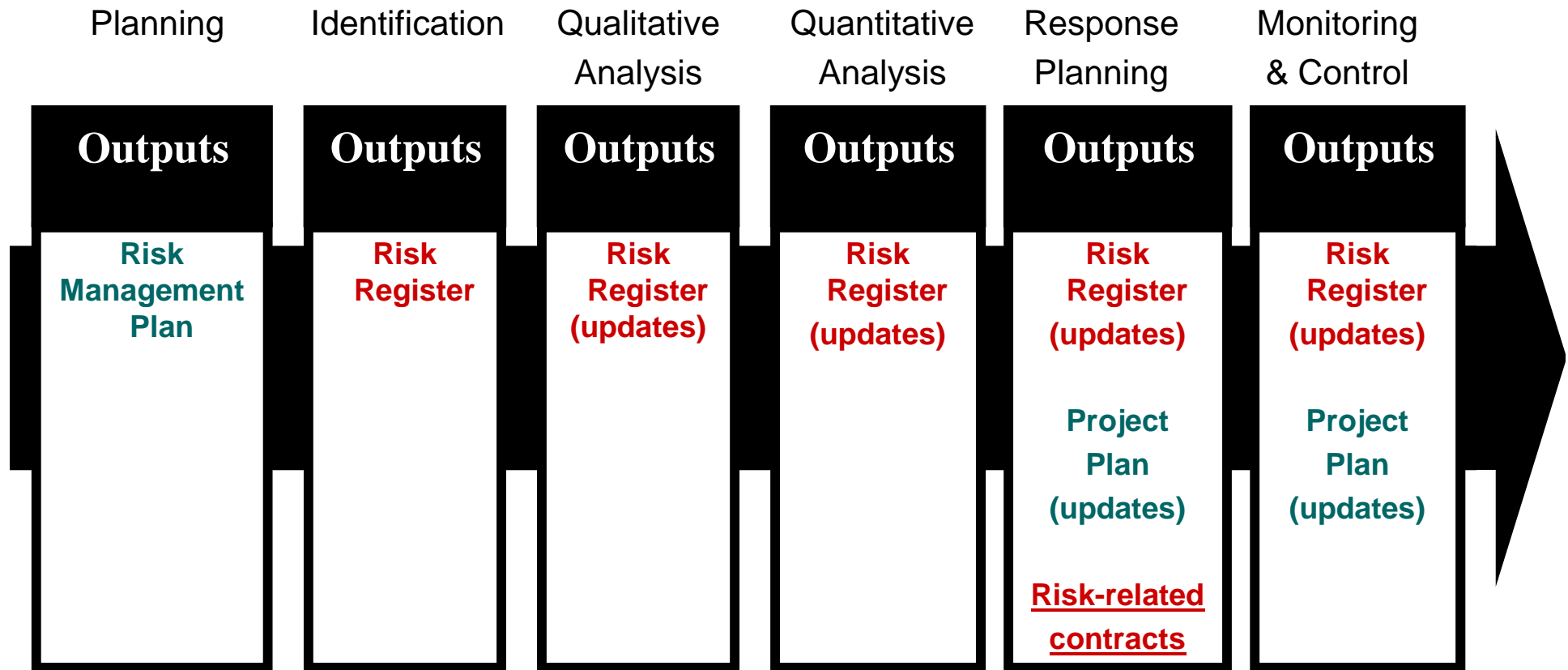
Fragmentation

Recommended **Key Tools** in Managing Risks Better

- Ensure **risk-related contractual agreements**
 - All cash flow (payment) is tied to contracts (**risk-related contractual agreements**)
 - Guarantee instruments as appropriate and necessary to ensure performance
- Ensure **appropriate risk allocation** to the parties
 - **RULE:** EACH Risk in the project is placed with the one “best able” to manage it
- Use of a **Project Payment Milestone Schedule (by month for project duration)**
 - All cash flow is tied to the PPMS within each risk-related contract
 - Monthly Payment ONLY made against “physical or documented” proof
 - NO percent completes allowed – must be “measurable deliverables”
 - “Once a month date certain” for verification check-offs for payment and control
- Use a **Complete Optimized Risk Register**
 - Every risk event “negative & positive” is risk managed with assigned ACTION
 - **ACTION:** Avoid, Transfer, Mitigate, Exploit, Enhance, Share, Accept
 - Response Contingencies are aligned with decision optimization policy
 - Each Trigger established clearly supports contingency effectiveness
 - Decision Points established with Ownership, handle as risk deliverable.
 - Every Risk Event has an identified individual Risk Owner who is accountable.

Risk Management Processes – OUTPUT

The IMPORTANT of the Risk Register



What is a **Risk Register**?

- The *Risk Register* records details of all the risks identified at the beginning and during the life of the project, their grading in terms of likelihood of occurring and seriousness of impact on the project, initial plans for mitigating each high level risk and subsequent results.
- It should as a **MINIMUM** include:
 - a unique identifier for each risk and how it is to be handled (the ACTION);
 - properly scaled to the size of the project to allow focus;
 - a description of each risk and how it will affect the project;
 - an assessment of the likelihood it will occur and the possible seriousness/impact if it does occur (low, medium, high);
 - a grading of each risk according to a risk assessment table;
 - who is responsible for managing the risk (the Risk Owner);
 - an outline of proposed mitigation actions (preventative and contingency); and
 - costs and schedule impact for each mitigation strategy with trigger established.
- A document that records the results of a risk analysis process. It includes the identified threats to the success of the project, the current assessment for each threat (both likelihood and seriousness), a risk grading and strategies for mitigating the risks, and contingencies with triggers in place.

ERP Systems

- In the world of **ERP Systems** – **Enterprise** Resource (Requirements) Planning – proper planning using proven methodologies and modeling tools to design and test business processes prior to any execution are as necessary as PMBOK's planning process group is to project management. Much can be learned from how risks are managed in these areas and then applied by all practitioners for better risk management.
- With the advent of Client-Server applications, the necessity of correctly designing and modeling the various business and data processes for understanding and processing by the ERP system is critical. We will address this situation with a quick review of what is ERP and what is it intended to do then the risks involved in the planning & execution of the ERP Project.
- Make no mistake...this is a CEO project. The reason: the major risk is the lack of support by management. It must belong to the CEO to get attention by the whole company regarding modeling, training & implementation.

What is an Enterprise?

- Enterprises are made up of **3 Components**:
 - Enterprise **PHYSICAL** Systems & Facilities,
 - Enterprise **PEOPLE** (human), and
 - Enterprise **LOGICAL** (Information Systems)
- When we plan and execute an ERP System, **we must take all of these components into consideration when addressing risk events. RISKS must be evaluated in all three areas.**
- Our discussion today focuses on risks in these areas and the ERP Systems (LOGICAL) which is the main component most people think of when ERP is mentioned.

What is ERP?

- Short for *enterprise resource planning*, **a business management system** that integrates all facets of the business, including planning, manufacturing, sales, and marketing. As the ERP methodology has become more popular, software applications have emerged to help business managers implement **ERP** in business activities such as inventory control, order tracking, customer service, finance and human resources.
- **The hardest work of all in getting an enterprise resource planning (ERP) system up and running is completing integrations to databases scattered throughout divisions, departments, and workgroups.** ERP vendors may suggest that integration is painless as long as their specific database is used, but that's a fallacy; **all databases have both strengths and weaknesses when integrated into ERP systems, and their relative levels of performance vary as part of a functioning and complete ERP system.**
- Add in the fact that many companies rely on a single ERP instance across a global set of factories, distribution centers, and service centers—even creating a single system of record that coordinates transactions across joint ventures—and the **complexity of coordinating databases within an ERP system becomes clear.**

ERP in Facility Automation

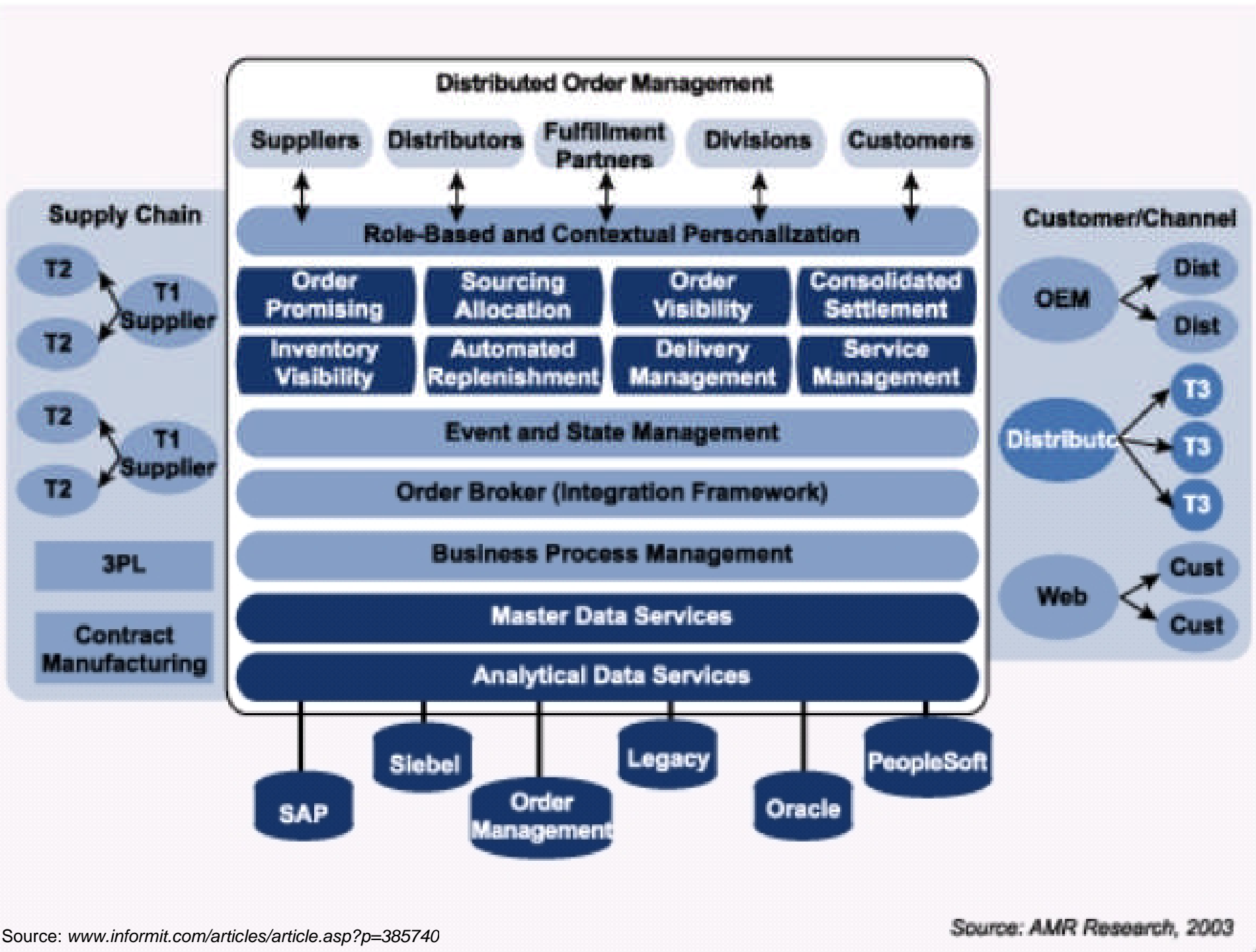
Integrated Enterprise Solutions

- **Levels 6 & 7 - Overall Enterprise Solutions/Systems**
 - Financial, Overall Sales & Marketing, Strategic Planning, Overall Supply Chain and Production Distribution
- **Level 5 - Enterprise and Production Systems**
 - Sales & Marketing, Quality Management, Simulation Application, Supply Chain Management, Production Distribution, Production Management, Process Optimization
- ***Standard Application Interfaces***
- **Production Enterprise Systems**
- **Level 4 – Site-wide Systems**
 - Plant-wide Systems, Data Reconciliation, Lab/Information Management, Advanced Control, Operations Data & Logging, Process & Event Historian
- ***Application Interfaces***
- **Control Systems:**
- **Levels 2 & 3 - Distributed Control Systems**
- **Level 1 - Control Devices, Analyzers, Controllers;**
- **Level 0 - Flows, Pressure, Temp., Data Acquisition**

ERP Is Industrial-Strength Order Management

Business models, approaches to producing and selling products and serving customers, and techniques for managing mergers and acquisitions vary widely among manufacturers. Despite all these variations, however, **all ERP systems share 14 critical system attributes.**

1. Role-Based and Contextual Personalization
2. Order Promising
3. Sourcing Allocation
4. Order Visibility
5. Consolidated Settlement
6. Inventory Visibility
7. Automated Replenishment
8. Delivery Management
9. Service Management
10. Event and State Management
11. Order Broker (Integration Framework)
12. Business Process Management
13. Master Data Services
14. Analytical Data Services



Distributed Order Management

- Distributed order management is the heart of an ERP system—and the core to evaluating the pros and cons of databases.
- We have used this model to define the weaknesses of integration points on several *enterprise application integration* (EAI) applications, including Siebel's UAN and BEA Systems' applications.
- **RISK:** The problem is the ability to deliver on the promise of integrating multiple and highly dissimilar databases—in addition to troubleshooting ERP systems' database integrations with Microsoft, Oracle, open source, and homegrown systems.

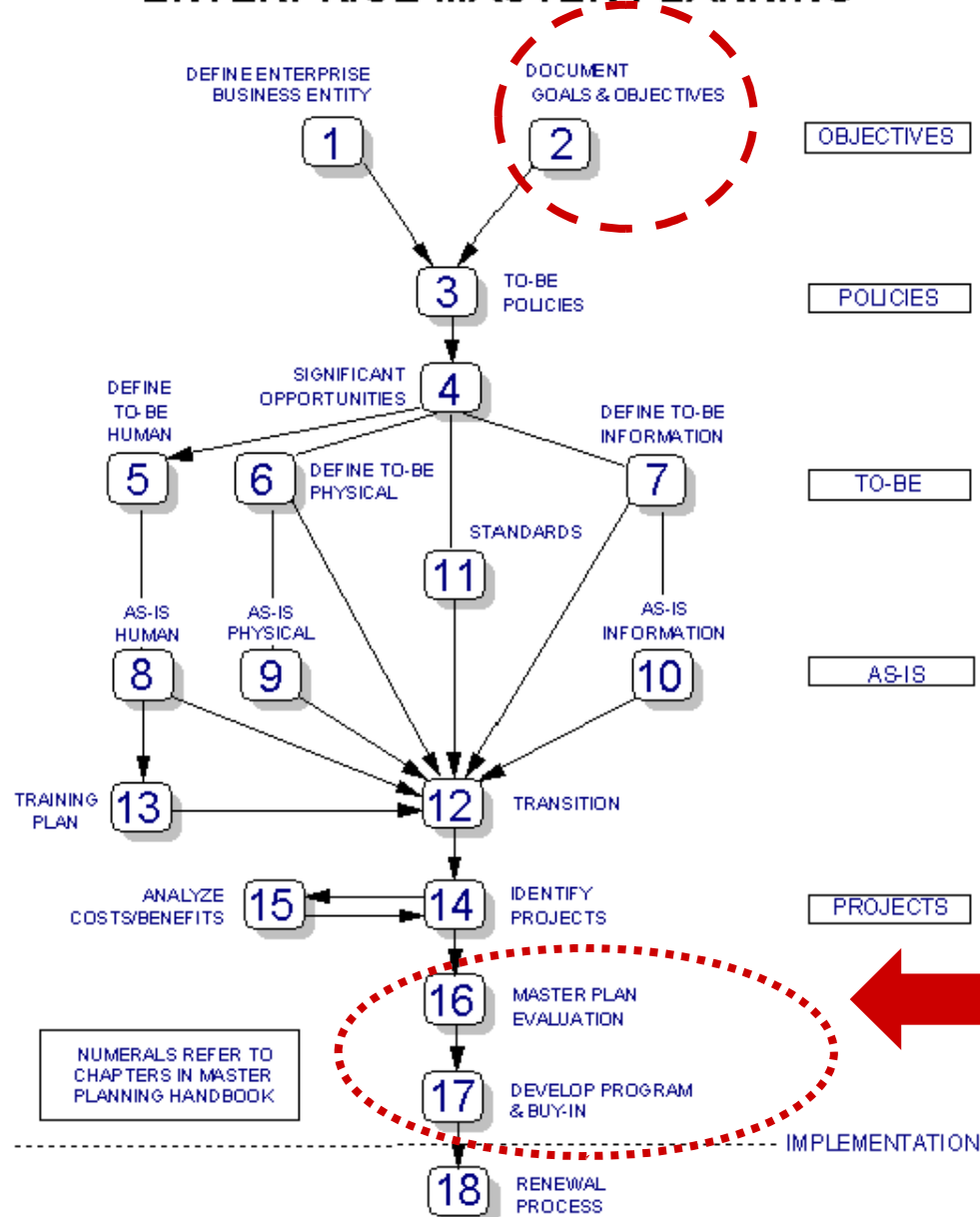
ERP System Planning Risk Activities

What are we trying to achieve?

Specifications & Requirements for ERP Systems (A Management System)

- What does The ERP System have to do?
 - Defining the Specifications and Requirements for the Initial System (version 1.0)
 - Same for any UPGRADE to an existing system
 - Defining the Business Needs (Planning & Modeling the AS-IS and the TO-BE)
 - Preliminary Match of appropriate ERP System (the “beauty contest” or “bake off”)
 - Resulting in a “Short List of Qualified ERP System Providers” to consider
 - Testing the Processes from the Modeling against System (Ensure the Fit)
 - Start with the **top FIVE subprojects** with the highest priority for version 1.0?
- What does The Sponsoring Organization have to do? **This is a CEO Project!**
 - Do we have the change management plan for managing the change?
 - Are the business managers and executives “on board” for this business system?
 - Do those who must use it understand why and are they “on board” for training?
 - Do we have the project management and technical resources to do this?
 - If not, where do we get them? For planning & modeling? For implementation?
 - Do we understand Business Processes Management (BPM) required?
 - What modeling tool will we use for “modeling processes” (business, data, etc?)
 - Do we have an established and proven planning & modeling methodologies?
 - Do we have an established and proven implementation methodology?

ENTERPRISE MASTER PLANNING



What You Are Trying to Do?

- The Policies
- What the “To Be” will be from a
 - physical
 - human
 - information

Establish Your Constraints and Starting Point

Master Plan Evaluation and “Buy-In” BEFORE Implementation

NUMERALS REFER TO CHAPTERS IN MASTER PLANNING HANDBOOK

ERP Systems: Planning – Executing – Maintaining

How will we get there?...and stay there?

- **Planning & Modeling** (**PMI PLUS** specific for Enterprise Systems Planning & Execution)
 - Planning – use established planning methodology specific to ERP Systems
 - Modeling – use established modeling methodology toolset for BPM & ERP
- Implementation
 - Implementation – use an established methodology
- Maintenance - **How will we stay there?**

KNOW how it will be MAINTAINED...

BEFORE YOU LEAVE THE BUILDING AFTER ROLLOUT!

ENSURE it is being MAINTAINED across the Enterprise.

Overview ERP Business Process Management

1. **Strategy** – the core processes enable organizational solutions to optimally support the strategy, or as Alfred D. Chandler once put it: “Structure follows strategy.” Therefore, the Business Process Management Strategy forms the foundation for aligning the business processes to the general corporate strategy.
2. **Design** – the alignment of the company’s processes to the needs and requirements of the market, including the design, analysis and optimization as part of the continuous improvement loop. The design phase answers the questions, “Who does what, in what sequence, what services are provided, and which software systems are used in the process?” Organization, structural and technological weak points in the processes are revealed and improvement potential is identified.
3. **Implementation** – process orientation does not end with the modeling and improvement of business processes. The information technology that will support and implement company processes and future improvement is assuming ever greater importance. It must be flexible enough to cope with the rapid pace of change in the corporate environment and powerful enough to meet the demands of designing business processes in the future. It is the seamless mapping of business process in operative application software with zero information loss.



ERP Implementations – Integration Modeling Key

- Today's most successful companies understand and practice enterprise application integration through innovative approaches and techniques. Companies should apply integration modeling techniques to ERP objectives.
- Companies undertake ERP implementations when
 - they need to integrate multiple systems quickly
 - business competition forces companies to undertake ERP initiatives,
 - competitors, **due to tight integration of their own systems**, can offer more desirable services and product features.
 - technological advances require that a company upgrade all its systems to keep up with new opportunities.
 - outsourcing initiatives have failed and they want to reinstate their own information technology systems support. When bringing this function back inside a company is a good time to overhaul the systems and make sure they're integrated and maintainable.

ERP Business Process Modeling

- Managers at successful enterprises increasingly **believe** that success is tightly bound to the ability to adopt and exploit practices that drive continuous improvement. **Such companies are characterized by a no-holds barred commitment to business-process innovation.** Along with today's enterprise resources planning (ERP) releases, **new process modeling techniques provide the means to sustain continuous innovation.**
- One of the key value-added technologies in this approach is business-process modeling and the development of industry-based templates - or reference models of best practices. Moreover, this modeling capability **needs to be inherently dynamic in nature.** It must be able to:
 - reflect and support a continually changing business model whether new, reconfigured, or time-phased;
 - completely regenerate and link the underlying business objects that encompass any logic flow and incorporate any technological advancements; and
 - generate a customized system without the need to manually set any system parameters, authorization codes, or redefine user interfaces.

Eight Steps (Phases) for Successful Implementation

- Whether the implementation involves a stand-alone software solution or is part of a larger project, **one methodology that has proven successful includes eight distinct phases**. Each phase has defined deliverables that must have executive sponsor and steering committee buy-in before the next phase can begin. **These eight phases are:**
 1. Scoping
 2. Analysis
 3. Prototyping
 - a) Technical
 - b) Social (people)
 4. Deployment
 5. Interface/Integration
 6. Parallel Testing
 7. Cutover
 8. Continuous Improvement

ERP Project Management Basic Risks

ERP Project Management - Part 1

Management and Implementation - *The Importance of a Positive Corporate Culture*

Corporate Culture - the Seeds of Failure - *The Right Attitude Can Make or Break a Project*

Committing Management - *Gradually Encourage Corporate Ownership*

Ownership Starts on Day One - *Finding and Keeping Project Enthusiasm*

Increase Success by Avoiding Failure - *12 Steps to Risk Reduction*

Angels in the Executive Suite - *Working Miracles with the Right Manager's Support*

It's Your Project and Your Project Manager - *Owning Implementation Keeps Credit and Blame In-House*

Project Justification - *Honesty is the Best Policy*

Using Consultants - *When and Why Managers Seek Help From the Outside*

Who Are the Decision Makers? - *Seeking a Supportive Steering Committee*

ERP Project Management - Part 2

The Vendor Relationship - *Balancing Benefits with Risk*

Risk Goes With the Project - *Prepare to face the Danger*

Implementation Will Hurt - *But Preparation Will Help Ease the Pain*

Are You Ready for a New System? - *Determine Company Intentions and Commitment*

How Important is Cost? - *Be True to the Budget*

The Importance of Technology - *Preparing for Your Company's Future Needs*

The Necessity of Functionality - *What Do You Want Your System to Do?*

The Right Time for Reengineering - *The Truth Behind a Growing Concept*

Implementing What You Need - *A Quick List for Corporate Success*

Overcoming Resistance to Change and Managing Expectations - *The Key*

Recommended **Key Tools** in Managing Risks Better

- Define the **business needs (Scope Risk)**
 - Planning the AS-IS and the TO-BE (The Scope)
 - Modeling all of the processes for system testing, maintenance, continuous improvement
 - Testing the Processes from the Modeling against System (Ensure the Fit)
- Ensure **appropriate ERP selection** for the business needs (**Selection Risk**)
 - Preliminary Match of appropriate ERP System (“beauty contest” or “bake off”)
 - Resulting in a “Short List of Qualified ERP System Providers” to consider
- Use **Tested and Proven Methodologies and Tools? (Tools Risk)**

ERP Methodologies	We Use & Recommend the following:
<u>Planning?</u>	<u>PERA (www.pera.net)</u>
<u>Process Modeling?</u>	ARIS (www.ids-scheer.com)
<u>Implementation?</u>	CIBRES (www.cibres.com)
<u>Process modeling maintenance?</u>	<u>ARIS</u>
<u>Change management?</u>	<u>ADKAR (www.prosci.com)</u>

Recommended **Communications** for Managing Risks

PASS (Weekly Project Alignment & Solutions Session), including

- Team Member Roles, Responsibilities & Changes Update
- **Risk Response Plan & Risk Register Update, including...**
 - Resulting Line Item Contingency (Budgeted and Schedule Slack) and Risk Event Update
 - Resulting Discipline and/or Area Contingency (Budgeted and Schedule Slack) Update
 - Resulting Management Reserve Update (Budget & Schedule) w/ Returns (escrow reduction)
- Weekly & Monthly Rollup Performance Report (3 Levels: Sponsor, Champion, Team)
 - **Earned Value Performance Weekly Report**, including...
 - **Risk-Based Overall Master Integrated Project Schedule** (**Baselined**) Update
 - **Risk-Based Overall Master Integrated Project Budget** (**Baselined**) Update
 - **Project Payment Milestone Schedule** Update (**Execution Milestone Performance**)
 - **Deliverables Performance Report** (% Deliverables Made versus Scheduled) including...
 - Deliverables Accountability Ownership Update
 - Decision Point Deliverables and Ownership Update
 - **Integrated Project Team's Weekly Budget** Update
- **Project Management (Execution) Plan Update, including but not limited to...**
 - Project Communications Plan Alignment and Update
 - Project Risk Management Plan Alignment and Update
 - Project Management Plan "Weekly Update Register" Maintained
 - **"Update Inserts" issued for 'all holders' of the Project Management Plan - weekly**

Thank you for your attention.

Questions?

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