

CAI's IT METRICS & PRODUCTIVITY INSTITUTE



CIO's Guide to Risk Management

IT Management Basics

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Agenda

- Introductions
- **IT Management Basics**
- IT Risk Management
- Managing Application Support Risks
- Application Management Case Study
- Managing Project Risks

What is the mission of IT?

*Deliver the Information Processing
Capability required by the business at
a cost that represents value*

IT Services

- Implement, operate, and support
 - **Infrastructure** (servers, mainframes, networks)
 - **System software** and Tools
 - Operating Systems
 - Data Query and Reporting
 - E-mail and Internet Access
 - Application design, development, and support tools
- Design, build/purchase, install, operate and support **application software** to support the business
- Store, protect and provide secure access to **business information**
- Provide **consulting services** to the business

Dimensions of IT Management

- **Strategy and Business Alignment**
 - Strategic Planning: Management Vision, Philosophy, and Objectives
 - Business Planning: Identify Business Needs
 - Portfolio Management: Initiate and prioritize projects
 - Budgeting: Authorize with budgets and funding
- **IT Services**
 - Technology Architecture: Languages, DBMS, Network
 - Infrastructure Operation: Operations Processes
 - Application Development: SDLC, Project Management, Standards
 - User Support and Services: Help Desk, SLA's
- **Administration and Control**
 - Human Resource Management: HR Policies, Training
 - Supplier Management: Purchasing

Dimensions of Project Management

- **Cost**
- **Schedule**
- **Scope**
- **Quality**
- **Risk**
- **Integration**
- **Communication**
- **Human Resources**
- **Procurement**
- **Methodology**

Dimensions of Operations & Support Management

- **Reliability**
- **Availability**
- **Capability**
- **Timely**
- **Responsive/Performance**
- **Flexibility/Adaptability**

IT Risk Management

What is an IT Risk?

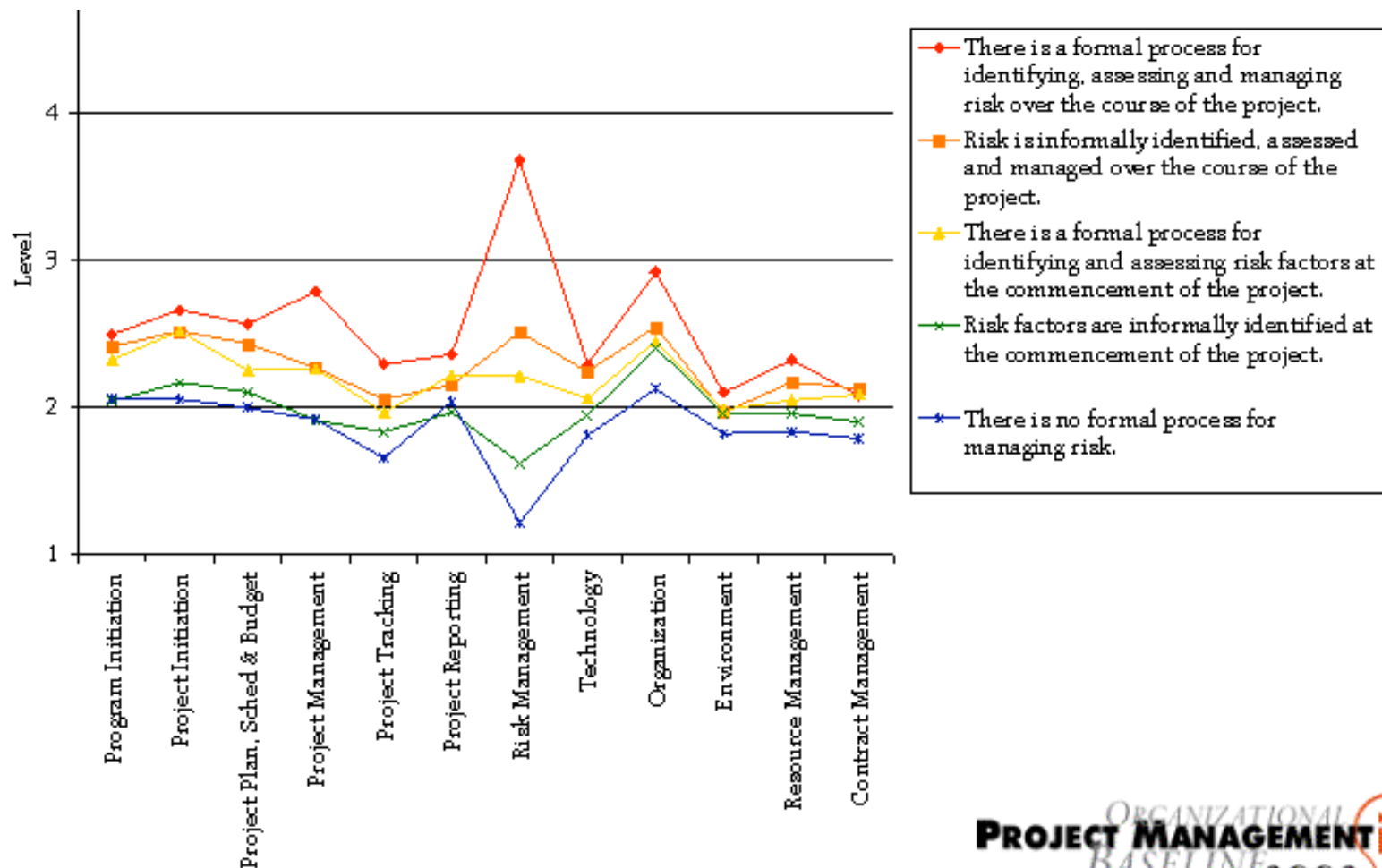
*The possibility that IT will not be able
to deliver the required capability*

SEI Service CMMI

- Identify the “Commitment to Deliver”
- Establish the “Ability to Deliver”
- Deliver

Note: Risk identification and mitigation are ongoing activities ... requirements change which results in new commitments.

Risk Management Impact on Project Success



Risk Management (NASA)

- Identify - scenarios for failure
- Analyse - likelihood and consequence of failure
- Plan - actions required to track and control risks
- Track - program performance against plan
- Control - risk issues and verify effectiveness
- Communicate and Document

Identify Risks

- **Strategy and Business Alignment**
 - Lack of alignment between IT and Business Strategy
 - Inadequate definition of Business Needs
 - Lack of alignment between business needs and processing capability
 - Inadequate budget to fund desired strategy
- **IT Services**
 - Inadequate, obsolete, or unreliable Technology or Application Architecture
 - Inadequate staffing capacity, knowledge, or processes
 - Failure to make and meet commitments
 - Inadequate data availability or security

Analyse Risks

- **Strategic**
 - Does the business strategic plan address information processing capabilities?
 - Is there a reasonable budget?
 - Does the Information Processing strategy directly link to business goals and objectives?

Analyse Risks

- **Service Management Processes**
 - Do the services management processes adequately address the following areas?
 - Change and Quality Management
 - Incident and Problem Management
 - Availability and Capacity Management

- **Service Level Commitments**
 - What type of commitments does IT make (by area)?
 - Are they reasonable?
 - What scenarios would prevent IT from meeting the commitments?
 - Can IT respond to changing requirements?

Analyse Risks

- **Application Architecture**
 - Is the technology obsolete?
 - Does the application provide flexibility to respond to changing business requirements?
 - Is the application reliable and available when needed?
 - Does it handle spikes in processing volumes?
- **Hardware and System Software**
 - What scenarios would impact this area?
 - What is the required capacity, availability, and security?
 - Do we have visibility of availability, reliability, and performance?
 - Can faulty components be replaced?
 - Can we identify trends?

Analyse Risks

- **Application Operations and Support**
 - Do the applications provide the required capabilities?
 - How often to they need to be enhanced?
 - How often do they need to be fixed?
 - What knowledge is required to operate and support?
 - Are they reliable, flexible, easy to use?
 - Is the technology obsolete?
 - Can they be easily updated to support changing requirements?
 - What do they cost and what value is provided?

Risk Planning

- Define success or the “commitment to deliver” (SLA’s, dates, estimates, scope)
- Analyse the “ability to deliver” including processes, tools, infrastructure, applications, staff, and knowledge
- Identify gaps or scenarios where the ability to deliver will not be able to meet the commitment
- Identify prevention or response actions

Track Progress

- Is the available capacity for processing and services aligned with the demand to meet business needs without wasting resources?
- Are SLA's being met?
- Are processes being followed?
- What is the level of quality and the reason for defects?
- Is the staff size and their knowledge level adequate to meet the service demand?

Control

- Is there a formal risk management process?
- Are all risks logged?
- Who owns the responsibility for ownership for mitigation or prevention been assigned?
- Are problems analyzed to determine the risks that have not been addressed?
- Is there a problem management process for permanently fixing problems and eliminating risk?

Communicate

- Is there a formal risk management plan?
- Are known risks communicated to the staff so they can be aware of the risks?
- Does the business participate in the prioritization and mitigation of risks?
- Are the causes and impacts of problems communicated?

Scenario:

**Managing
Application
Maintenance Risks**

Identify Application Risk Areas

- Commitments for Application capability, availability, performance, and reliability
- Infrastructure availability, reliability, and performance
- Knowledge Requirements (usage, operations, and support)
- Commitments for support services (scheduling, setup, configuration, data extracts/reports)
- Capability, size, and availability of support staff

Analyse Application Risk Areas

- Do the applications provide the required capabilities?
- How often do they need to be enhanced?
- How often do they need to be fixed?
- What knowledge is required to operate and support?
- Are they reliable, flexible, easy to use?
- Is the technology obsolete?
- Can they be easily updated to support changing requirements?
- What do they cost and what value is provided?

Plan and Manage

- **Inventory applications** and their capabilities, availability requirements, and redundancies.
- **Implement application management processes** to track costs, changes, quality, and value to business.
- **Identify missing or deficient capabilities** and how often they need to be enhanced. Initiate enhancements to provide user-controlled configuration.
- **Eliminate recurring problems** by implementing fixes.
- **Document required knowledge** and facilitate orientation or cross-training of staff.
- Identify solutions for replacing obsolete technologies.
- Develop a **retirement** strategy.

Management Capability

Visibility

- What services are needed?
- What services are provided?
- When are they provided?
- How often?
- Why are they provided?
- How much do they cost?

Management Capability

Control

- Were the services authorized?
- Did they deliver the correct result?
- Were standard processes followed?
- Were the services delivered on-time and on-budget?
- Did the customer receive value?

Management Capability

Optimization

- Reduce Risks and Costs
- Improve Quality
- Improve Processes
- Improve Customer Satisfaction
- Increase Value to the Business

Case Study:

Highmark Service Excellence Project



Service Excellence Project

Objective:

Improve IT's ability to meet or exceed commitments to the business

Year 1 Goal:

Increase value to the business by increasing time spent on enhancements from 4% to 18%

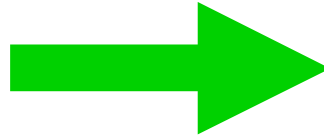
Achievements

- Time spent on enhancements increased to 22.5% in 9 months and 36% after 18 months
- Enhancement backlog was eliminated
- Application Problems and Support costs were reduced
- Business management received increased visibility and control of their requested services, required hours, and cost
- Increased Customer Satisfaction

Success Required Culture Change

Current State

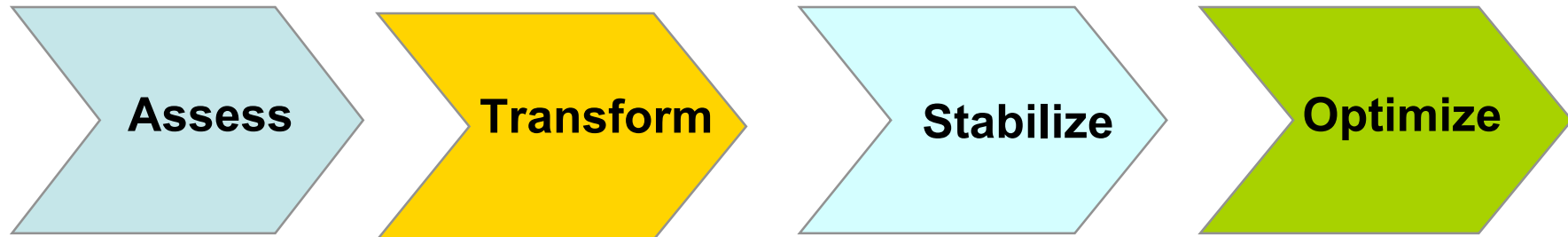
- Customer Satisfaction Issues
- Limited Visibility and Control of Service Delivery and priorities
- Reactive Management
- Backlogs and missed deadlines
- Quality and rework issues
- “Hero” culture
- Difficulty sharing knowledge reduced staffing agility



Desired State

- Visibility & Control of service delivery
- Partnership with Customer
- Effective Prioritization
- High Customer Satisfaction
- Ability to define and meet commitments
- Proactive Management
- Documented Knowledge increased staffing agility
- Reduced support costs

Transformation Process



- Process Review
- Problem Review
- Solution Options

- Implement Visibility & Control with tools and structured processes
- Establish Knowledge Management processes
- Establish Service Level Goals with Business
- Train staff and Facilitate culture change to ensure acceptance

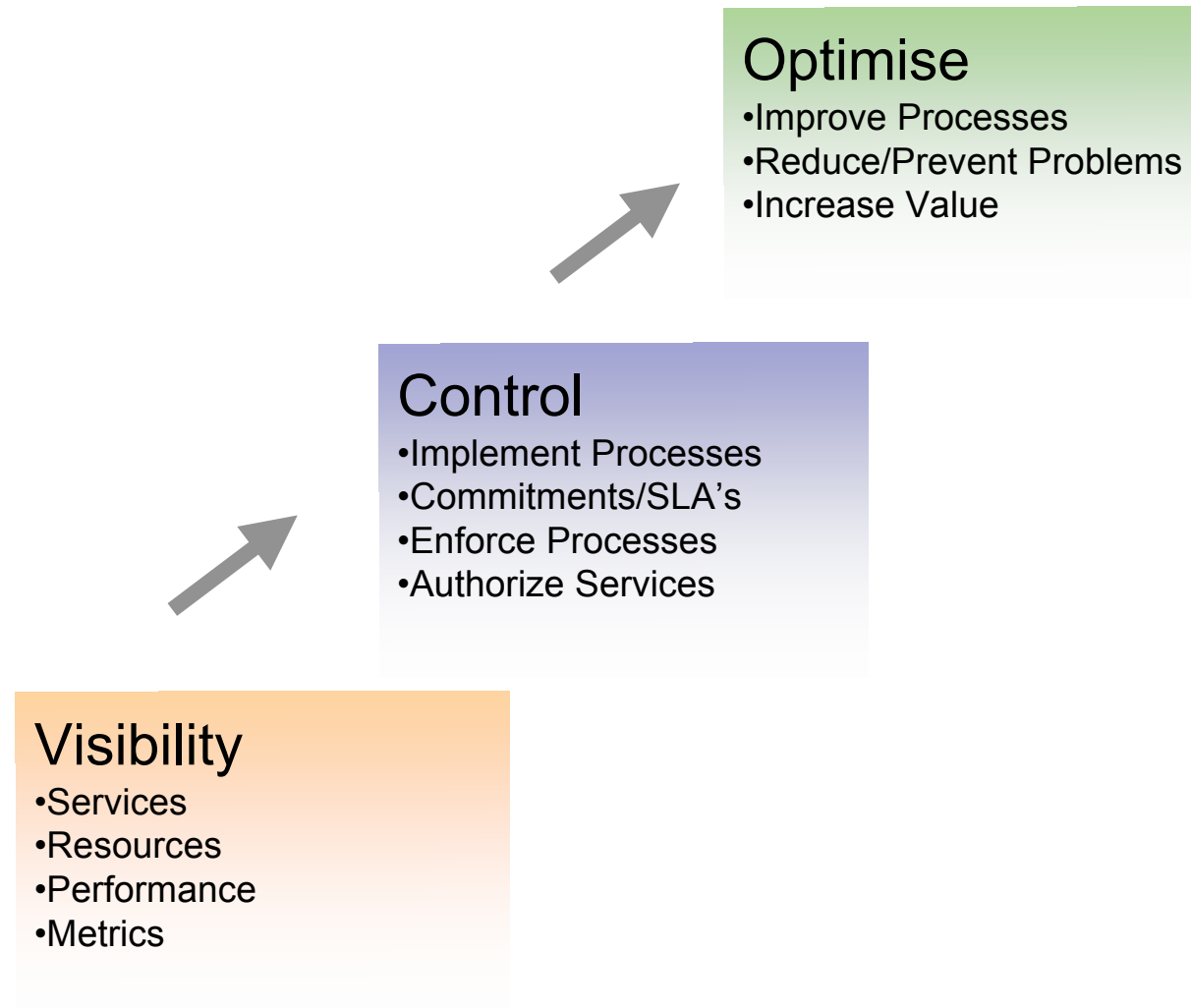
- Develop proficiency with new tools & processes
- Develop additional metrics

- Analyze trends
- Identify opportunities for performance or process improvements
- Improve processes & performance
- Adjust service level goals and estimates

Risk Assessment Results

- Service requests were not logged
- Service Level Goals are not formally defined
- Most of the available resource hours are spent resolving incidents resulting in a large backlog of projects
- Customer satisfaction was not measured but it was assessed as poor based on informal feedback
- Most of the support management processes were informal and team specific
- Knowledge was undocumented resulting in a dependence on “hero experts for each application
- “Reactive” management because of limited visibility and control

Solution Framework



Activity Summary

- Assessed support requirements and risks
- Implemented service management tools and processes to log, track, and prioritise all support and enhancement requests
- Implemented Service Level Goals
- Improved communication and prioritisation with the business
- Collected, documented, and shared required knowledge (Business, Application, and Process)
- Trained the teams to manage proactively and monitor risks
- Implemented problem management to identify and fix recurring problems

Resulting Business Value

- Increased quality, reduced rework and application problems, and reduced support costs
- Improved process maturity
- Implemented metrics to support ongoing improvement initiatives
- Increased staff effectiveness and productivity
- Reduced risk
- Improved performance against commitments which improved customer satisfaction

