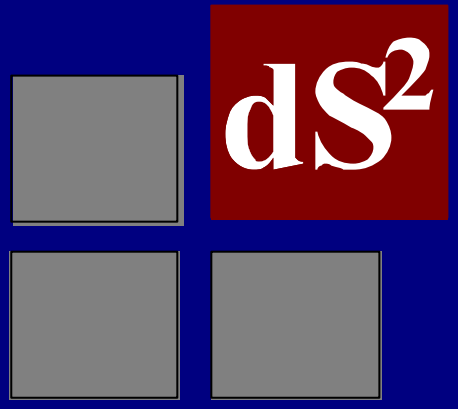
WHY 70% OF CORPORATIONS ARE DISSATISFIED WITH I.T.

...

HOW TO AVOID DISSATISFACTION IN YOUR ORGANIZATION



TURNING VISION INTO COMPETITIVE ADVANTAGE

Dr James A Robertson PrEng
Managing Director: Differentiated Strategic Solutions (Pty) Ltd

WHY 70% OF CORPORATIONS ARE DISSATISFIED AND HOW TO AVOID DISSATISFACTION

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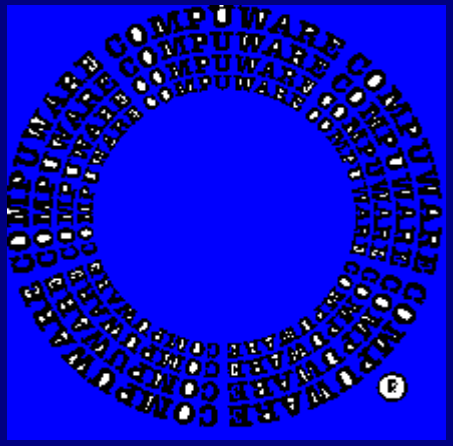


COMPUWARE EXECUTIVE FORUM, MUNICH, OCTOBER 1995

WHAT IS THE BUSINESS

CONTEXT OF I.T.?

IN SEARCH OF EXCELLENCE (PETERS)

dS²

43 "EXCELLENT " COMPANIES

HOW MANY ARE LEFT ?

IN SEARCH OF EXCELLENCE (PETERS)

OF THE 43 "EXCELLENT " COMPANIES

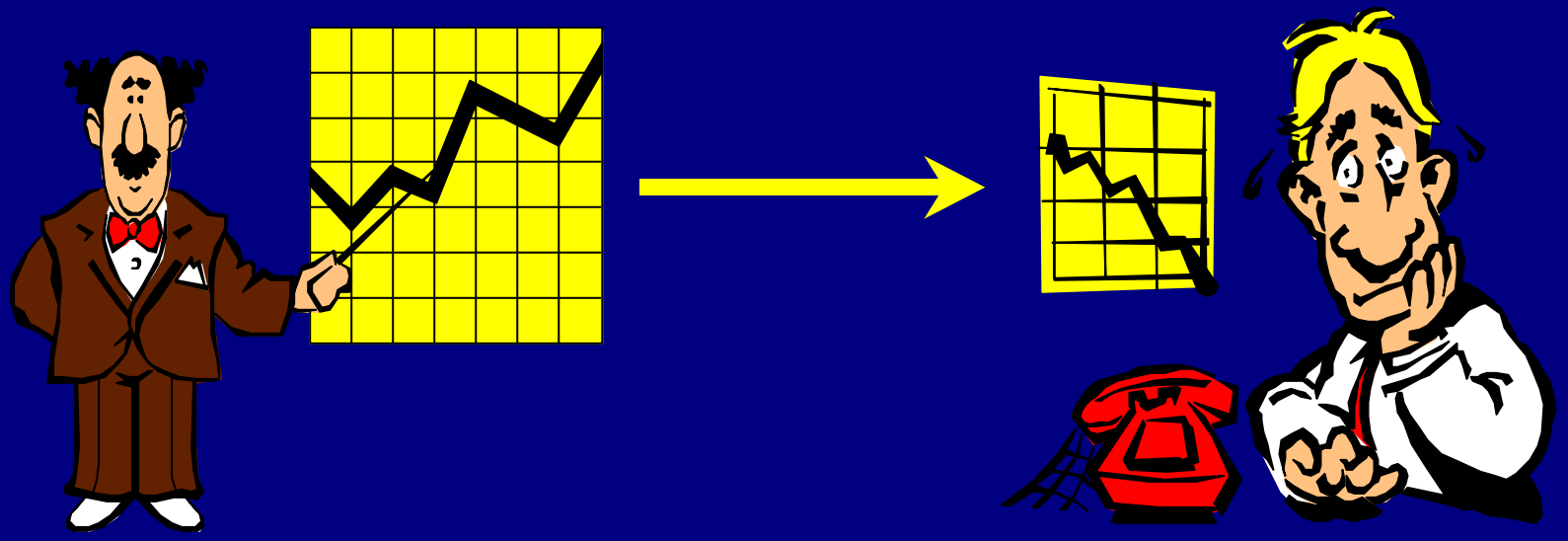
ONLY 14 LEFT AFTER 5 YEARS

ONLY 6 LEFT AFTER 8 YEARS

(Pascale R.T. "Managing On The Edge")

OF 11 ANNUAL AWARDS AS TOP BRITISH COMPANIES

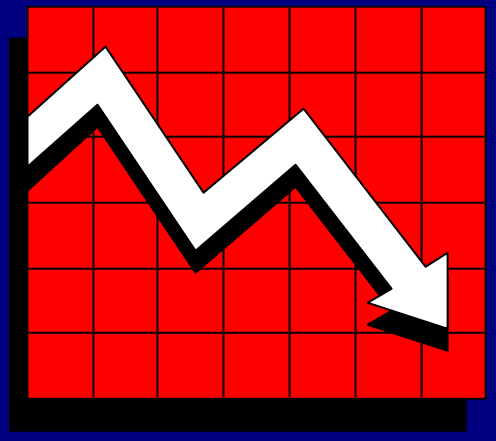
4 HAVE COLLAPSED !!



McDonald 1994

WHY STRATEGY IS IMPORTANT

EXCEPTIONALLY
HIGH PROFITS TODAY



APPEAR TO BE CORRELATED WITH
LOW OR NO PROFITS TOMORROW

Malcolm McDonald (1994)

I.T. IS NOT MEETING EXPECTATIONS
IN MORE THAN 70% OF SA COMPANIES

- MBA Program
- 150 Students
- Two Groups
- Average age 40
- Middle to Senior Management

Survey by Dr James Robertson : GIMT, July / August 1994

MORE THAN

70%

OF MAJOR COMPANIES
ARE DISATISFIED WITH
THEIR I.T. INVESTMENT

WHY?

THIS PRESENTATION BRIEFLY OUTLINES WHAT WE BELIEVE ARE MOST OF THE CAUSES AND BY IMPLICATION THE SOLUTIONS

MORE THAN

70%

OF MAJOR COMPANIES

ARE DISSATISFIED WITH

THEIR B.P.R. INVESTMENT

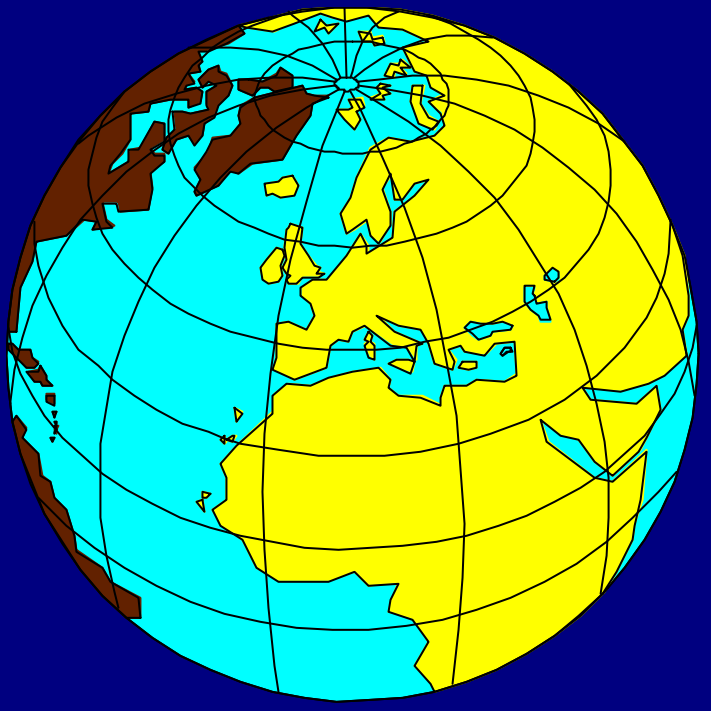
WHY?

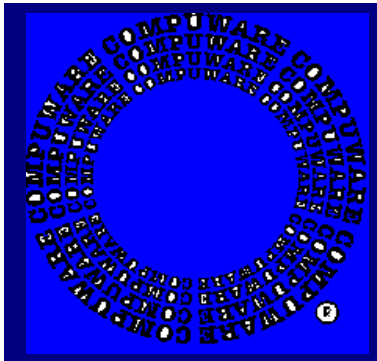
INTRODUCTION : ECONOMIC TRENDS

- Increased Competition
- Flattening Organization Structures
- Globalisation
- Industries in Decline
- Business Environment Changing
- Shortening Product Life Cycles
- Sudden opportunities

THE CHALLENGE OF THE 90'S

Getting the right information, to the right people, at the right time and in the right place in order to make the right decision!





ECONOMIC TRENDS

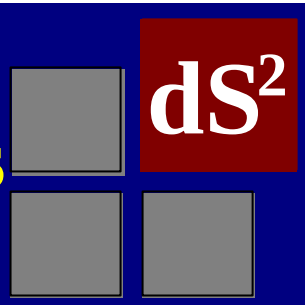
dS²

HISTORICAL DIFFERENTIATORS:

- 60's Production
- 70's Sales
- 80's Finance
- The 90's
  - Excess supply
  - Single division cannot solve
  - A boom is unlikely!!
- Strategic Issues are Vital

REQUIRES INFORMATION TECHNOLOGY

THE KEY DIFFERENTIATORS IN THE 90's



- Marketing Strategy
- Personnel
- Effective Management Decision Making

World Competitiveness Report
McDonald & Others

THE RIGHT STRATEGIES AND TACTICS
(Requires Information)

WHY 70% OF CORPORATIONS ARE DISSATISFIED AND HOW TO AVOID DISSATISFACTION

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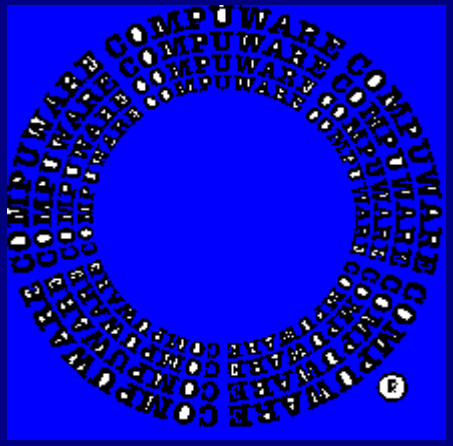
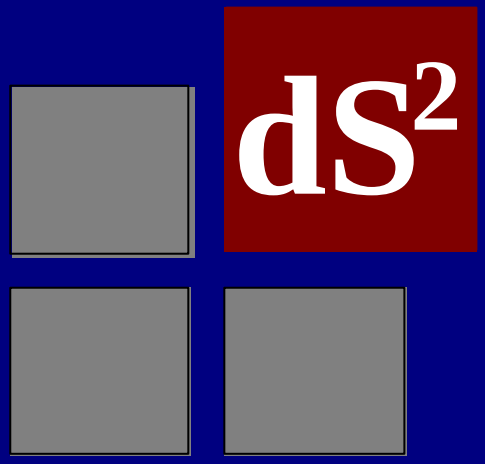


COMPUWARE EXECUTIVE FORUM, MUNICH, OCTOBER 1995

WHY TECHNOLOGY IS NOT MEETING EXPECTATIONS

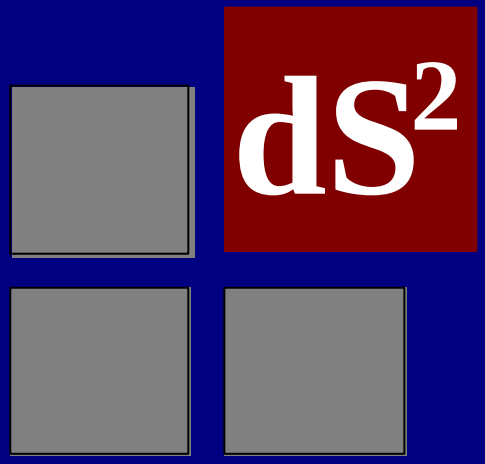
WHAT IS STRATEGY?



Professor Malcolm McDonald
Cranfield School of Management

STRATEGY DEFINED

DOING THE RIGHT THINGS



Professor Malcolm McDonald
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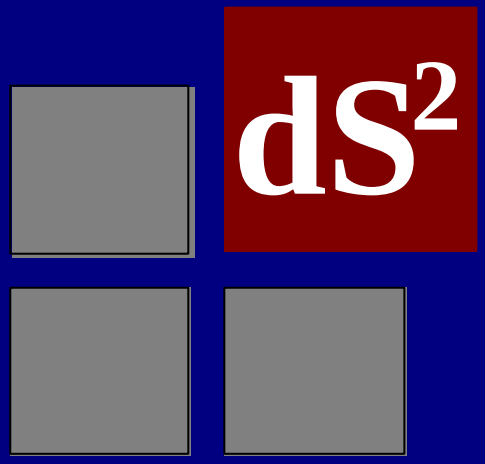
TACTICS DEFINED

DOING THINGS RIGHT



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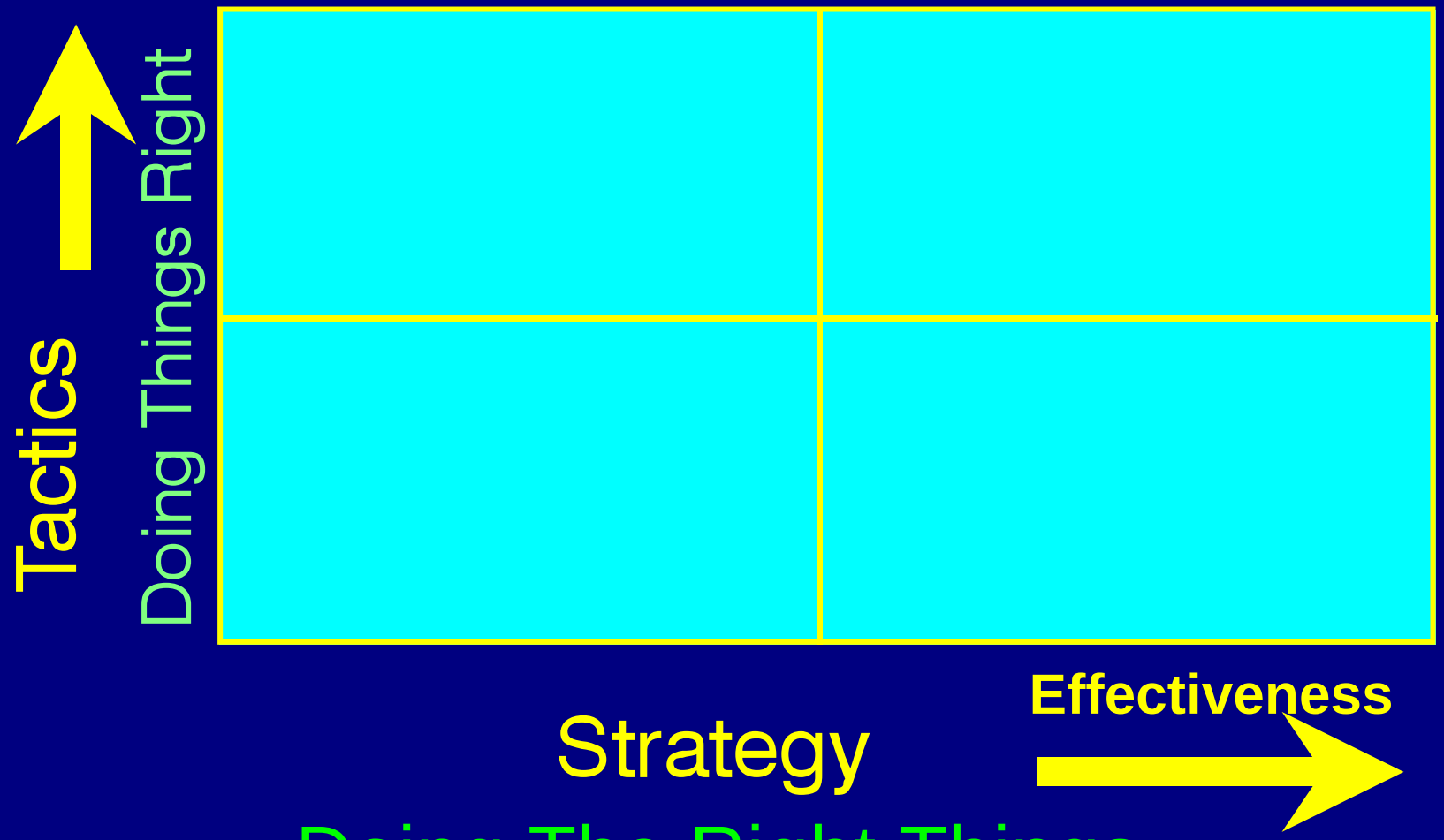
STRATEGY vs TACTICS : A DEFINITION



STRATEGY vs TACTICS : A DEFINITION

dS²

Tactics

Doing Things Right

Thrive

Strategy

Effectiveness

Doing The Right Things

STRATEGY vs TACTICS : A DEFINITION

Tactics

Doing Things Right

Thrive

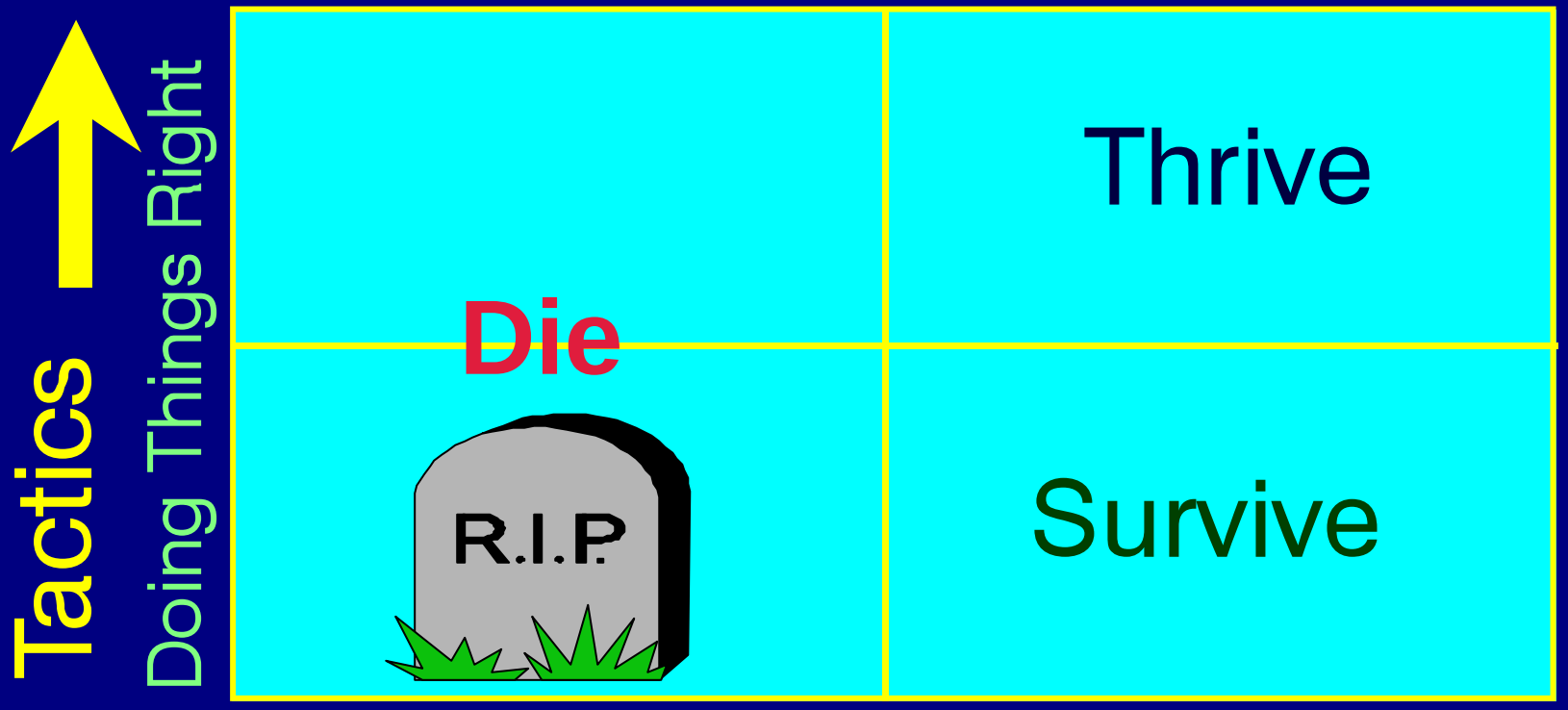
Survive

Effectiveness

Strategy

Doing The Right Things

STRATEGY vs TACTICS : A DEFINITION



STRATEGY vs TACTICS : A DEFINITION

Tactics

Doing Things Right

Die Fast

Thrive

Die Slowly

Survive

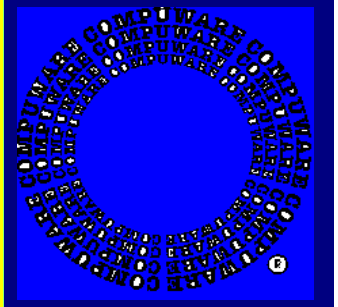
Strategy

Effectiveness

Doing The Right Things

ORGANIZATIONS MUST DO THE RIGHT THINGS WELL TO GAIN COMPETITIVE ADVANTAGE WITH I.T.

dS²



Die Fast	**Thrive**
Die Slowly	Survive

Tactics

Doing Things Right

Strategy

Effectiveness

Doing The Right Things

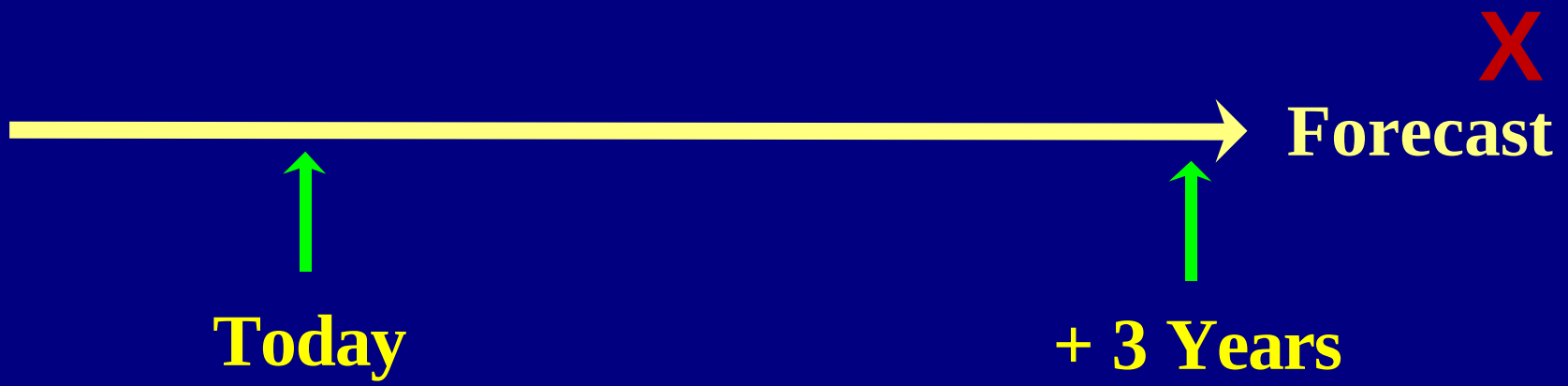
THE TIME DEPENDENCY OF STRATEGY

- DISTINGUISHING BETWEEN :
  - Forecasts
  - Objectives
  - Strategy and Tactics

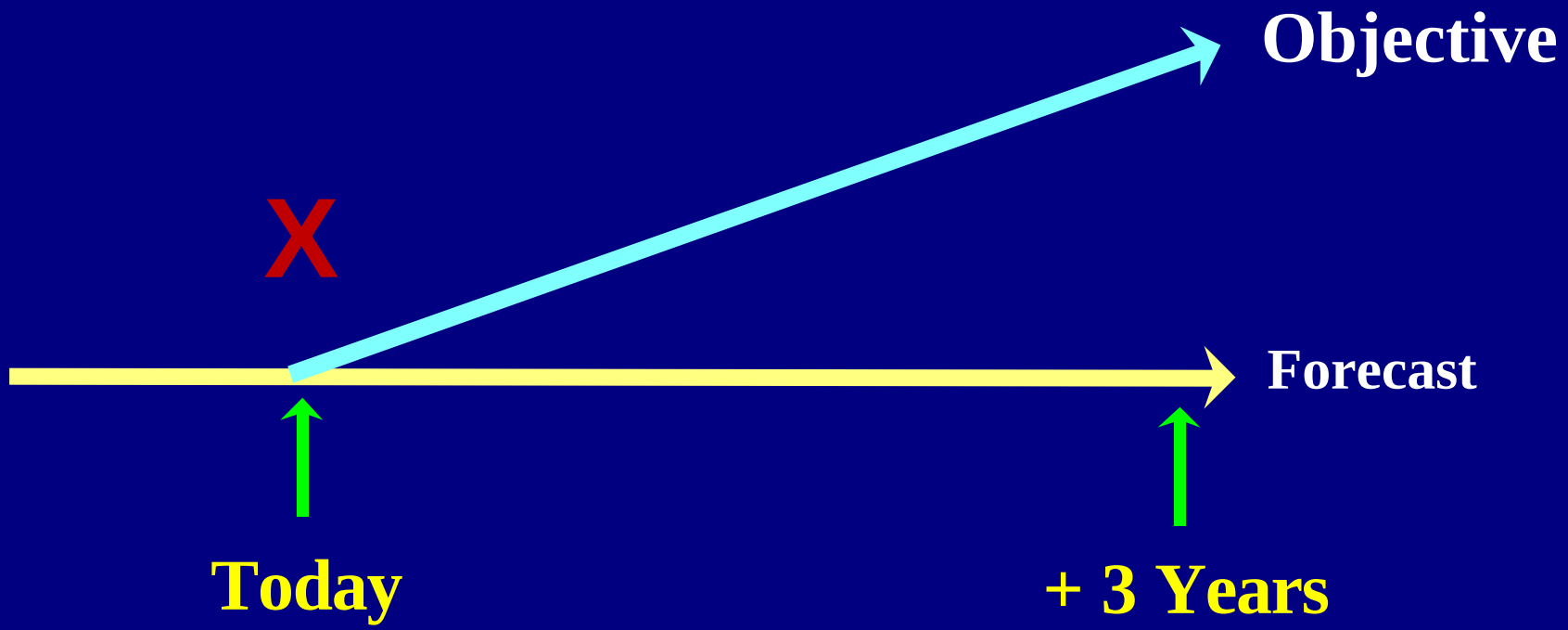
dS²

WHAT IS THE STRATEGIC PLANNING PROCESS ?

NOT A FORECAST



NOT AN OBJECTIVE



dS²

THE PATH TO WORLD CLASS CAPABILITY

YOUR . COMPANY

Objective

Strategy

Forecast

Today

+ 3 Years

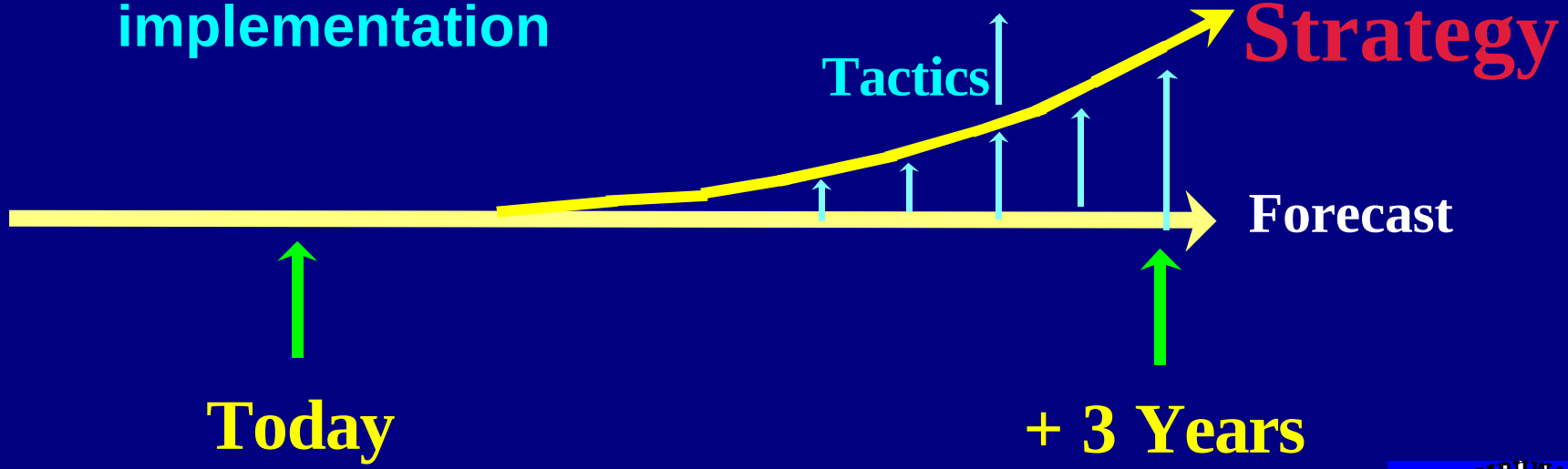
dS²

ALL UTILIZATION MUST BE STRATEGICALLY (FUTURE) FOCUSED

Effective I.T. is vital to delivering information for effective decision support and strategy implementation

YOUR . COMPANY

Objective



dS²

DESIGN YOUR SYSTEMS FOR THE FUTURE

NOT THE PAST

SYSTEM LIFE CYCLE CHARACTERISTICS

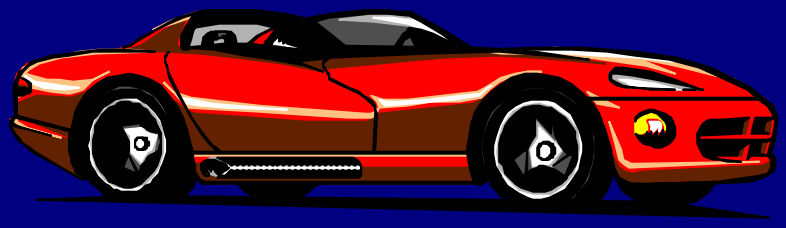
Investment to support strategy must be made relatively early in technology life cycle in order to Create Competive Advantage

McDonald (1994)

SO YOU WANT IT

CHEAP

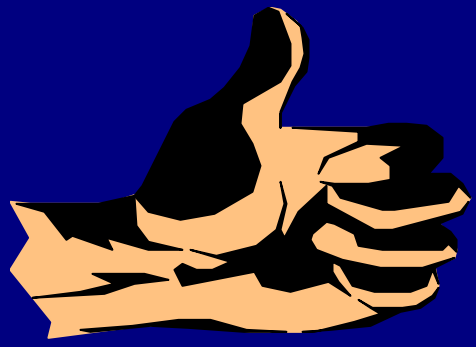
AND



FAST

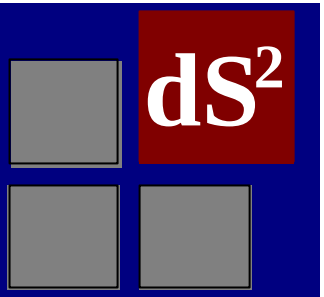
AND

GOOD ?



PICK ANY TWO !

STATUS OF THE SOFTWARE DEVELOPMENT INDUSTRY



The Technology is Capable of Delivering the Expected Benefits

BUT

The issues dealth with in this presentation must be dealt with

TECHNOLOGY IS ONLY AN ISSUE WHEN IT DOES NOT DELIVER

WHY 70% OF CORPORATIONS ARE DISSATISFIED AND HOW TO AVOID DISSATISFACTION

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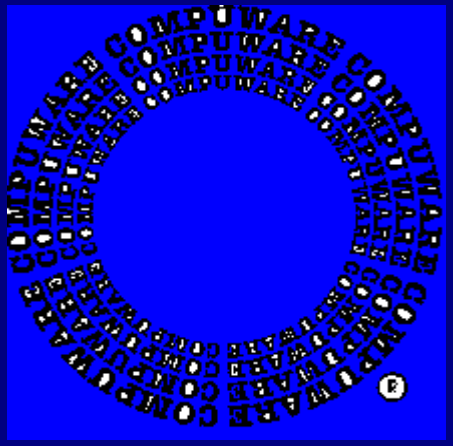


COMPUWARE EXECUTIVE FORUM, MUNICH, OCTOBER 1995

INFORMATION TECHNOLOGY EXPERIENCE

Perceived Poor Performance Results From:

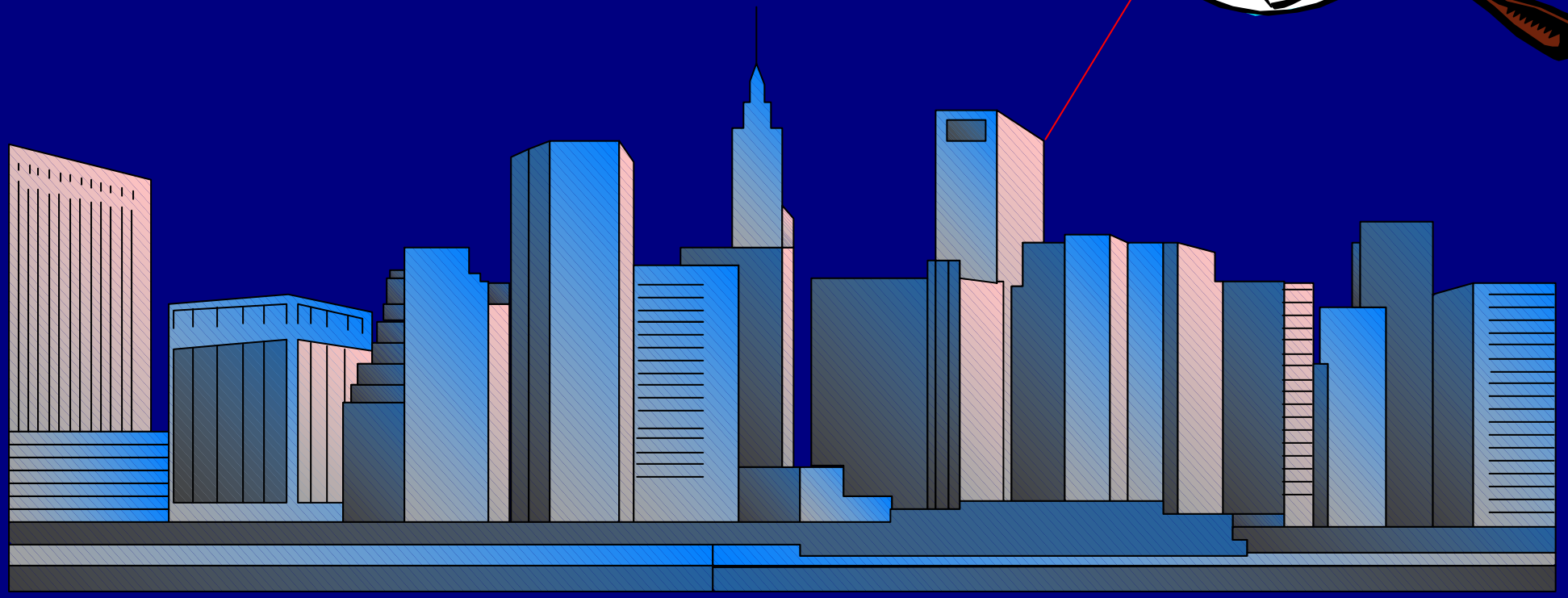
- Technology Obsession
- Abstractness
- Ignoring the Human Factor
- Focus on "Productivity"
- Lack of Executive Involvement / Understanding

PEOPLE DETERMINE THE SUCCESS OF "THE SYSTEM"

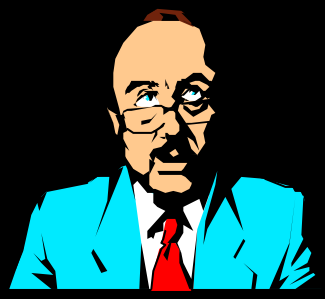
dS²

WHY TECHNOLOGY IS NOT MEETING EXPECTATIONS

ABSTRACTNESS



ABSTRACTNESS



MEASUREMENT ACTION GENERATOR

Collect
Collate
Summarise
Synthesize
Present

I.T.

Interpret Results

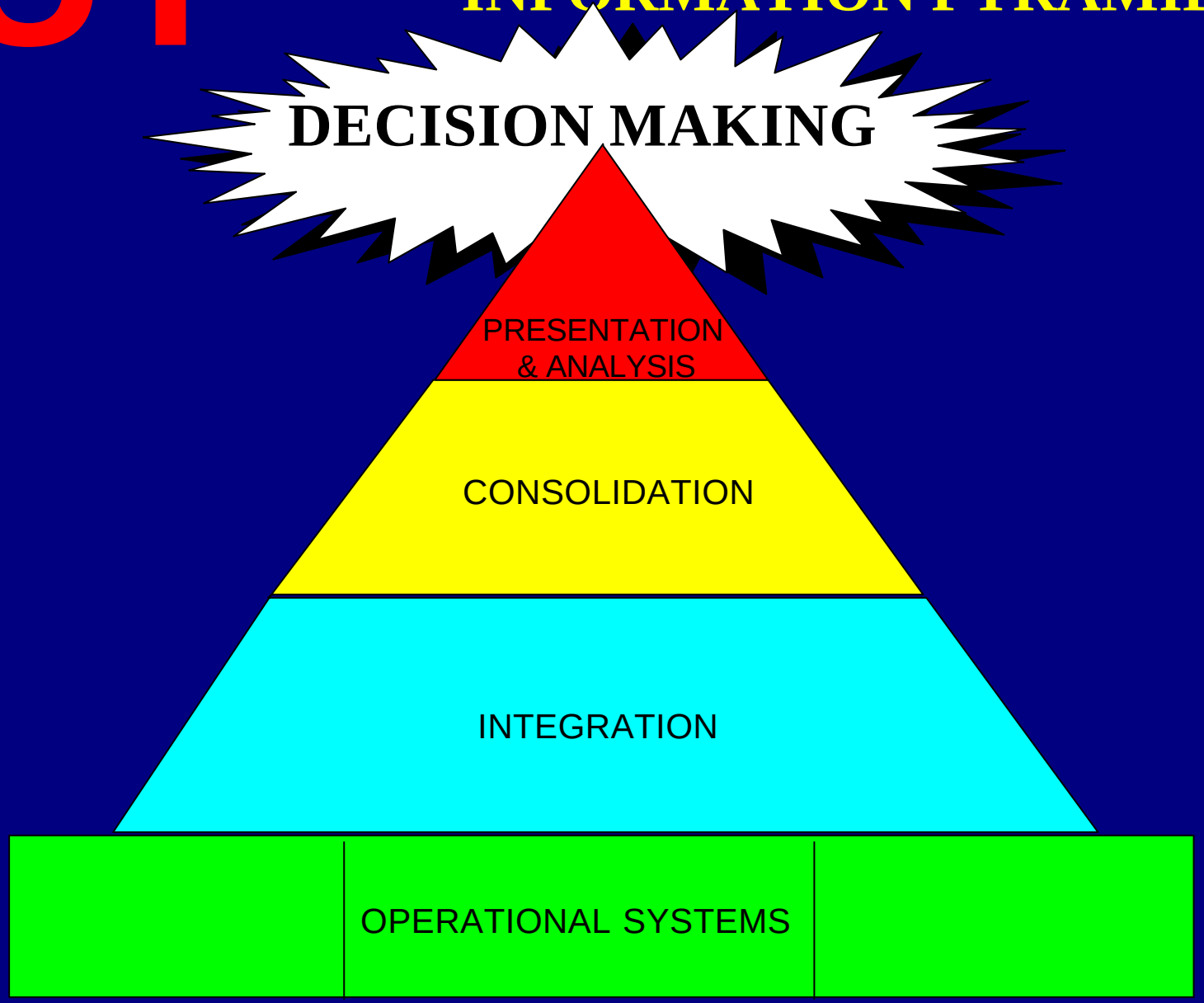
Take Decision

Implement Decision

PEOPLE

BUT

THE DECISION SUPPORT SYSTEM INFORMATION PYRAMID



BUSINESS PROCESS REDESIGN / RE-ENGINEERING?

Conventional Organizations:

Collect
Collate
Summarise
Synthesize

Sometimes Interpret & Act

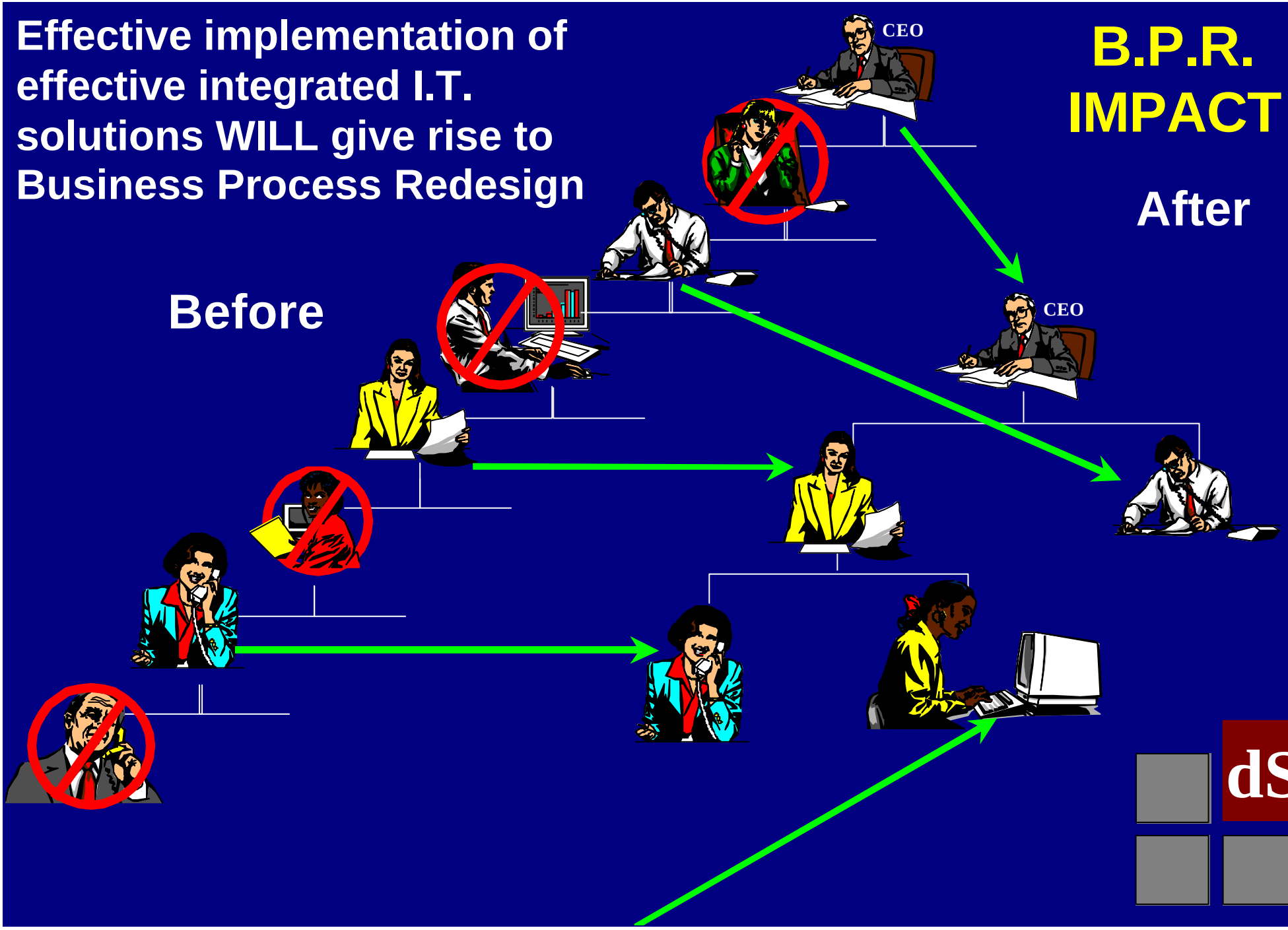
Present Information

Effective implementation of effective integrated I.T. solutions WILL give rise to Business Process Redesign

B.P.R. IMPACT

Before

After

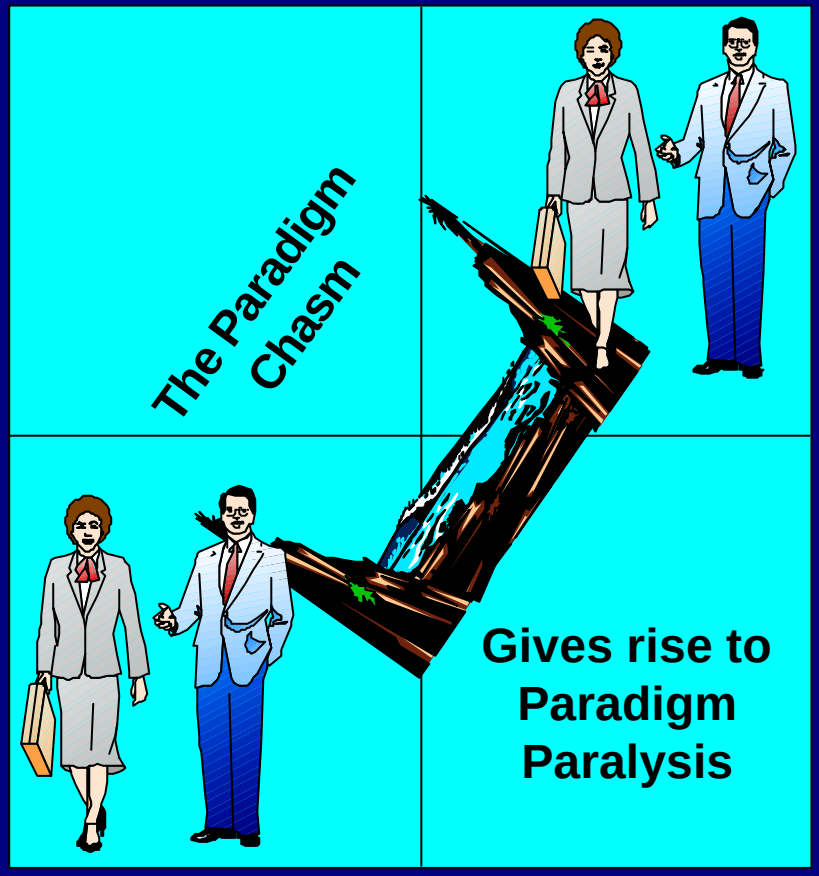


dS²

IMPLEMENTATION CONSIDERATIONS
THE PARADIGM FACTOR

RELATIONSHIP

INNOVATOR



IT Project Champion

Potential users

ADMINISTRATOR

RESULTS

WHY 70% OF CORPORATIONS ARE DISSATISFIED AND HOW TO AVOID DISSATISFACTION

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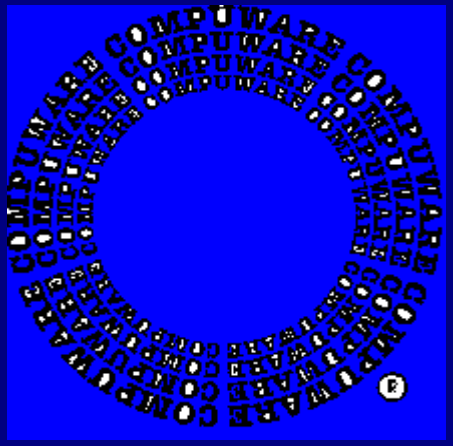

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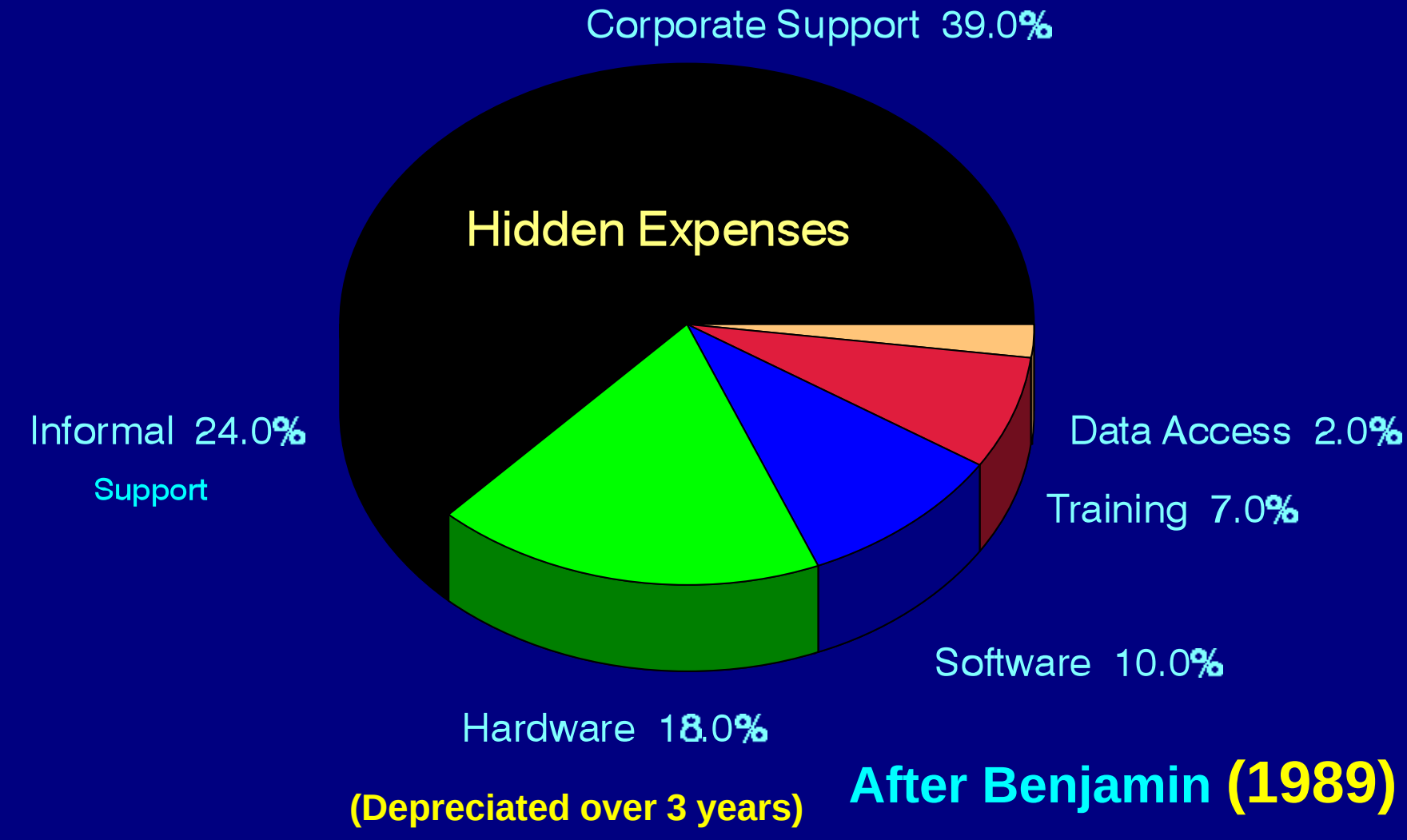
THE MEASURED COST OF COMPUTERS

(As Percent of Total Cost)

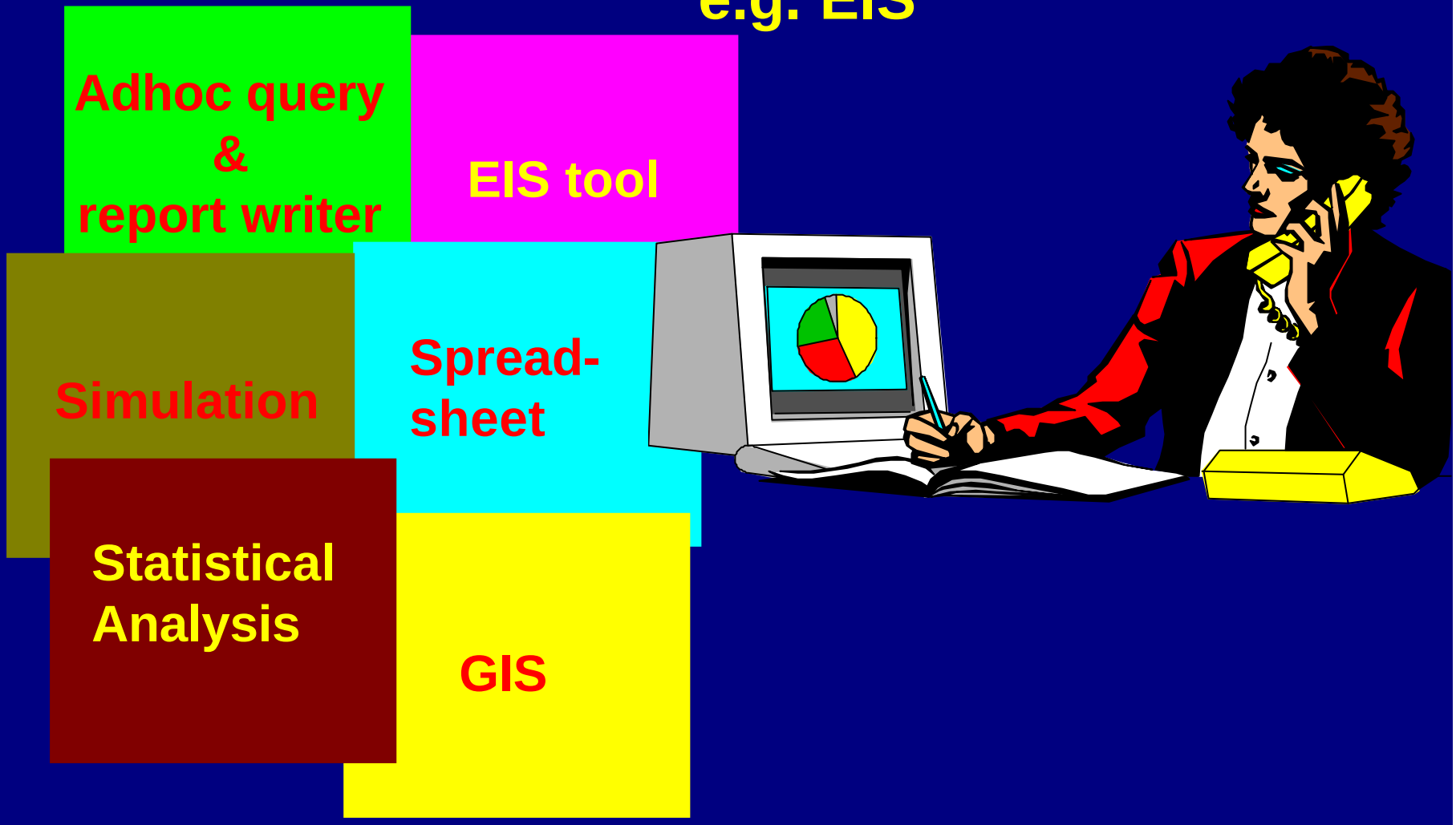


After Benjamin (1989)

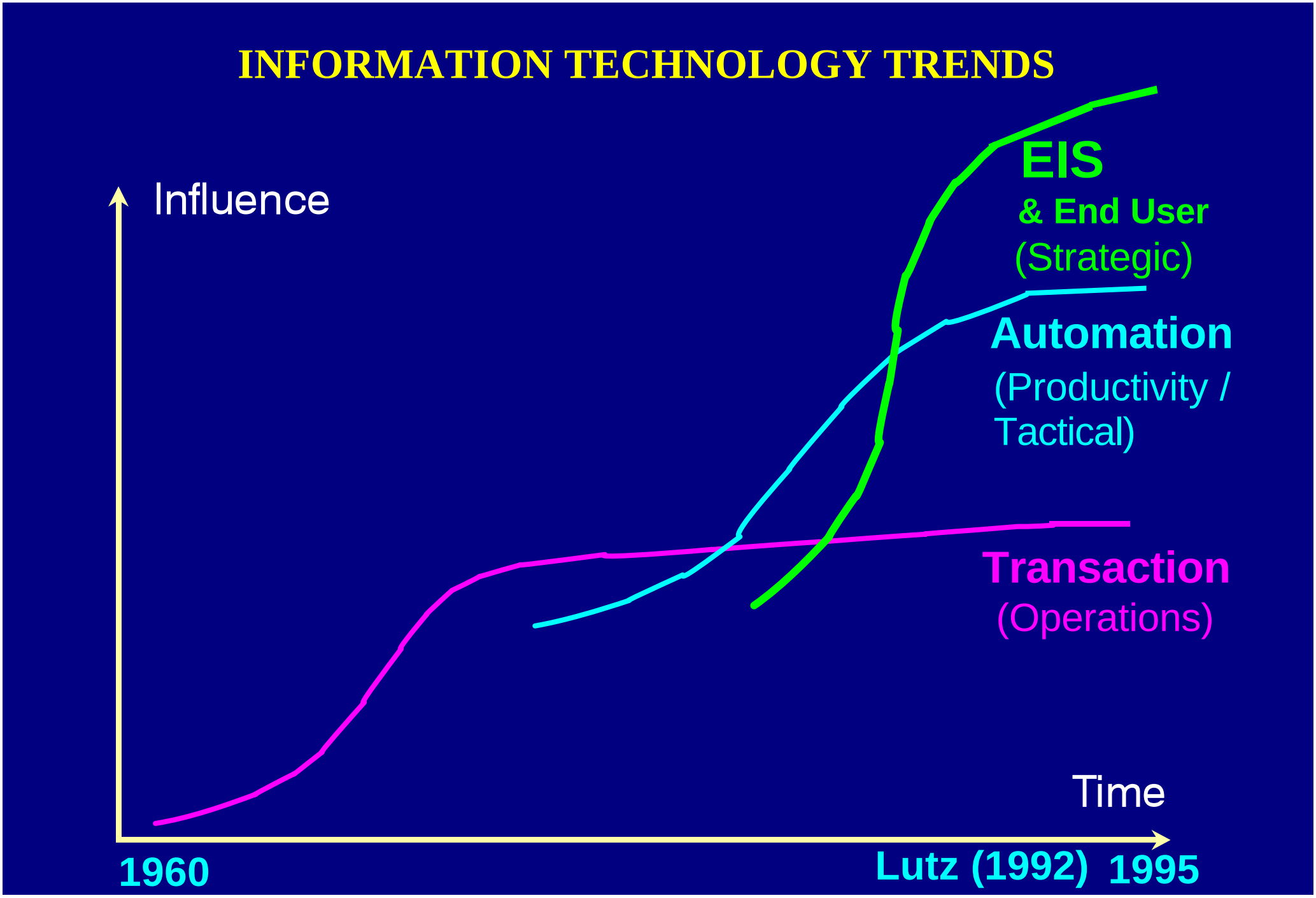
TECHNOLOGY IS NOT THE KEY ISSUE

Technology is only important if it does not perform

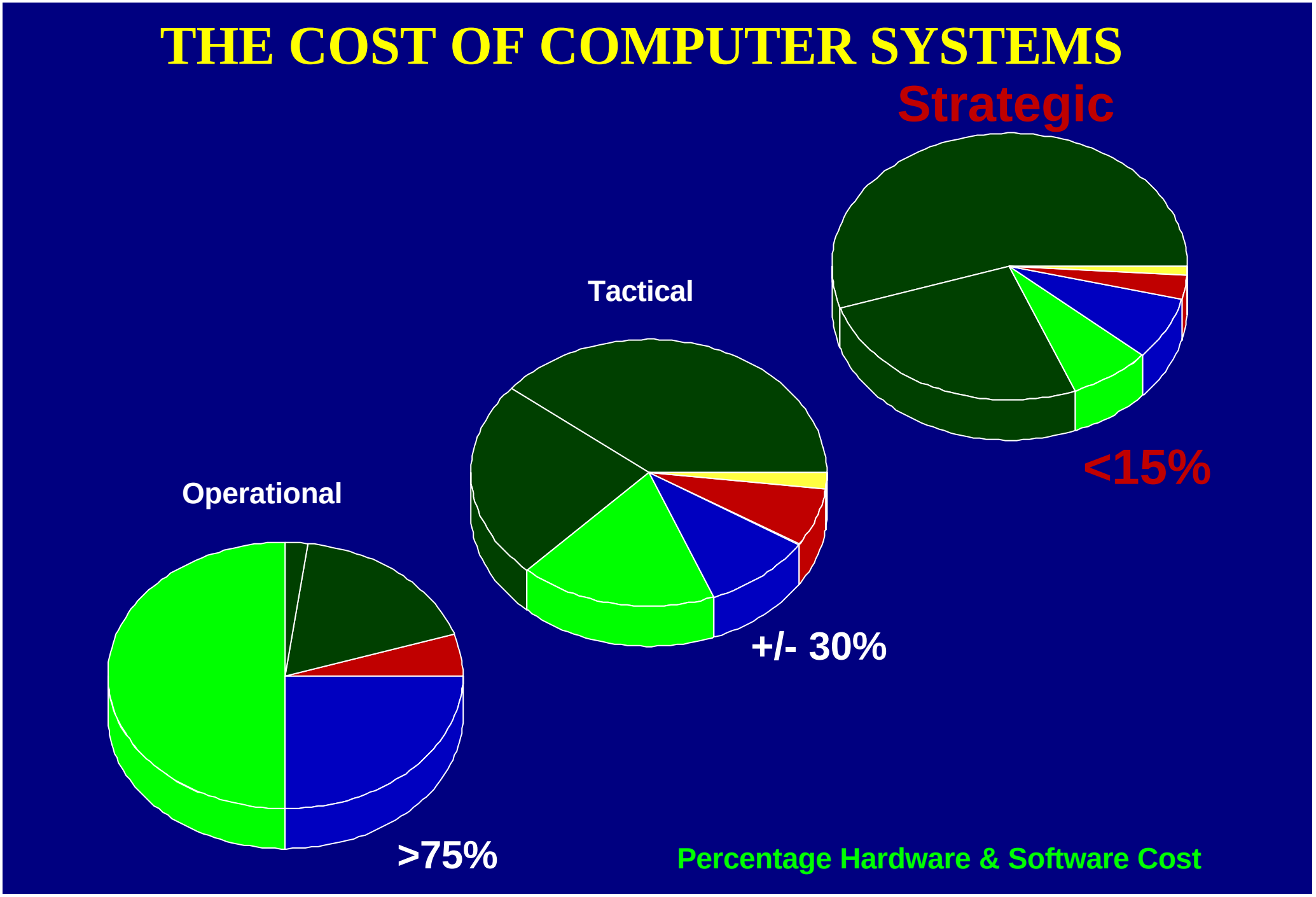
e.g. EIS



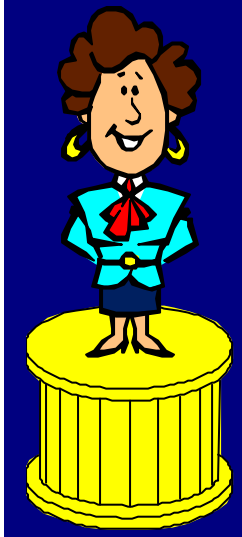
INFORMATION TECHNOLOGY TRENDS



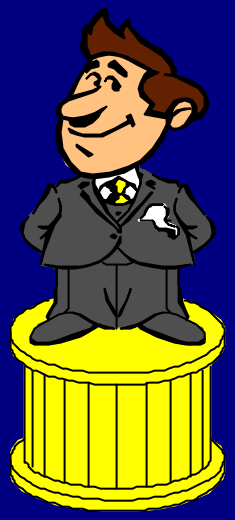
THE COST OF COMPUTER SYSTEMS



THE COST OF COMPUTER SYSTEMS

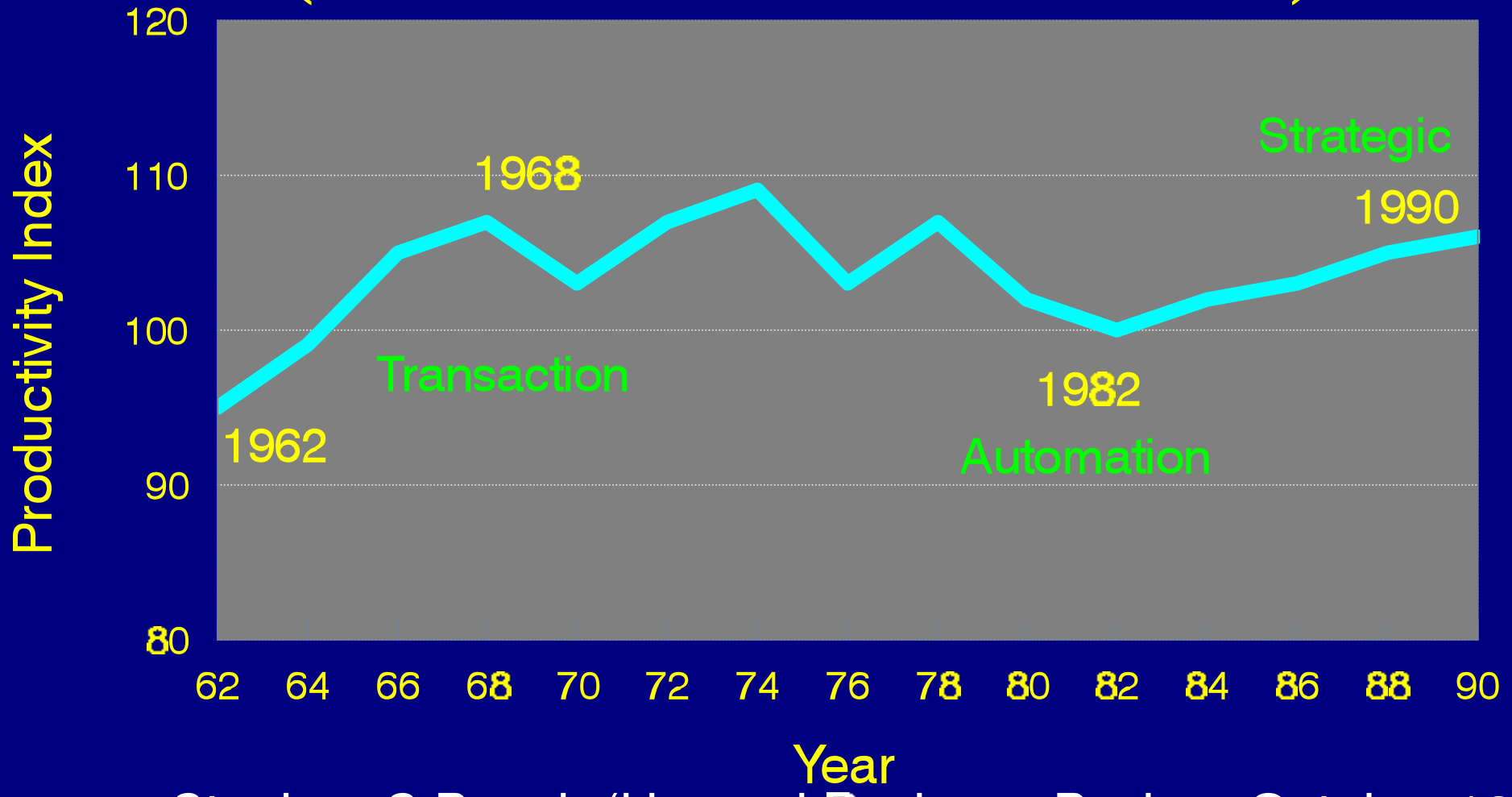


- The Human Element is The Major Cost in Strategic Systems



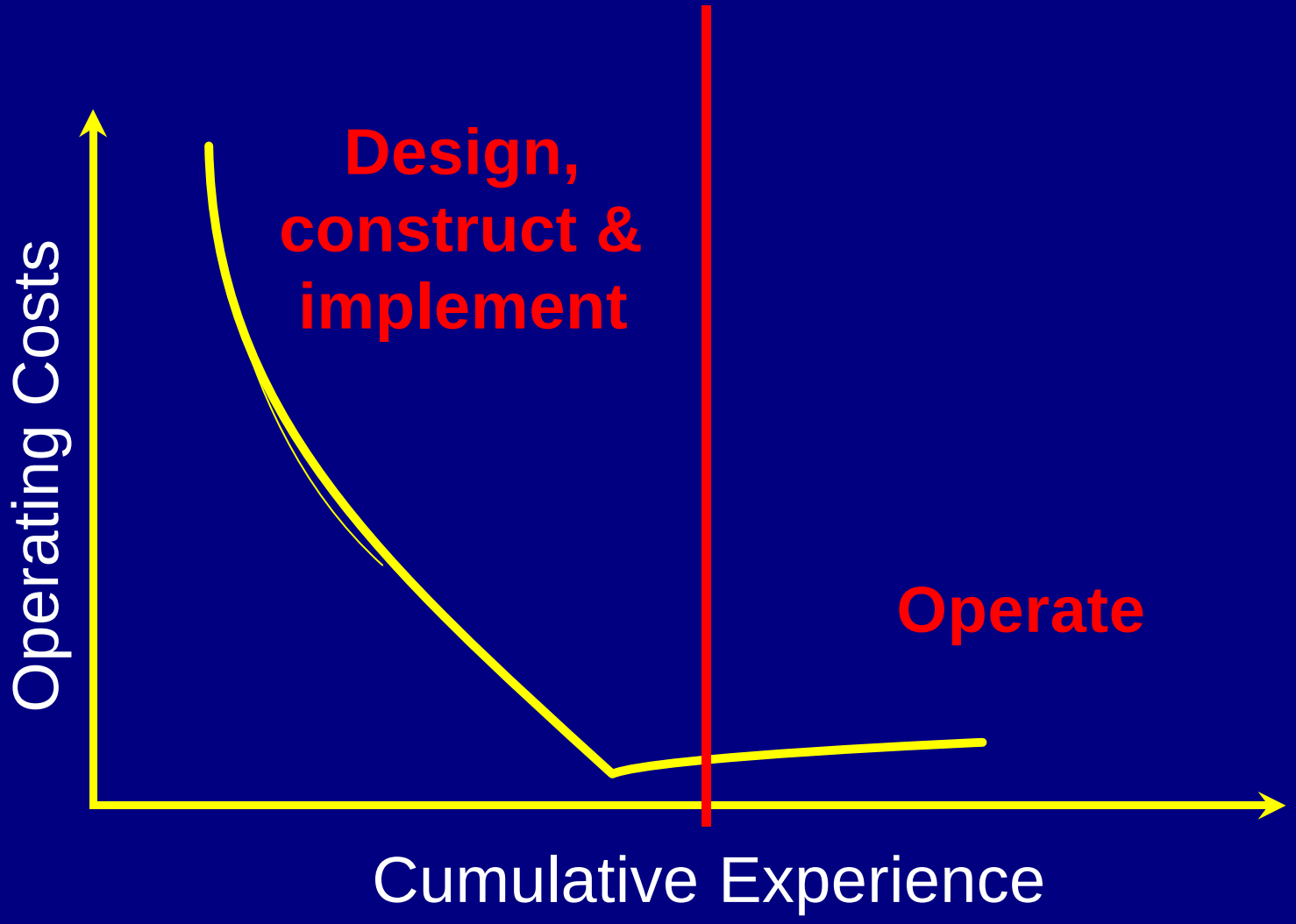
- The Technology Element (Hardware and Software) is The Major Cost in Operational Systems

INFORMATION TECHNOLOGY EXPERIENCE (BANKING AND AIRLINES - USA)



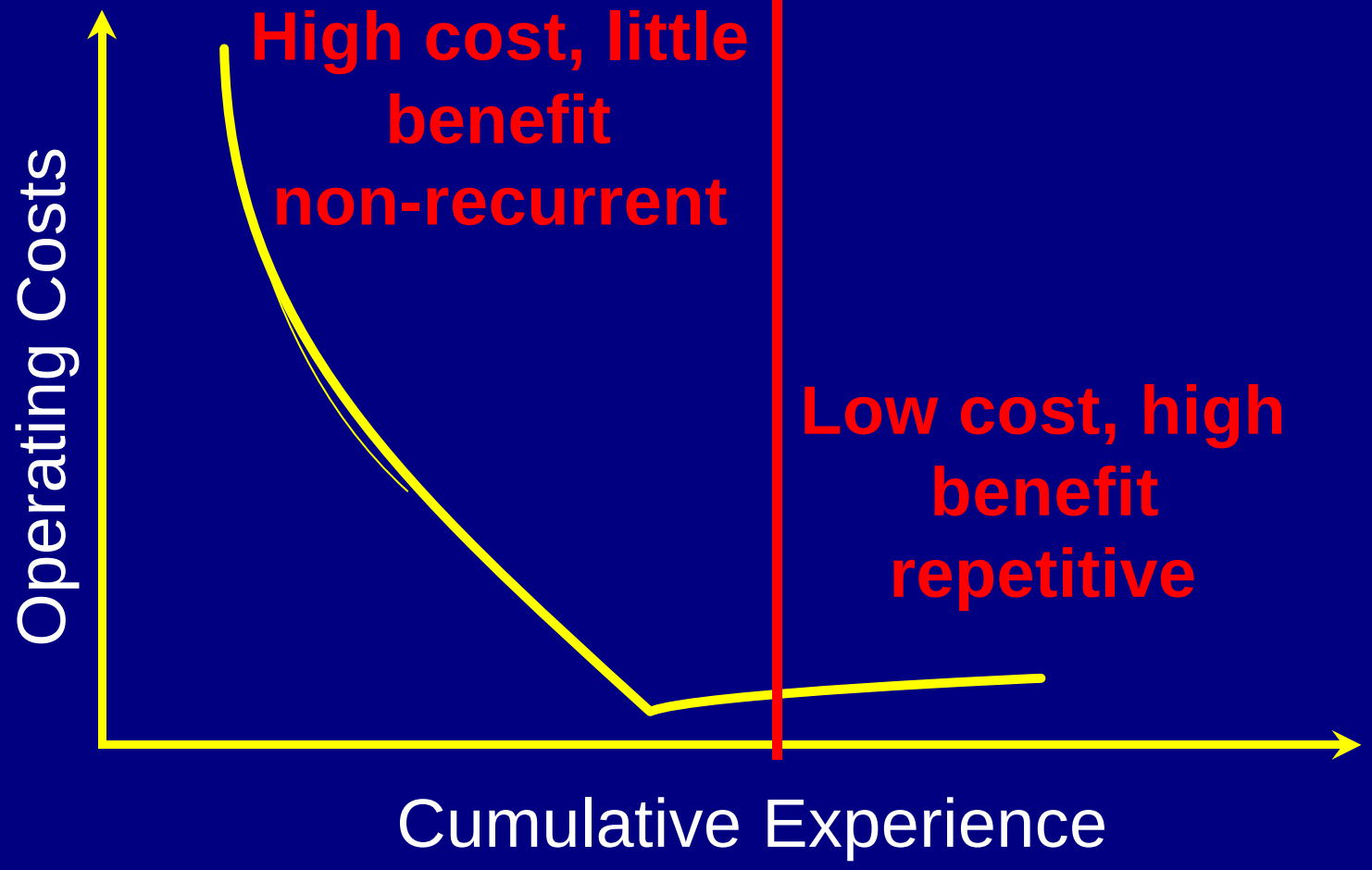
Stephen S Roach (Harvard Business Review, October 1991)

THE COST - EXPERIENCE CURVE

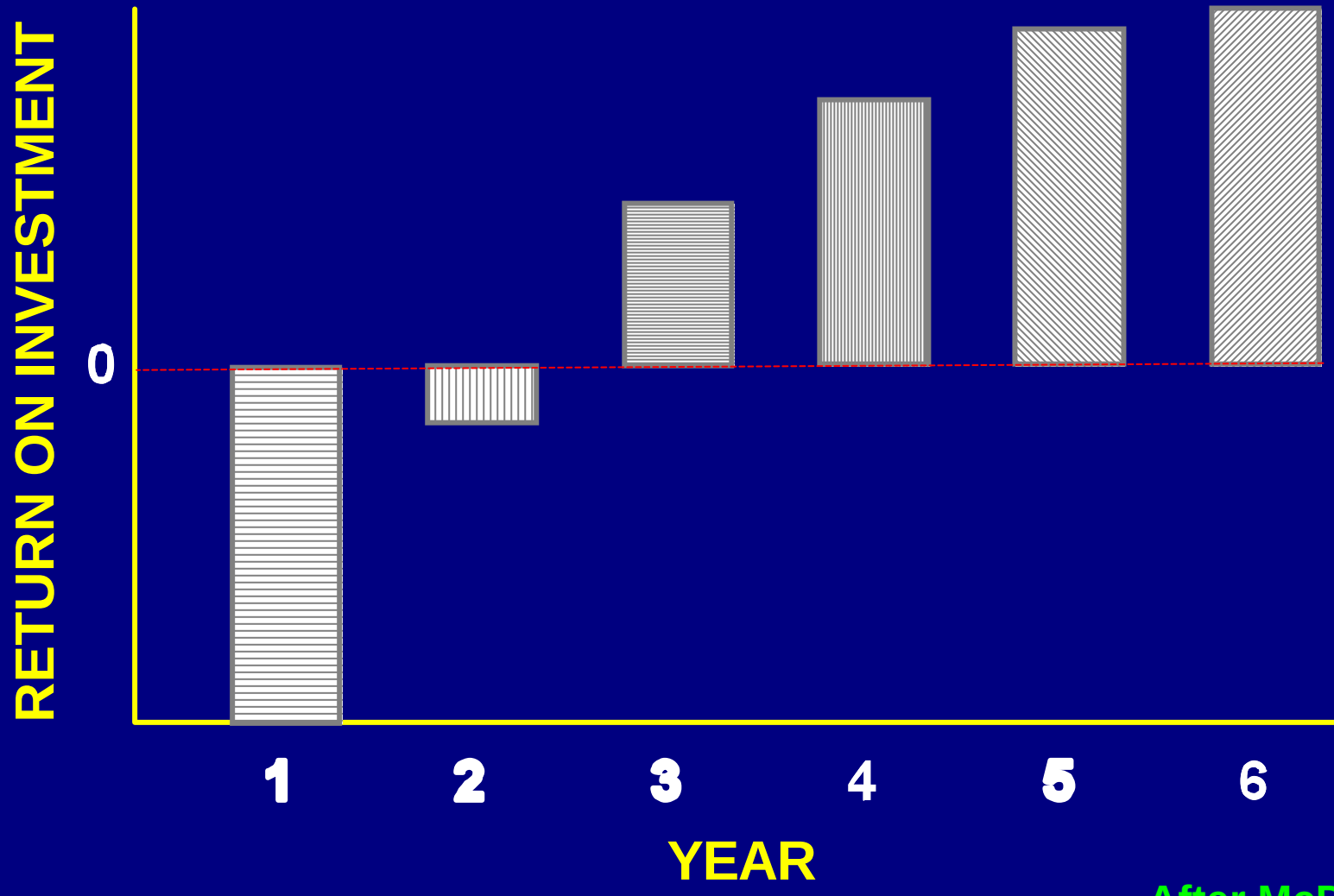


McDonald (1994)

THE COST - EXPERIENCE CURVE



POSTULATED RETURN ON INVESTMENT FOR IT



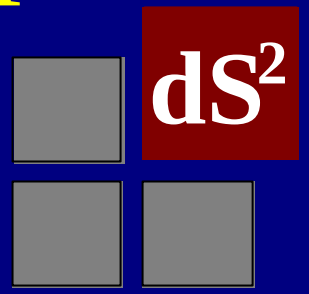
After McDonald (1994)

SYSTEM LIFE CYCLE CHARACTERISTICS

Investment to support strategy must be made relatively early in technology life cycle in order to Create Competive Advantage

McDonald (1994)

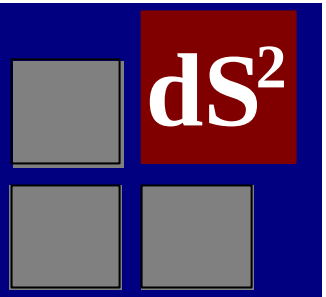
BENEFITS FROM I.T. INVESTMENT



- Take time before they are fully evident
- Are only achieved if the system is well designed and well implemented
- Are strategic and tactical in nature more than direct financial benefit

WHAT VALUE COMPETITIVE ADVANTAGE GAINED OR LOST?

RETURN ON INVESTMENT



- Will take time before realized
- Requires 100% support from management

CAPITALIZE I.T. INVESTMENT!

ISLANDS OF INFORMATION

dS²

Financials

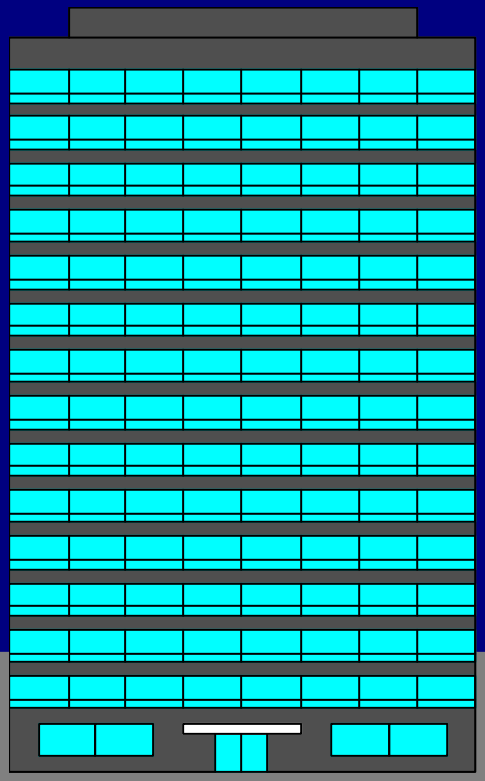
Production

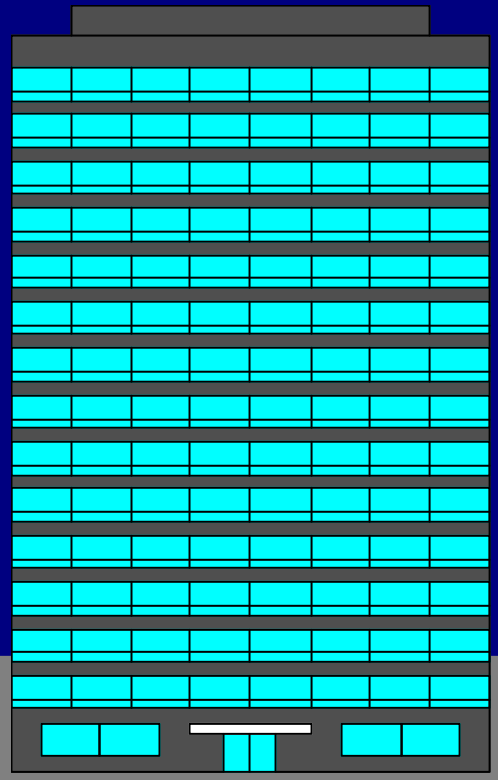
etc

MIS

Sales

ISLANDS OF INFORMATION



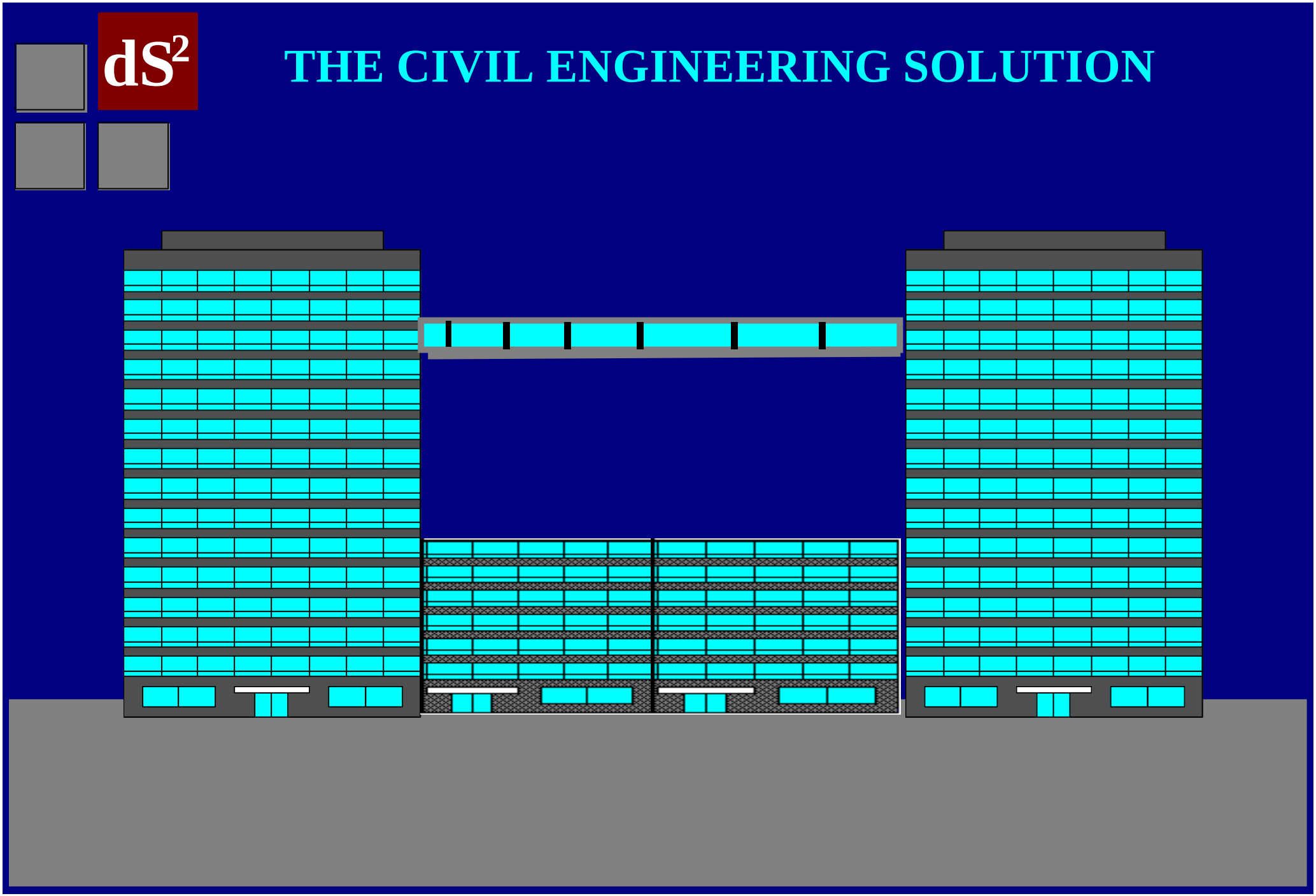


WHY TECHNOLOGY IS NOT MEETING EXPECTATIONS

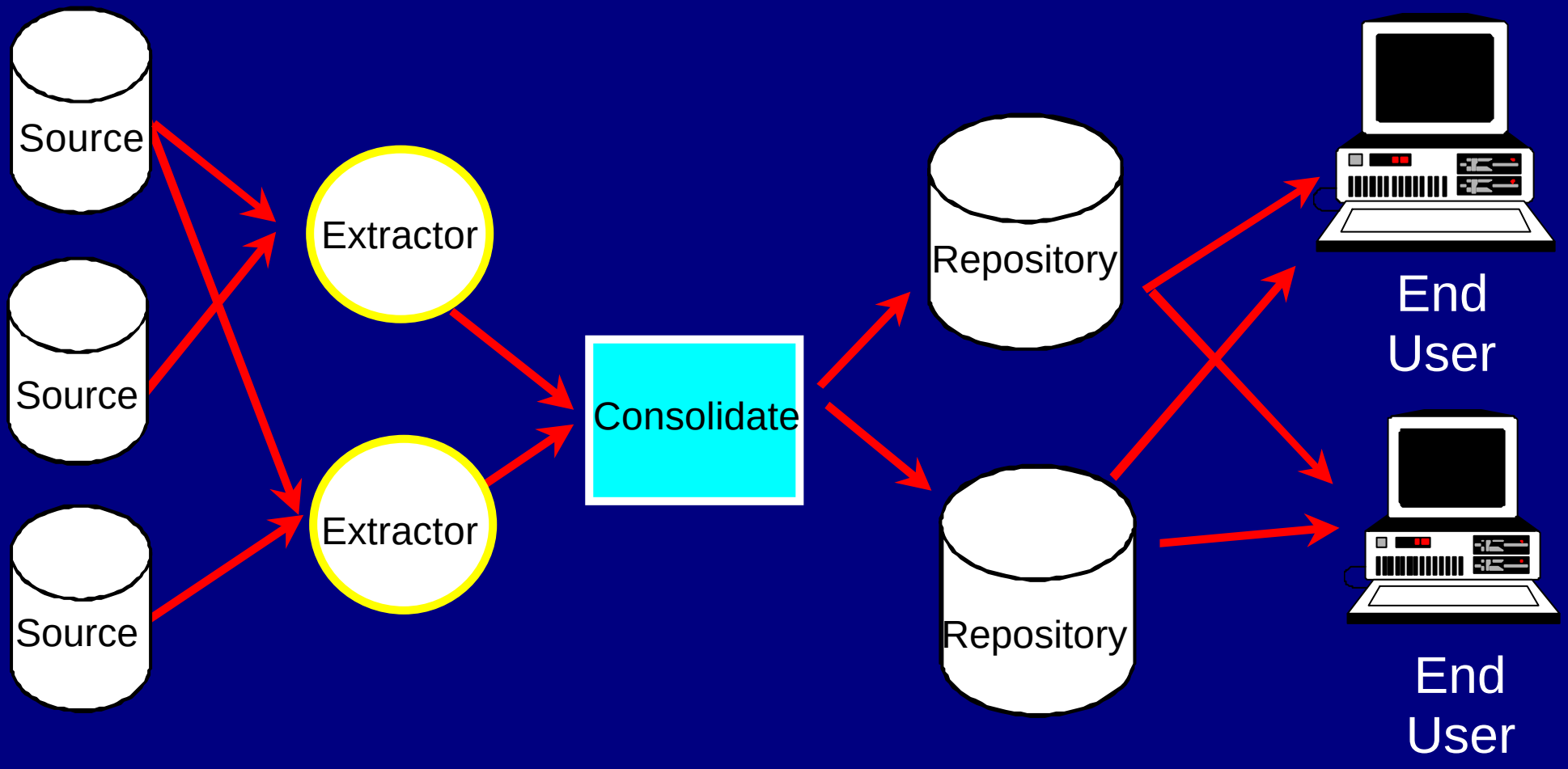
THE I.T. DEMOLITION SYNDROME

dS²

THE CIVIL ENGINEERING SOLUTION



THE INFORMATION WAREHOUSE
&
CLIENT SERVER TECHNOLOGY



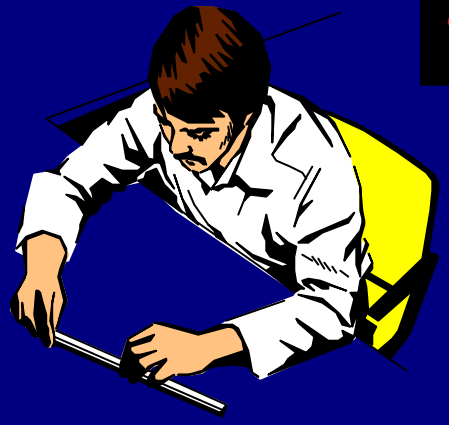
WHERE SOFTWARE ERRORS ORIGINATE

dS²

ANALYSIS

55%

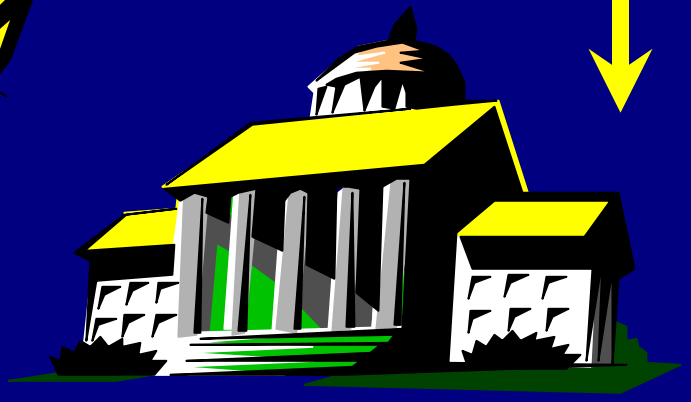
DESIGN



30%

dS²

CONSTRUCTION



15%

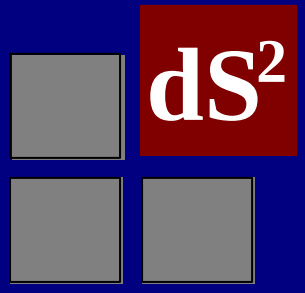
NEED TO REDUCE ERRORS IN ALL OF THESE AREAS

HOW TO USE I.T.
TO DELIVER INFORMATION EFFECTIVELY

RECOGNIZE DIFFERENT CHARACTERISTICS OF DIFFERENT TYPES OF SYSTEMS :

- Operational
- Tactical
- Strategic

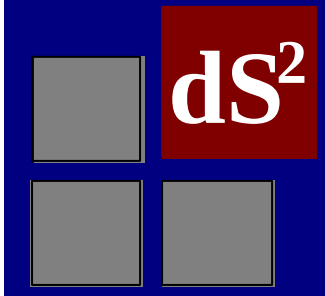
ENGINEER I.T.



OPERATIONAL SYSTEMS:

- Analogous to production lines
- Processing
- Established processes
- Industrial engineering

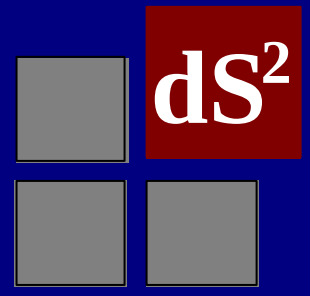
ENGINEER I.T.



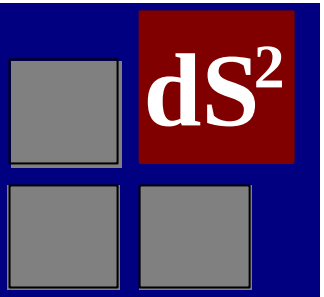
TACTICAL / AUTOMATION SYSTEMS:

- Infrastructure
- Large number of similar components
- Includes Office Automation
- Provide utility services to large number of users
- Municipal Engineering

ENGINEER I.T.



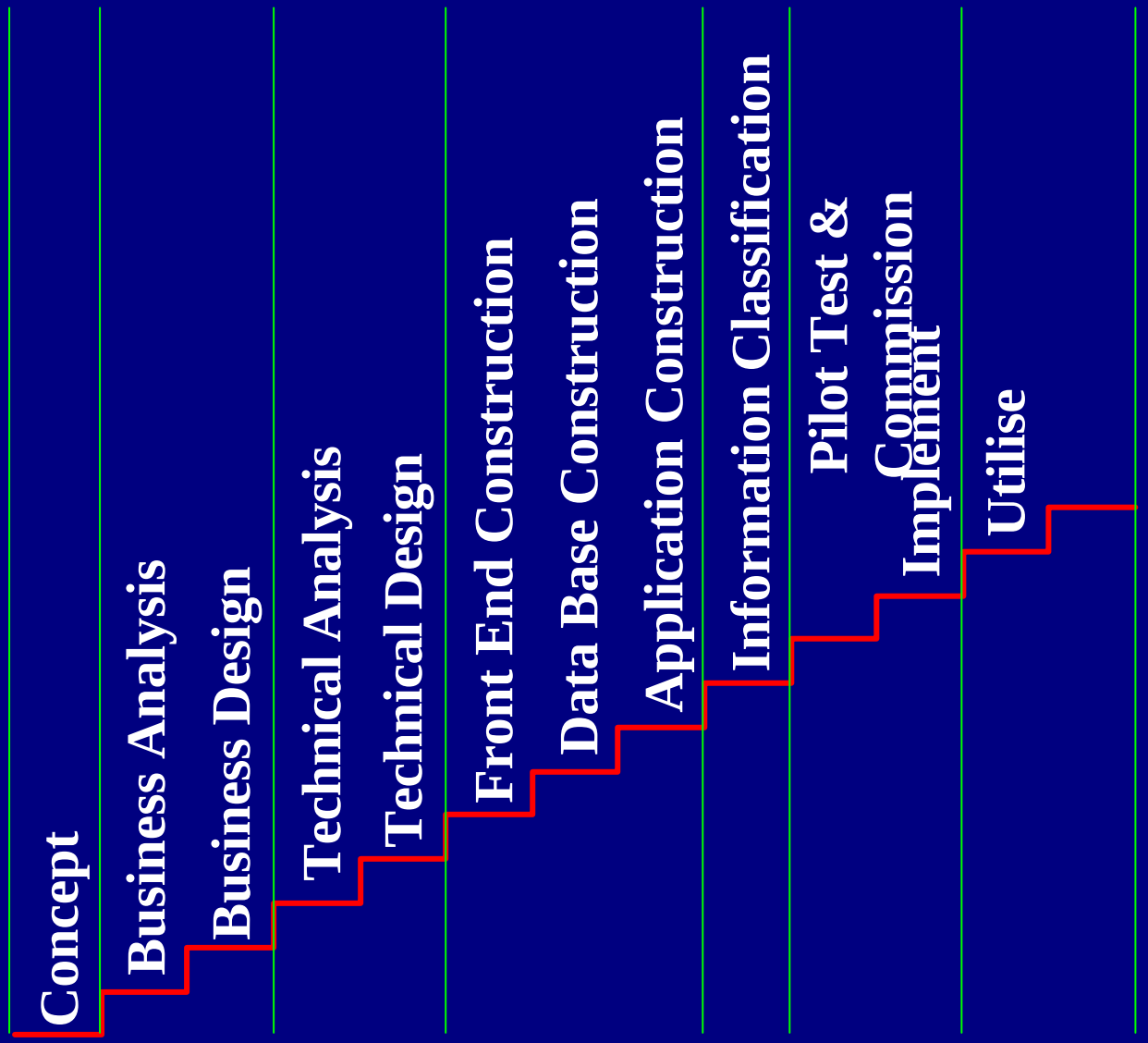
STRATEGIC SYSTEMS:



- Decision support
- "High Rise"
- Value adding business decisions
- Ride on operational and tactical systems
- Prestige Architectural - Structural Engineering

ENGINEER I.T.

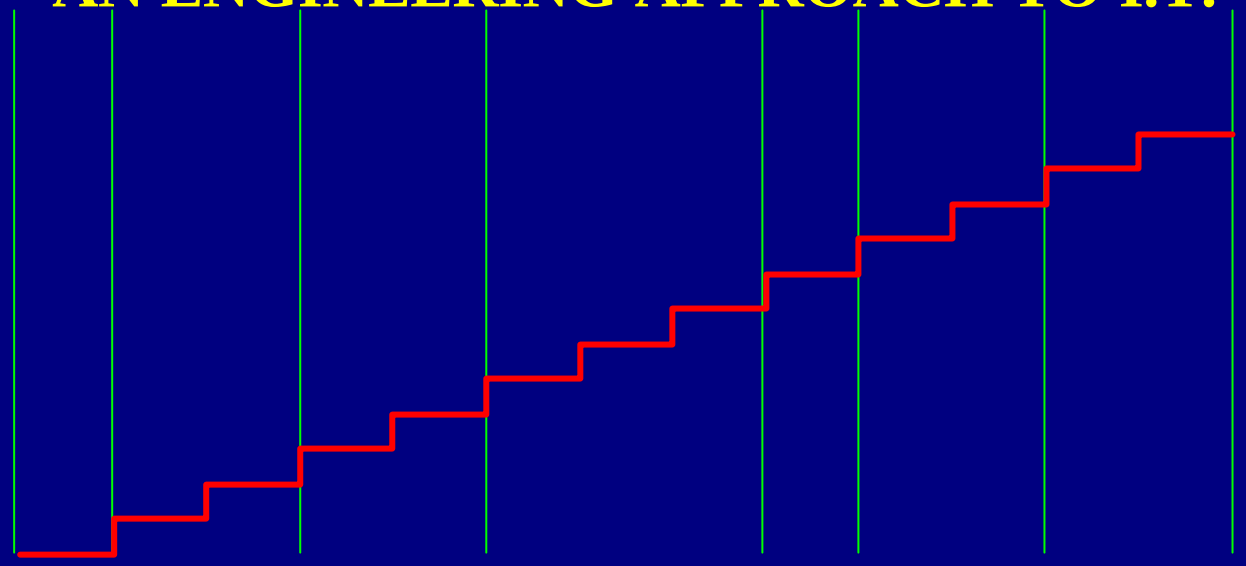
AN ENGINEERING APPROACH TO SYSTEM DESIGN AND IMPLEMENTATION

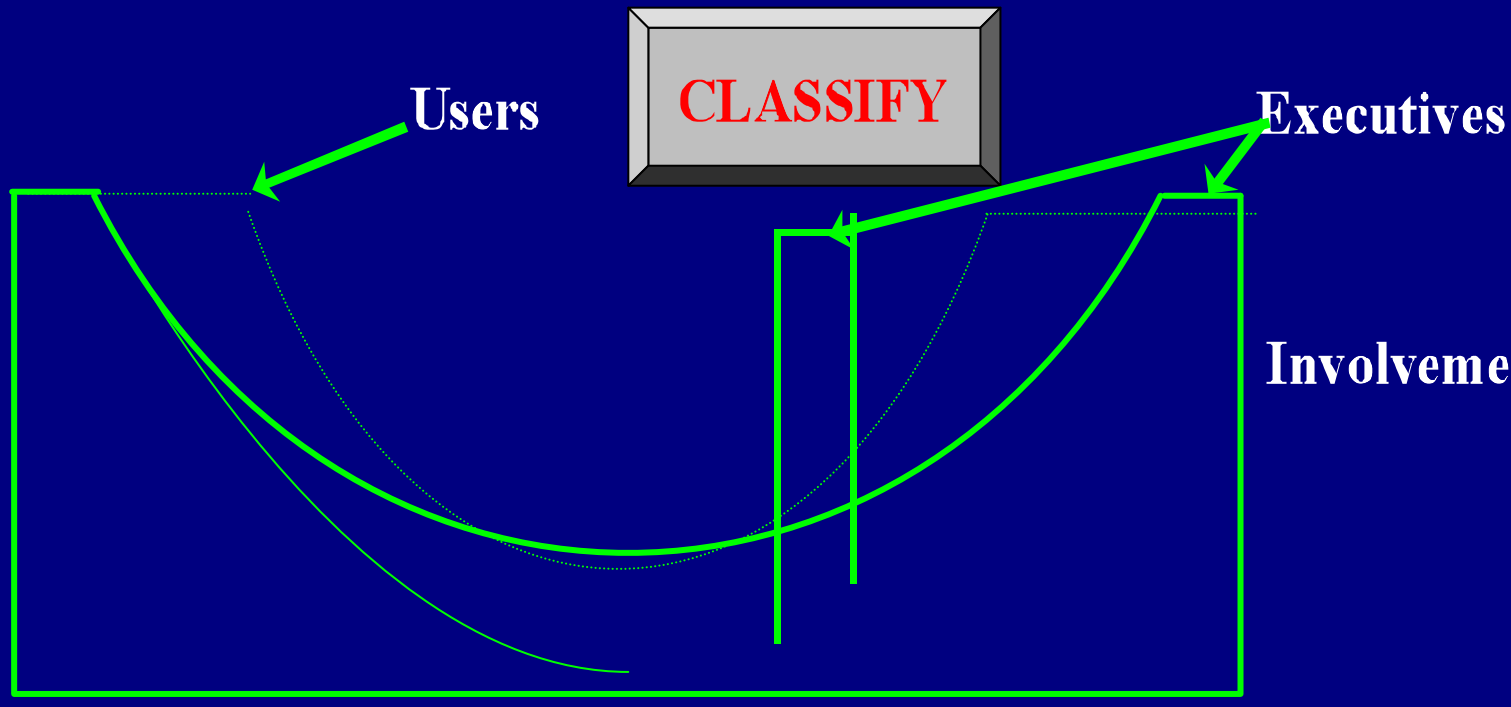


Final
Operational
Information
System
=
Hardware
Application Software
Decision Support Systems
Trained Users
Viable Data
Value Added Decision Making

AN ENGINEERING APPROACH TO I.T.

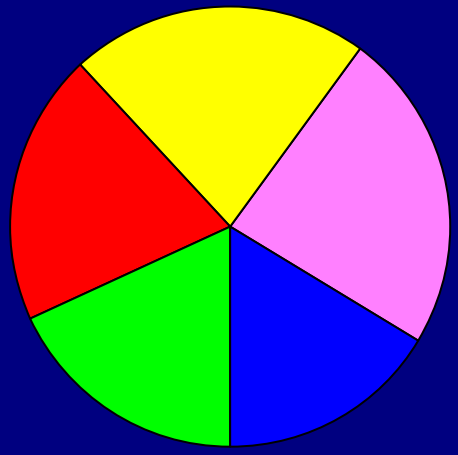
dS²

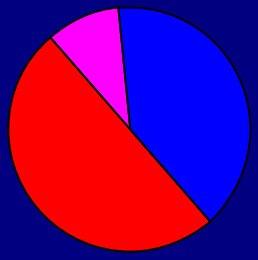


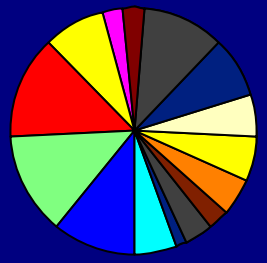


BASIC CONCEPTS

PRESENTATION SKILLS





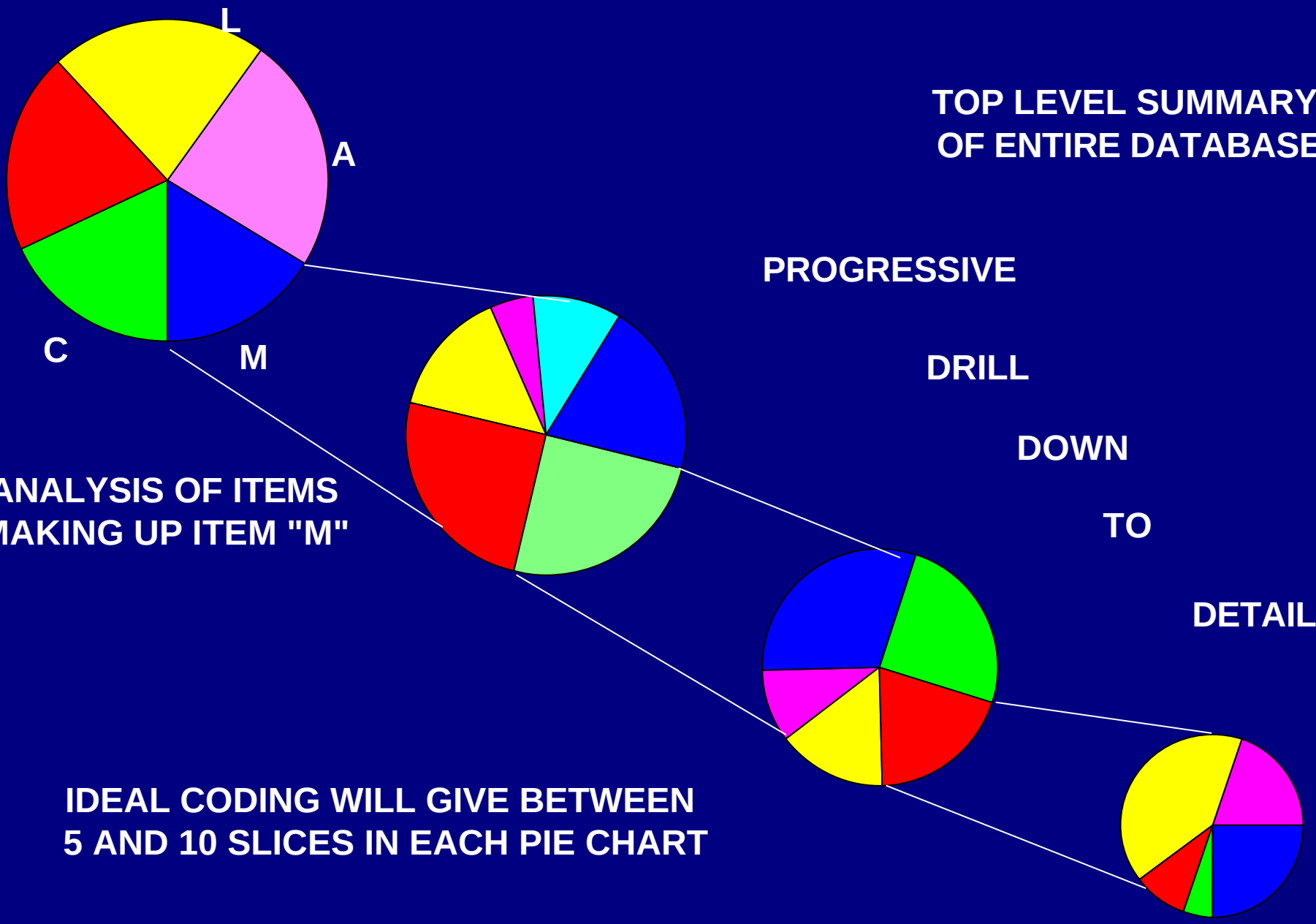


5 TO 10 SLICES OPTIMUM

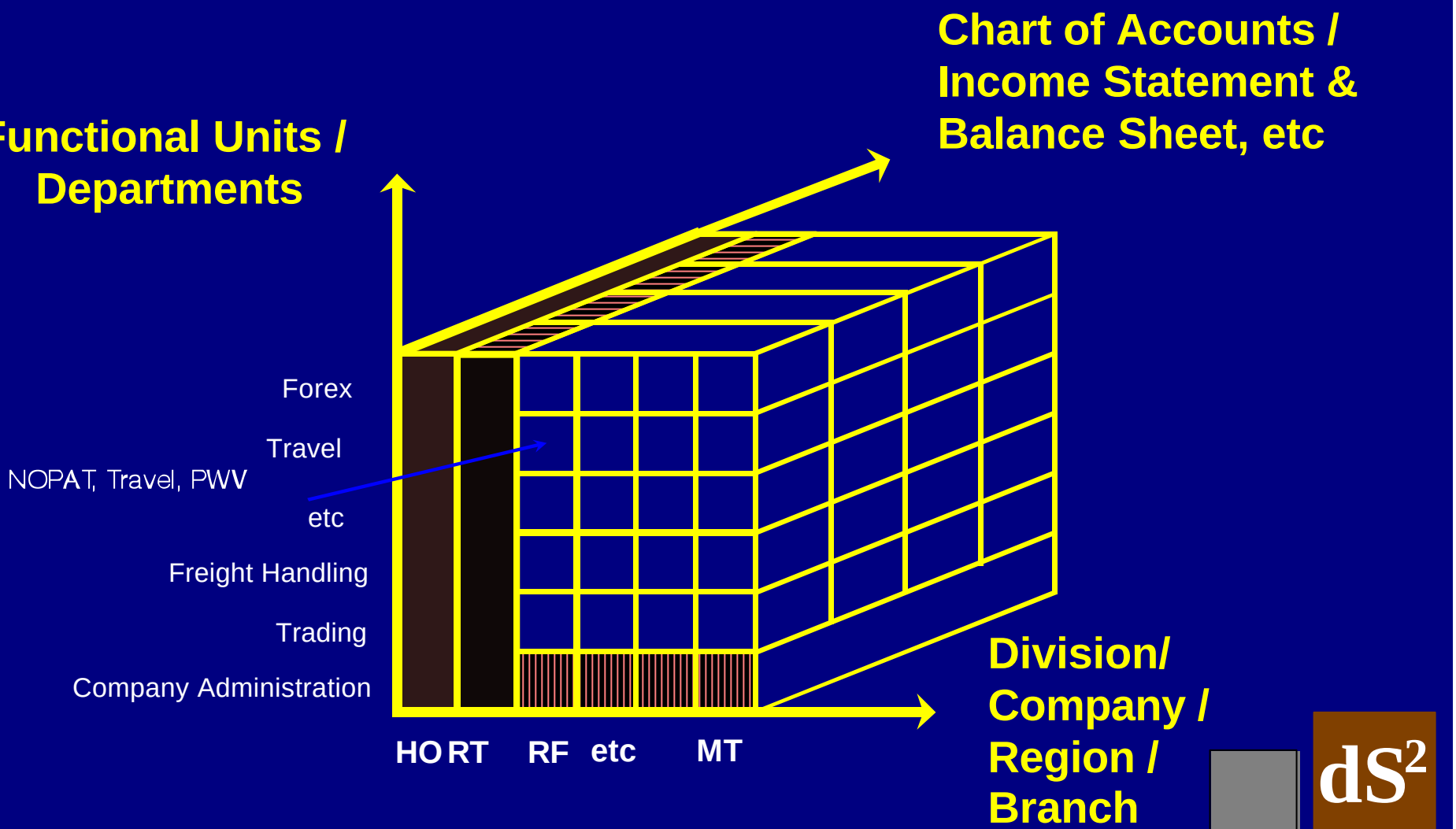
ABSTRACT THINKING / MANAGEMENT

The average person can manage
7 plus or minus 2
distinct areas or concepts

HIERARCHICAL DATA ENQUIRY CONCEPT

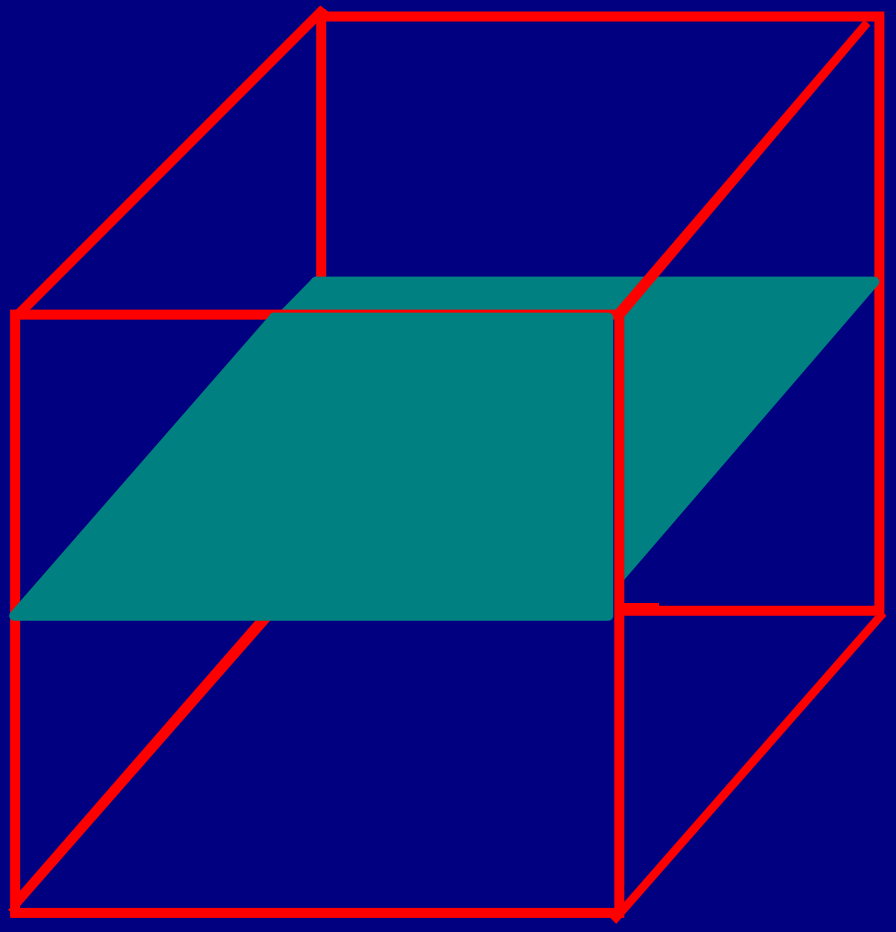


MULTI-DIMENSIONAL, MULTI LAYERED "CUBIC" BUSINESS MODEL



(c) James A Robertson & Associates 1990, 1993
Differentiated Strategic Solutions 1994

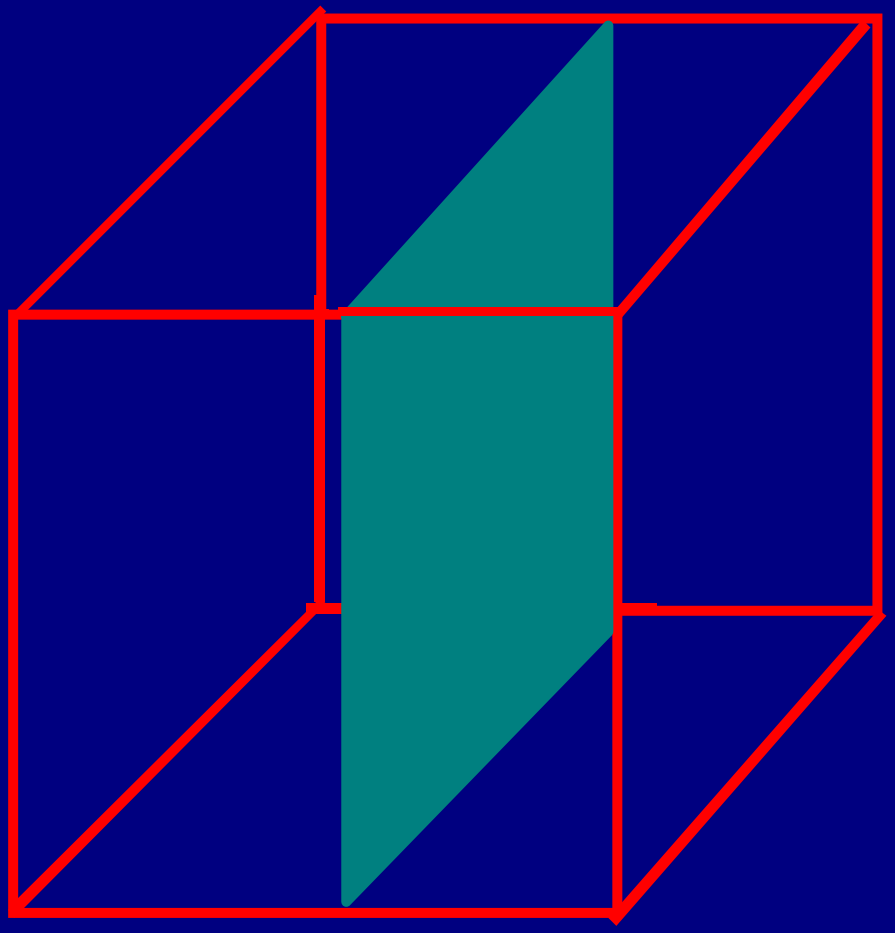
A WELL DESIGNED BUSINESS MODEL MAKES IT POSSIBLE TO SLICE AND DICE THE INFORMATION



Slice and dice in any direction

dS²

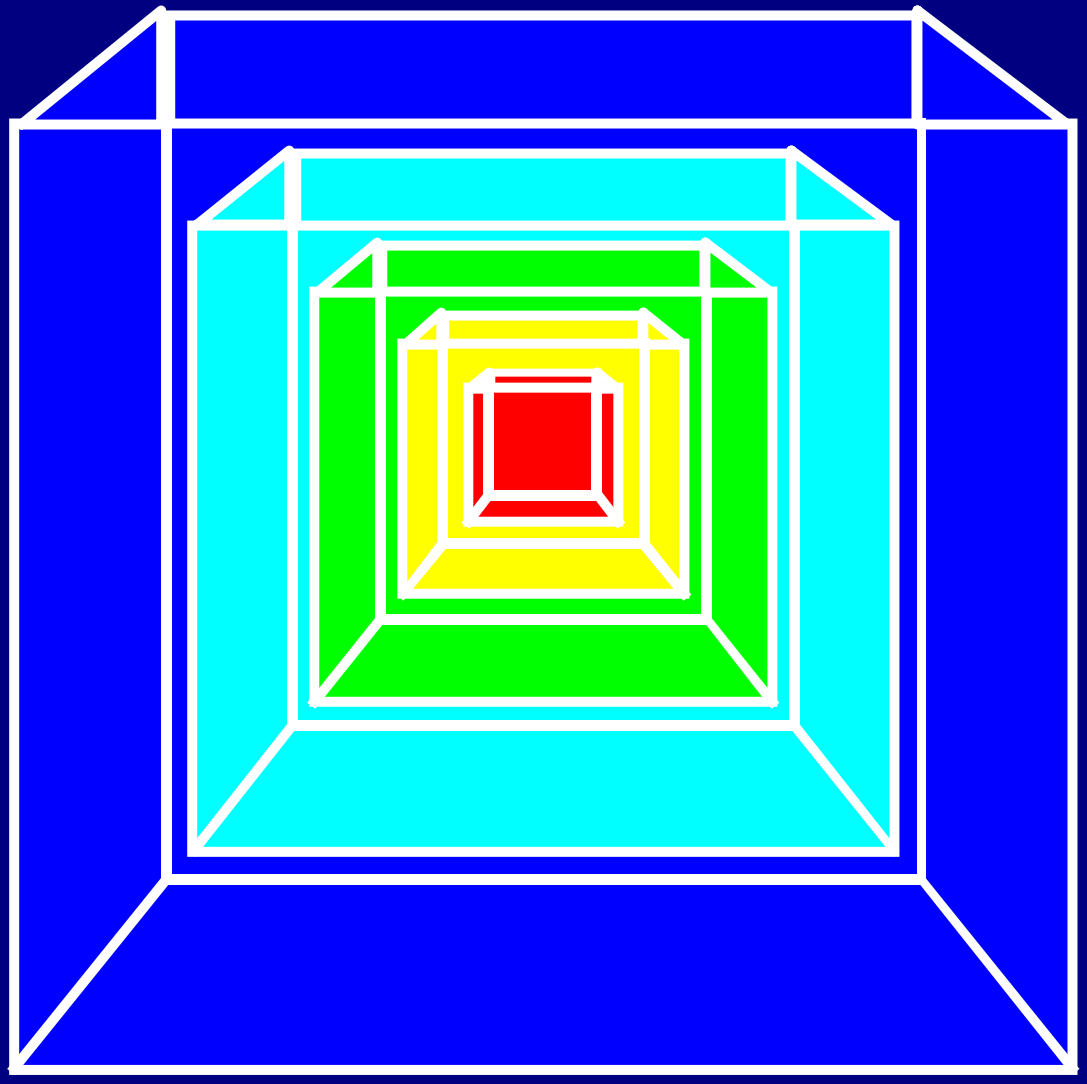
A WELL DESIGNED BUSINESS MODEL MAKES IT POSSIBLE TO SLICE AND DICE THE INFORMATION



Slice and dice in any direction

dS²

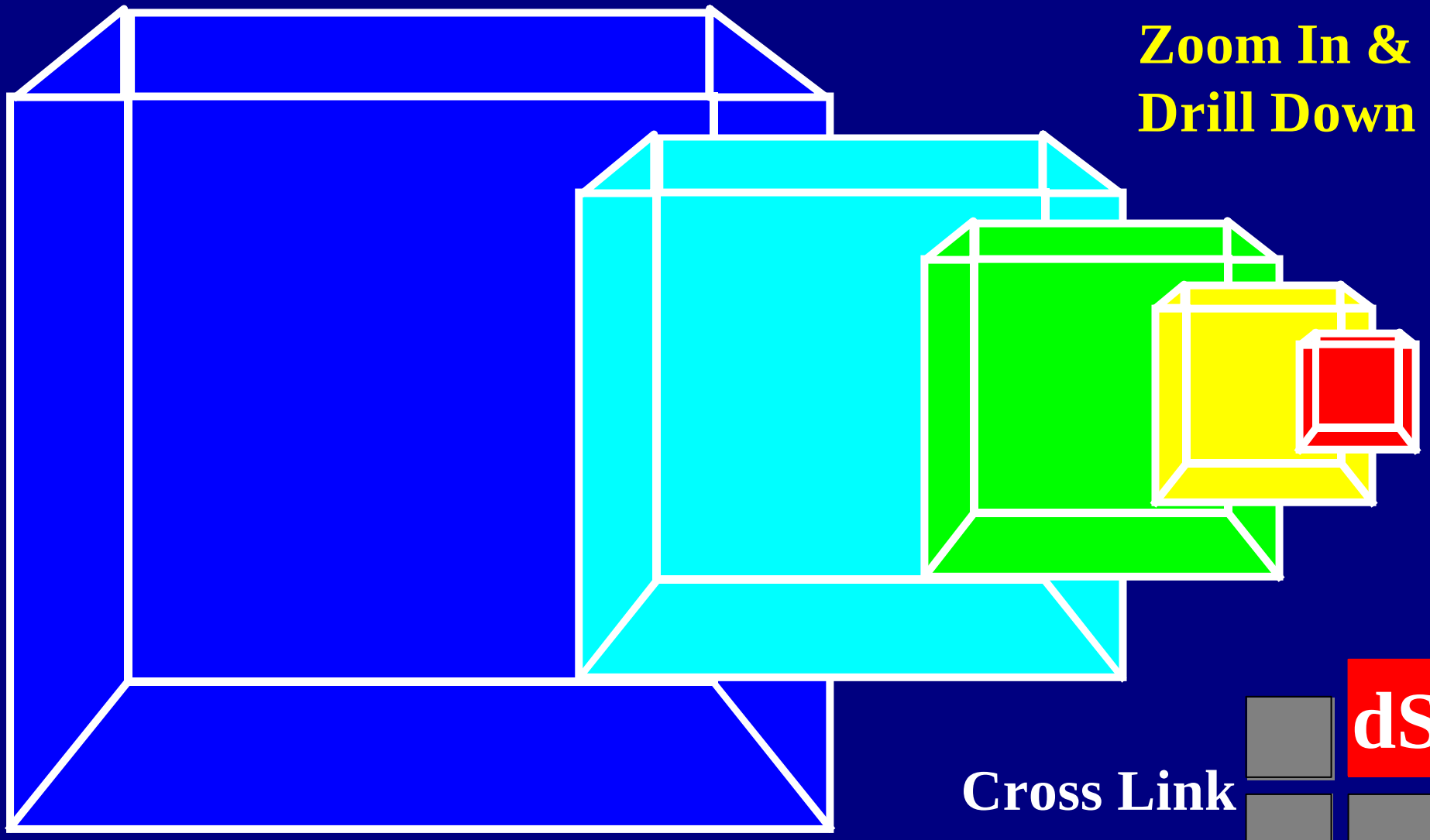
SLICING AND DICING INFORMATION



Zoom In

dS²

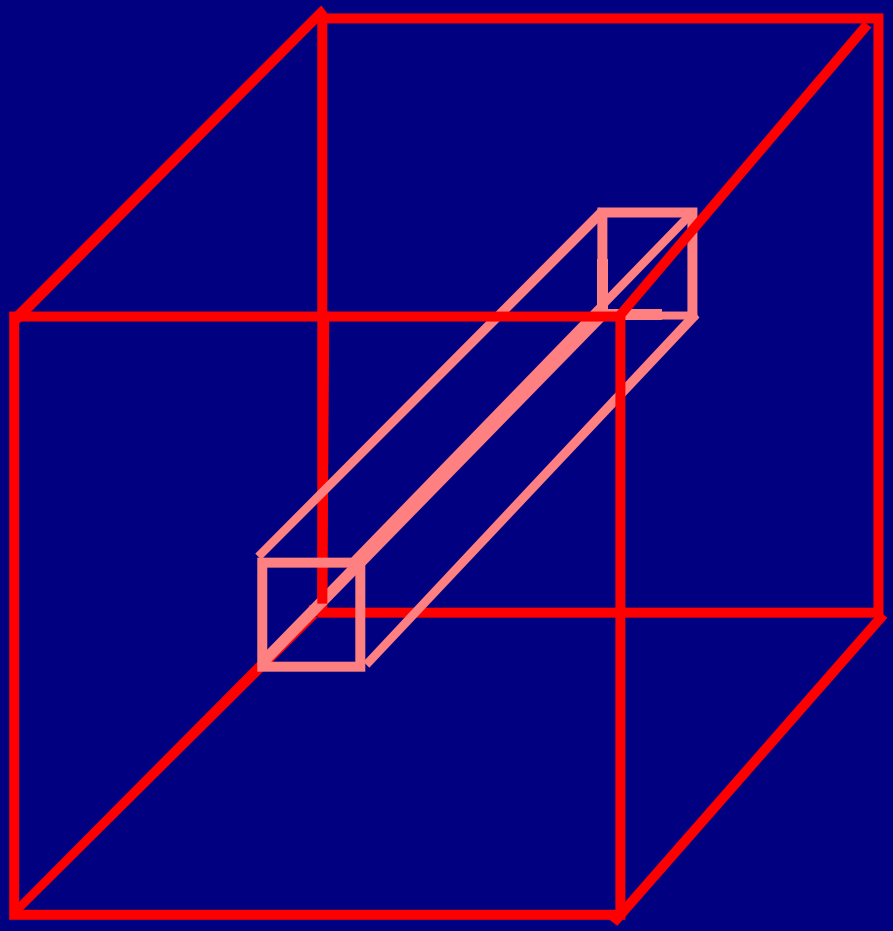
SLICING AND DICING INFORMATION



Zoom In &
Drill Down

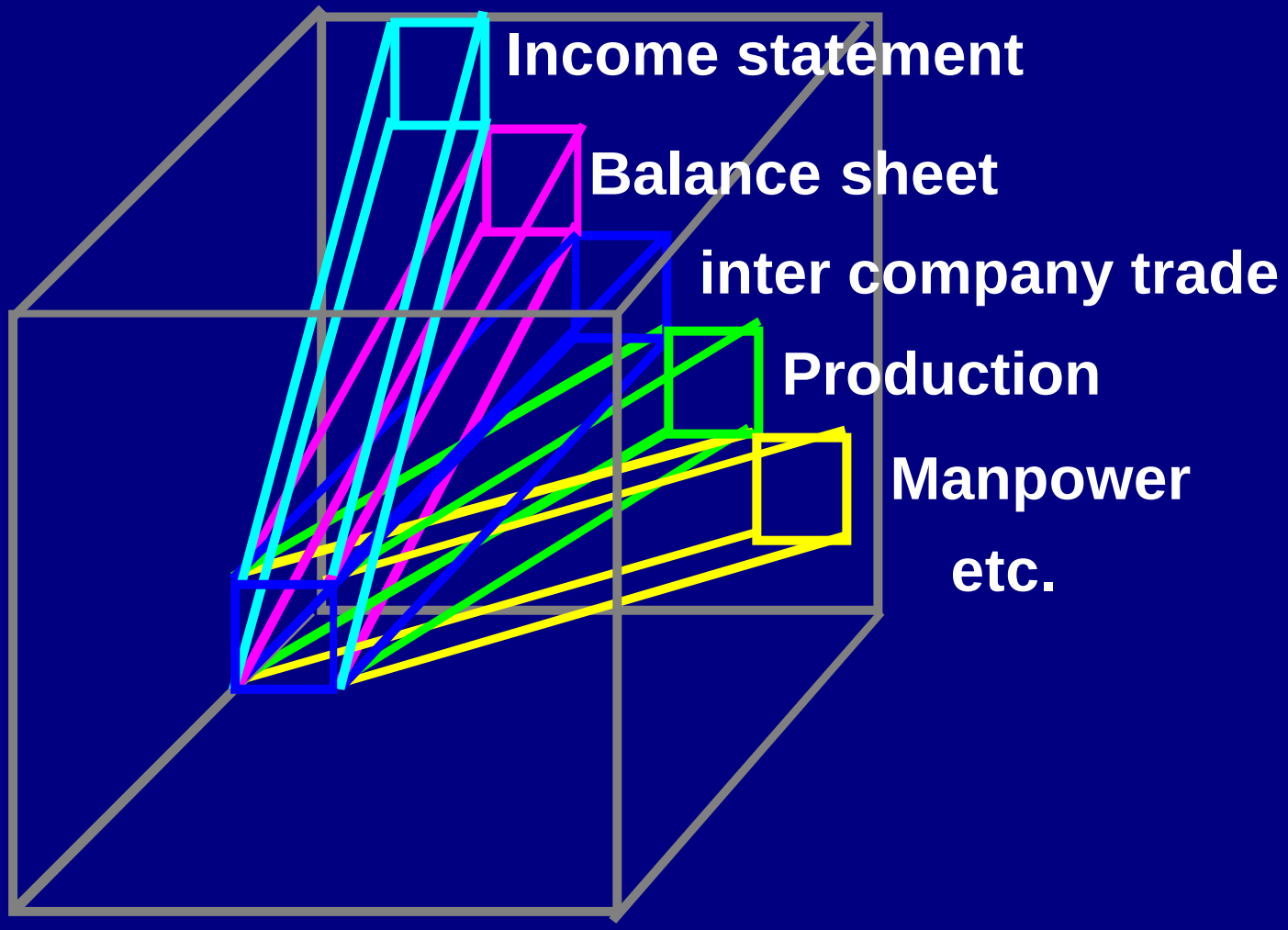
Cross Link

dS²

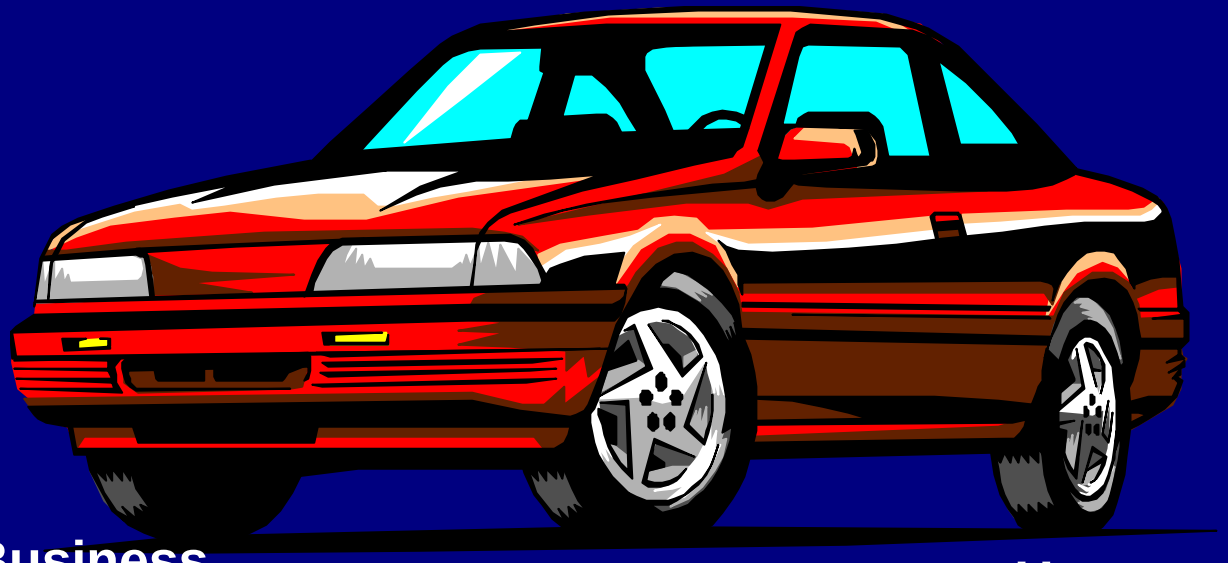


All items that can be uniquely attributed to this cell of the model by function & location

dS²


Income statement
Balance sheet
inter company trade
Production
Manpower
etc.

SYNCHRONISING I.T. STRATEGY

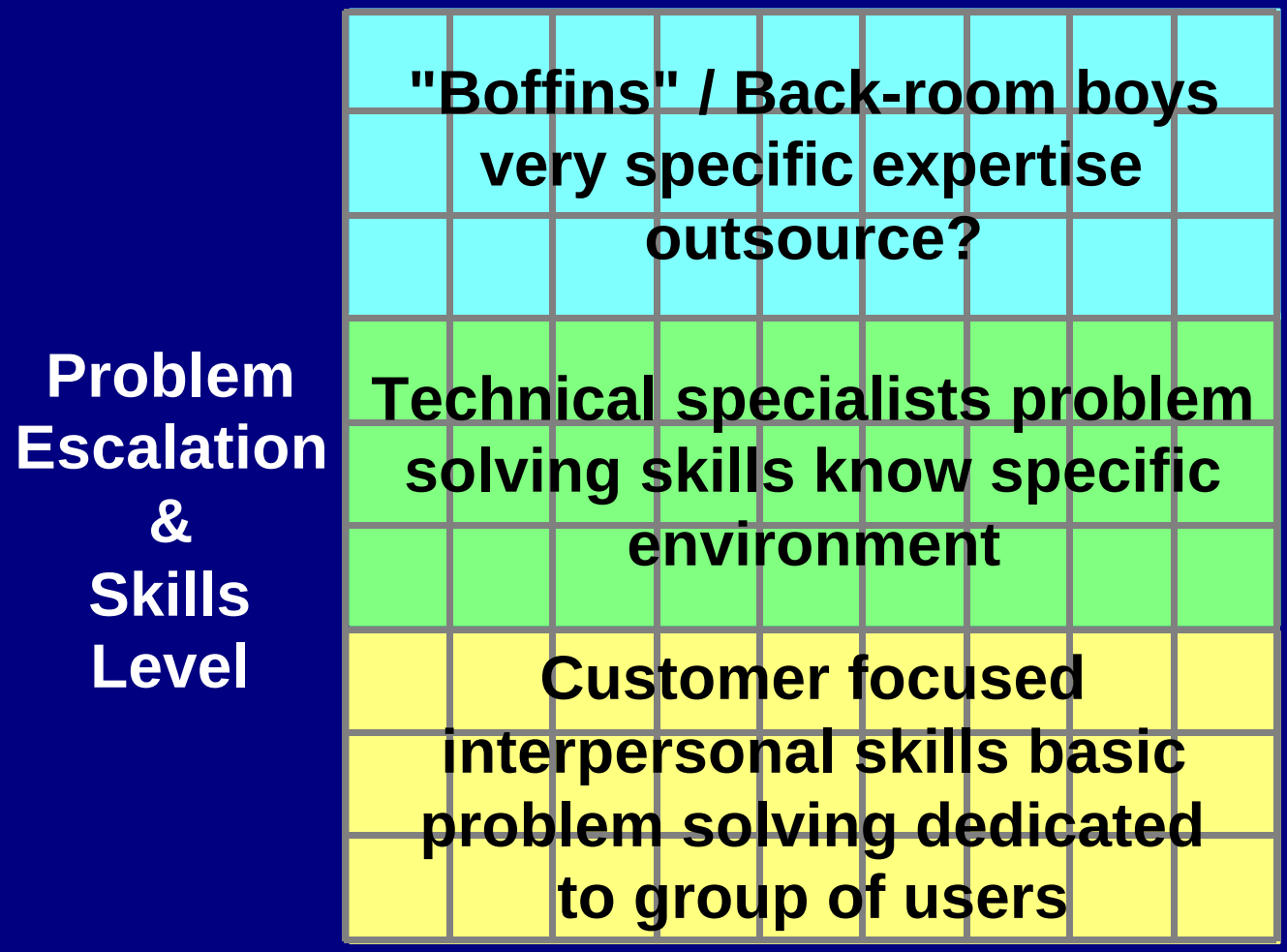


Business Strategy

Technology

Users

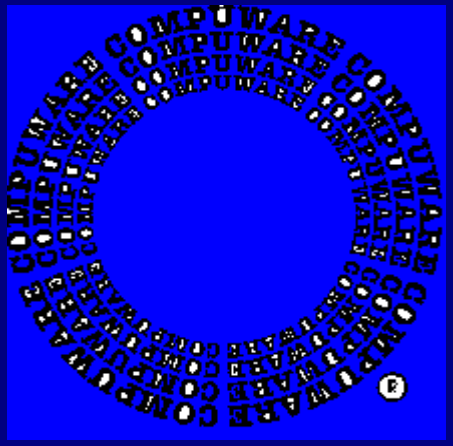
IN-HOUSE I.T. SUPPORT



dS²

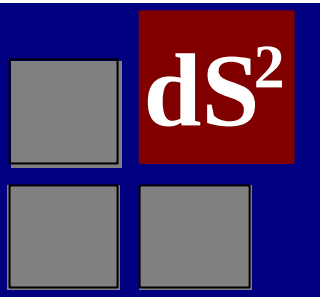
WHY 70% OF CORPORATIONS ARE DISSATISFIED AND HOW TO AVOID DISSATISFACTION

- Introduction
- Why corporations are dissatisfied : Business Issues
- Why corporations are dissatisfied : People Issues
- Why corporations are dissatisfied : I.T. Issues
- **How to respond to the challenge**
- **Conclusion**



COMPUWARE EXECUTIVE FORUM, MUNICH, OCTOBER 1995

CONSTRUCTION INDUSTRY MODEL



- Concept / Architecture
- Balance
- Strategic emphasis

- Technical Design : Align Strategy and Operations

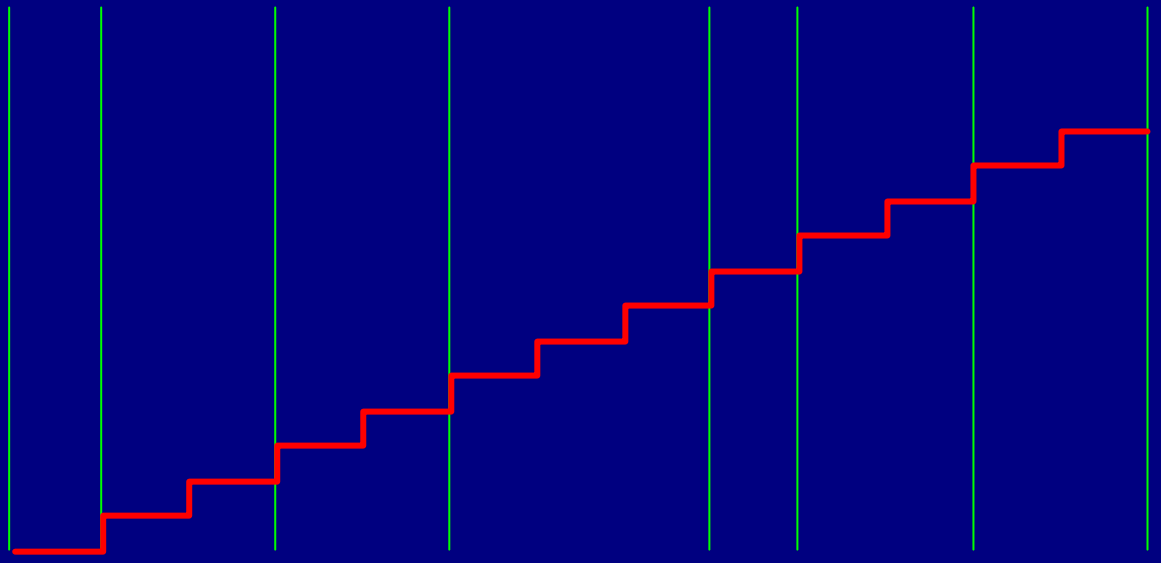
- Construct / Commission / Operate
- Balance
- Operational / Tactical Emphasis

MUST CREATE AND SUSTAIN
COMPETITIVE ADVANTAGE

dS²

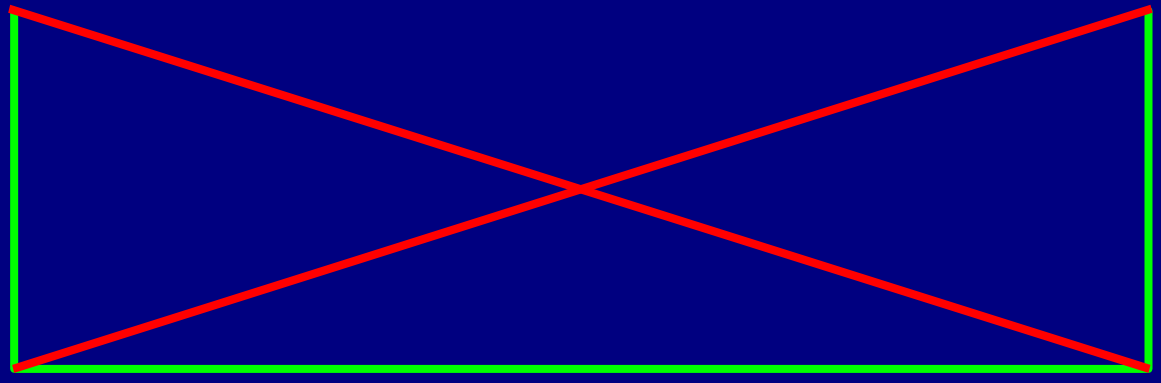
AN ENGINEERING APPROACH TO I.T.

dS²



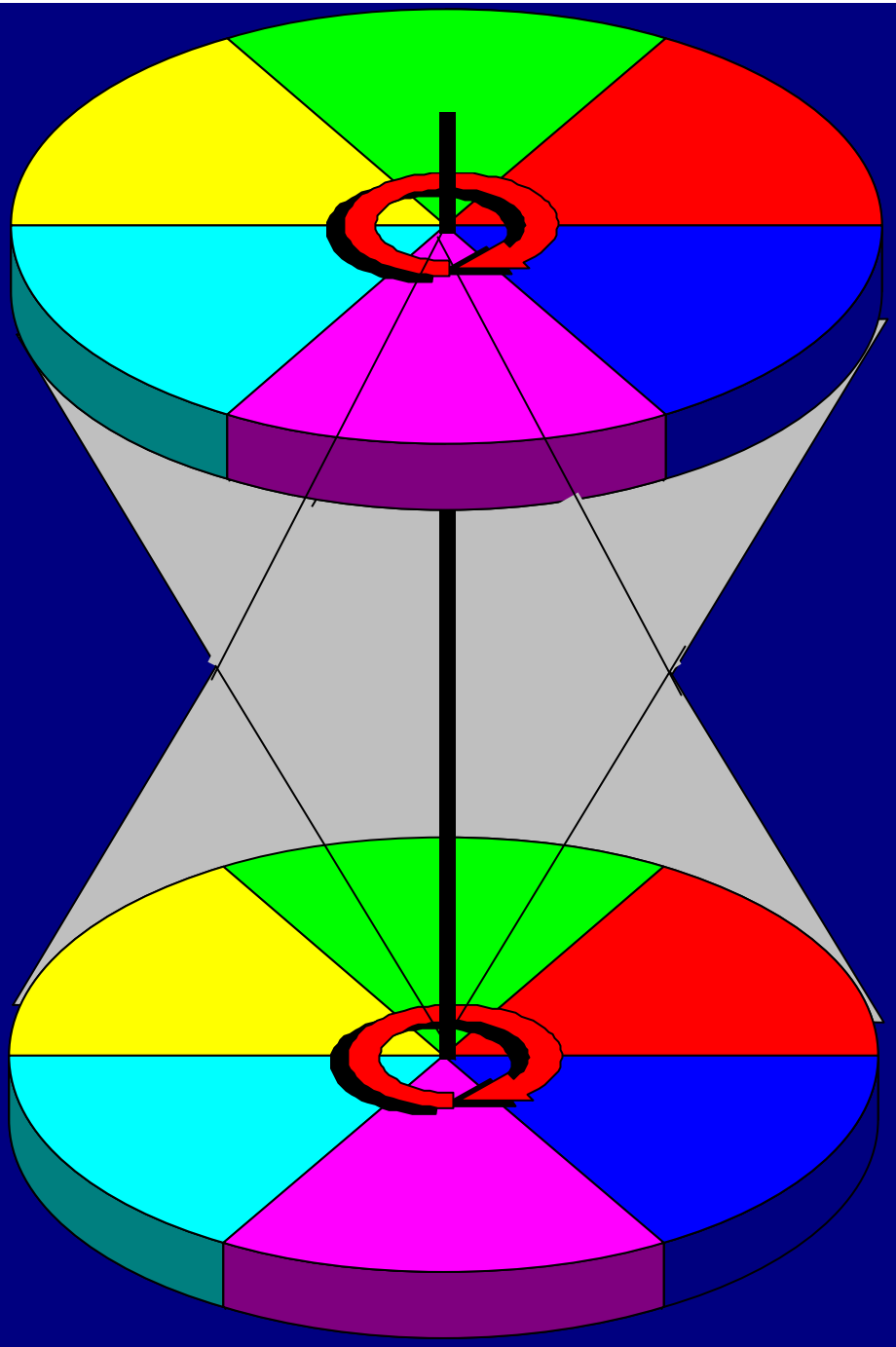
STRATEGY **TACTICAL**

Doing the Right Things



Doing Things Right

TwoCone(c) Model



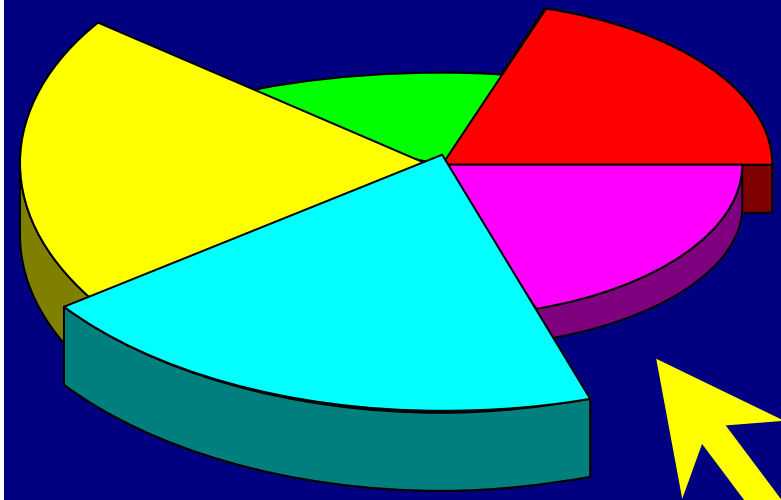
TopCone (c)

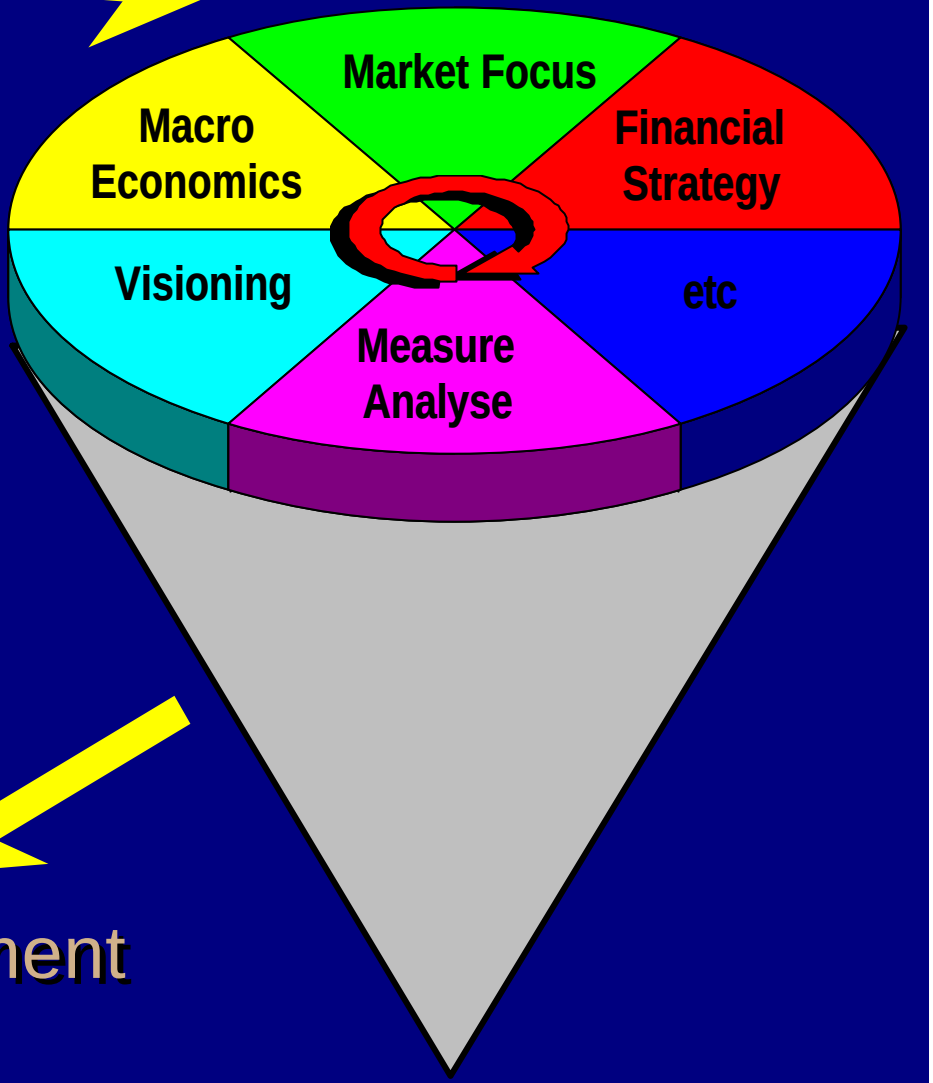
DETERMINE & BALANCE STRATEGY

Strategic Planning

Balance Strategy

Determine current position

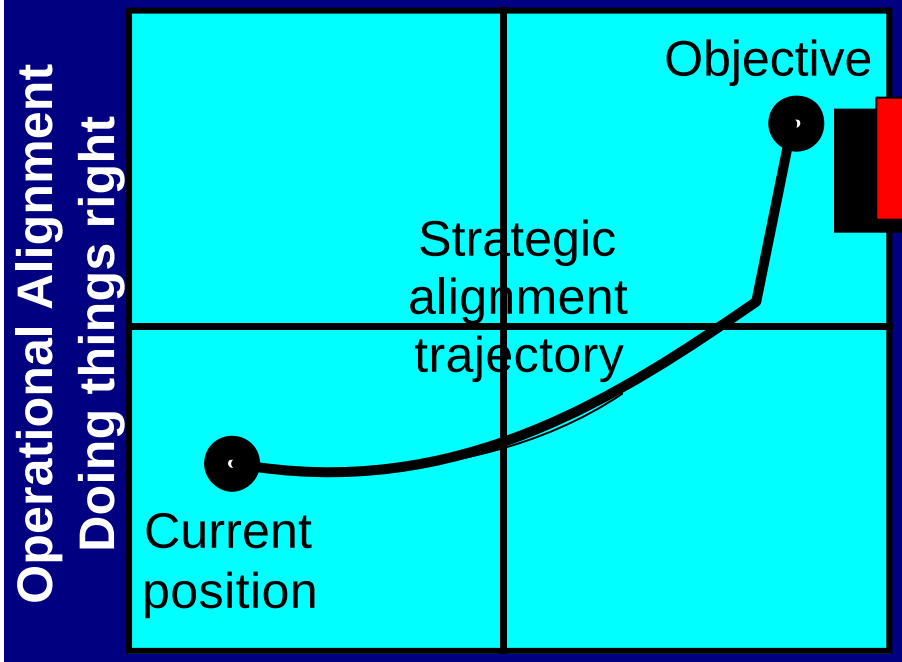


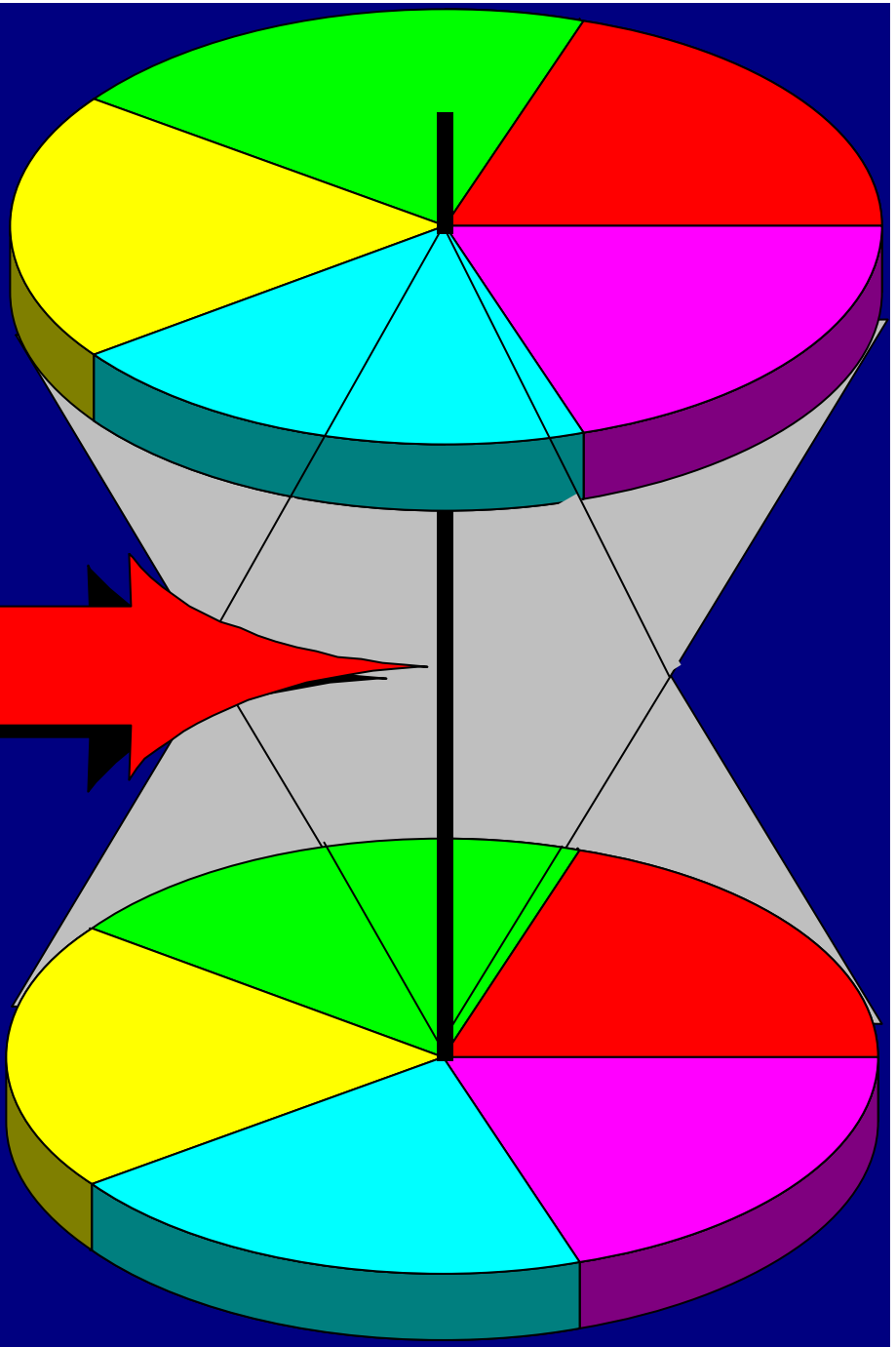


Plan & Implement

ALIGN OPERATIONS WITH STRATEGY

TwoCone(c)





BottomCone(c)

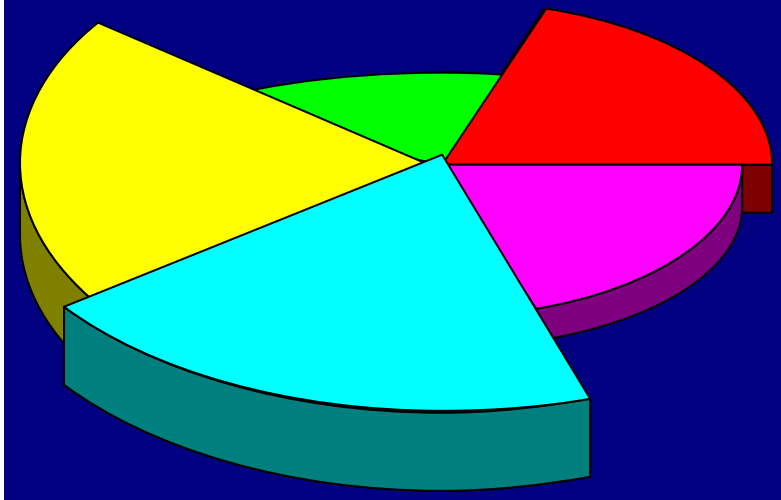
BALANCE OPERATIONS

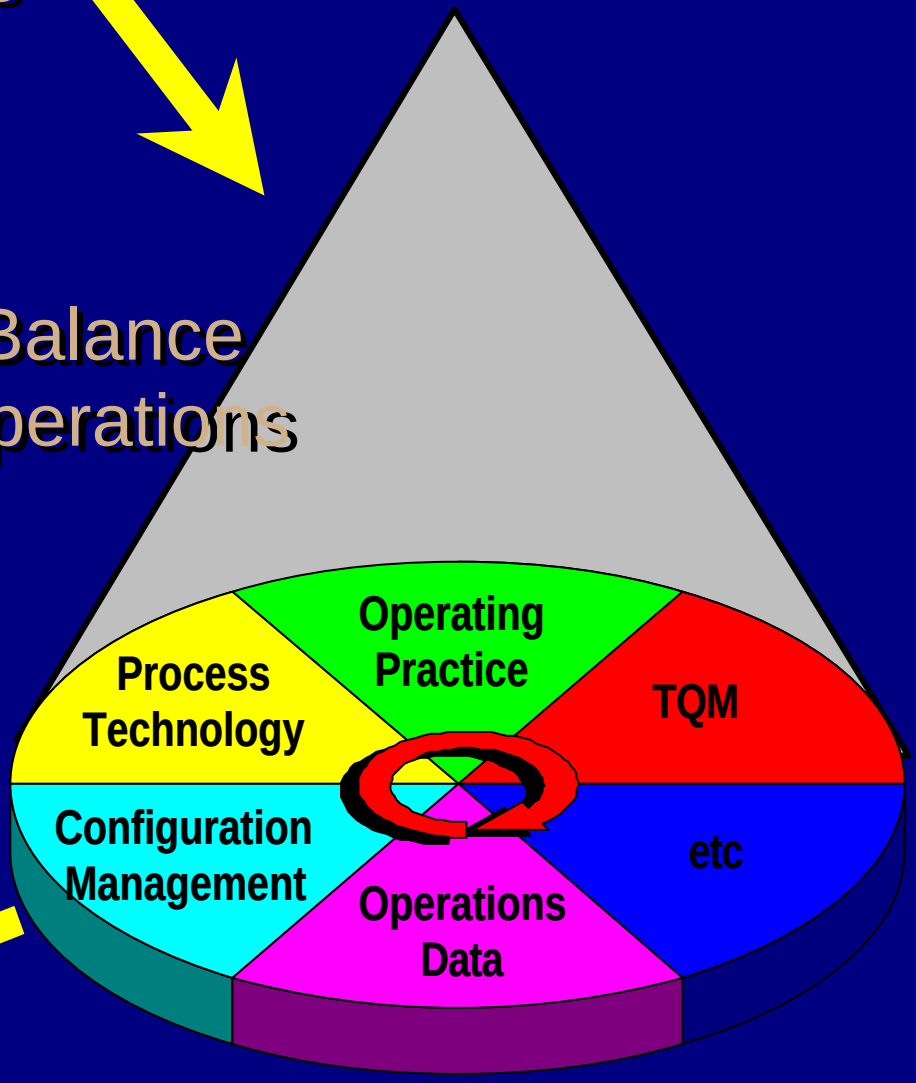
Operations Analysis

Determine current position

Balance Operations

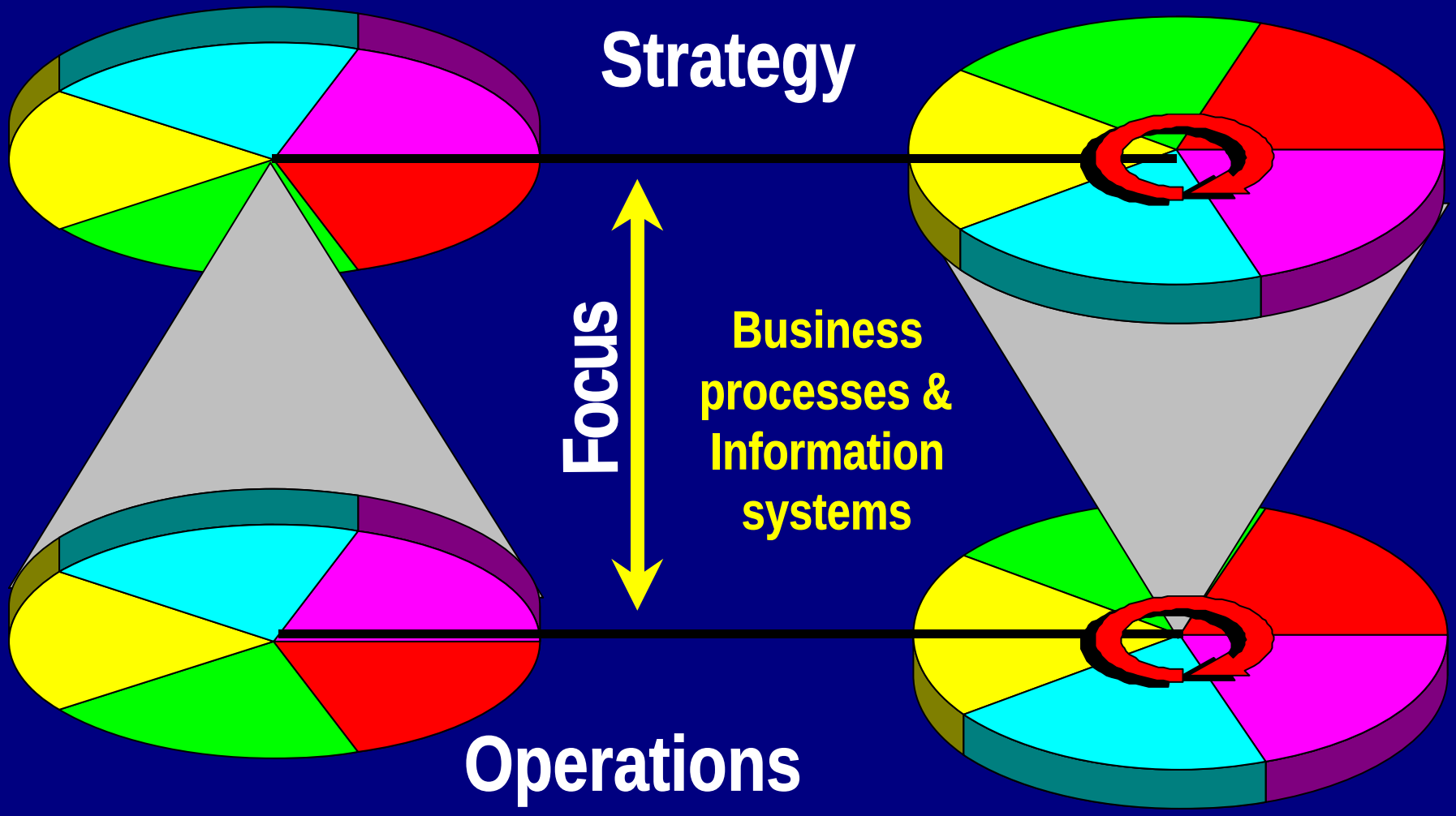
Plan & Implement





TwoCone(c)

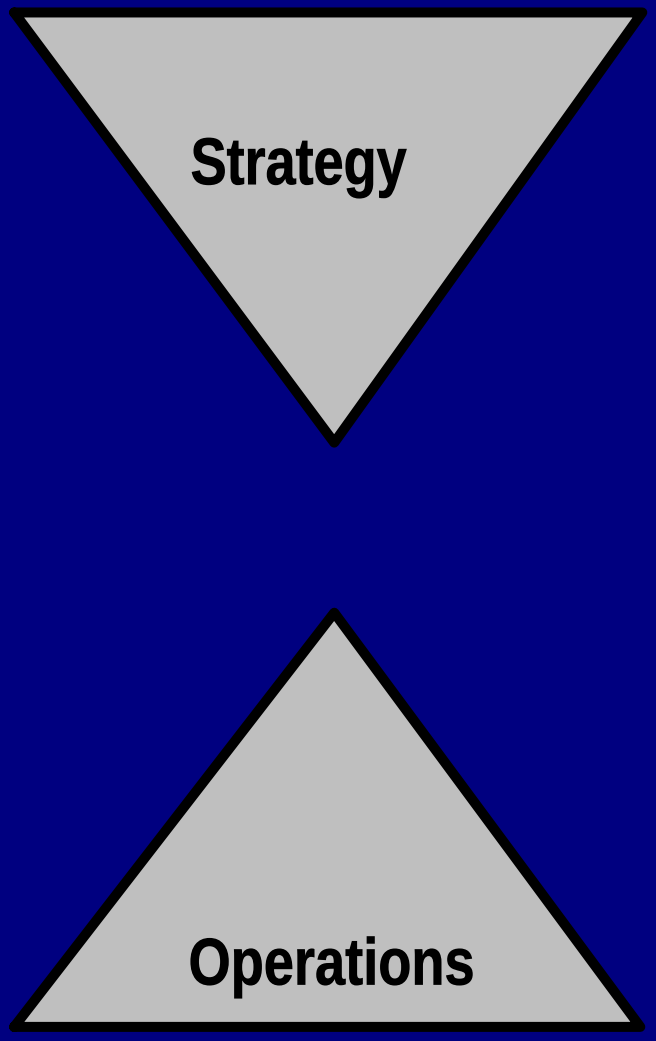
SYNCHRONIZE AND FOCUS OPERATIONS & STRATEGY

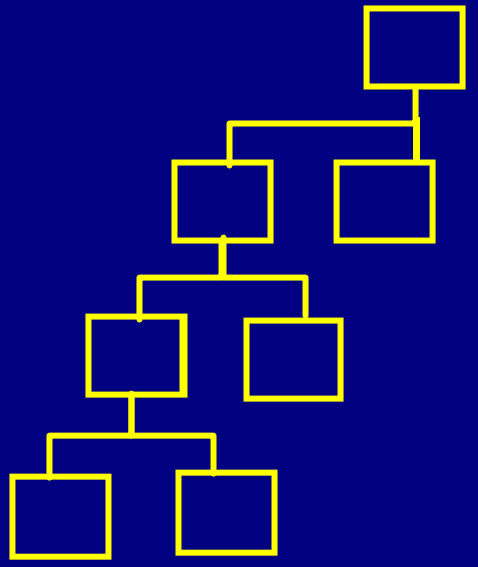


TwoCone(c)

UNFOCUSED ORGANIZATION

Focus



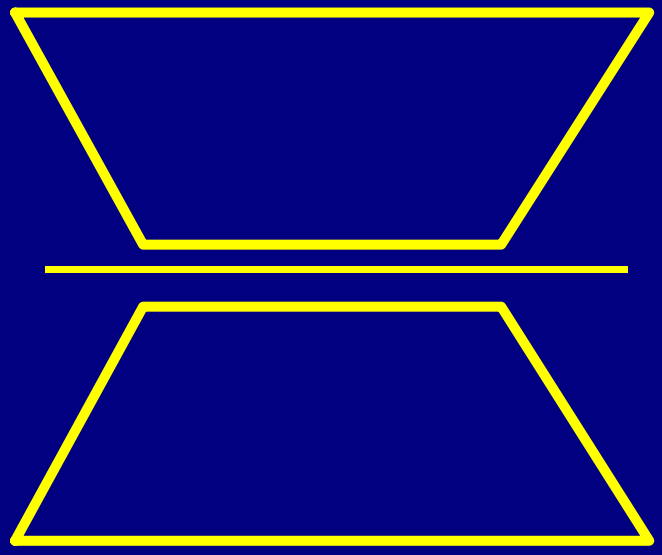


Excessively layered organizational structure

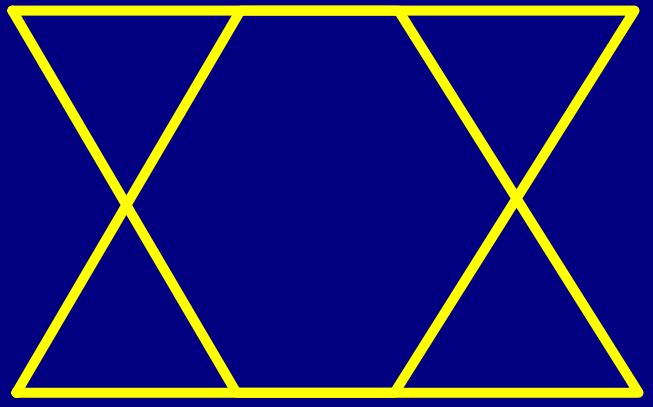
- **Poor communications**
- **Low effectiveness**
- **Low efficiency**
- **Operations lag strategic Objective**

BUSINESS PROCESS & I.T. RELATIONSHIP WITH FOCUS

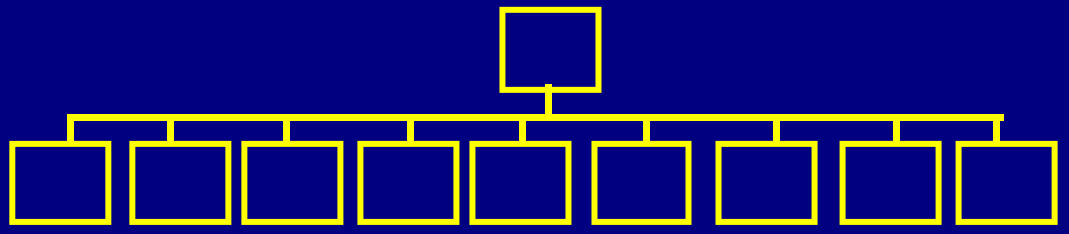
Process Reengineered without IT



Sledge Hammer Reengineering (at any cost, recipe book)



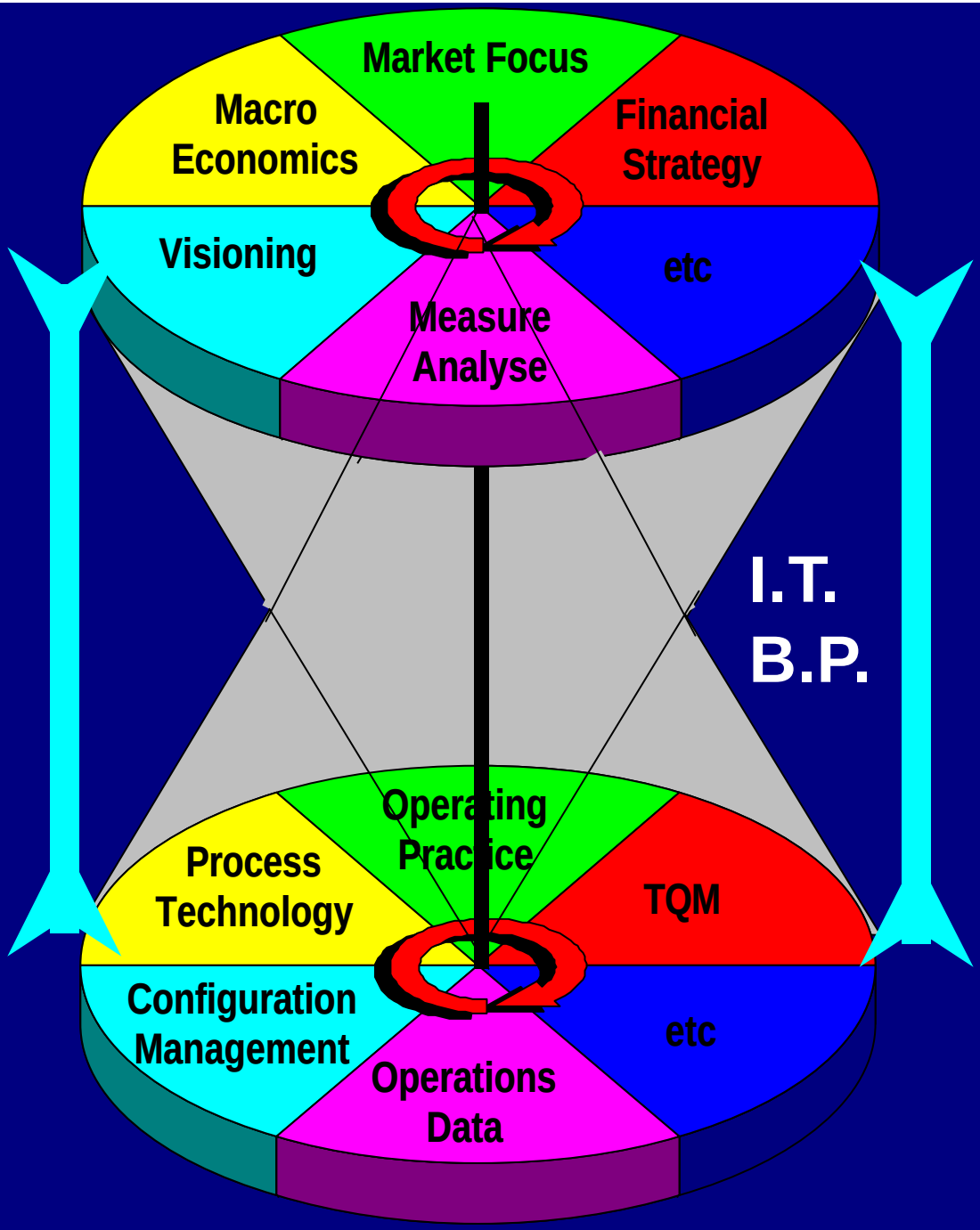
TwoCone(c)



TwoCone(c)

END RESULT

Fully Aligned, Balanced, Synchronized & Focussed Internationally Competitive Organization !



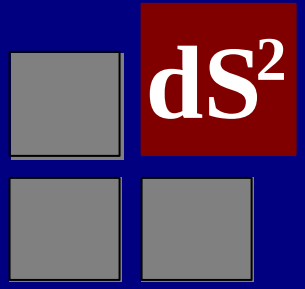
SHAPING THE FUTURE - INFORMATION TECHNOLOGY AND STRATEGIC CHANGE

CONCLUSION

The future requires radical strategic adjustment

Information technology and business process are critical enablers

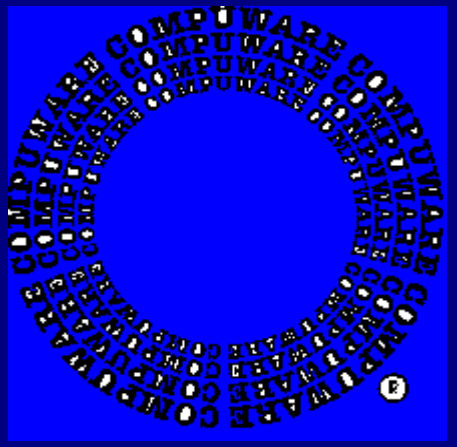
The fundamental issue is people



SHAPING THE FUTURE - INFORMATION TECHNOLOGY AND STRATEGIC CHANGE

CONCLUSION

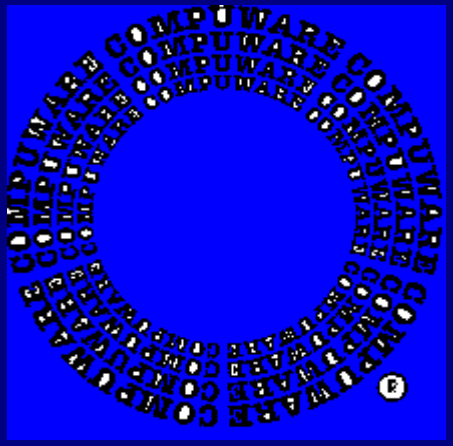
Any form of business improvement must be Holistic Integrated and Iterative



Radically different thinking is required

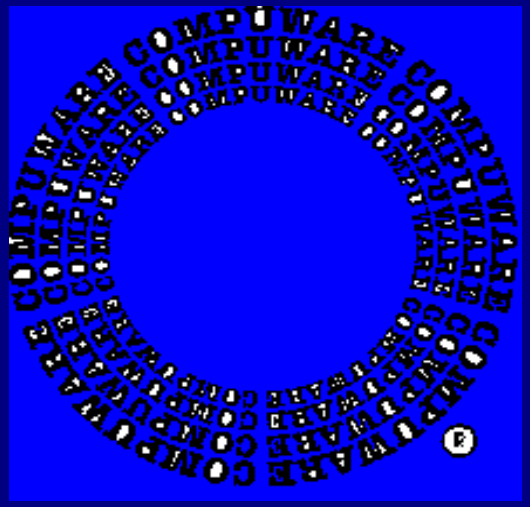
WHY 70% OF CORPORATIONS ARE DISSATISFIED AND HOW TO AVOID DISSATISFACTION

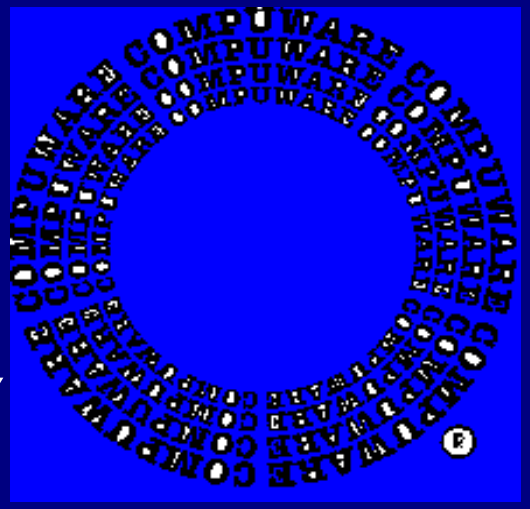
- Introduction
- Why corporations are dissatisfied : Business Issues
- Why corporations are dissatisfied : People Issues
- Why corporations are dissatisfied : I.T. Issues
- How to respond to the challenge
- **Conclusion**



COMPUWARE EXECUTIVE FORUM, MUNICH, OCTOBER 1995

CONCLUSION





THE CHALLENGE
IN LARGE SCALE
SYSTEMS DEVELOPMENT

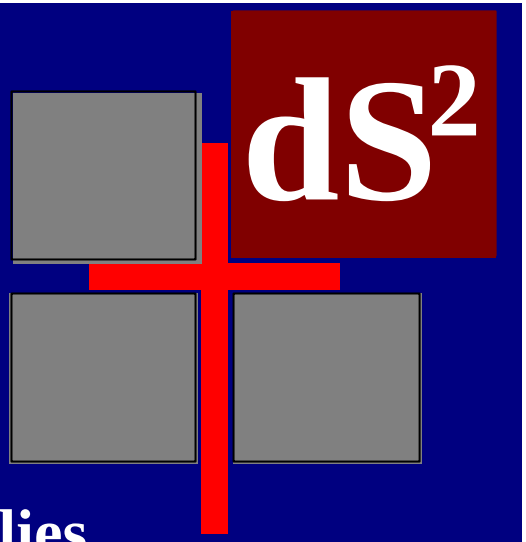
IS TO REMOVE TECHNOLOGY

AS A CONSTRAINT

AND CONCENTRATE ON ADDING VALUE

TECHNOLOGY IS ONLY AN ISSUE
WHEN IT DOES NOT DELIVER

DEDICATION
and
ACKNOWLEDGEMENTS



I wish to acknowledge
the contributions and inputs of
all our clients, associates, staff and families
without whom the work
on which these ideas
are based would not have
been possible

This presentation is dedicated to
The Glory of God
who is the source and reason for our existence
and
Jesus Christ His Son who is the only way to eternal life

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QUESTIONS ?

dS²

dS²

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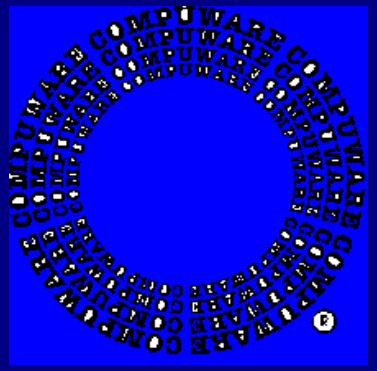


SUMMARY

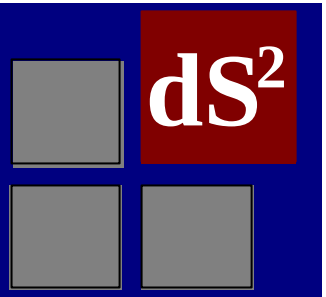
THE FOLLOWING SLIDES WERE NOT PRESENTED BUT ARE INCLUDED FOR REFERENCE TO SUMMARIZE SOME OF THE KEY POINTS OF THE PRESENTATION

SUMMARY :
BUSINESS ISSUES

- Recognize the Executive Perspective
- Obtain the Executive Perspective
- If there is no Executive commitment at an early stage expect problems

I.T. IS AN EXECUTIVE RESPONSIBILITY

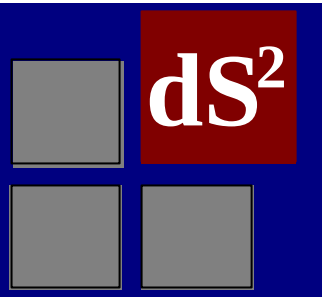
SUMMARY :
BUSINESS ISSUES



- Focus on strategic advantage (doing the right things)
- Avoid formulating I.T. strategy suggested by people who are talking tactically
- Appoint long term thinking, future focussed I.T. Professionals and suppliers
- Using technology to create and sustain competitive advantage implies some discomfort

I.T. INVESTMENT SHOULD BE STRATEGICALLY FOCUSSED

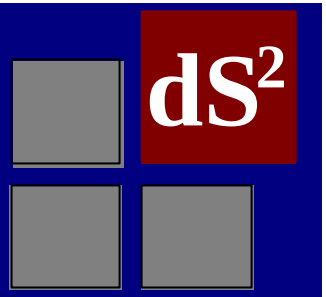
SUMMARY :
PEOPLE ISSUES



- Beware of people who expect to get a good solution that is both fast and cheap
- Recognize that computer products and solutions are abstract
- Use physical metaphors (examples) to help management & users to visualize what they are getting and better appreciate the value

PEOPLE ARE THE MAJOR REASON THERE ARE PROBLEMS WITH I.T.

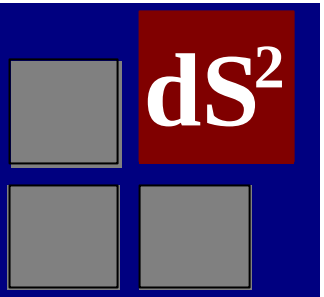
SUMMARY :
PEOPLE ISSUES



- People take decisions, not computers
- Avoid talking about I.T. projects as if it they take decisions
- I.T. Management who talk about technology and projects as though they will make decisions may not understand the decision that they are required to make

PEOPLE ARE THE MAJOR REASON THERE ARE PROBLEMS WITH I.T.

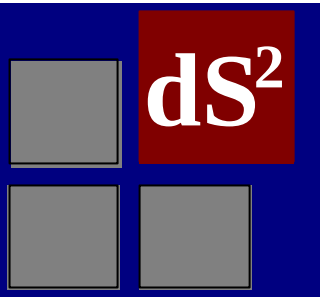
SUMMARY :
PEOPLE ISSUES



- Innovative integrated solutions give rise to BPR
- Do not appoint someone whose job will be lost if the solution works to a key position of a project team
- Executives must understand the paradigm chasm and the need for managing change. If they do not they will be part of the problem and not part of the solution

PEOPLE ARE THE MAJOR REASON THERE ARE PROBLEMS WITH I.T.

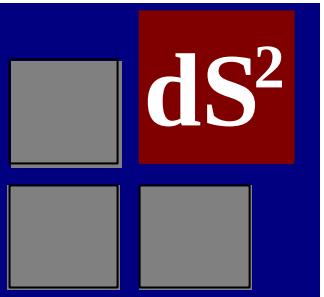
SUMMARY :
I.T. ISSUES



- Where ever possible retain, build on and leverage existing investments
- Avoid demolition solutions unless they are really required.
- Be aware that no matter how good the product, it will fail without good analysis and design

TECHNOLOGY IS ONLY AN ISSUE
IF IT DOES NOT DELIVER

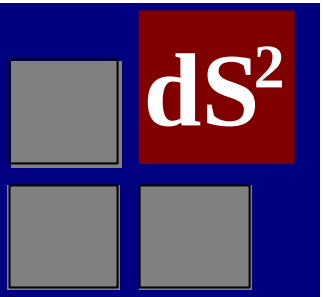
SUMMARY :
I.T. ISSUES



- Continuous change in I.T. policy or strategy is indicative of a more deep seated problem in the business
- Avoid treating symptoms, treat fundamental problems

TECHNOLOGY IS ONLY AN ISSUE
IF IT DOES NOT DELIVER

SUMMARY



THE END