



PROJECT MANAGEMENT - REINVENTED

Based on the book:



Objectives and Agenda



1. Why business success depends on projects
2. What makes a project successful
3. The New Mindset
4. The Diamond Framework



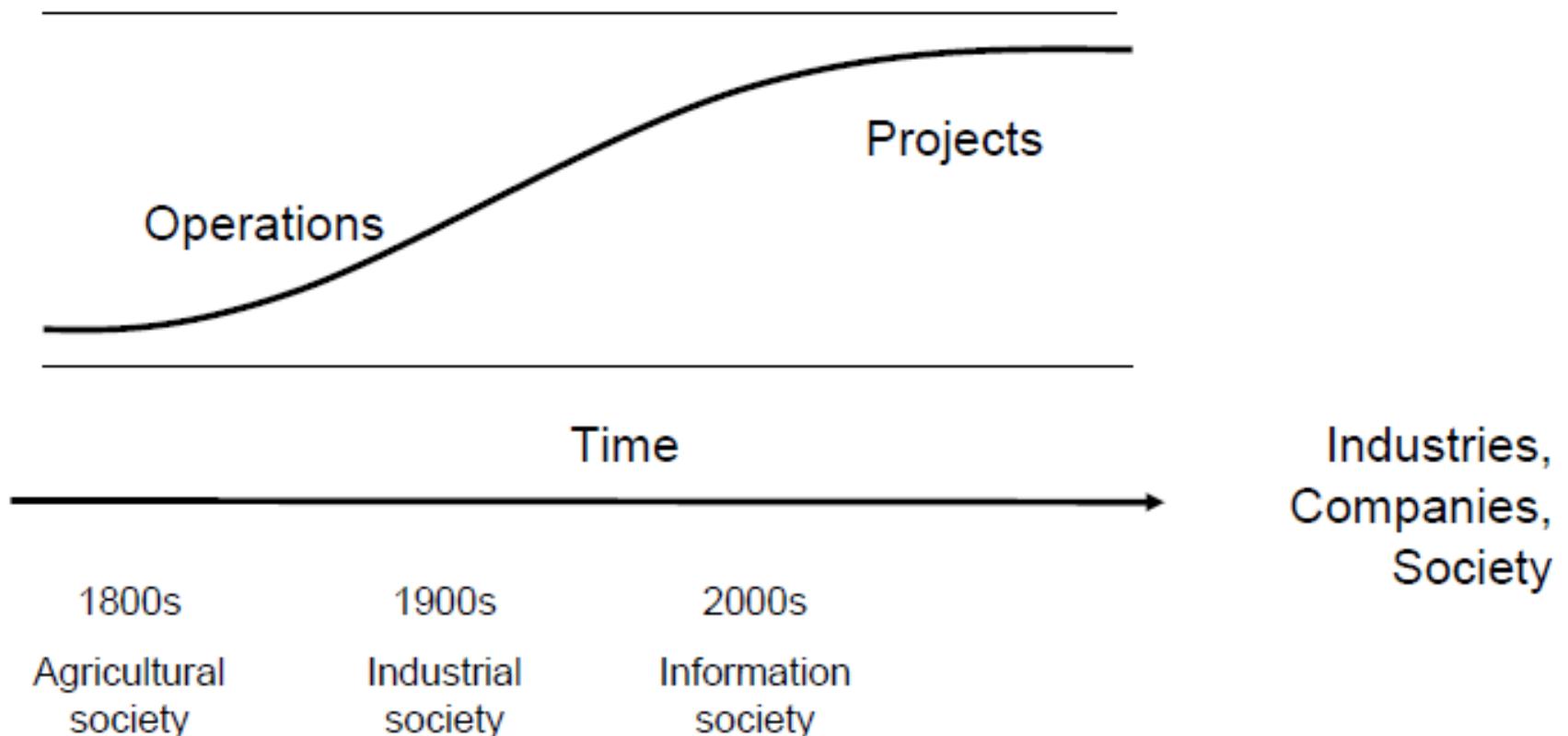
Why Business Success Depends on Projects

Projects and Business

- Projects are essential to drive business innovation and change
- Without projects strategy is just an idea
- Operational efficiency is important, but there are limits to improvements
- Having a high quality product / service has become a must, essentially a license to do business

Change in Work Focus

- In modern organizations the share of project activities is constantly growing, whereas the percentage of effort devoted to operations is decreasing (*continual automation*).



The Bad News: Most Projects still fail

- Data collected on more than 600 projects in business, government, and non-profit sectors in various countries, shows that 85% of the projects studied failed to meet time and budget goals, with an average overrun of 70% in time and 60% in budget.
- Projects run by experienced managers and supported by highly regarded organizations may also fail:
 - [Denver International Airport Baggage Handling System.](#)
 - [Segway Personal Transportation System.](#)
 - [NASA's Mars Climate Orbiter.](#)

Even well managed projects fail

- The common theme Executives and project teams failed to:
 - Appreciate the level of uncertainty and complexity
 - Adapt their management style to the situation.
- In their effort to focus the project on the triple constraint, project teams often lose sight of the business rationale behind their projects.
 - **Business Results and Customer Satisfaction.**

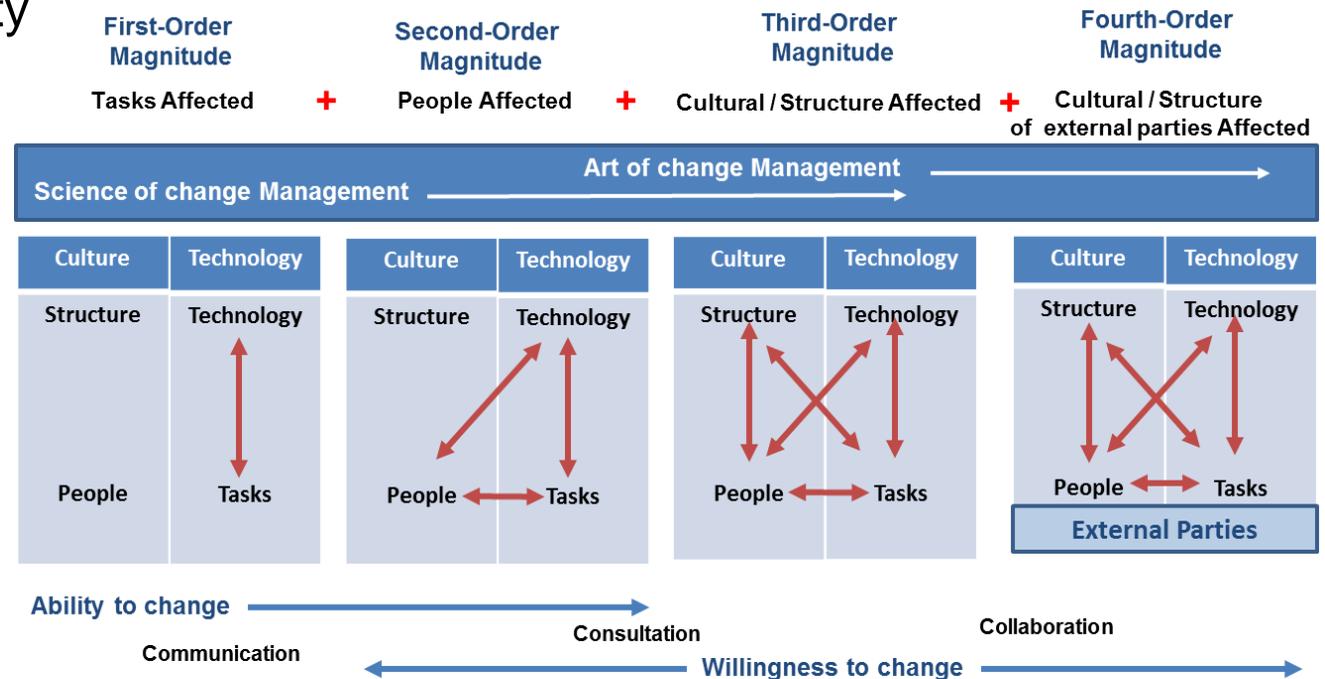
Why traditional PM often fails

- The classic drivers of Project Management are no longer sufficient in the current business environment.
- Most modern projects are highly uncertain, complex, and strongly affected by the dynamics of the environment, technology, or markets.

Why traditional PM often fails

- Different kind of projects have different magnitudes of:

- unpredictability
- contingency
- change



Source Margaret O'Hara, Richard Watson, C. Bruce Kavan, and Gartner, adapted by David Whelbourn 2015

- None of these realities are included in the classic Project Management text books or guides.



What makes a project successful

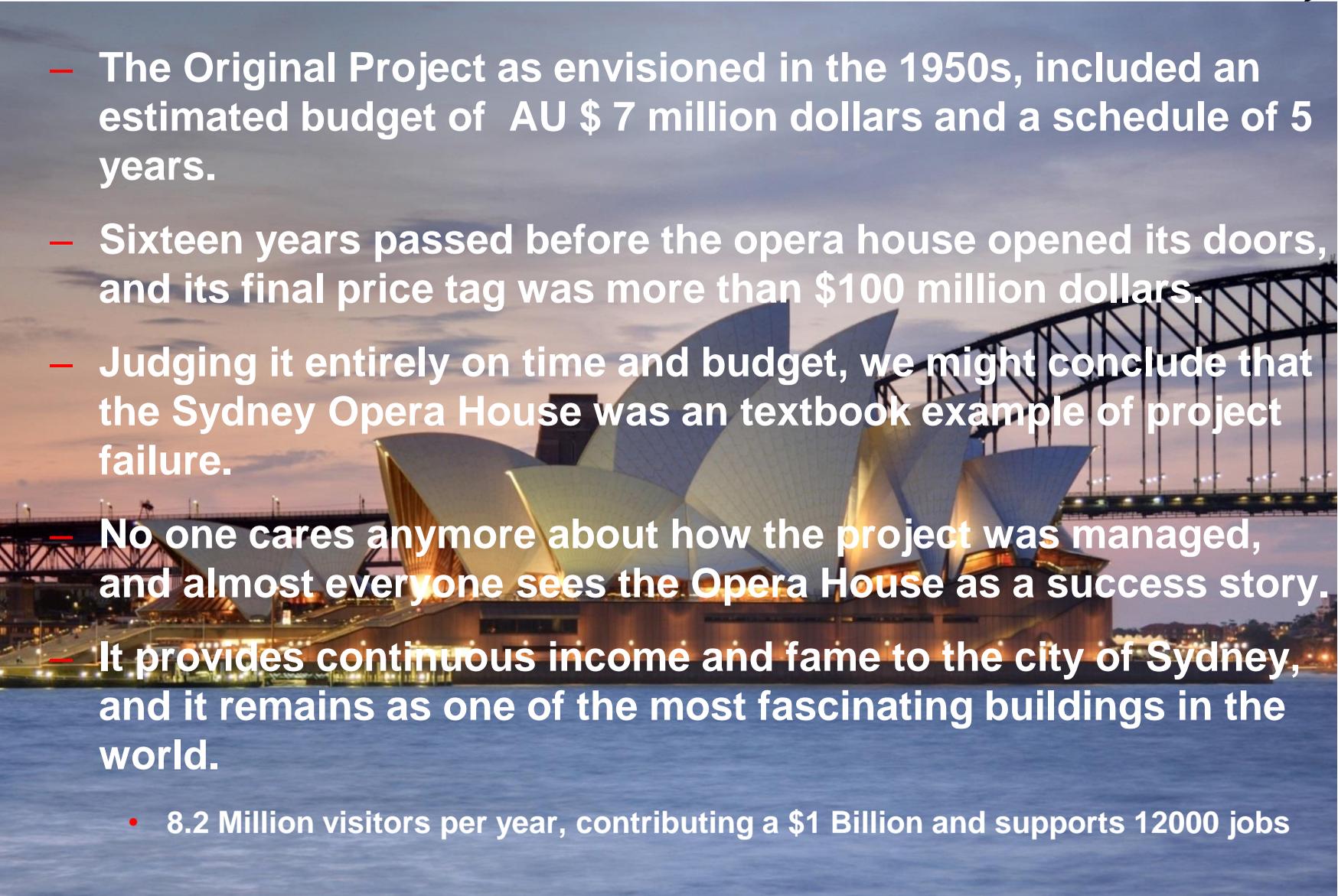
What makes a project successful

- Despite numerous arguments, there is still no universal way to measure and assess project success.
- No matter what the motivation for a project, any assessment of project success must be linked to the organization's success.

Beyond Time, Budget and Performance

- What does project success means?
- What do organizations need to consider before they launch a new project?
- How they should assess a project after completion?
- Adhering to a project plan tells us nothing about achieving the long-term business goals for which the project was initiated.
- Project benefits can have many forms, some may be immediate and other benefits may be realized only later

Example - The Sydney Opera House

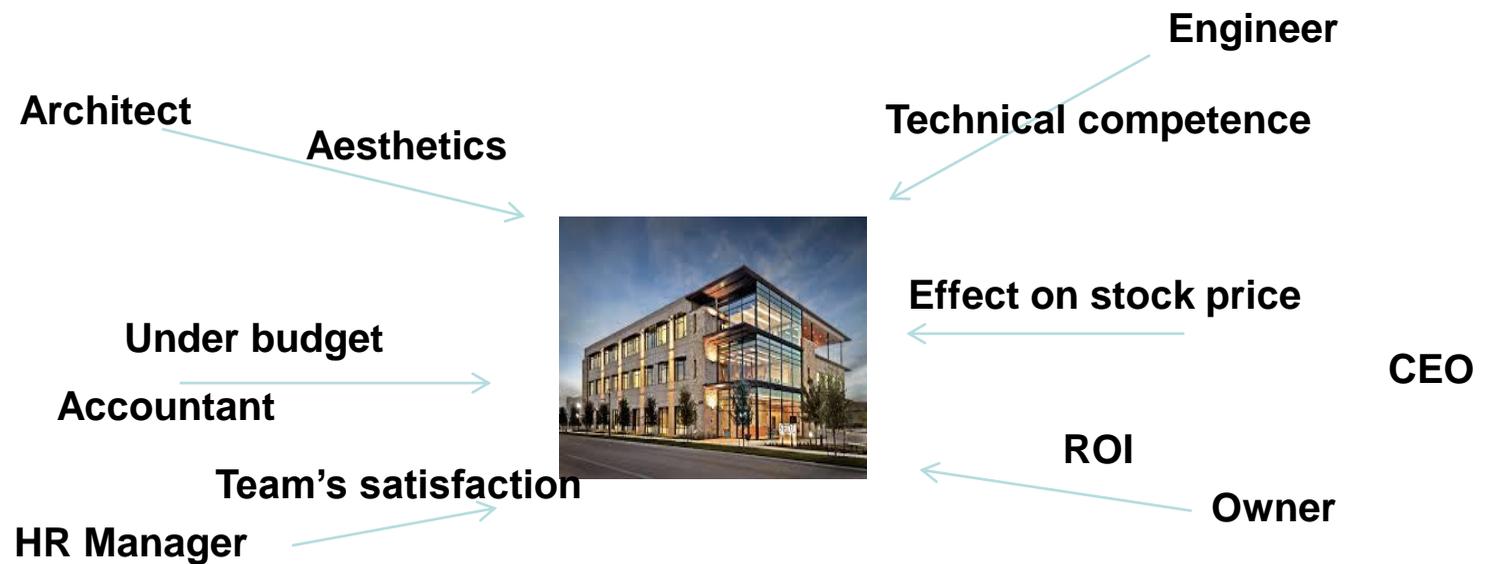
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- The Original Project as envisioned in the 1950s, included an estimated budget of AU \$ 7 million dollars and a schedule of 5 years.
 - Sixteen years passed before the opera house opened its doors, and its final price tag was more than \$100 million dollars.
 - Judging it entirely on time and budget, we might conclude that the Sydney Opera House was an textbook example of project failure.
 - No one cares anymore about how the project was managed, and almost everyone sees the Opera House as a success story.
 - It provides continuous income and fame to the city of Sydney, and it remains as one of the most fascinating buildings in the world.
 - 8.2 Million visitors per year, contributing a \$1 Billion and supports 12000 jobs

Project Vs Product Success

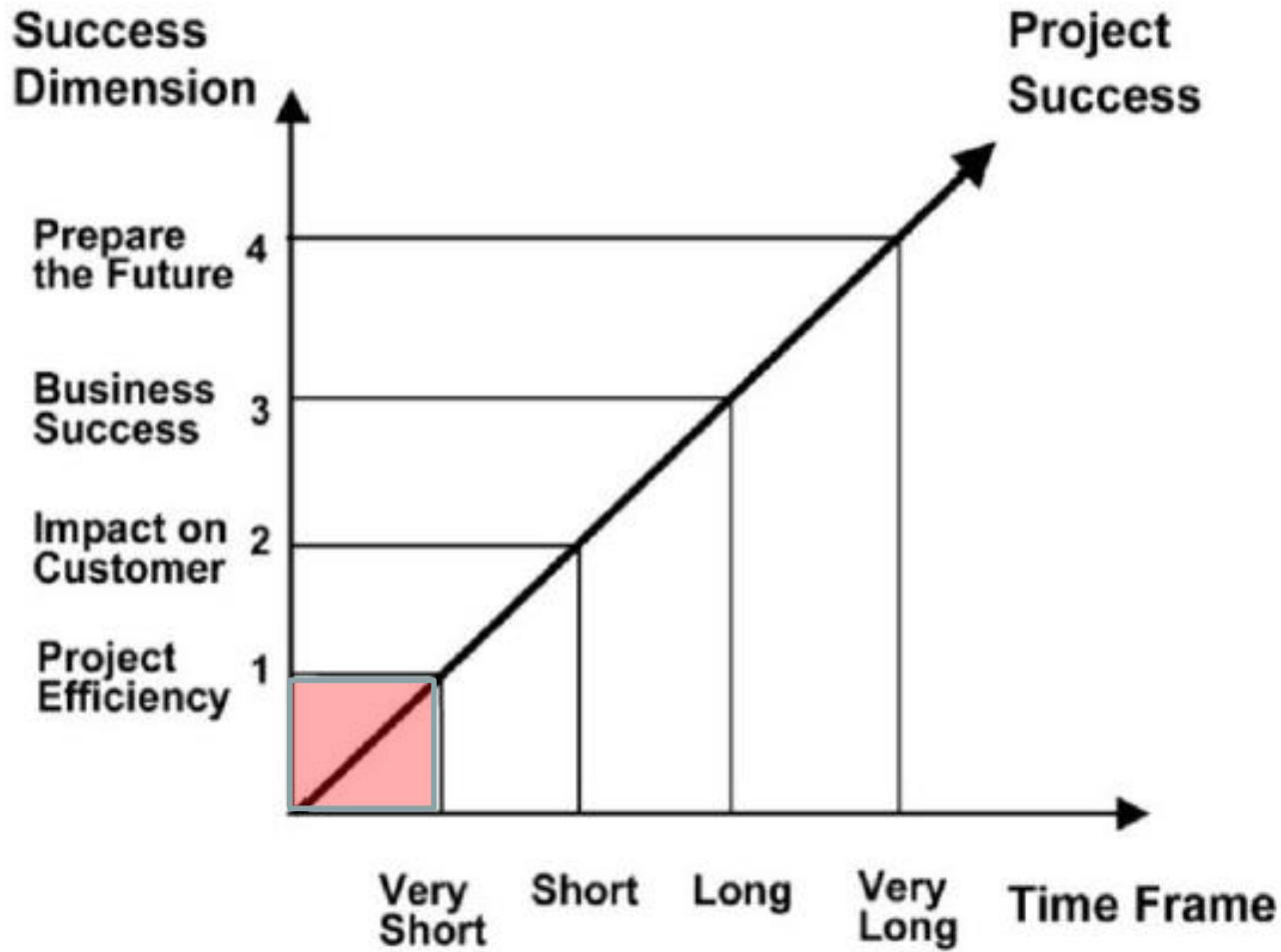
- Project and Product success should not be separated.
 - They are two sides of the same coin.
 - Both must be address during project execution.
- The new perspective requires:
 - Project managers to view project success in a wider sense and to take responsibility for making it happen.
 - Executives to convey to project teams the overall business perspective, define business expectations in advance.
 - The team and its leaders to be responsible to make sure that their day-to-day work leads to long term success of the end result.

Success: Multiple Dimensions, Multiple Viewpoints

- Project success is seen as a multidimensional, strategic concept.
- Every projects needs more than one dimension for assessing success, and those dimensions vary in importance and significance, depending on the project.



The impact of time – on Success



Why we need to rethink the approaches

- Top managers frequently look at project budgets as cost, not an investment, and see project activities as part of operations.
- Project teams try to follow a well-established set of guidelines that has become standard in the discipline of PM, not sufficient for addressing the complex problems of today's projects.
- Most project problems are not technical but managerial
- Framework and mind-set that drive the traditional approach to project management may be root cause of many problems.

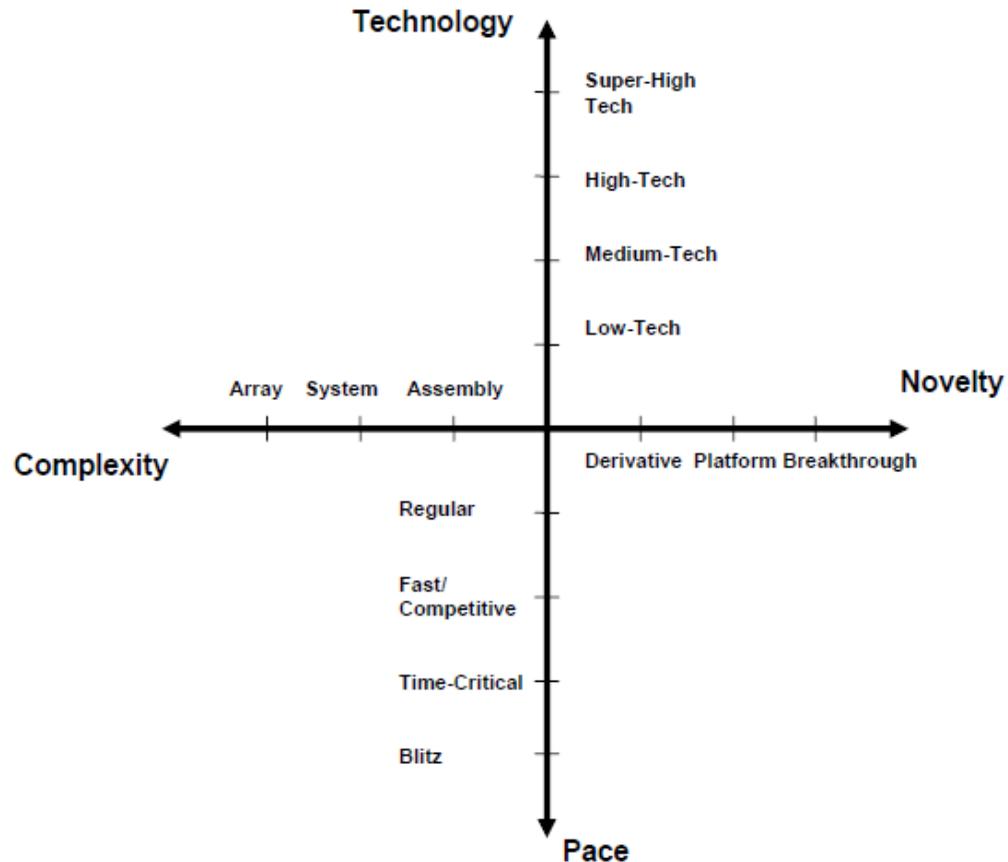
Adaptive Project Management Approach



Approach	Traditional project management	Adaptive project management
Project goal	Getting the job done on time, on budget, and within requirements	Getting business results, meeting multiple criteria
Project plan	A collection of activities that are executed as planned to meet the triple constraint	An organization and a process to achieve the expected goals and business results
Planning	Plan once at project initiation	Plan at outset and re-plan when needed
Managerial approach	Rigid, focused on initial plan	Flexible, changing, adaptive
Project work	Predictable, certain, linear, simple	Unpredictable, uncertain, nonlinear, complex
Environment effect	Minimal, detached after the project is launched	Affects the project throughout its execution
Project control	Identify deviations from plan, and put things back on track	Identify changes in the environment, and adjust the plans accordingly
Distinction	All projects are the same	Projects differ
Management style	One size fits all	Adaptive approach; one size does <i>not</i> fit all

Many of these principles are in PRINCE2 and Agile

- Doesn't replace – Builds on Traditional



The Diamond Framework

The NTCP Dimensions

The NTCP Model - Novelty

- Dimension represents the uncertainty of the project's goal, the market, or both.
- Three major issues:
 - Reliability of marketing research
 - Time it takes to define and freeze product requirements, and
 - Specific marketing strategies for the product.
- 3 levels or types of novelty defined as follows:
 - **Derivative**: Products are extensions and improvement of existing products. (*Modifications, extensions and improvements*)
 - **Platform**: Products are new generations of existing products lines, form the basis for derivatives (*i.e. a new car model or aircraft*).
 - **Breakthrough**: Products are new-to-the-world products. They transform a new concept or a new idea into a new product that customers have never seen before.

The NTCP Model - Technology

- This dimension represents the project's level of technological uncertainty.
 - Impact on design, testing, communication and interaction, timing of design freeze, and needed design cycles.
 - Defines the technical competence needed by the project team.
- Four levels technical uncertainty:
 - **Low-tech**: Projects rely on existing and well-established technologies. (*Construction Projects*).
 - **Medium-tech**: Projects use mainly existing or base technologies but incorporate a new technology or new feature that did not exist on previous products. (*Appliances, automobiles, or heavy equipment*).
 - **High-tech**: Most of the technologies employed are new to the firm but already exist and are available at project initiation. (*Computer and defense development*).
 - **Super-high-tech**: Based on new technologies that do not exist at project initiation. The mission is clear, the solution is not and new technologies must be developed during the project. (*Moon-landing program*).

The NTCP Model - Complexity

- Complexity of the product, the task, and the project organization.
- Related to system scope and affect project organization and the formality of project management.
- Three levels of complexity are used:
 - **Assembly**: Projects involve creating a collection of elements, components, and modules combined into a single unit performing a single function. (*CD player or coffee machine, building a new organization responsible for single function, i.e. payroll*).
 - **System**: Projects involve a complex collection of interactive elements and subsystems, jointly performing multiple functions to meet a specific operational need. (*Cars, computers, buildings, or an entire business*).
 - **Array**: Projects deals with a large, widely dispersed collection of subsystems that function together to achieve a common purpose, system of systems or super-systems. (*National communication networks, a mass transit infrastructure or regional power distribution networks, or an entire corporation*).

The NTCP Model - Pace

- Urgency of the project, how much time there is to complete the job and what happens if time goals are not met.
- Pace impacts the autonomy of the project team, the bureaucracy, the speed of decision making, and the intensity of the top management involvement.
- Four levels of pace:
 - **Regular**: Time is not critical to immediate organizational success.
 - **Fast/competitive**: Projects are typically conceived to address market opportunities, create a strategic positioning, or form new business lines.
 - **Time-critical**: Projects must be completed by a specific date, which is constrained by a definitive event or a window of opportunity. Missing the deadline means project failure.
 - **Blitz**: These are critical projects, the most urgent, time-critical. Solving the crisis as fast as possible is the criterion for success.

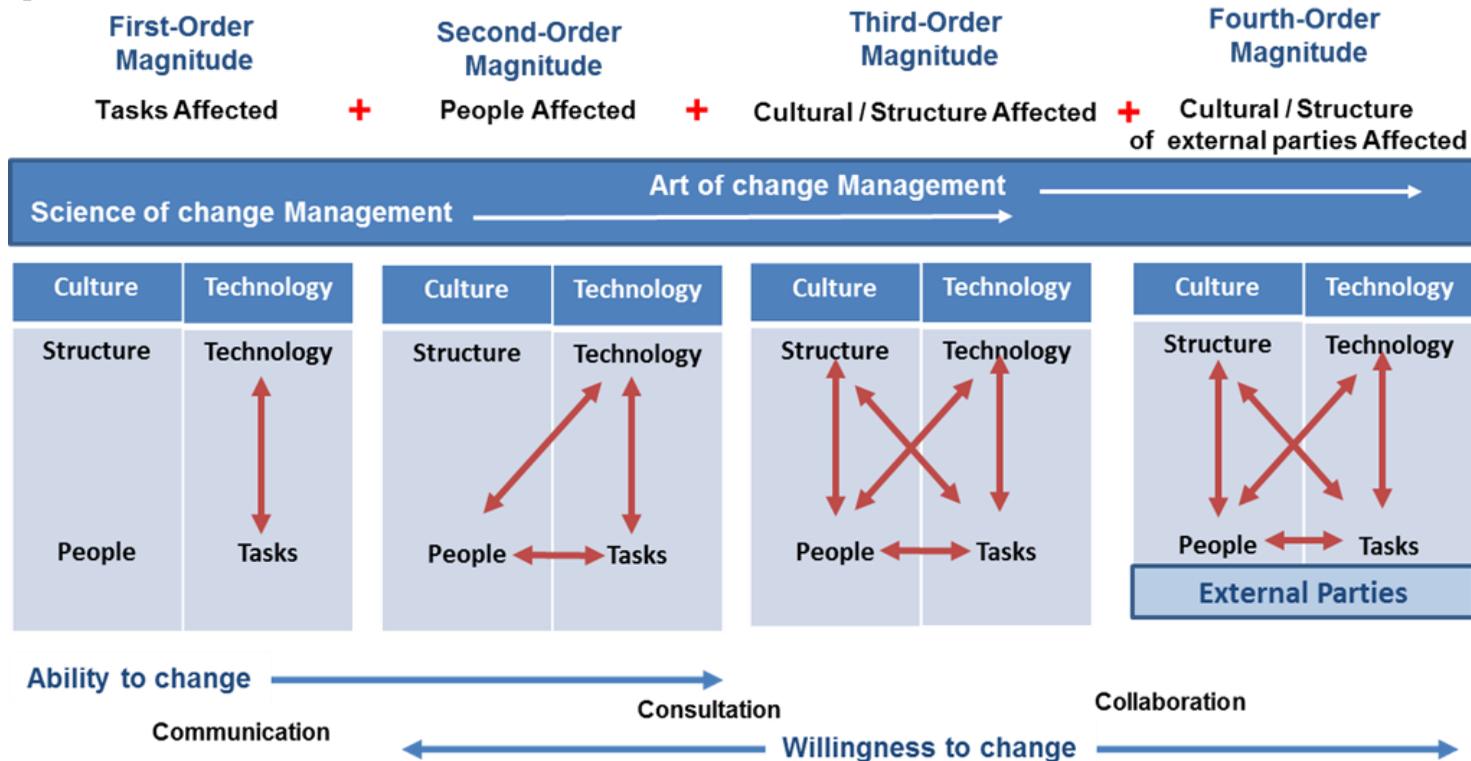
PM Style depending on type



Dimension	Type	Managerial decisions and main concerns	Specific cases
Novelty	Derivative, platform, breakthrough	Duration of definition phase; number of requirements iterations; timing of requirements freeze; need for product prototypes	Breakthrough projects require fast prototyping before requirements freeze and innovative approaches for introduction; may also require a separate organization
Technology	Low-tech, medium-tech, high-tech, super-high-tech	Number of design cycles; time of design freeze; number and type of prototypes; type of contract; high-technical skills of project manager and team members	In high- and super-high-tech projects consider switching from cost-plus contracts to fixed-price contracts after design freeze; super-tech projects must have small-scale prototypes
Complexity	Assembly, system, array	Level of formality; type of reporting and communication; extent of systems engineering and integration; use of subcontractors; organizational structure; co-location vs. decentralization; risk management	System projects require systems engineering and long periods of integration
Pace	Regular, fast/competitive, time-critical, blitz	Autonomy of project teams; frequency of monitoring and control; contingency plans; improvisation	In time-critical projects, use proven technologies whenever possible and focus on the specific date; blitz projects require full autonomy of team for immediate decisions and considerable amount of improvisation

What about Change Management?

- Change Management Style depends on Type.

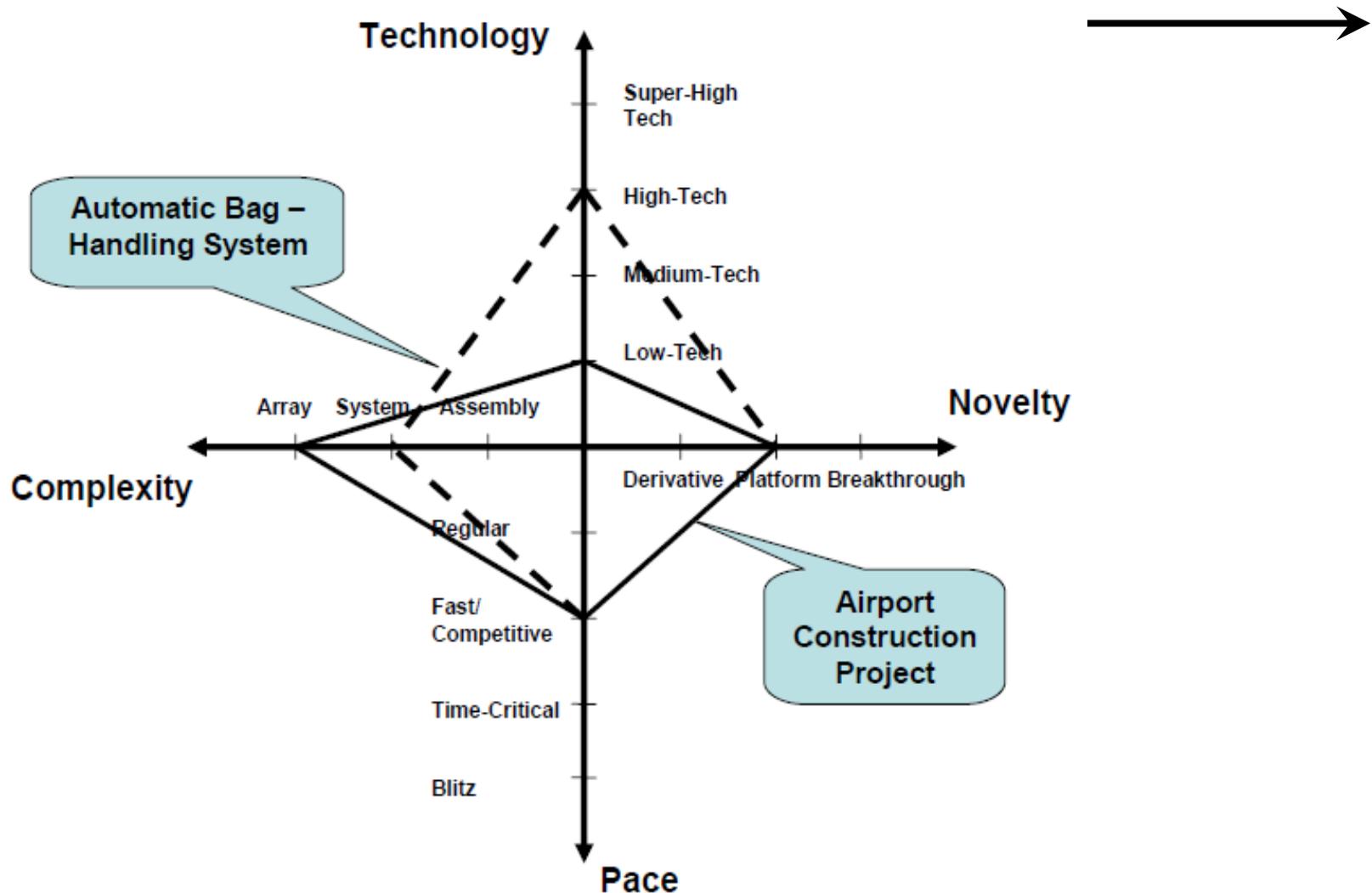


Example - Denver International Airport



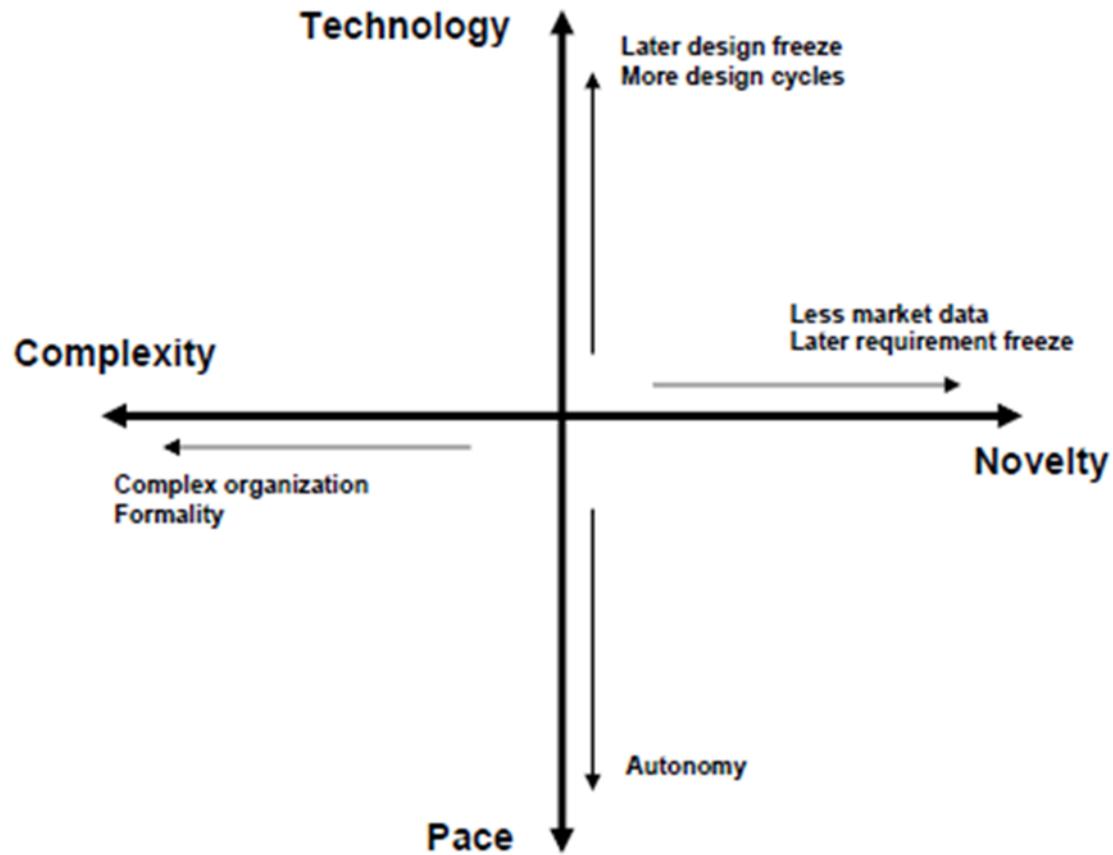
- New state of the art airport - work starts in 1989 target to open 1993
- Goals were to handle 50m passengers a year, and more importantly to turn aircraft around within 30 minutes.
- Seen as a program of inter-related construction projects all managed the same way.
- The automatic bag handling system which is critical in achieving the turn around time was challenged and delayed the whole opening by 16 months and increased the budget by \$560 million
- After 10 years the system was scrapped because it was cheaper to do it manually rather than pay \$1 million per month running costs.

Example - Denver International Airport



Denver International Airport Project

Using the Framework





REINVENTING
PROJECT
MANAGEMENT

Aaron J. Shenhar • Dov Dvir

The
DIAMOND APPROACH
TO SUCCESSFUL GROWTH
AND INNOVATION

HARVARD BUSINESS SCHOOL PRESS



End

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USEFUL HINT AND TIPS ABOUT
UNDERSTANDING WHAT YOU
ARE DEALING WITH.*

*SHOULD BE IN EVERY SENIOR
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