Challenges Based Risk Management

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Agenda

- Introduction
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- Model recommendations
- Challenges Based Risk Management
- Calculating CL and TD
- Research data analysis
- Risk management process to encounter challenges
- Conclusions

Introduction

- Based on a Msc research thesis –*Assessment of project success in an adaptive project management approach* ***(Shabtay, Zonnenshain, Golany, 2010)-*** based on the “Diamond Model” ***(Shenhar, Dvir 2007)***

- We offer to adopt the “tailoring” process in risk management by evaluating the challenge in the project, and using it in the project risk management plan.

The Diamond model

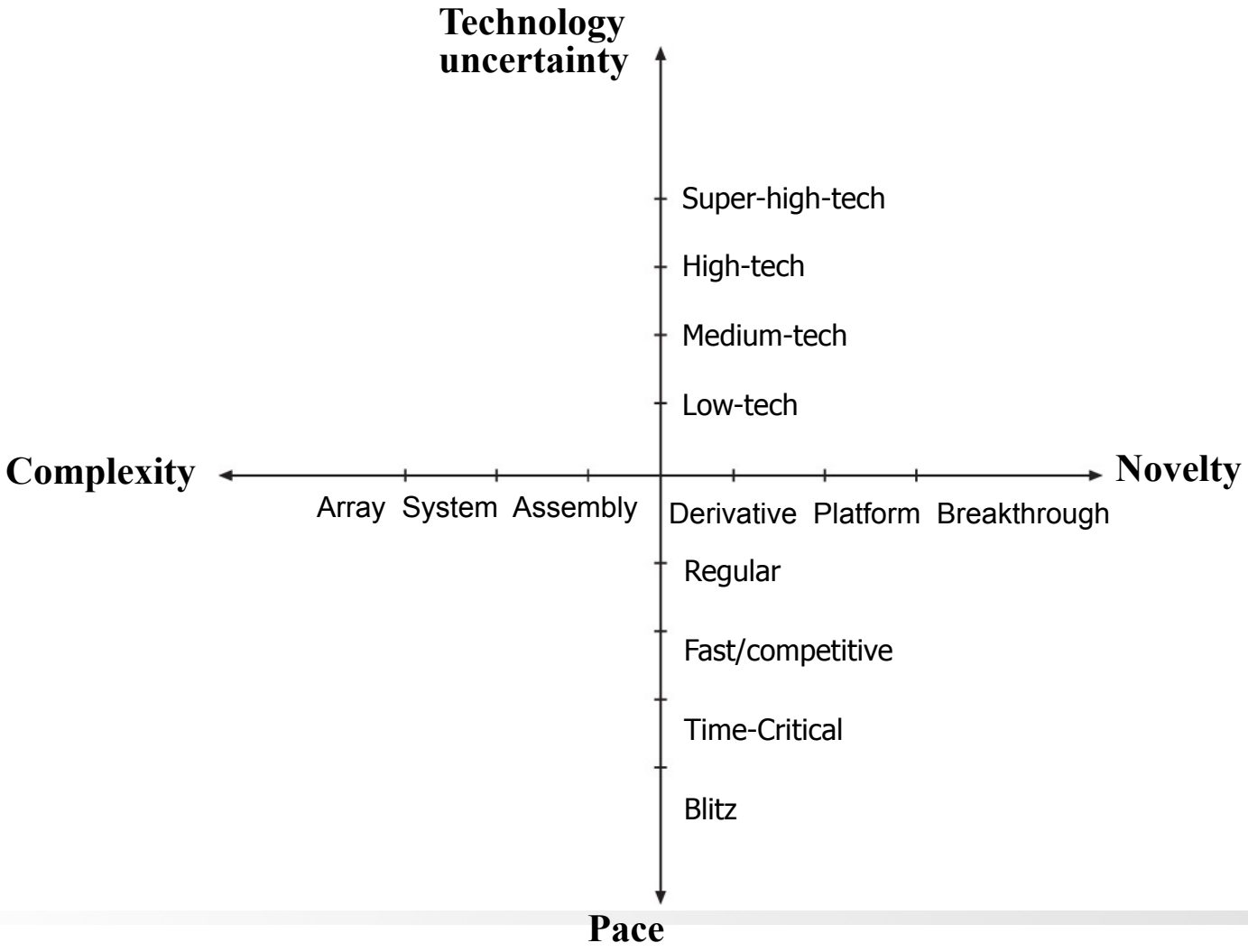
- <u>One size does not fit all</u>

- Tailoring PM according to:
  - Project's goals and **success criteria**-

    Efficiency, Business Success, Impact on the Team, Impact on the Customer, Preparation for the future
  - Project's characteristics and **dimensions-**
  - Novelty, Technology Uncertainty, Complexity and Pace

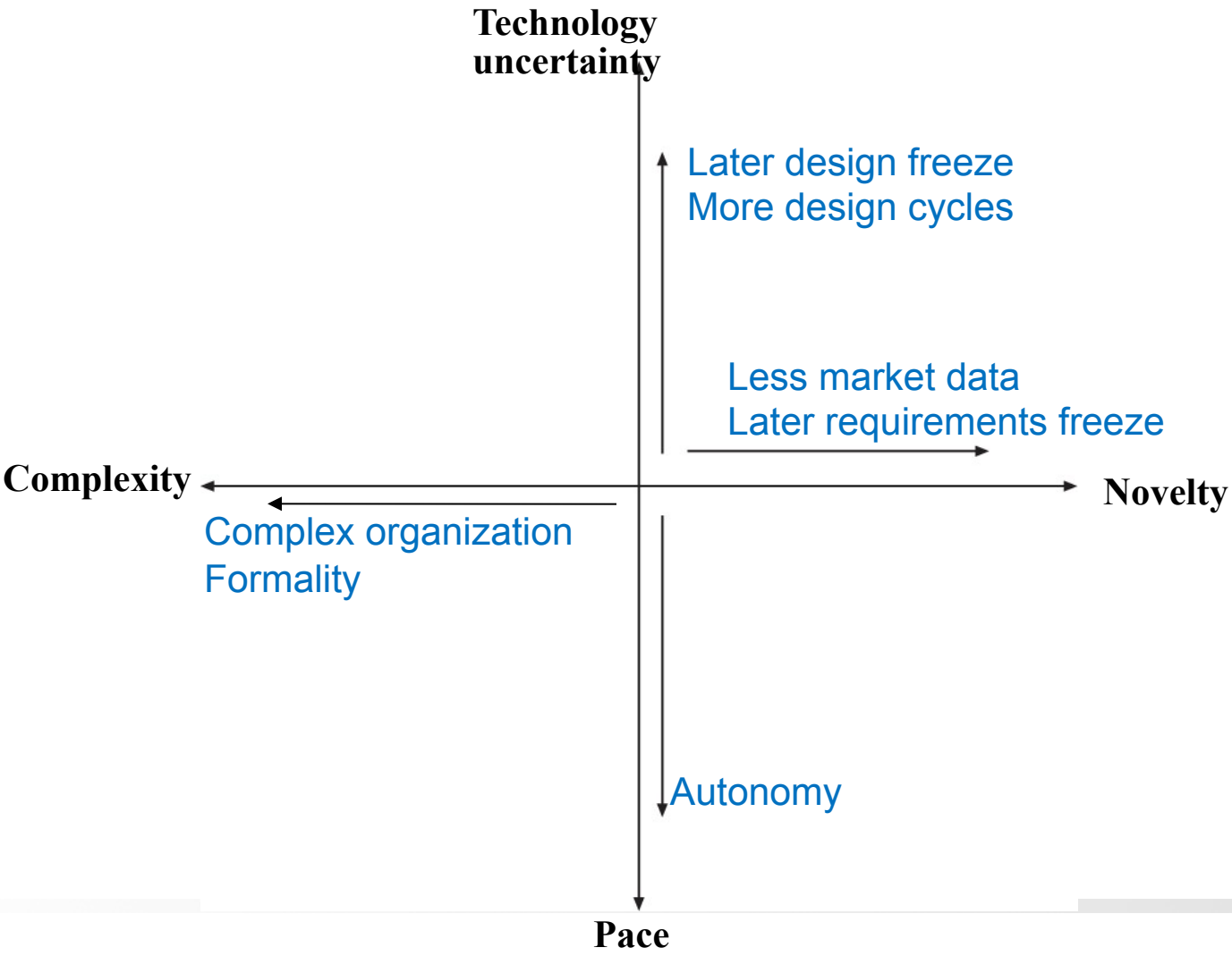
The Diamond model

Project dimensions



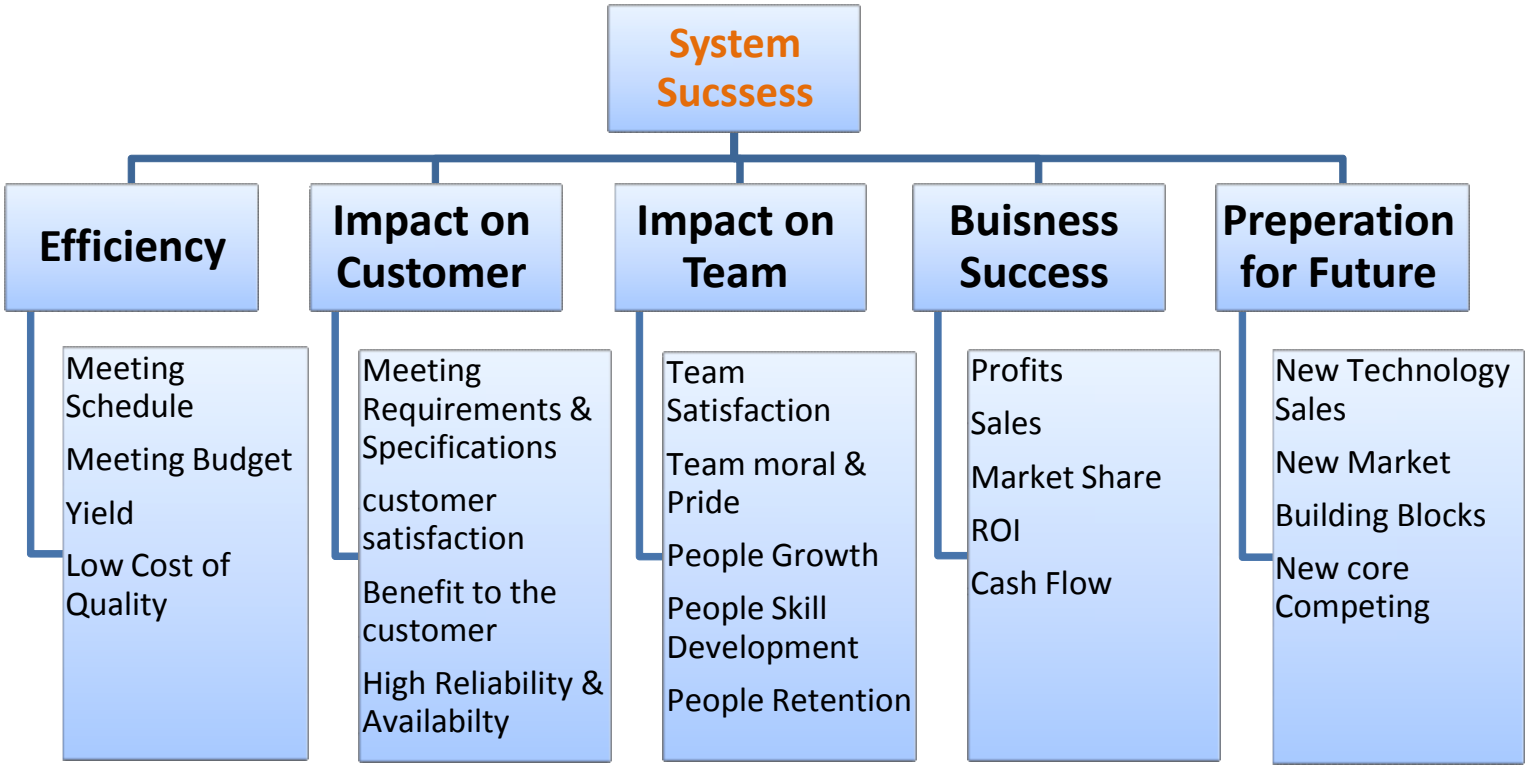
The Diamond model

Impact of the diamond dimensions on PM and system design



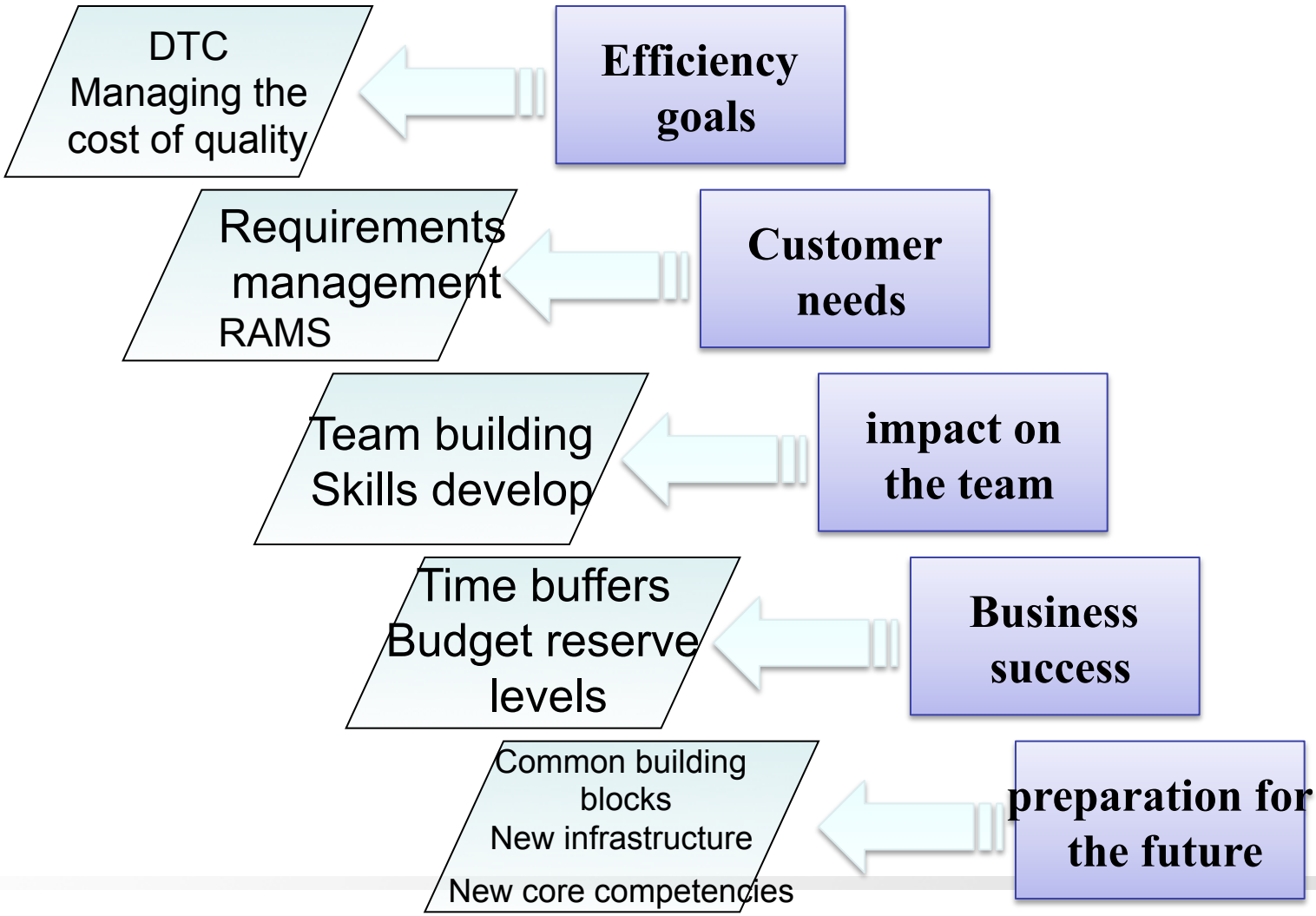
The Diamond model

Project's success criteria



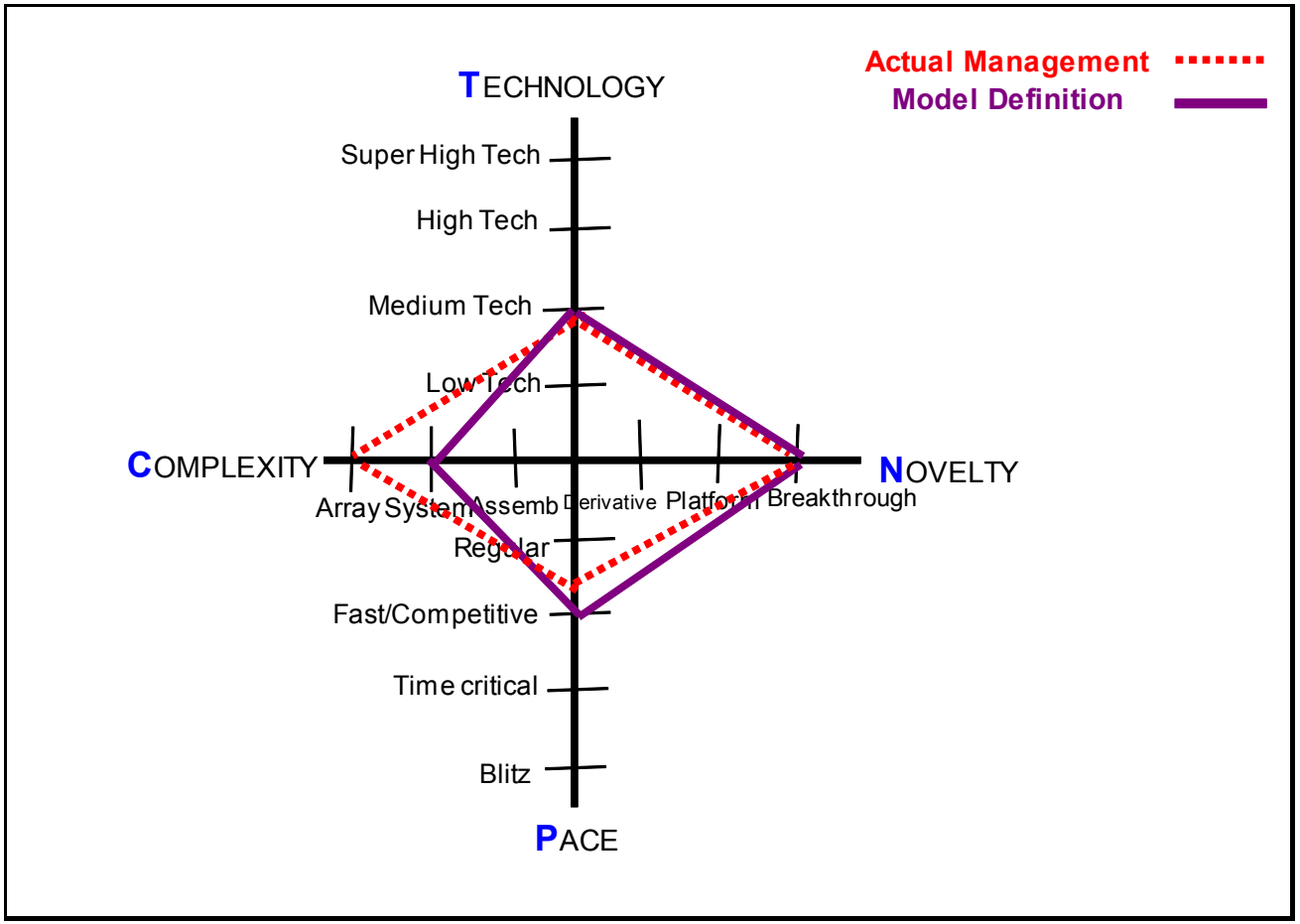
The Diamond model

Proposed identification for measuring success criteria



The Diamond Model

Example- graphical presentation of analysis



Model recommendations

System Engineering
number of design cycles, duration of customer requirements definition

Scope management
change management with the customer and within the project team

Budget and schedule control
budget planning and control, schedule planning and control

Risk management
planning and controlling the project risk management, recovery plan

Communication processes
formal or informal communication process

Quality Assurance
creating and monitoring quality management program

Procurement processes
the levels of qualification of suppliers throughout the design and engineering phases

Human Resources development
staffing project's team, investment in the personal development of project's team

Customer's satisfaction aspects
customer satisfaction reviews, customer involvement in project's reviews

Preparing for the future
including infrastructure milestones to project's plan

Challenges based risk management

Challenges based risk management is based on:

1. Project **Challenge Level- CL**

   High levels in the dimensions (Technology, Novelty, Pace and Complexity) generate challenges in the project.

2. Actual management deviation from the model proposition – **Total Deviation- TD**

   There are 50 recommendations for various managerial & engineering parameters, “tailored” for the project. Any deviation from the model recommendation represent a risk in the project management level.

Calculating CL and TD

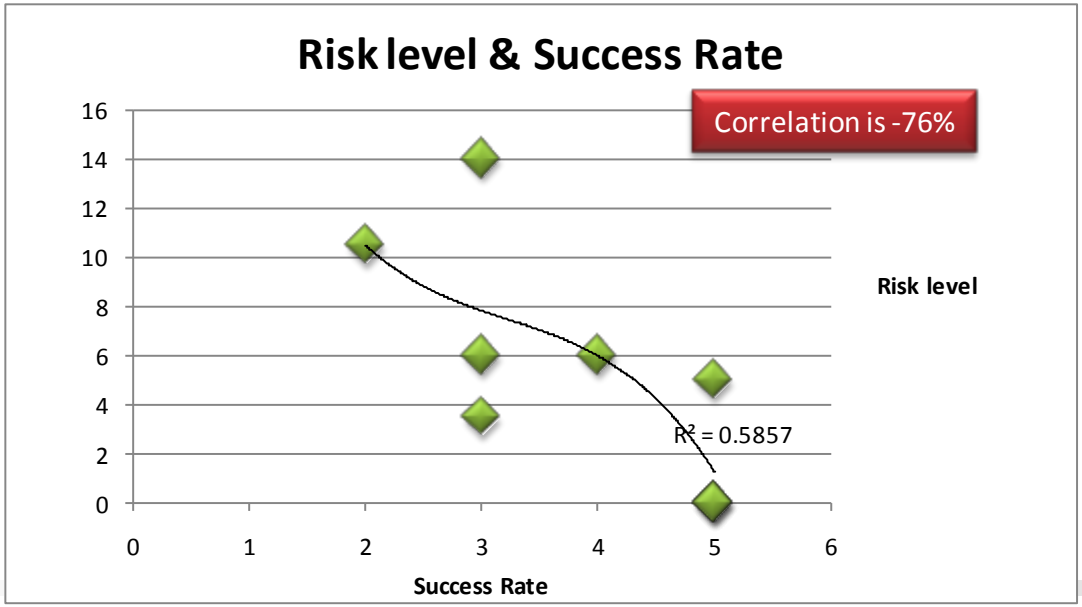
NORMALIZED_CL*NORMALIZED_TD= RISK LEVEL

Challenge level-CL (sum of levels in dimensions)	Description of challenge	Normalized challenge level
12–14	Very high	5
10–11.9	High	4
8–9.9	Medium	3
6–7.9	Low	2
4–5.9	Very low	1

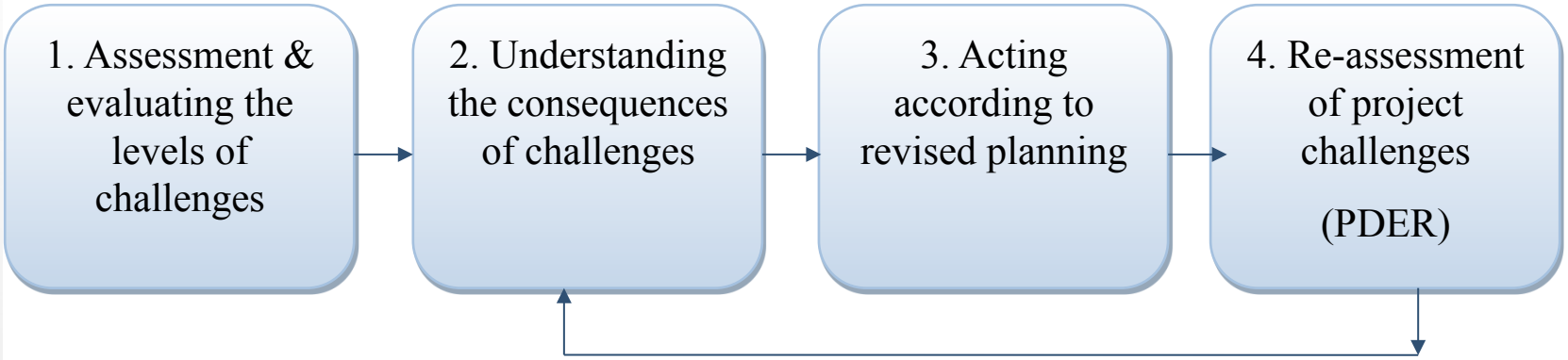
Total deviation- TD (sum of deviation in each dimension)	Description of deviation	Normalized level of Deviation
+4	Very high	4.5
3.1–4	High	3.5
2.1–3	Medium	2.5
1.1–2	Low	1.5
0–1	Very low	0.5

Research data analysis

- Perform challenges based risk analysis Vs project's success rate, using research data
- Found -76% correlation
- The higher the risk the lower project's success rate



Risk management process to encounter challenges



Action Items:

- Model propose about 50 managerial parameter recommendations. Each deviation from the model's recommendations is a potential managerial risk.
- Project's dimensions can consist of inherent contradiction- example: Technology level is Super High Tech and Pace level is Time Critical.

Risk management process to encounter challenges- organizational overview

✓Project risk level rate can be useful in the organizational risk management methodology - It can be used to classify projects according to their risk, as an additional process to the organization risk management process.

✓PDER can help the organization understand the project main risks factors, and adjust project processes accordingly, periodically.

Conclusions 1/2

- This paper is based on a research of 18 challenging projects in RAFAEL and their systems engineering processes.
- We offer the *Challenges Based Risk Management*- evaluating risk levels based on the project's challenge level and deviation from the adaptive model recommendations
- Challenge level is based on the project's level in the dimensions: Technology, Novelty, Complexity and Pace (The Diamond model)

Conclusions 2/2

- Project's (managerial) risk is presented by the gap between the actual way of managing the systems and the "ideal" model.
- The Challenges Based Risk Management approach is complementary to the traditional risks management process.
- This methodology can be used as an organizational tool for managing projects according to their risk level (project classification).

Thank you

Questions?