

Lean Product Development journey

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2017

Lean Product Development (LPD) Implementation Journey

UNDERSTAND LEAN & IDENTIFY WASTE

A systematic approach to identifying and eliminating **Waste** through continuous improvement



Waste

- Not Meeting customer needs
- Long development cycle times
- Many redevelopment cycles
- High development costs
- Long production cycle times
- High production costs

Lean is about our People:

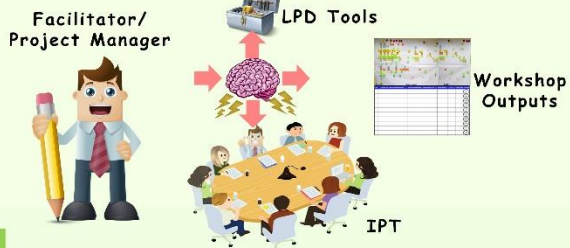
Train Trust Engage Motivate Empower

BUILD YOUR TEAM

INTEGRATED PRODUCT TEAM (IPT)



WORK AS A TEAM (WORKSHOP)

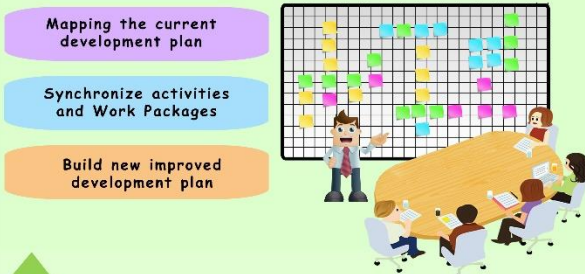


IDENTIFY "VALUE TO THE CUSTOMER"



ACCELERATE INFORMATION FLOW

Development plan Workshop



DEVELOP REQUIREMENTS

Identifying customer needs

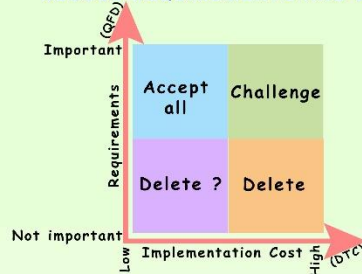
Converting to requirements

Developing and allocating requirements

Evaluating ways for implementing



REDUCE REQUIREMENTS AND COSTS



GET COSTS REQUIREMENTS

Determined by the competitors

PRICE

Determined by the corporation

PROFIT

Target for the Project Manager

COST

$$\text{PRICE} - \text{PROFIT} = \text{COST}$$

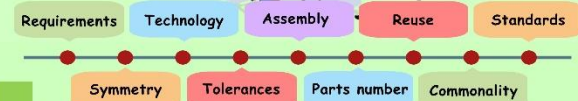
INTEGRATE PRODUCTION AND PROCUREMENT

Require a real **Production cost status** in each Gate



CHALLENGE THE DESIGN

Design for Manufacturing & Assembly



REDUCE SUPPLIERS COSTS



"WHAT'S IT IN FOR ME?"

PROJECT MANAGER



UNDERSTAND LEAN & IDENTIFY WASTE

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Lean is about our People:

Train

Trust

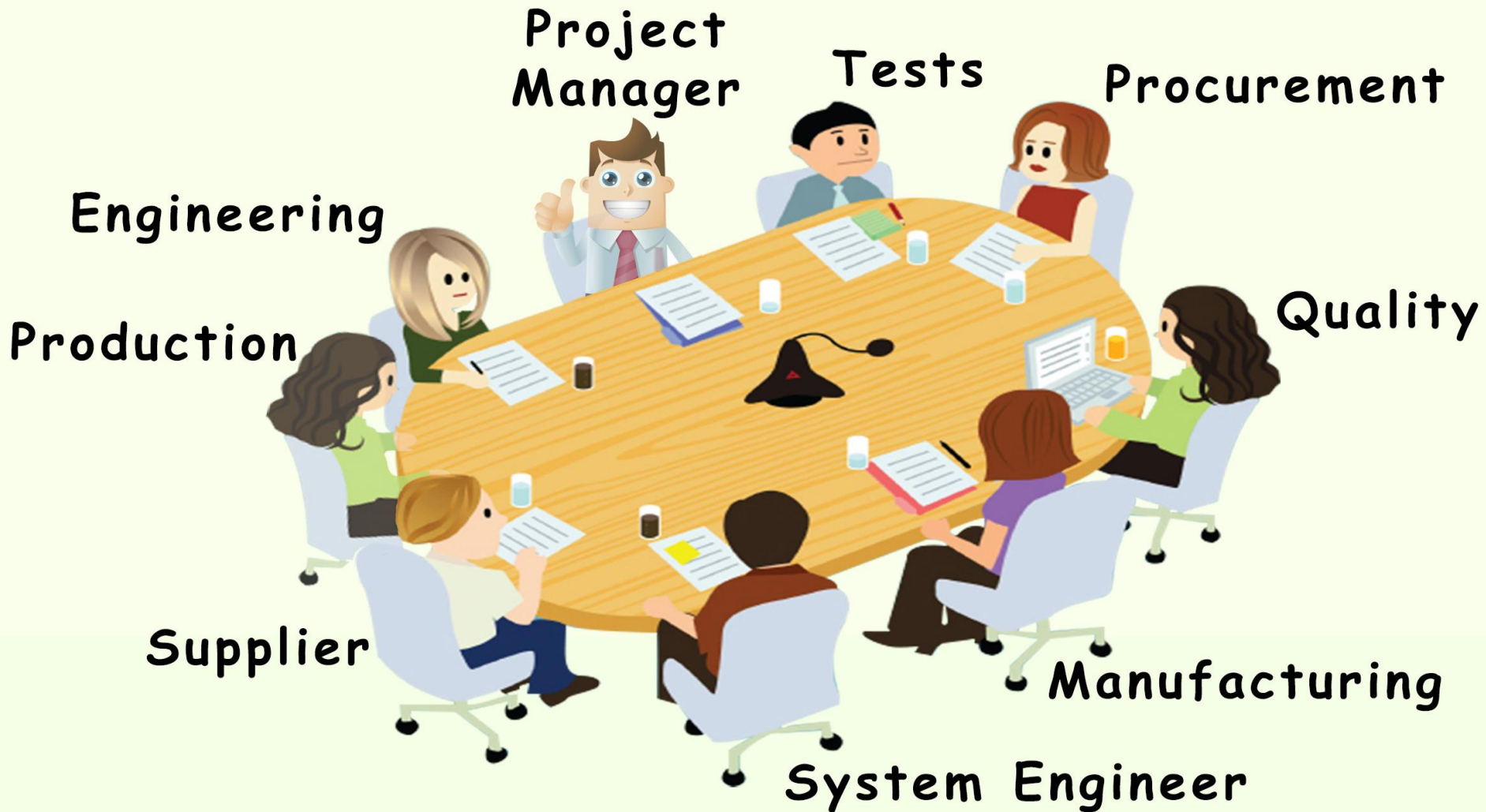
Engage

Motivate

Empower

BUILD YOUR TEAM

INTEGRATED PRODUCT TEAM (IPT)

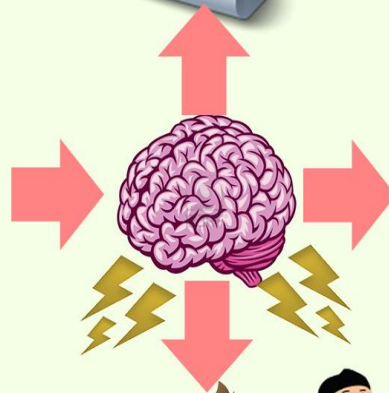


WORK AS A TEAM (WORKSHOP)

Facilitator/
Project Manager



LPD Tools

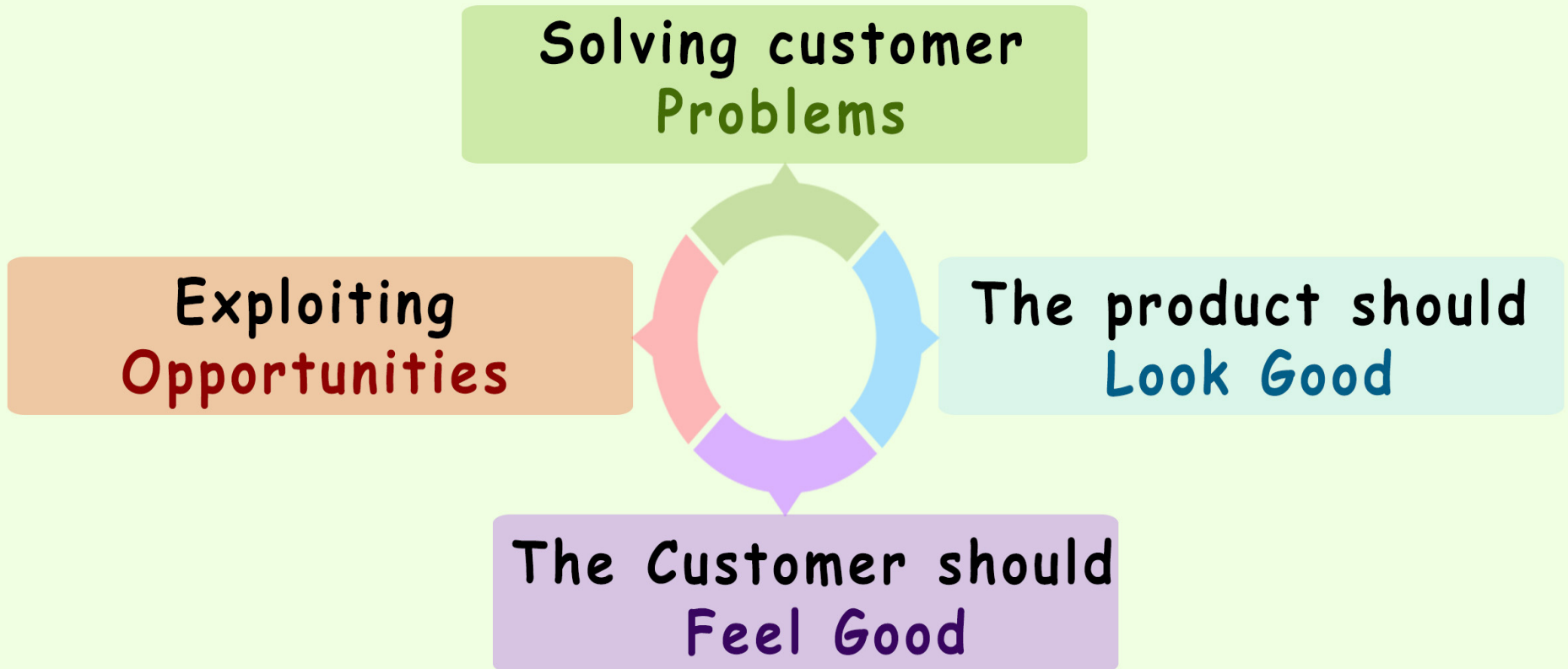


Workshop
Outputs



IPT

IDENTIFY “VALUE TO THE CUSTOMER”



GET COSTS REQUIREMENTS

Determined
by the
competitors

PRICE

Determined
by the
corporation

PROFIT

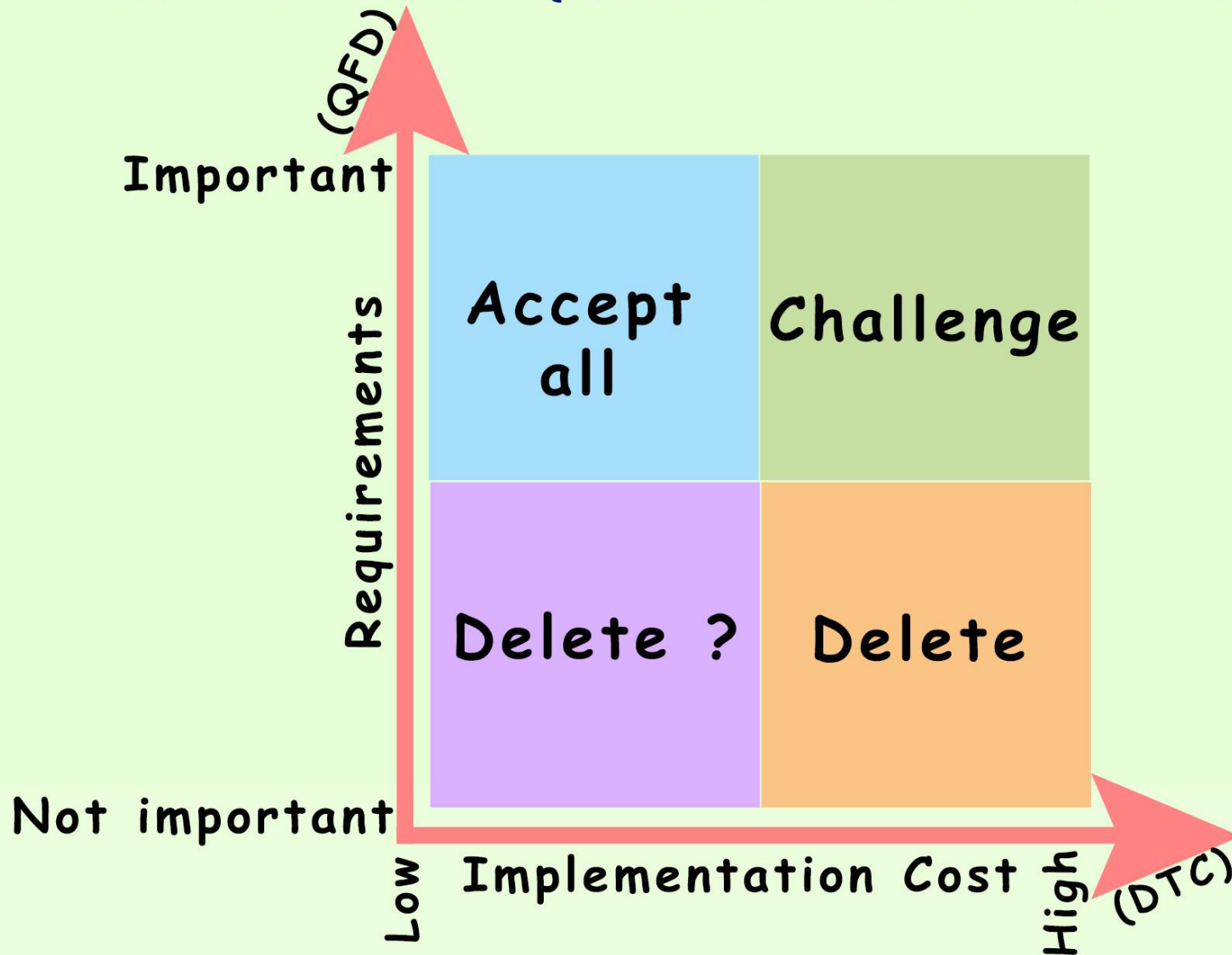
Target for
the Project
Manager

COST

-

=

REDUCE REQUIREMENTS AND COSTS



DEVELOP REQUIREMENTS

Identifying customer needs

Converting to requirements

Developing and allocating requirements

Evaluating ways for implementing

	parameter	PRIORITY	Implementation									
			power amplifier	DC/DC	GPS	POWER SWAGER	BUZ PRDUSE MOD	GPS	DRIVER	mechanical		
FREQUENCY RANGE	0.4	1	0	1	0	1	0	0	0	0	2	2
INPUT POWER	-10+2	10	0	0	0	0	1	0	0	0	2	2
OUTPUT POWER	16dBm	1	0	10	0	1	0	0	0	0	2	2
OUTPUT FLATNESS	2dB	1	0	0	0	1	1	1	1	0	2	2
OUTPUT RIPPLE	0.4dB	10	0	1	0	1	0	0	0	0	2	2
REVERSE ISOLATION	0.1dB	1	0	0	0	0	10	0	0	0	0	0
TIME DELAY	40 ns	1	0	0	0	0	0	0	0	0	0	0
DC/AC ATT	1:10 dB	1	0	100	0	0	1	0	0	0	0	0
DC/AC ATT	0.3 dB	1	0	0	0	10	0	0	0	0	0	0
SWITCHING TIME DC/AC SWITCHING TIME	150 ns	10	0	0	0	0	0	0	0	0	2	2
SWITCHING TIME DC/AC SWITCH TIME	15 ns	10	0	2	0	0	0	0	0	0	2	2
PHASE DISTORTION SWITCHING TIME	1 ms MAX	10	0	0	0	0	2	0	2	0	2	2
PHASE DISTORTION SWITCH TIME	1 ms MAX	0	0	0	0	2	0	2	0	2	2	2
SPST SWITCH TIME	2 ns	10	0	0	0	0	0	0	0	0	2	2
TOTAL RANGE INPUT POWER	12dB	1	0	0	0	0	0	0	0	0	2	2
OUTPUT POWER	76dBm±1dB	1	0	0	0	0	2	0	0	0	0	0
OUTPUT POWER	160m	1	0	0	0	0	2	0	0	0	0	0
TEMPERATURE RANGE	-40C + 75C	1	1	1	1	1	1	1	1	0	0	0
			115	305	247	287	290	84	200	273		



ACCELERATE INFORMATION FLOW

Development plan Workshop

Mapping the current
development plan

Synchronize activities
and Work Packages

Build new improved
development plan



INTEGRATE PRODUCTION AND PROCUREMENT

Require a real
**Production
cost status**
in each Gate



CHALLENGE THE DESIGN

Design for
Manufacturing
&
Assembly



Requirements

Technology

Assembly

Reuse

Standards

Symmetry

Tolerances

Parts number

Commonality

REDUCE SUPPLIERS COSTS



(1) Requirements
Priorities



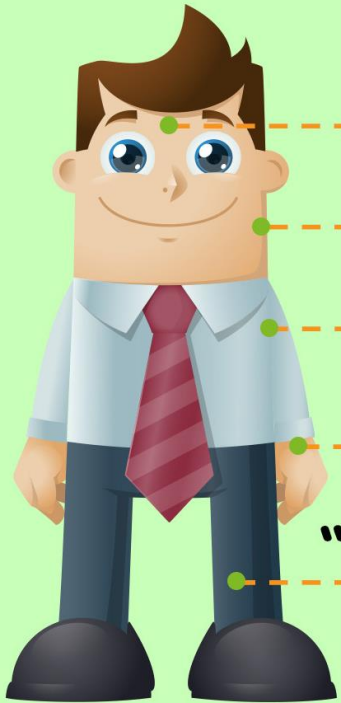
(2) Costs drivers

(4) Reduce Costs

(3) Reduce Requirements

"WHAT'S IT IN FOR ME?"

PROJECT MANAGER



Shortening Time to Market

Reducing development cost

Reducing manufacturing costs

Building project team spirit

"I am in full controlling of the project"

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