

PLM Metrics Phase III Developing a PLM Balanced Scorecard

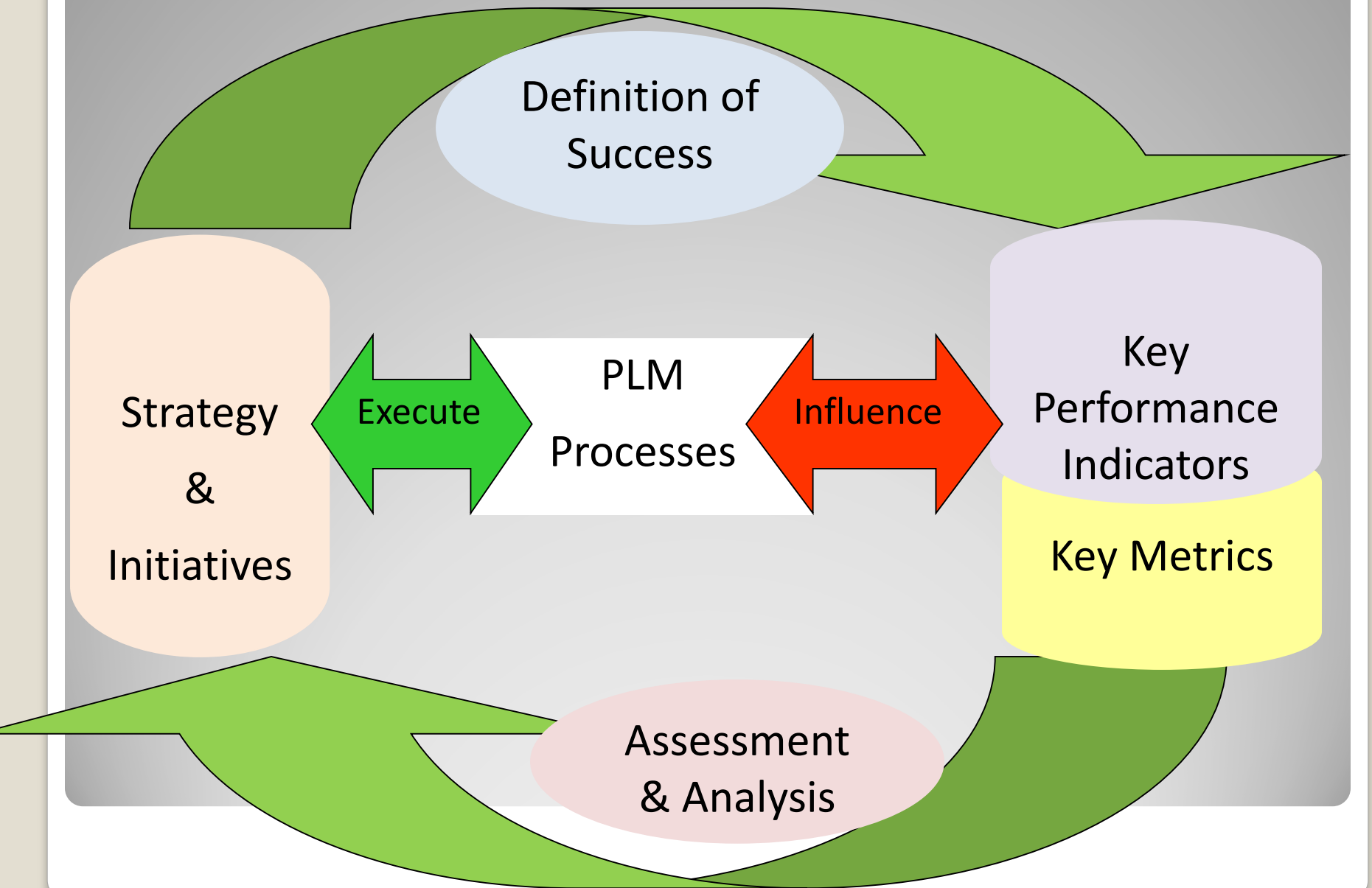
**Final Report for PLM Advisory Board
April 30, 2009**

Dr. Lisa Ncube

Introduction

- Measuring the impact of PLM
 - How well are we PLMing?
 - Can we enhance the traceability of our PLM investments?

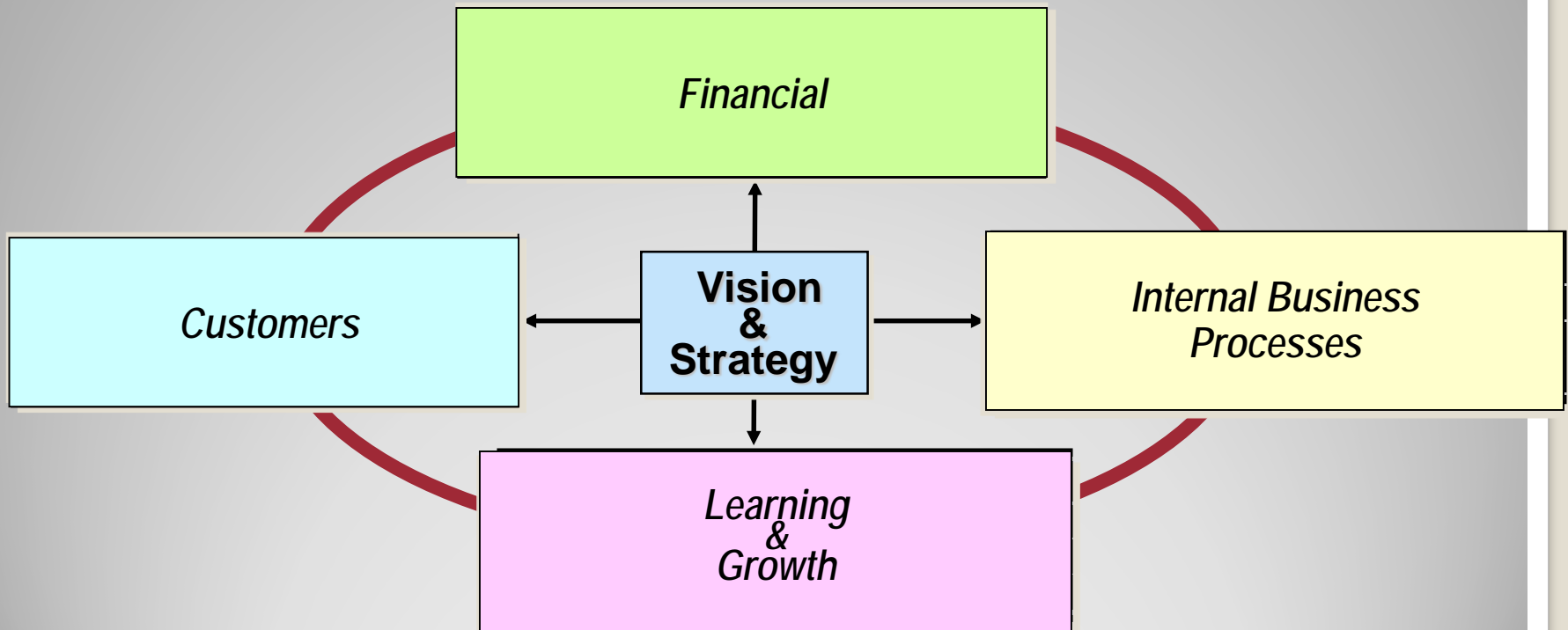
Metrics Framework



Implementing a Performance Measurement System

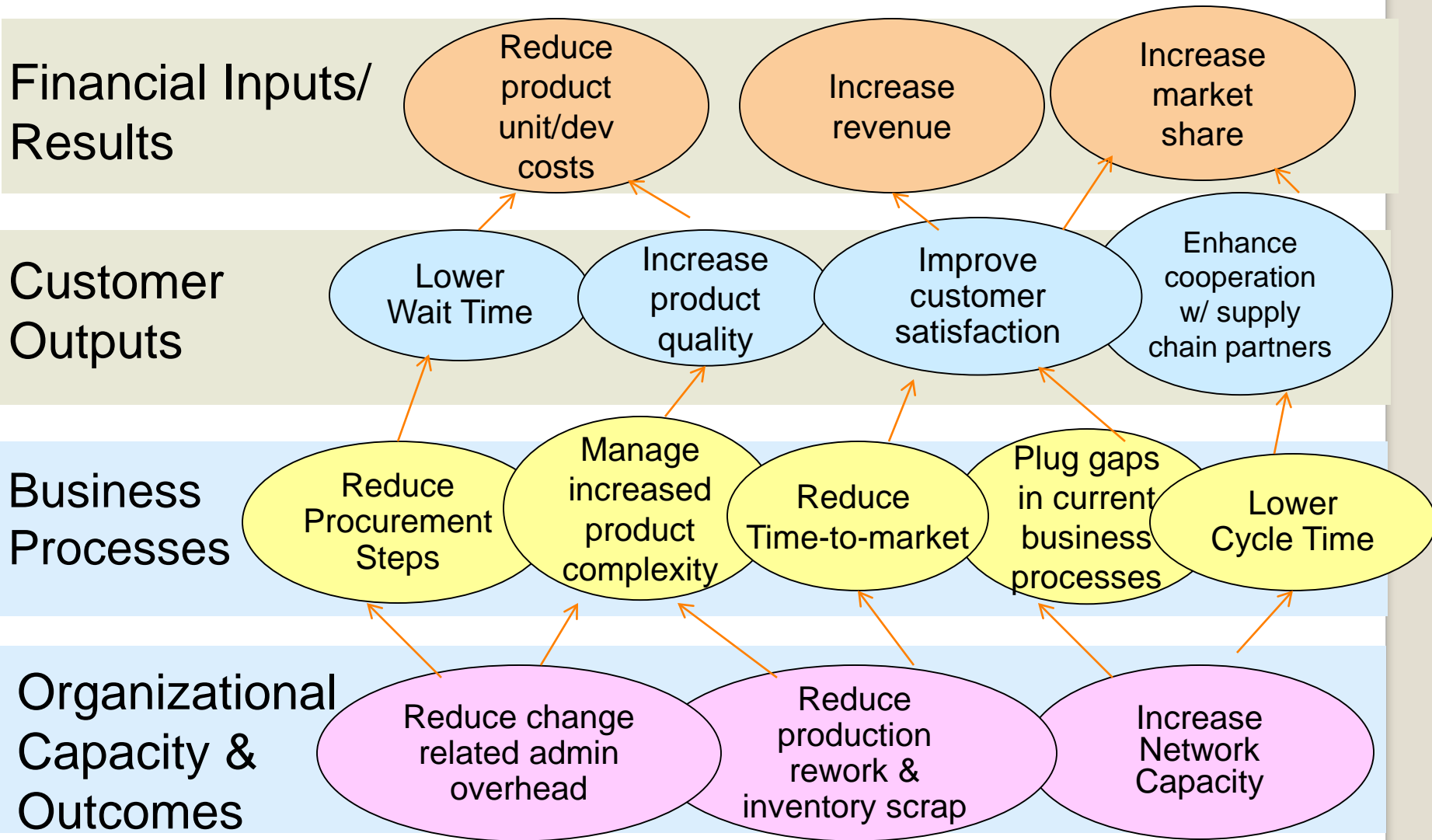
- The Balanced Scorecard for PLM

Basic Design Of A Balanced Scorecard Performance System



PLM Balanced Scorecard

PLM Strategy Map: PLM Objectives



- Input metrics
- Resources, including cost and workforce; Financial Results

- Process metrics
- Activities, efforts, workflow

***Are We Doing The Right Things?
(What?)***

Financial

Processes



Customers

Organizational
Capacity

***Are We Doing Things Right?
(How?)***

- Output metrics: Tactical & Efficiency
- Products and services produced

- Outcomes metrics: Strategic & Effectiveness
- Results, impacts

Balanced Scorecard Performance Measures

Measurement Categories

Customers

Achievement of Strategic Results
Business Impacts

Internal
Business
Processes

Changes in Process Efficiency

Financial /
Results

Return on Investment (Product Effectiveness)
Or
Input Measures (Resource Adequacy)

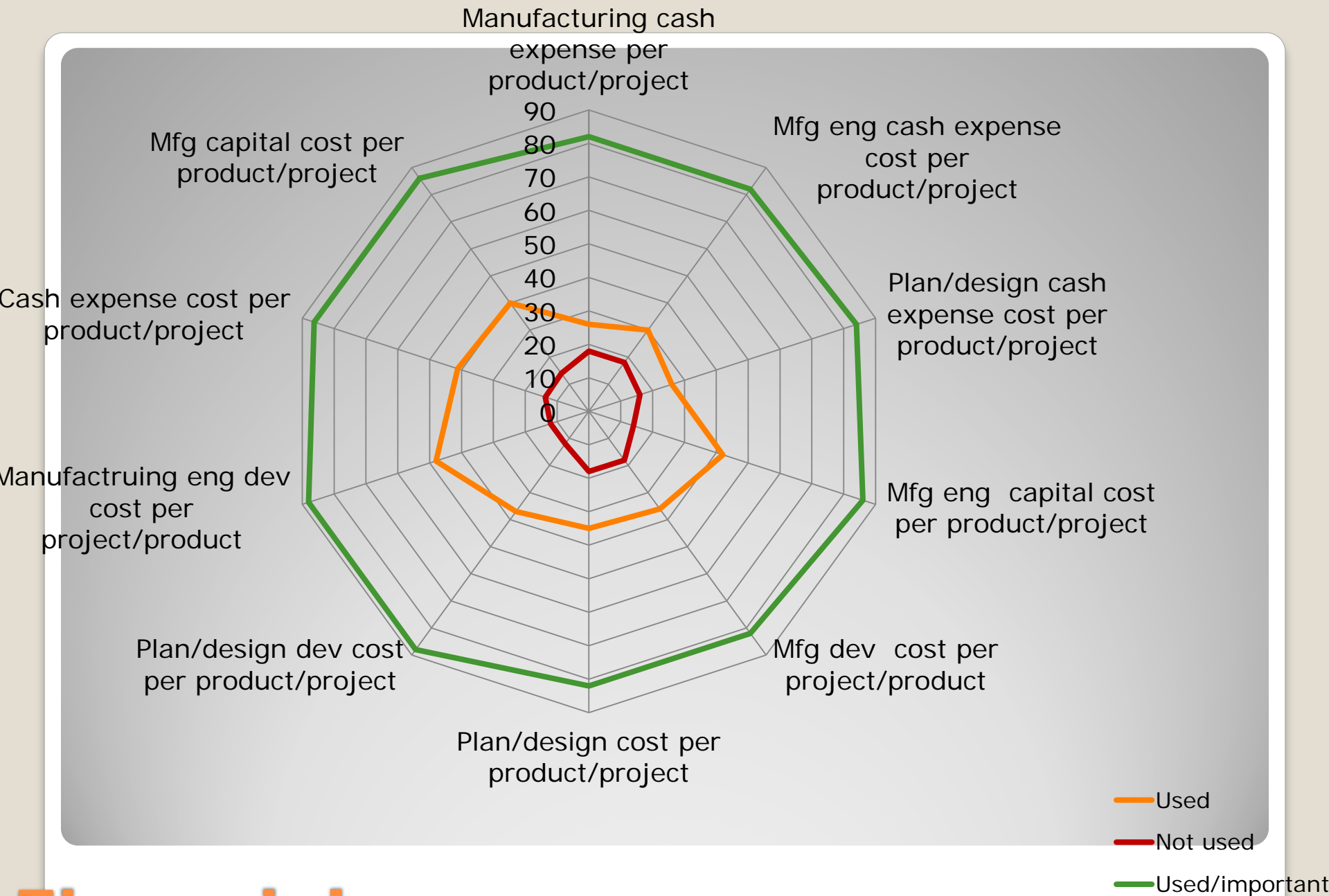
Organization
Capacity

Changes in Employee Knowledge, Skills, Attitudes, Behavior, and Abilities
Production Efficiency/Effectiveness Measures
Infrastructure Capacity Gain Measures

Identifying Metrics for the BSC

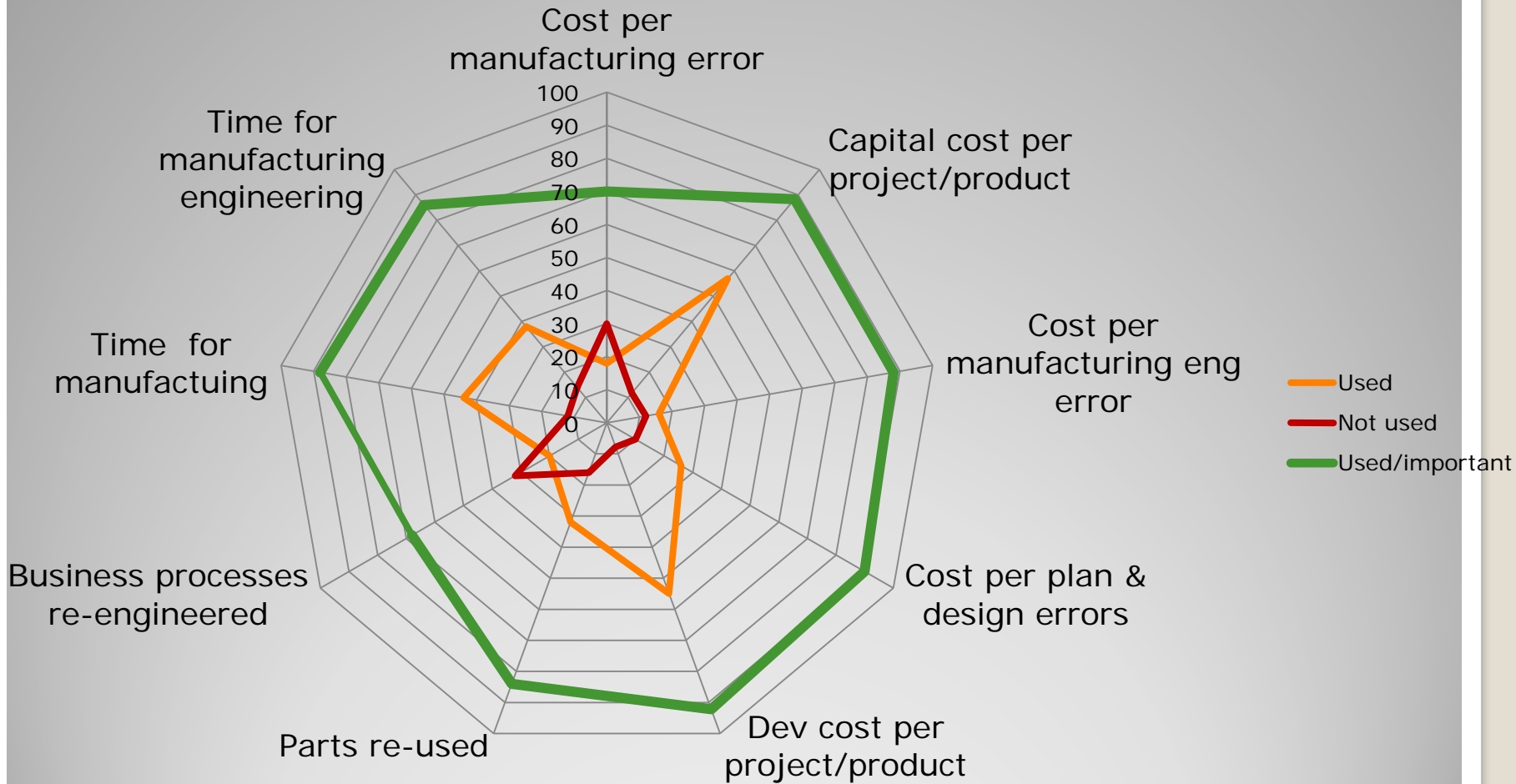
GGI (Goldense Group Inc) Metrics Categories

- Planning (lead) – strategic, measure progress being made toward objective (performance driver)
- Proactive – tactical, used after approval of product concept
- Predictive – predict final outcomes
- Reactive (lag) – achievement of an objective (output/outcome measure) accounts for what has happened

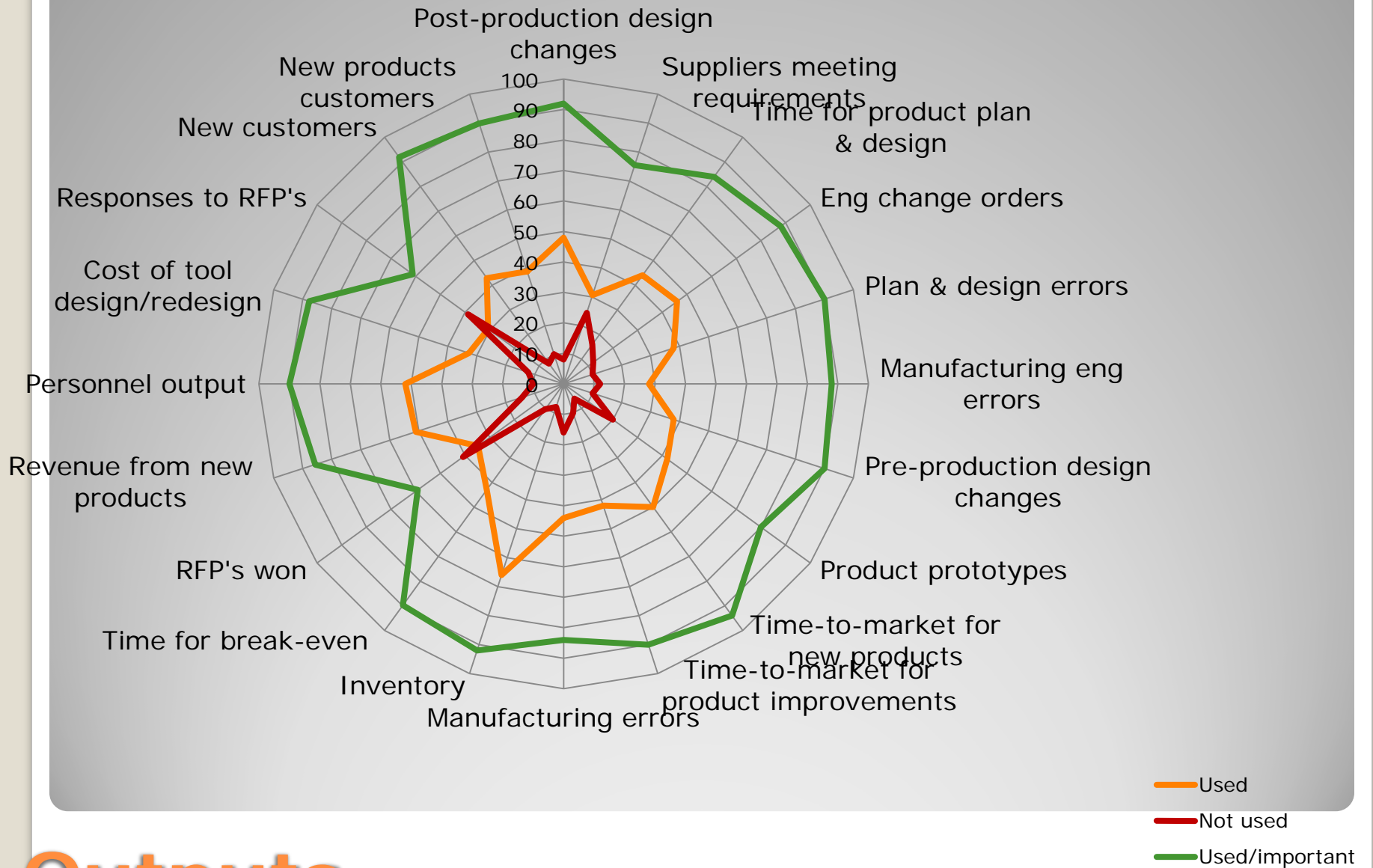


Financials

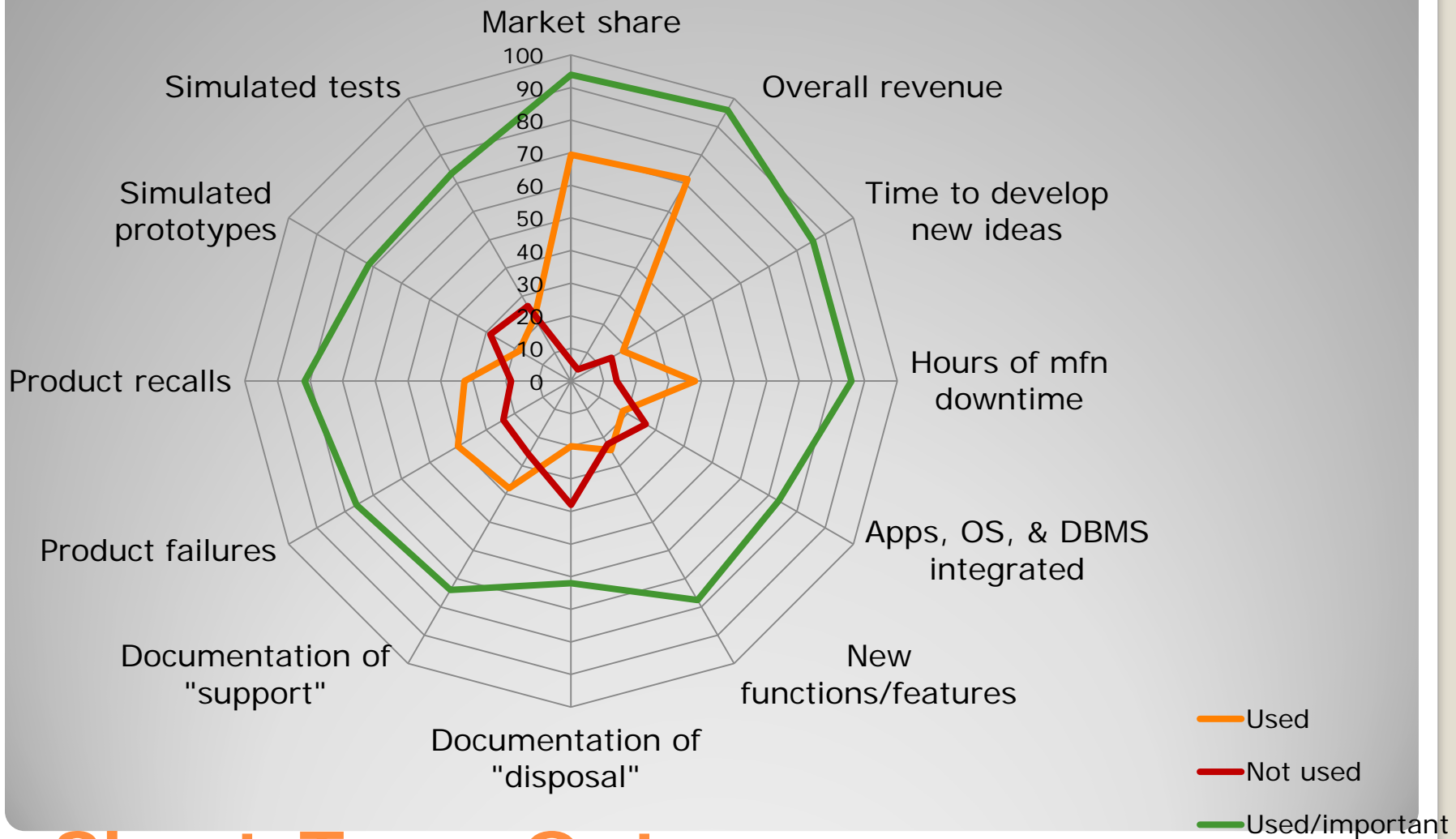
— Used
— Not used
— Used/important



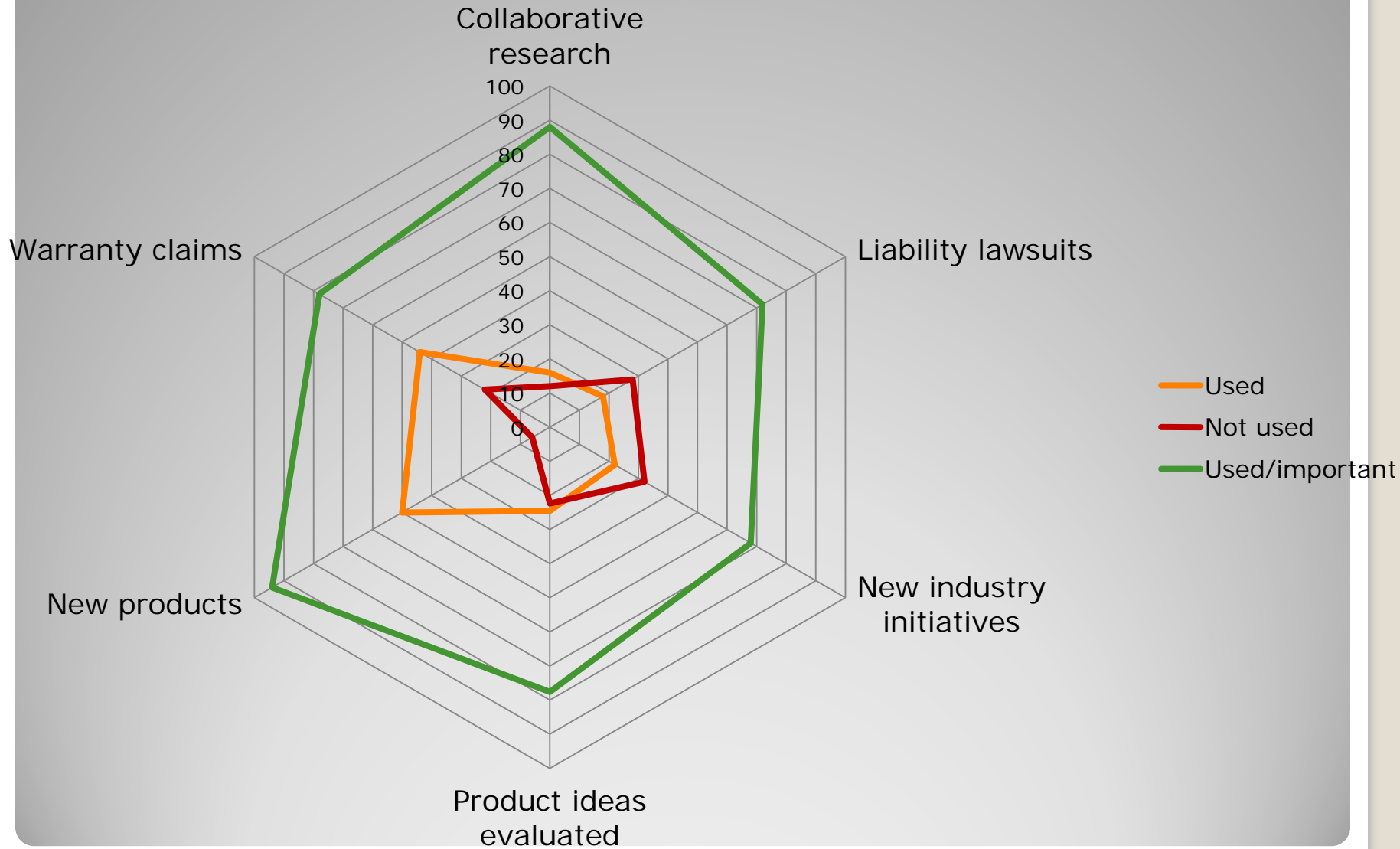
Process



Outputs



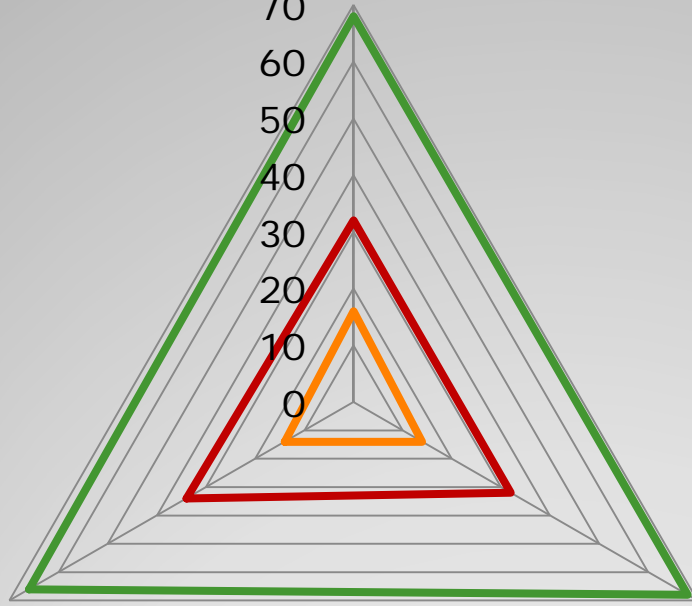
Short-Term Outcomes



Medium-term Outcomes

Reallocation
mfg eng
processs time

70
60
50
40
30
20
10
0



- Used
- Not used
- Used/important

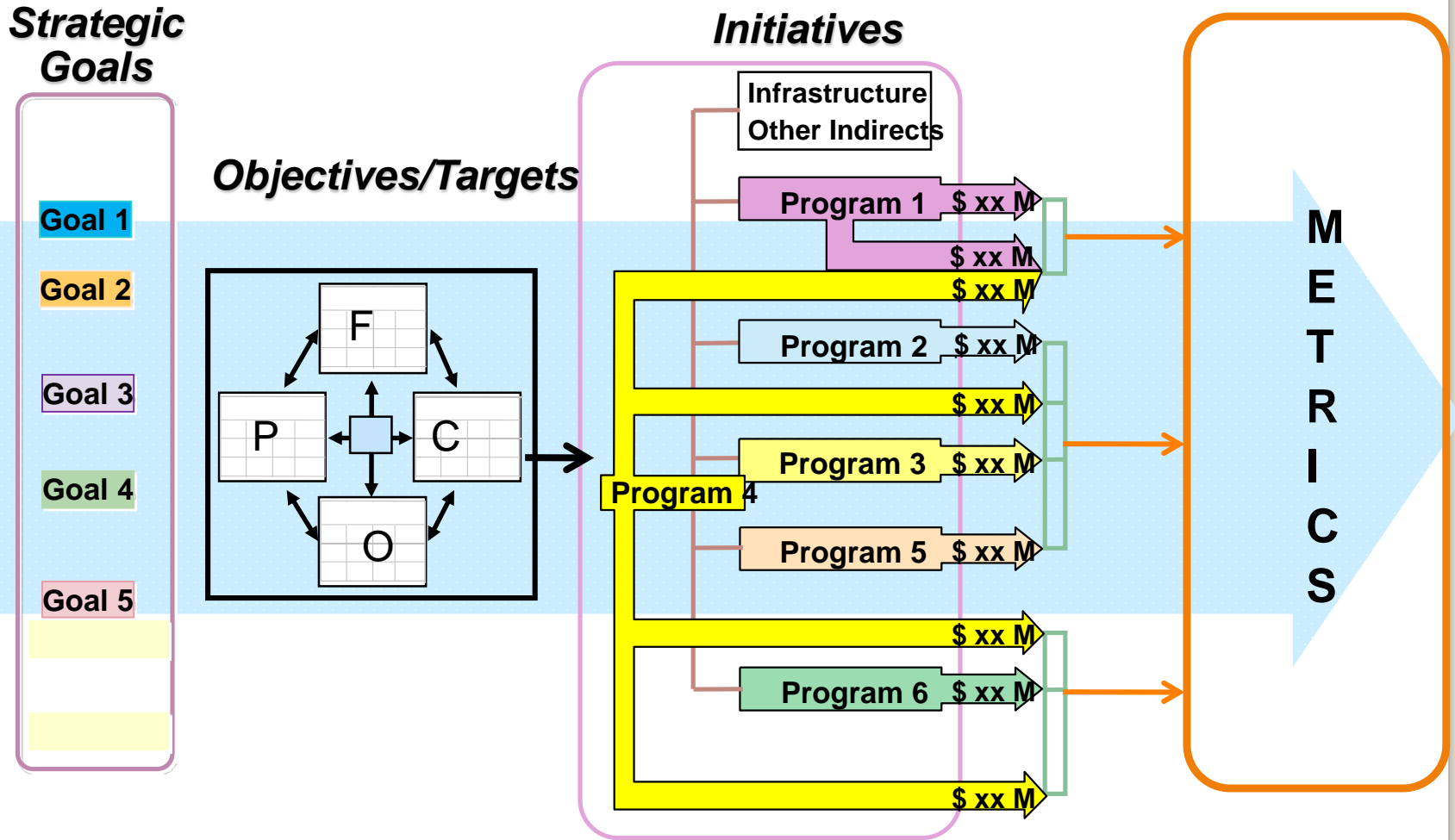
Reallocation
plan & design
process time

Reallocation
mfg process
time

Long-term Outcomes

Putting it all together

Performance-Based Measurement System



MEASURING PLM ROI

- $(T - E) + R = ALE$
- "T" is the cost of new PLM initiative.
- "E" is the dollar savings recovered from existing initiatives.
- "R" is the cost of non-PLM initiatives ().
- "ALE" is the Annual Loss Expectancy yield (the amount of money you will lose due to PLM and PLM initiatives).
- To determine the return on PLM investment, divide the expected annual loss (ALE) by total revenues realized after implementing the new PLM solution..."

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