

KPI for BPE

Ingegneria dei Processi Aziendali

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Terminology

Key Performance Indicators (KPI) - *"Measurable indicators that will be used to report progress that is chosen to reflect the critical success Strategic*

Critical Success Factors (CSF)-*"A factor considered to be most conducive to the achievement of a goal"*

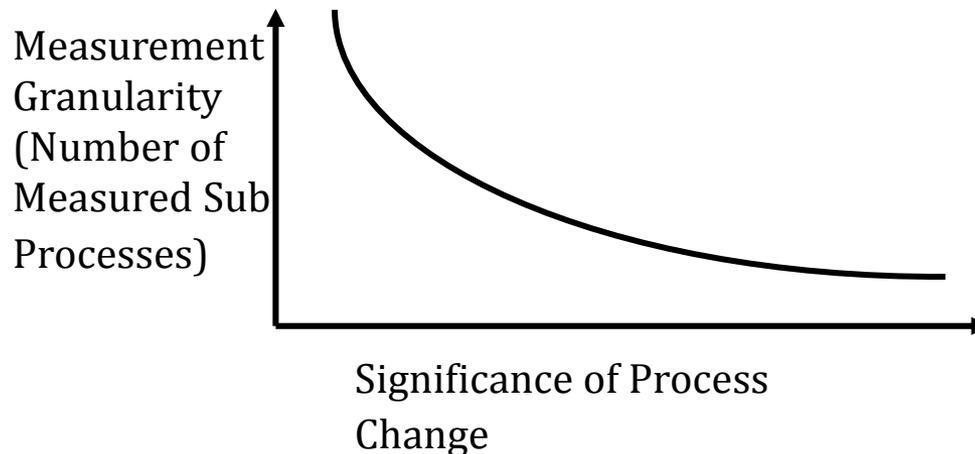
Strategic Aims- Are the tools we use to organise and focus our diverse activities. Through the Corporate Plan, we will define specific objectives and targets relating to each Strategic Aim

Measuring Processes

- **Review Process and Project measures**
- **Develop/Clarify measurement criteria**
- **Identify appropriate measures**
- **Gather measurement information**
- **Annotate the models and characteristics**

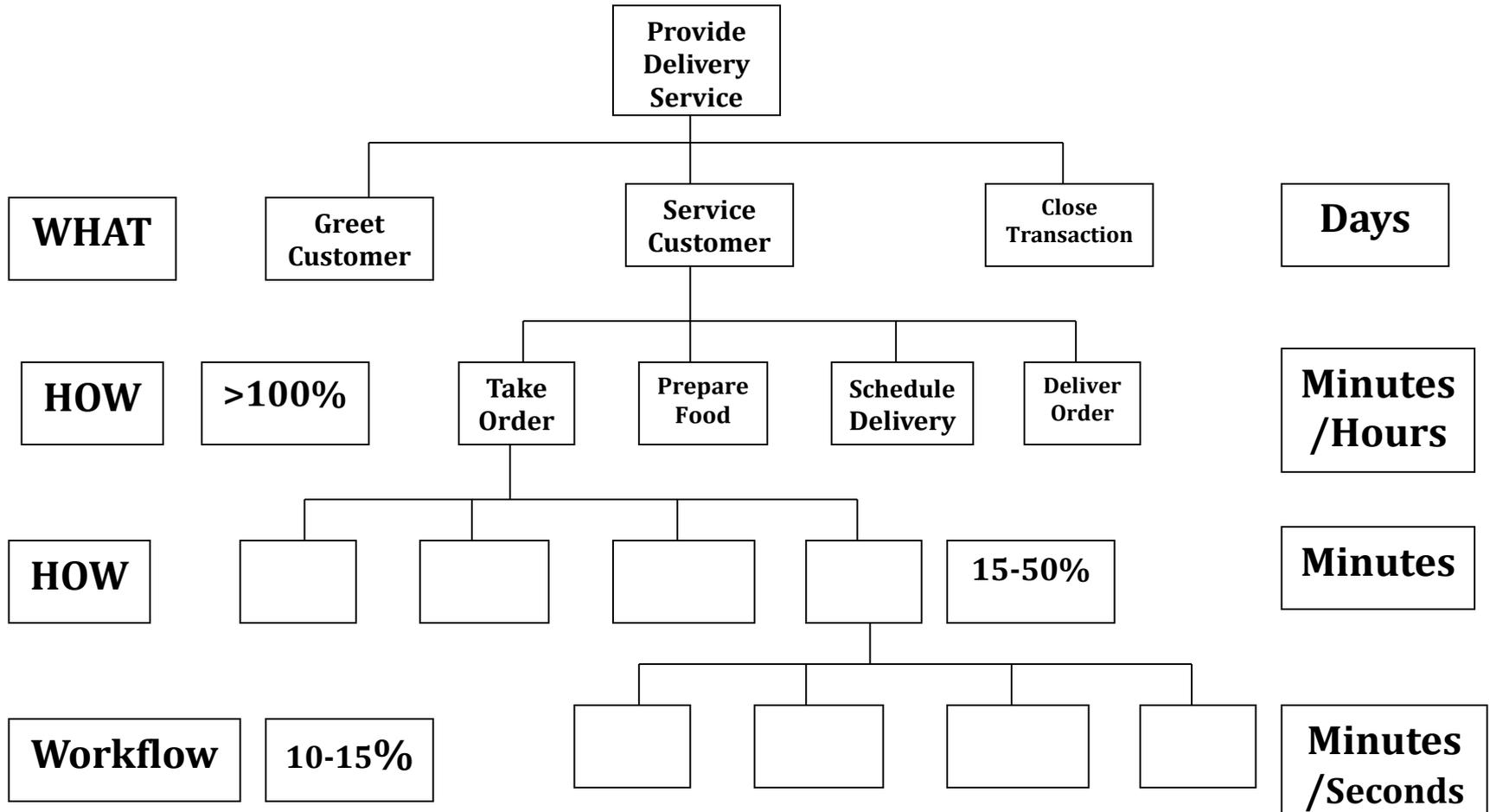
Identify Appropriate Measures

- ➔ Process and Project goals and objectives will determine required level of Measurement
- ➔ Can be a mix of process model levels



- ➔ Should at least measure overall process performance
- ➔ Details are required for incremental change, 80/20 tells where to drill

Identify Appropriate Measurement Levels



Review KPIs and Project Objectives

- **Key Performance Indicators**

- # of exceptions
- on-time
- number of complaints

Objective → Customer Satisfaction

Goals

- ✓ Eliminate non-value-added activities
- ✓ Improve the reliability of delivery-
- ✓ Reduce number of coupons given by 50%
- ✓ Simplify the process
- ✓ Improve cross-functional communication

Develop/Clarify Measurement Criteria

- **Timeliness** - understand your business cycles
 - ✓ should recognized and represent variations in operations
- **Validity** - must be a valid measure of process performance
 - ✓ orders filled and orders processed vs. pulls per hour
- **Completeness** - right level of measures for project objectives
 - ✓ who needs information and how much do they need
- **Inclusiveness** - all appropriate costs not just a few
 - ✓ should include all related costs, including such things as overhead, space, supplies, etc.
- **Cost Effectiveness** - measuring is not FREE
 - ✓ value of measurement vs. the cost of obtaining
- **Comparability** - before and after
 - ✓ apples - to - apples
- **Balanced** - include measurements from all three categories
- **Perspective** - various stakeholders
 - ✓ internal
 - ✓ external

Aspects of Measurement

Only Measure Performance Improvement Targets

Quality and Effectiveness Measures:

- ✓ Appropriateness
- ✓ Customer Satisfaction
- ✓ Quality
- ✓ Defects
- ✓ Cost of Non Conformance
- ✓ Price
- ✓ Responsiveness
- ✓ Consistency
- ✓ Profitability
- ✓ Market Share
- ✓ Real Value-added to process cost

Efficiency Measures:

- ✓ Cost
- ✓ Cycle time
- ✓ Wait time
- ✓ Wastage
- ✓ Scrap
- ✓ Spoilage

Adaptability Measures:

- ✓ Product and service variability
- ✓ Job satisfaction
- ✓ Ability to handle non standard customer requirements
- ✓ Time to profit
- ✓ Time to market
- ✓ More capable work force
- ✓ More flexible staff
- ✓ Equipment Capability
- ✓ Business Disruption
- ✓ Morale

Common denominators are often Revenue, Cost, and Customer Satisfaction

Process measures must be directly related to KPIs

Validating and Analyzing Processes

→ Run Workshops

→ Observe the Process Flow

→ Decompose and Prioritize Process Flows

→ Identify Evaluation Criteria for Quick Wins

→ Implement Quick Wins

Process Analysis Techniques

→ Process mapping interviews and facilitated workshops

→ Customer Focus Groups

→ Supplier Feedback

→ Observing the full process

→ Value-Added Analysis

→ Gap Analysis

→ Root Cause Analysis

→ Comparisons to Documented Procedures

Examine IT Enablers

Capture Information/ Recognize Triggers

- GUI
- Smart Cards
- PDAs
- Self-Identifying Tags
- Image Capture
- Bar Coding
- OCR
- Speech Recognition
- Phone/Fax
- Biometrics
- Wearable Computers

Provide Information for Decision Making and Customer Service

- Multimedia Knowledge Access
- Natural Language Information Retrieval
- Data Warehouse
- Geographic IS
- Expert Systems
- Electronic Books

Pass Control/Hand-off

- ☞ EDI/edi
- ☞ IVR
- ☞ Workflow Applications
- ☞ Workgroup Applications
- ☞ Documents/Forms/Images
- ☞ Internet/Intranet/Extranet
- ☞ xDSL (Generic Digital) Subscriber Line
- ☞ Cable Modems
- ☞ IP Telephony
- ☞ Internet Chat

Build Evaluation Criteria

- 📁 **Refer to project goals and objectives**
- 📁 **Start with process KPIs, vision, and objectives**
- 📁 **Convert into criteria that can be used to evaluate the ideas**
- 📁 **Assign a weight to each criteria**

Increase Customer Service	35
Increase Profits	55
Improve Employee Morale	25
Improve On-time Delivery	45

Technology / Process Matrix

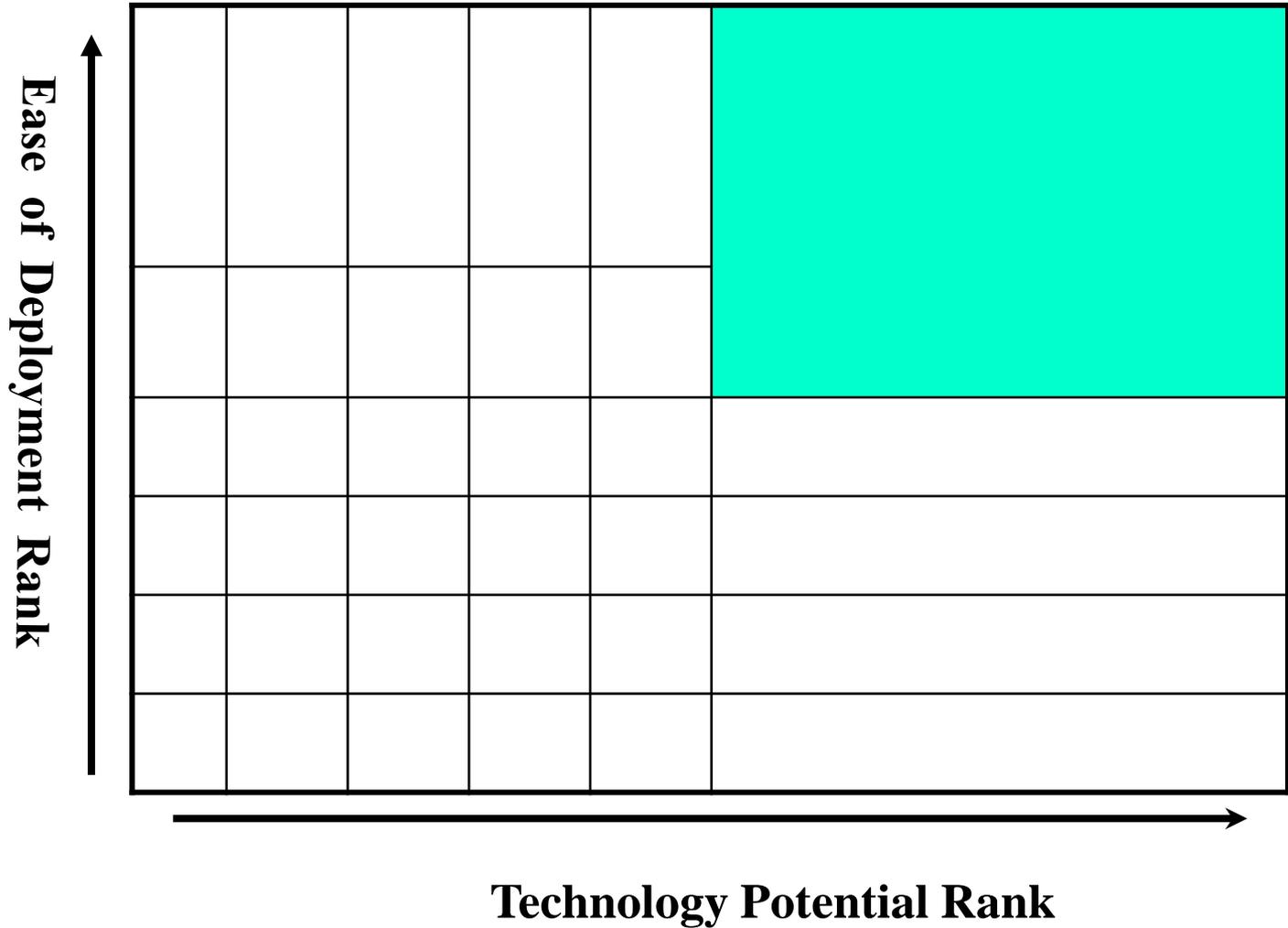
Ranked Process	Technology	Technology	—		
Process 1	Score				
Process 2					

Ranking					

Score: Ease of Deployment and Technology Potential

Prepare 2 matrices: one for ease of deployment and other for technology potential

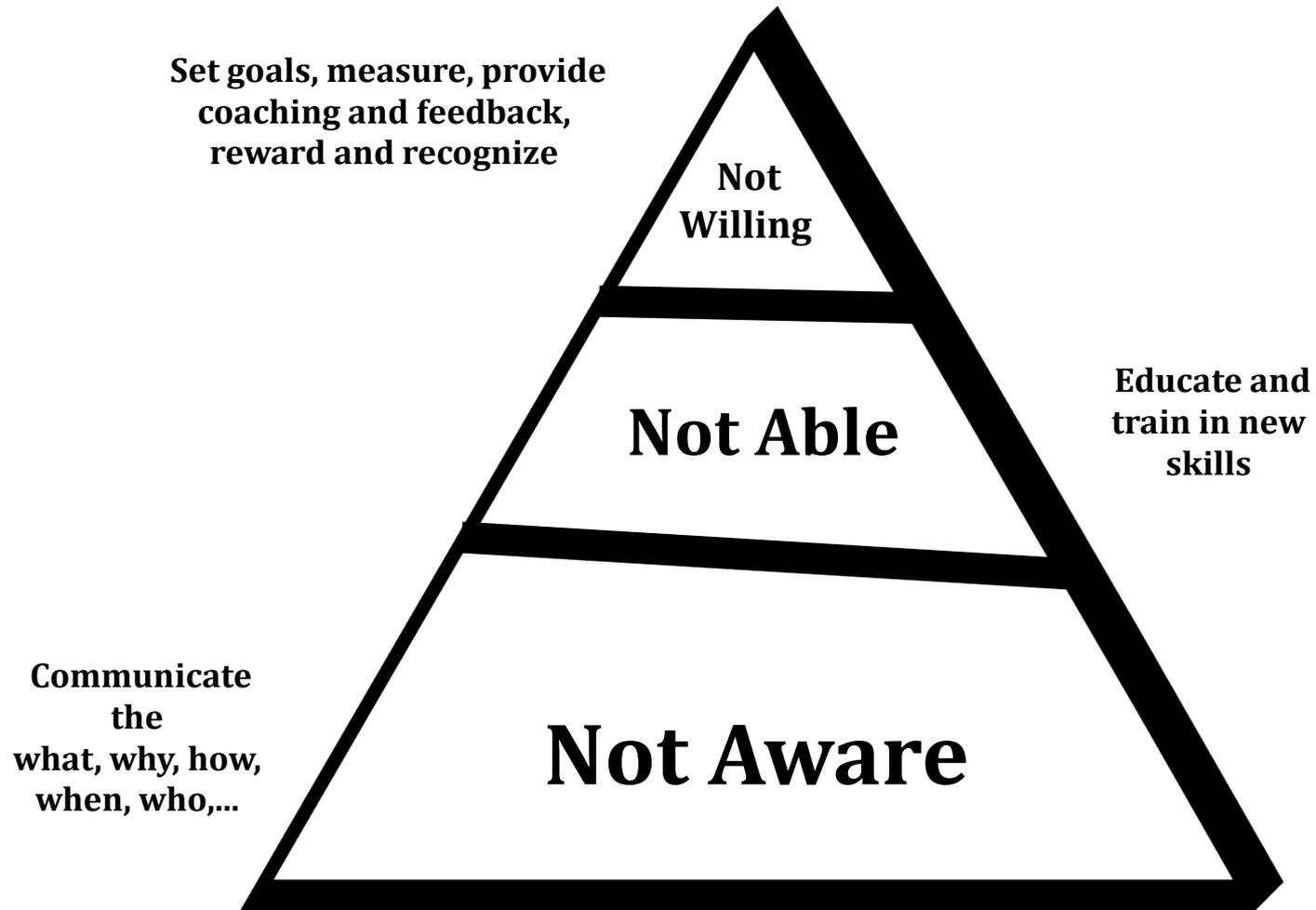
Technology Migration Strategy



E-Business Project Milestones

-  **Identify processes**
-  **Identify enablers**
-  **Prepare business-technology matrix**
-  **Identify IT project tasks**
-  **Prepare action plan**
-  **Search/develop solutions**
-  **Implement/deploy**
-  **Improve continuously**

Overcoming Resistance to Change



Key Performance Indicator

Generally there are two approaches

KPI based on Strategic themes

KPI Based on Critical success factors

They both drive from:

Objectives from strategic aims

Performance indicators flowing from objectives

Status and progress indicators

Year on year change indicators

Strategic Aims

Over the period Jan 2012 to Dec 2012 all employers are to demonstrate Continuous Improvement in their health and safety management performance whilst being benchmarked using a suitable benchmarking tool.

What IS A KPI

A KPI (Key Performance Indicator) is simply a metric that is tied to a target.

Most often, a KPI represents how far a metric is above or below a pre-determined target.

KPI's usually are shown as a ratio of actual to target and are designed to instantly let a business user know if they are on or off their plan without the end user having to consciously focus on the metrics being represented.

SMART is an abbreviation for the five conditions of good KPI's:

- * Specific – It has to be clear what the KPI exactly measures. There has to be one widely-accepted definition of the KPI to make sure the different users interpret it the same way and, as a result, come to the same and right conclusions which they can act on.**
- * Measurable – The KPI has to be measurable to define a standard, budget or norm, to make it possible to measure the actual value and to make the actual value comparable to the budgeted value.**
- * Achievable – Every KPI has to be measurable to define a standard value for it. It is really important for the acceptance of KPI's and Performance Management in general within the organization that this norm is achievable. Nothing is more discouraging than striving for a goal that you will never obtain.**

SMART is an abbreviation for the five conditions of good KPI's:

- **Relevant – The KPI must give more insight in the performance of the organization in obtaining its strategy. If a KPI is not measuring a part of the strategy, acting on it doesn't affect the organizations' performance. Therefore an irrelevant KPI is useless.**
- * **Time phased – It is important to express the value of the KPI in time. Every KPI only has a meaning if one knows the time dimension in which it is realized. The realization and standardization of the KPI therefore has to be time phased.**

Critical Success Factors

Critical success factors – key issues requiring management attention

- **Represent real issues faced “here and now”**

Performance indicators relate to critical success factors not strategic aims – offers greater flexibility

- **Critical success factors can be mapped to strategic aims**

How To Achieve Success

Identify areas of activity that require greater attention

Performance indicators that are grounded (SMART)

Striking a balance between a comprehensive set of KPIs and information overload

Selecting Project Specific KPI

“What you measure is what you get.”
(Kaplan and Norton, 1992).

**KPI help define the achievement of the
CSF**

- Number depends on their comprehensiveness and importance of the CSF to overall project success.

Sources of potential KPI

- **Do the KPIs provide YOU with a clear indication of progress to date and areas requiring greater attention?**
- **Strategic aims do not always lend themselves to measurement and require associated objectives**
- **No difficulty with objectives extracted from the Corporate Strategy but derived objectives may have no real ownership**

Introduction of KPI's

- **Introduction of KPIs represents a major step forwards**
- **Enables YOU to understand where progress is being made towards achieving strategic aims and those areas which need to be addressed**
- **The management review in BS EN ISO and OHSAS standards also help focus performance**

Is your H&S management good?

How do you know?

Current Position?

“We don’t have many accidents”

“We haven’t had many RIDDORs”

“Operatives get loads of training”

“There’s PPE if they need it”

“We do regular H&S inspections”



Establish Current Position....

No. of accidents

No. H&S inspections

Frequency of inspections

Average inspection score

H&J Martin FM - HSQE		H&J MARTIN Facilities Management
Health & Safety Inspection for S:845		
Date Printed 07-November-2011		
Task ID: S:845	Audit Date: 03-November-2011 13:58	Auditor Name: Joh and
Building: []	COMPLEX MAINT	Control Manager:
	Inspection Score 47 71.21%	
		Pre Start
Programme of works	3	
CDM Review form	1	
Site operations drawing/sketch	-	
H&S Plan or Method Statement	2	
Risk Assessments and Record Log	2	
Method Statements and Record Log	2	

Meaningful...

Strategy

Aims/Objectives

Policy

Regulatory requirements

Industry standards

Moral

Health

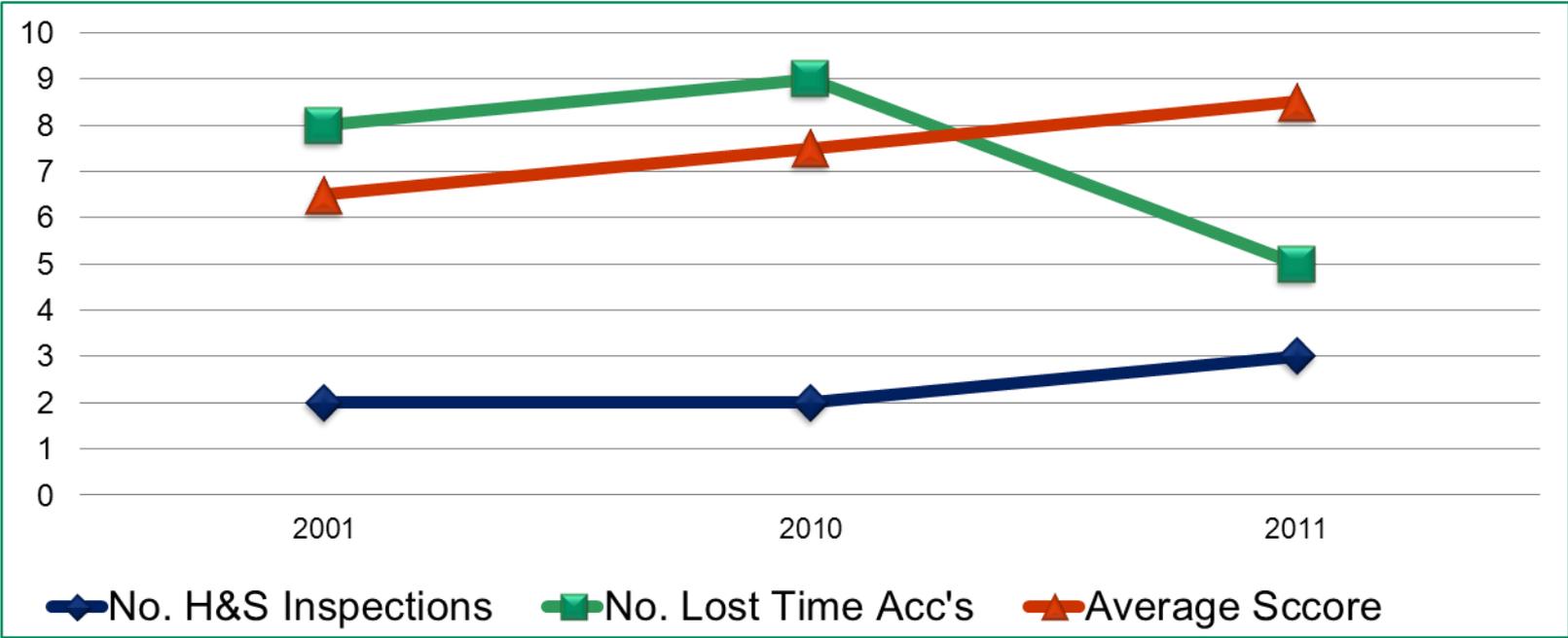
Social



Meaningful....

Accidents

Inspections



What has been asked of us?

Strategic Aim

Continuous
improvement
in health and
safety
management
performance

What are we doing?

Strategic Aim	Initiatives
Continuous improvement in health and safety management performance	New inspection regime, introducing quarterly inspections.
	<u>Destination Zero</u> Poster, email and leaflet campaign aimed encouraging staff to think what if...not if only.

Lets introduce our KPIs.....

Strategic Aim	Initiatives	KPI
Continuous improvement in health and safety management performance	New inspection regime, introducing quarterly inspections.	Number of H&S Inspections
	<u>Destination Zero</u> Poster, email and leaflet campaign aimed encouraging staff to think what if...not if only.	Number of Lost Time Accidents

Our benchmark or baseline...

Strategic Aim	Initiatives	KPI	Last year
Continuous improvement in health and safety management performance	New inspection regime, introducing quarterly inspections.	Number of H&S Inspections	3
	<u>Destination Zero</u> Poster, email and leaflet campaign aimed encouraging staff to think what if...not if only.	Number of Lost Time Accidents	5

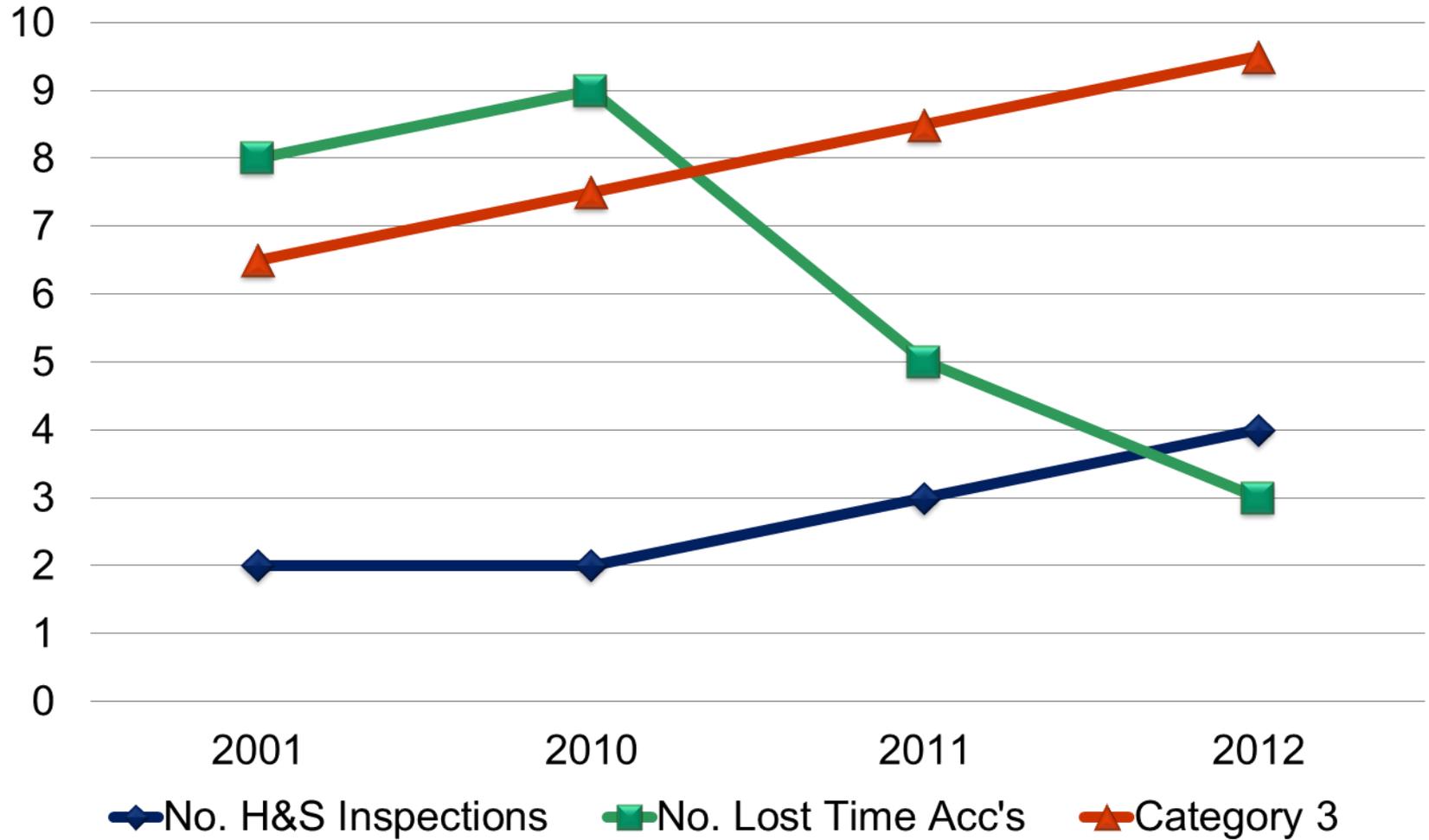
What is our target?

Strategic Aim	Initiatives	KPI	Last year	2012 Target
Continuous improvement in health and safety management performance	New inspection regime, introducing quarterly inspections.	Number of H&S Inspections	3	4
	<u>Destination Zero</u> Poster, email and leaflet campaign aimed encouraging staff to think what if...not if only.	Number of Lost Time Accidents	5	2

Lets measure how we actually did..

Strategic Aim	Initiatives	KPI	Last year	2012 Target	Actual
Continuous improvement in health and safety management performance	New inspection regime, introducing quarterly inspections.	Number of H&S Inspections	3	4	4
	<u>Destination Zero</u> Poster, email and leaflet campaign aimed encouraging staff to think what if...not if only.	Number of Lost Time Accidents	5	2	3

Revisit the KPIs.....Success?



Points of note

Quantity does not equal quality

Measure what's most important

Don't let the cost of measuring exceed the value of the results

The Balanced Scorecard (BSC) - "One of the most important management practices of the past 75 years" HBR

Measurement and Reporting



Alignment and Communication



Enterprise-wide Strategic Management

1992

Articles in Harvard Business Review:

- "The Balanced Scorecard — Measures that Drive Performance" January - February 1992
- "Putting the Balanced Scorecard to Work" September - October 1993
- "Using the Balanced Scorecard as a Strategic Management System" January - February 1996

Informed Risk Decisions

Based on presentation of Balanced Scorecard Collaborative

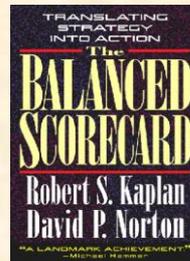
2009

Endorsement by Gartner Group 2009: The balanced scorecard methodology developed by Drs. Kaplan and Norton extends beyond financial measures to link vision to action.

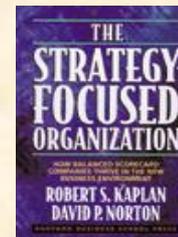
The Harvard Business Review has acclaimed the balanced scorecard as one of the most influential ideas of the past 75 years

Source: Gartner Group; 2009 Feature Article: Business Value of IT — Non-financial Measurements

"The Balanced Scorecard" is translated into 18 languages



1996



2000

Financial and non-financial metrics - Key Performance Indicators (KPI)

Key Performance Indicators (KPI) are financial and non-financial metrics used to quantify objectives to reflect strategic performance of an organization.

In times of uncertainty, managing the factors that drive business value becomes especially significant.

Standard financial measures are insufficient for capturing all the critical elements of business worth.

It is crucial to establish standards for non-financial measurement of business performance.

These metrics would include, for example, leading-edge indicators for an enterprise's ability to innovate as well as manage demand, supply and shared services. Such metrics should be standard, objective and capable of being audited. Supported by new reference models, methodologies and advancement in IT, performance measurement can provide greater insights into the cause-and-effect relationships between operating events and financial results.

Such knowledge depends on measures that expand the traditional financial metrics to encompass non-financial elements that offer a platform for management of performance.

[The balanced scorecard methodology developed by Drs. Kaplan and Norton extends beyond financial measures to link vision to action. The Harvard Business Review has acclaimed the balanced scorecard as one of the most influential ideas of the past 75 years.](#)

Based on: Gartner Group Feature Article: Business Value of IT — Non-financial Measurements; 2009

The Balanced Scorecard Methodology: Making the strategy tangible, understood and shared

✚ At the highest level, the Balanced Scorecard is a framework that helps organizations to translate strategy into operational objectives that drive both behavior and performance.

Source: Balanced Scorecard Collaborative/Palladium

✚ The BSC is a structured approach to performance measurement and performance management that links the organization's strategic thinking to the activities necessary to achieve desired results
The BSC is a vehicle for communicating an organization's strategic direction and for measuring achievements towards these predetermined objectives
The BSC clearly establishes linkage between strategic objectives, the measures for determining progress, the stretch targets established, and the focused initiatives needed to move the organization forward to meet those organizational goals

Source: USA, Department of Energy Procurement System

Strategy

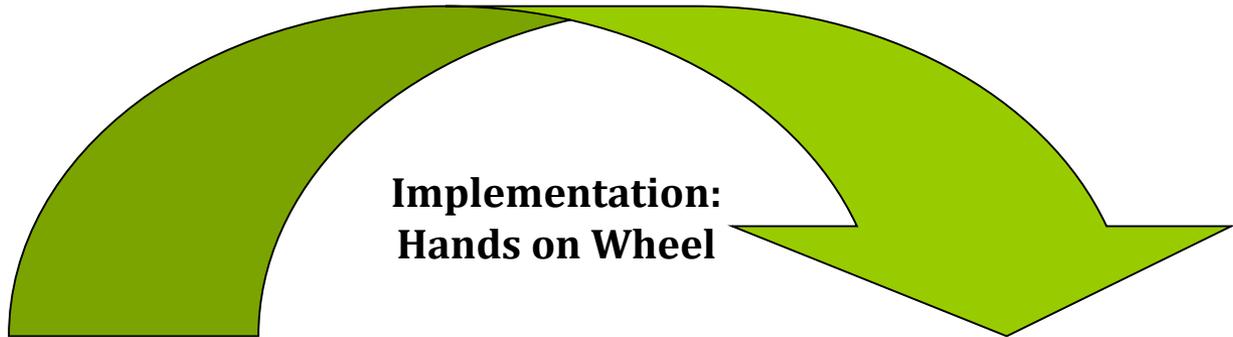
“A general method for achieving specific objectives. It describes the essential resources and their amounts, which are to be committed to achieving those objectives. It describes how resources will be organized, and the policies that will apply for the management and use of those resources.”

Source: Engineering Strategy Development; Definition of Strategy; Feb 2004 <http://www.johnstark.com/es5.html>

Please note:

The term Strategy is intuitively perceived as relating to Enterprise-wide strategic objectives; however it may describe also departmental/functional objectives/goals/targets such as of Customer Service dept...

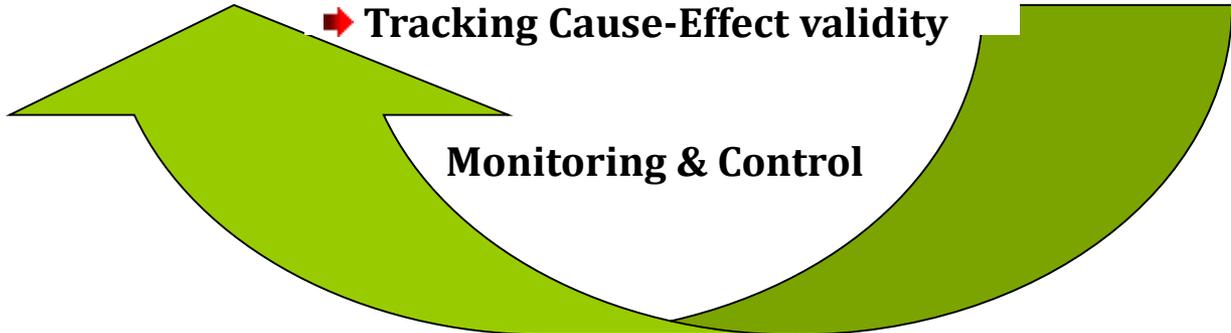
The Strategy Landscape: Strategy Implementation, monitoring and control



Enterprise-wide strategic objectives
and/or departmental/functional goals
and targets

Key Performance Indicators (KPI)
put to work by applying, adapting
and tailoring the **Balanced
Scorecard methodology**

- Drilling down
- Analyzing
- Tracking Cause-Effect validity



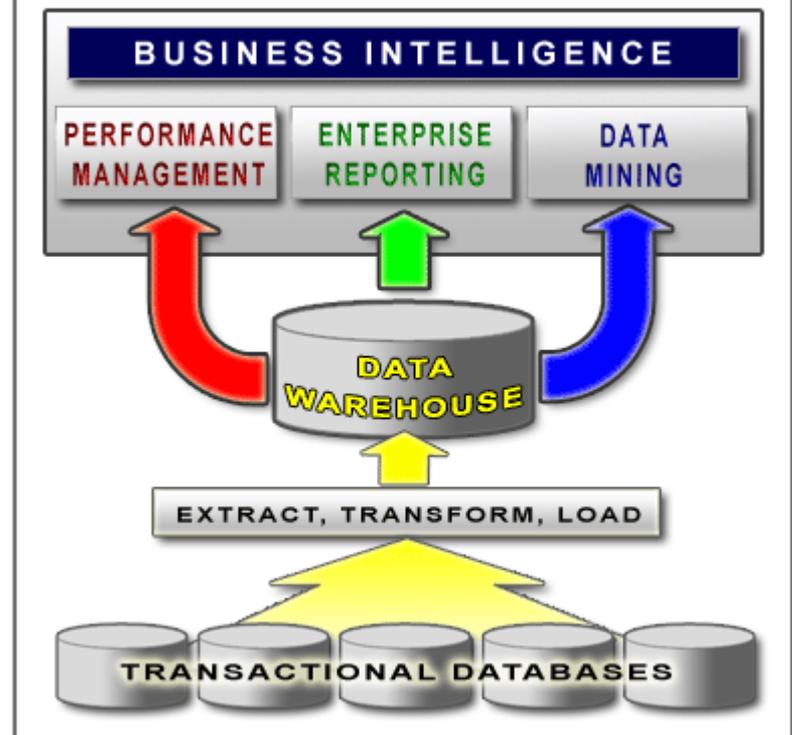
Business Intelligence (BI)/Analytics and Balanced Scorecard

Balanced Scorecard is to be positioned as top-level business intelligence linking operational achievements to vision, strategy and financial & non-financial measure combination

“Business intelligence uses knowledge management, data warehouse[ing], data mining and business analysis to identify, track and improve key processes and data, as well as identify and monitor trends in corporate, competitor and market performance.”

Source: www.bettermanagement.com

The Balanced Scorecard framework



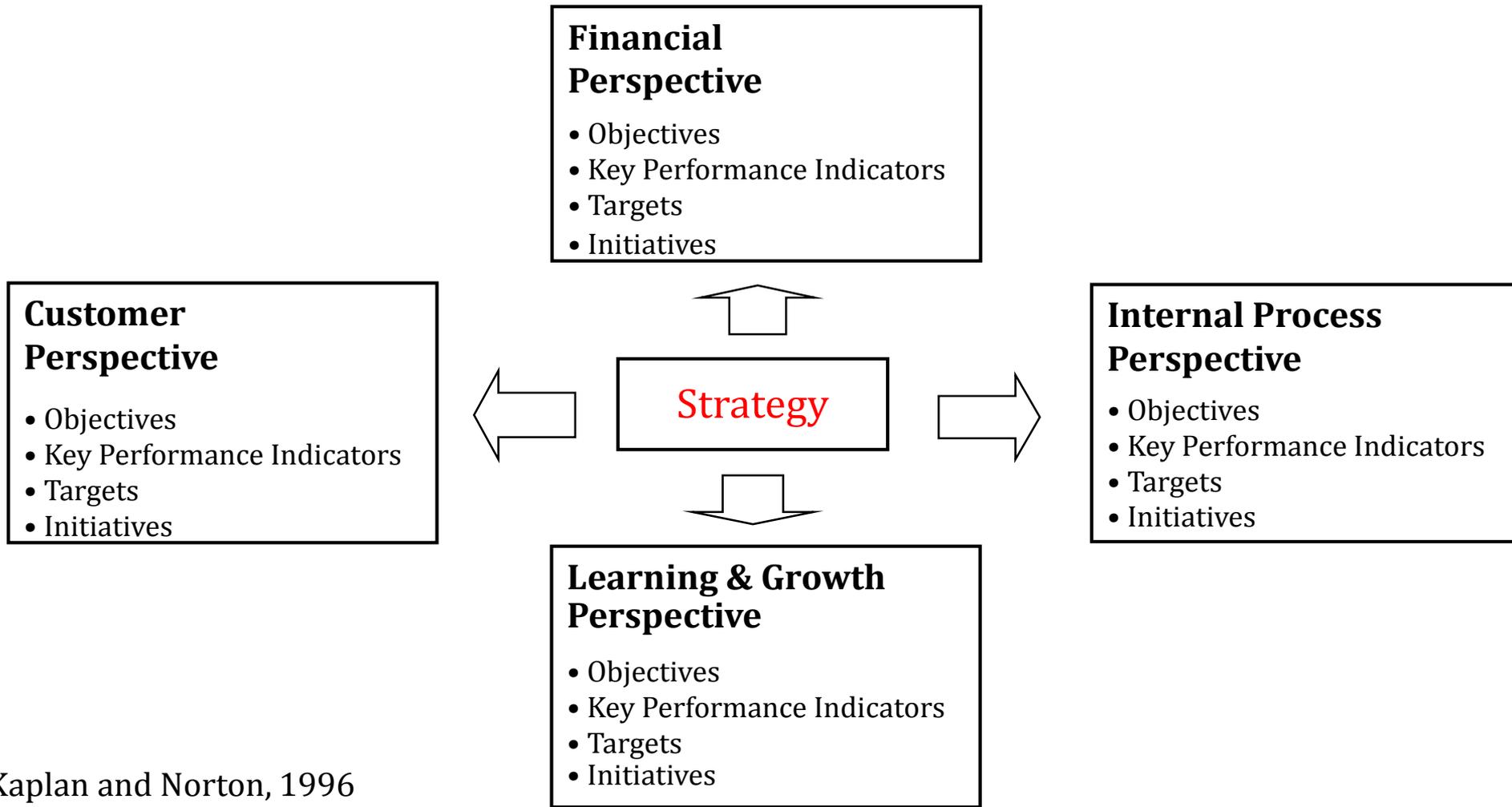
There is a consistent set of “best practices” applied by successful BSC users



GETTING ACQUAINTED WITH THE BALANCED SCORECARD

What is meant by “Balanced”

The task of developing a comprehensive strategy demands systematic consideration and integration of various perspectives. We have to balance between financial and non-financial considerations and apply a measure combination. The basic framework as conceived by Kaplan and Norton, 1996 is presented below. **The actual contents of each perspective are tailored to the specific organizational/unit realities, needs and challenges.** For making the strategy explicit we use the Strategy Map/s



Tailoring to the specific organizational/unit realities, needs and challenges - government procurement service example



What do we balance

Financial versus Non-financial measures

Tangible versus Intangible assets

Long-term versus Short-term Goals

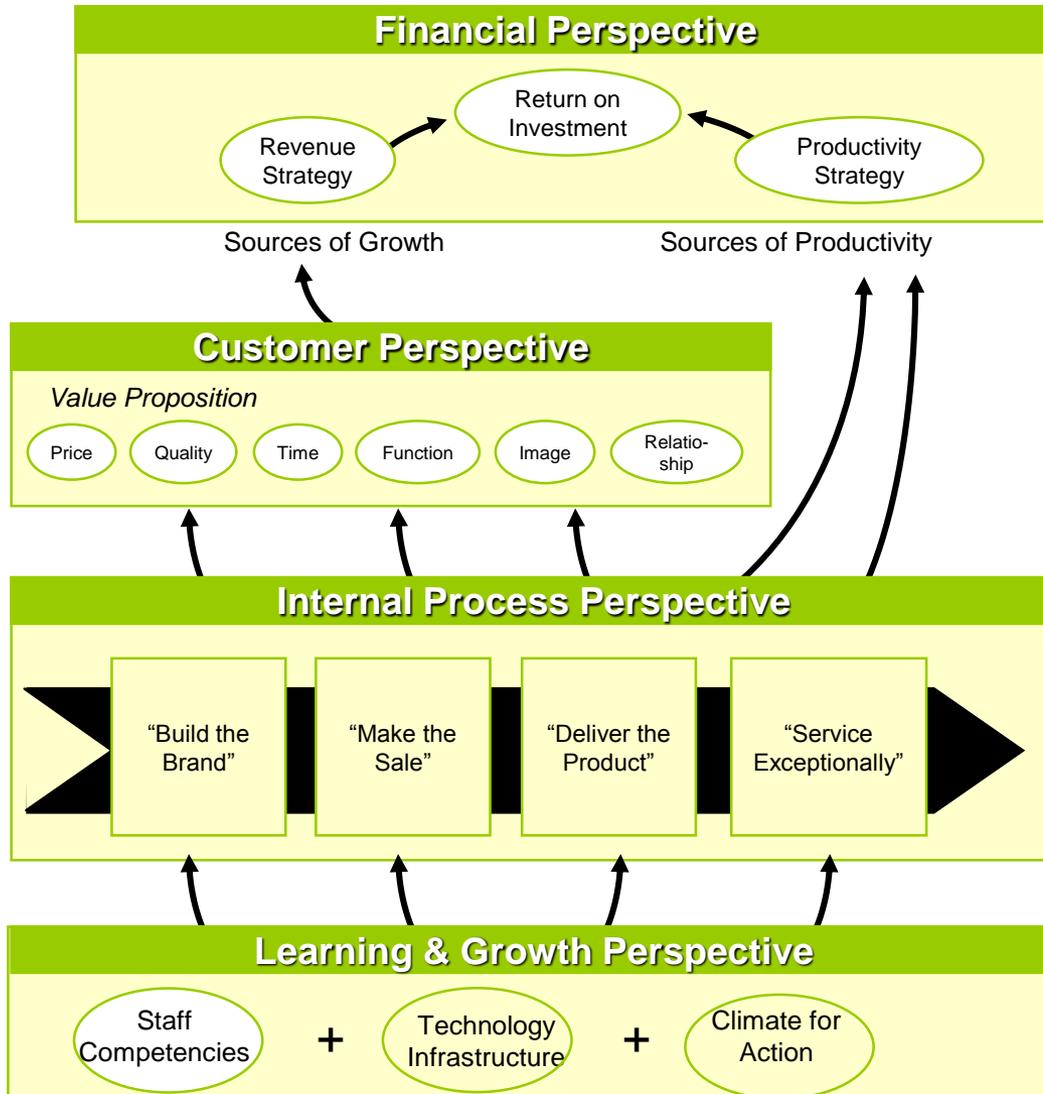
Internal versus External Perspective

Performance Drivers versus Outcomes



Cause-effect relationships hypotheses

Example of the Basic Building Blocks of the Strategy and displaying the strategy's cause-effect hypotheses



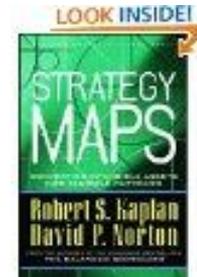
1. The economic model of key levers driving financial performance

2. The value proposition of target customers

3. The value chain of core business processes

4. The critical enablers of performance improvement, change and learning

Making the strategy's hypotheses explicit: **the Strategy Map**



“A strategy map for a Balanced Scorecard makes explicit the strategy’s hypotheses. Each measure of a Balanced Scorecard becomes embedded in a chain of cause-and-effect logic that connects the desired outcomes from the strategy with the drivers that will lead to the strategic outcomes.”

The Strategy-Focused Organization by Kaplan and Norton 2001

Strategy Maps – A Better Way to Communicate Strategy

**Executive consensus and
accountability:**

**Building the map eliminates
ambiguity and clarifies
responsibility.**

Educate and Communicate:

**Build awareness and
understanding of organization
strategy across the
workforce.**

Ensure Alignment:

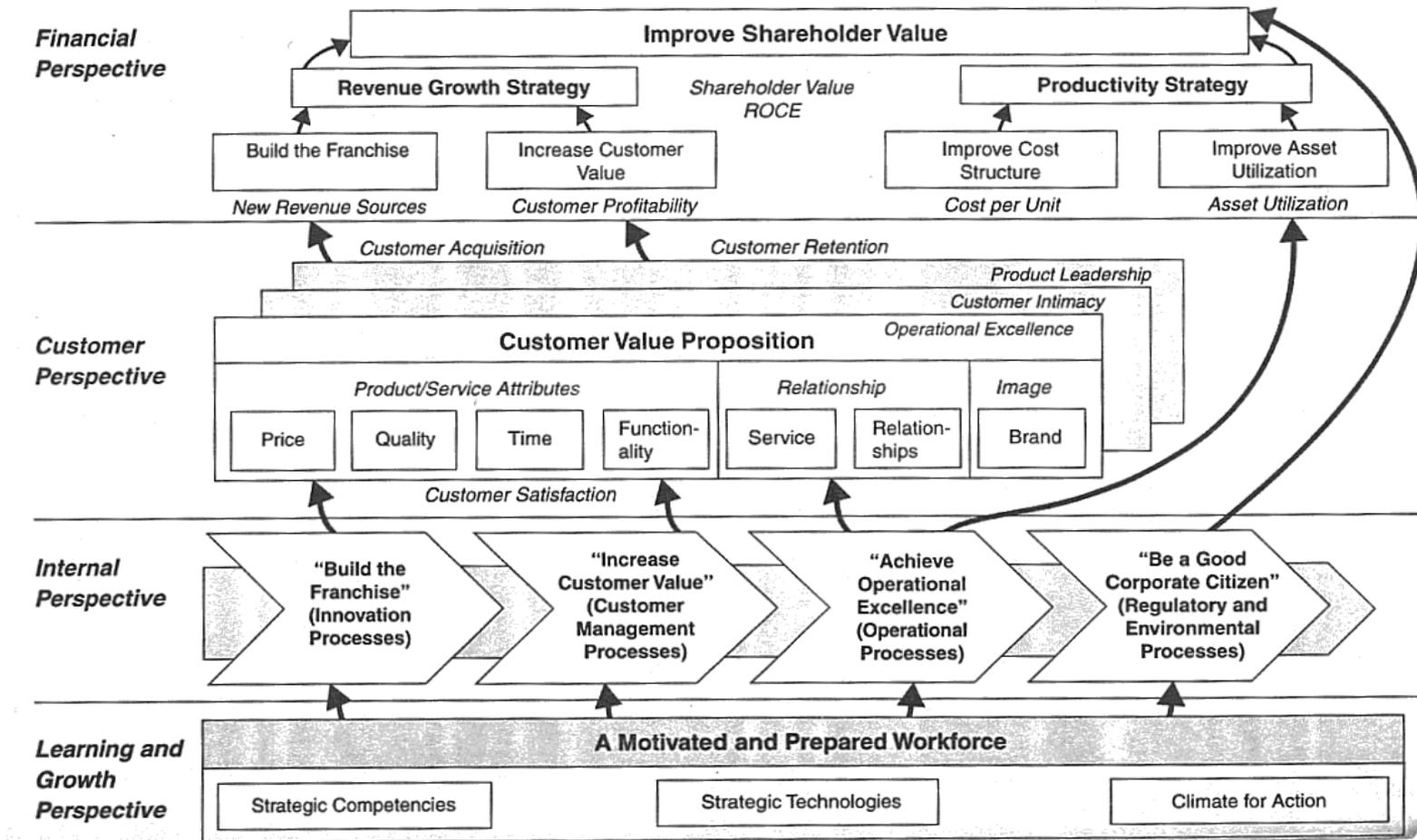
**Each sub-unit and individual
link their objectives
to the map.**

Promote Transparency:

**Communicate with and
educate constituents, partners,
oversight bodies, and the
general public.**

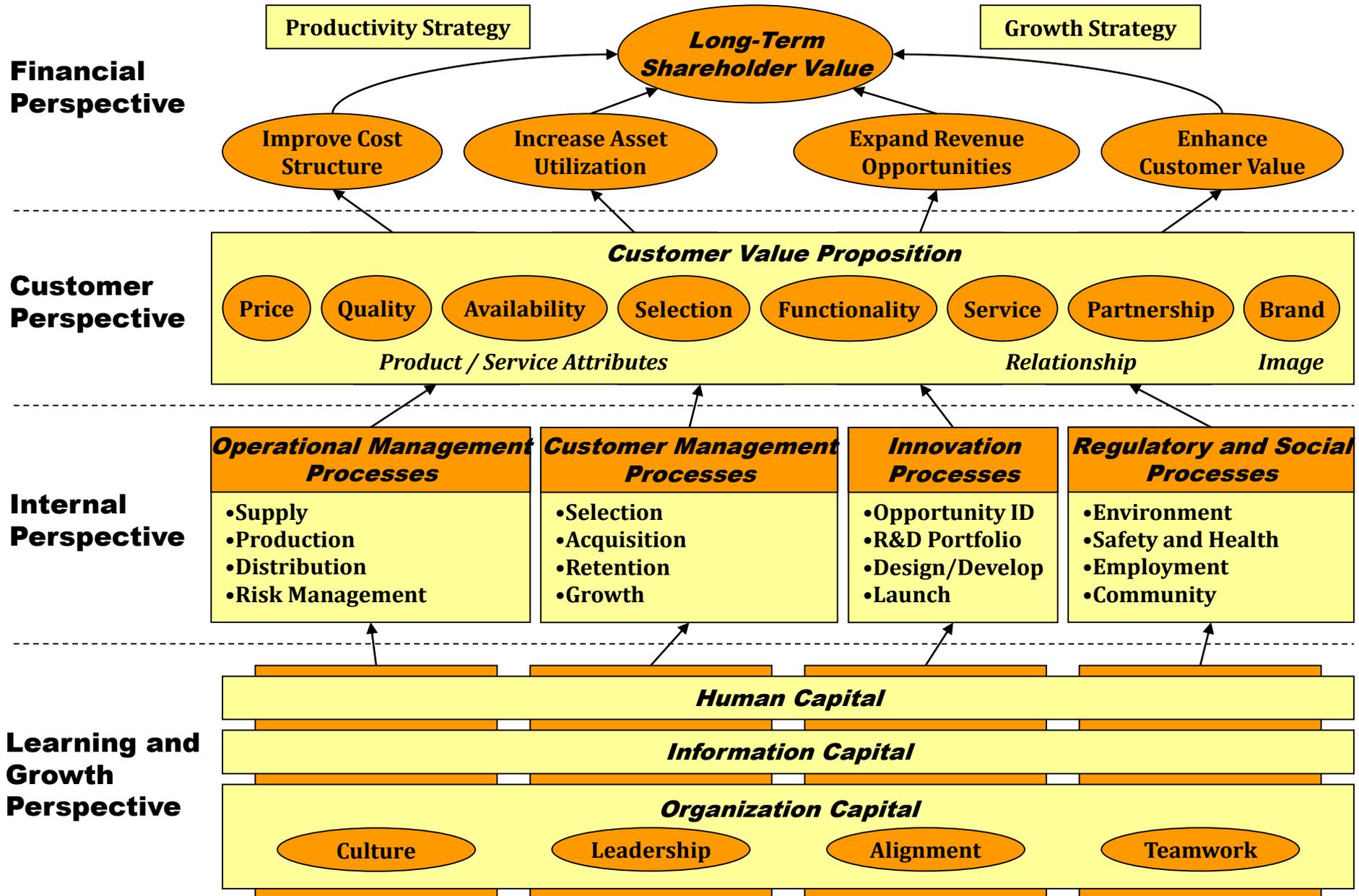
Kaplan and Norton's Generic Strategy Map template

Please keep in mind that the positioning of a perspective on the template does not in any way indicate the relative importance of the perspective.



The Generic Strategy Map template has to be customized to the organization's/department's/unit's particular strategy

A Strategy Map Represents How the Organization Creates Value



Acme Chocolates- retail stores

Vision: A world in which fine chocolate accompanies every fine dining experience.

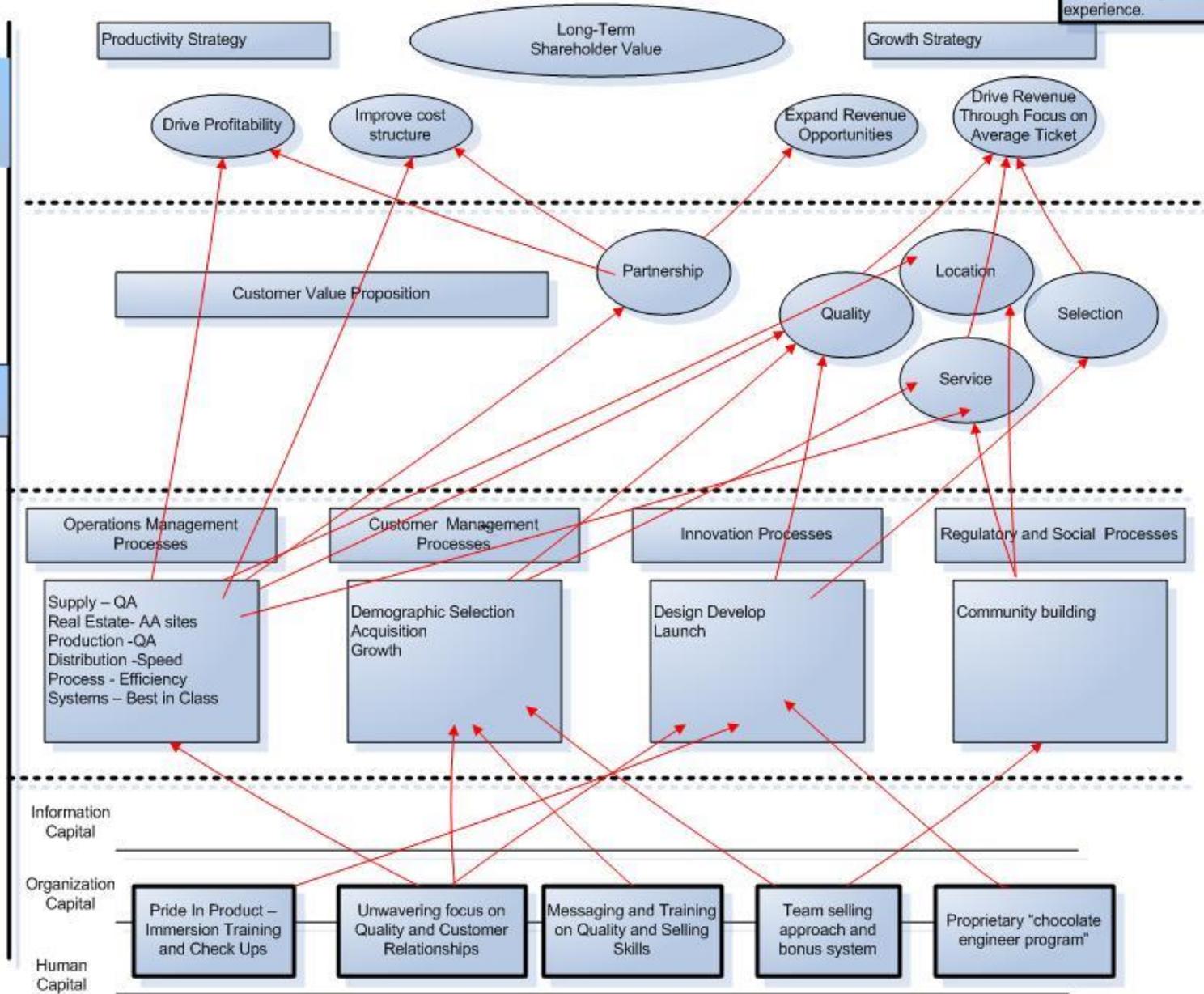
Mission: To provide every customer with the highest quality and most unique chocolate tasting experience.

Financial Perspective

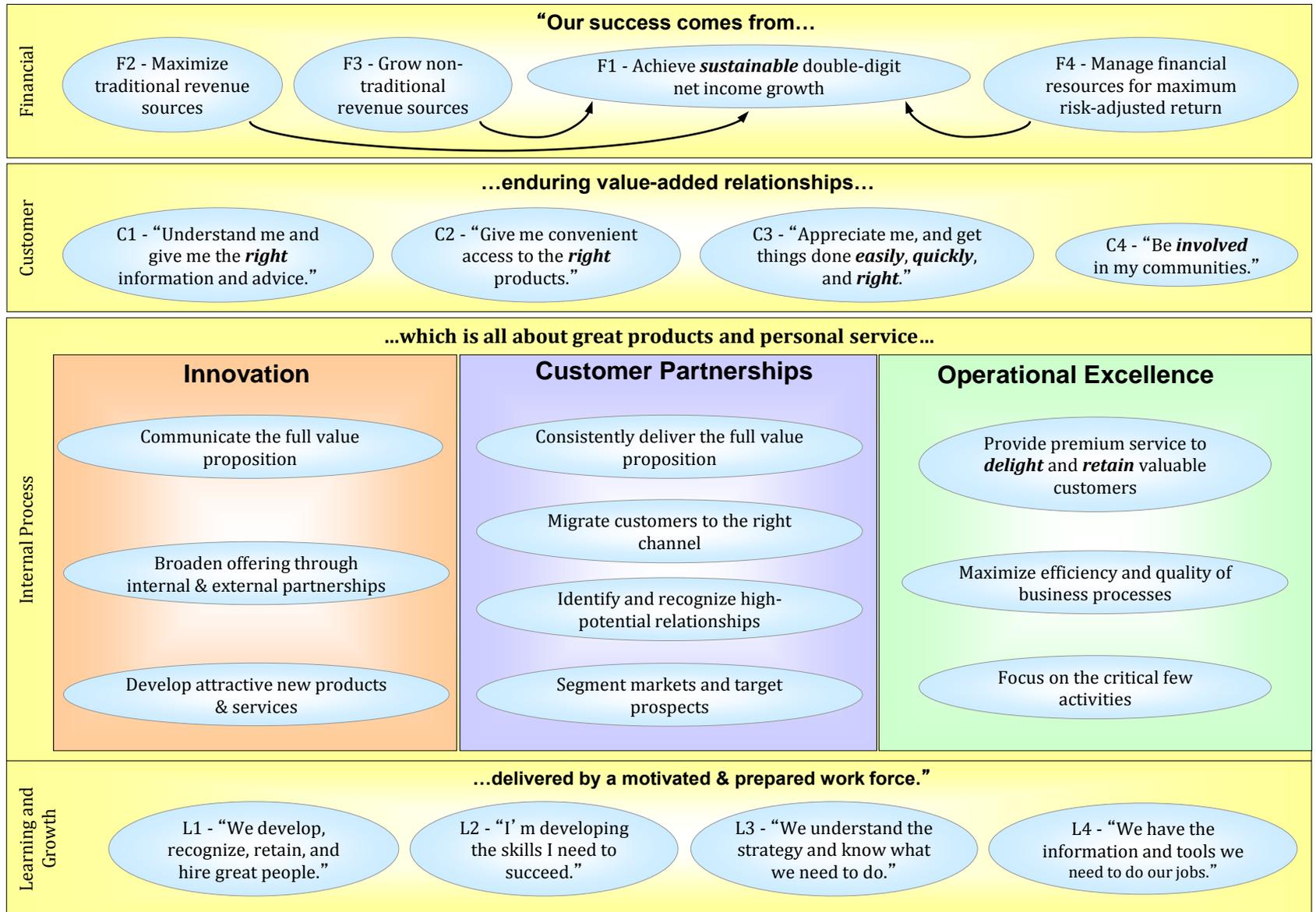
Customer Perspective

Internal Perspective

Learning & Growth Perspective



Sample Strategy Map: Consumer Bank

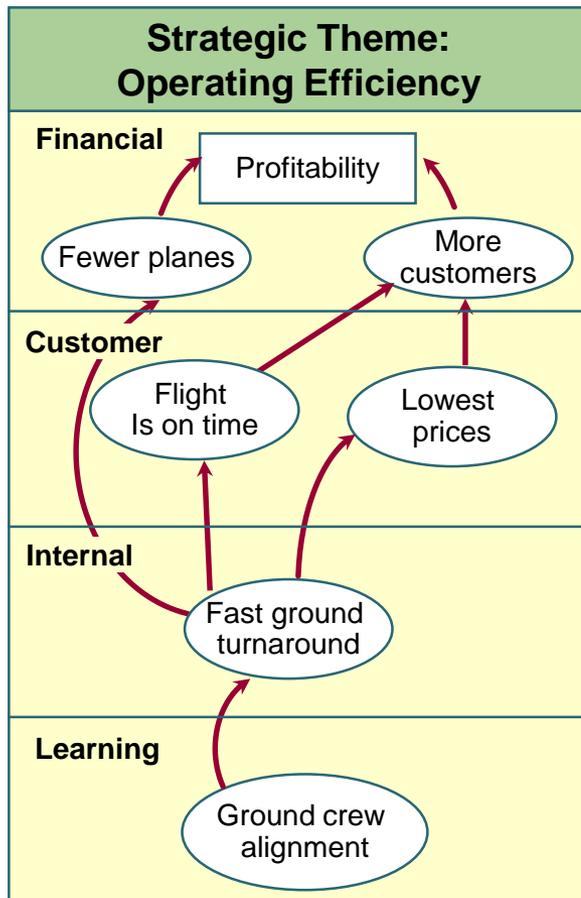


BSC Terminology

Strategy Map example: Diagram of the cause-and-effect relationships between strategic objectives



Extending the Map into Objectives, Measurements, Targets and Initiatives



Statement of what strategy must achieve and what's critical to its success

How success in achieving the strategy will be measured and tracked

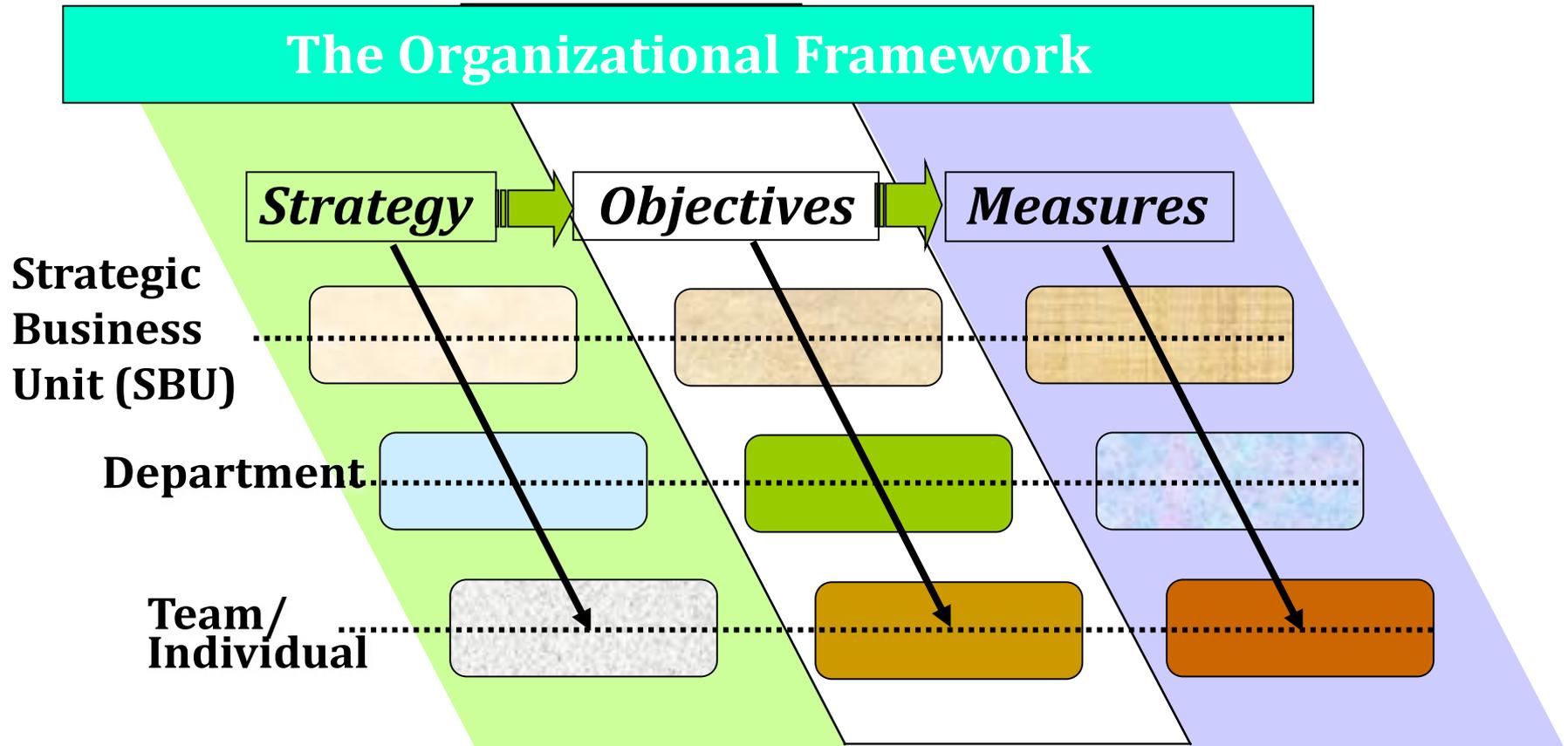
The level of performance or rate of improvement needed

Key action programs required to achieve objectives



Objectives	Measurement	Target	Initiative
<ul style="list-style-type: none"> Fast ground turnaround 	<ul style="list-style-type: none"> On Ground Time On-Time Departure 	<ul style="list-style-type: none"> 30 Minutes 90% 	<ul style="list-style-type: none"> Cycle time optimization

Horizontal and Vertical Alignment !!!



Ensure Alignment:
Each sub-unit and individual link their objectives to the map.

Cause - effect hypotheses

We must test hypotheses of cause-effect relationships

“The key for implementing strategy is to have everyone in the organization clearly understand the underlying hypotheses, to align resources with the hypotheses, to test the hypotheses continually, and to adapt as required in real time.”

The Strategy-Focused Organization by Kaplan and Norton 2001

Strategies and action plans are based on cause-effect hypotheses e.g. assumptions and ifs (as far as strategy is concerned IF is the longest word)

“If we do....., we will raise more income”

Mapping the strategy highlights the assumed cause-effect relationships.

We must continuously test and check the validity the hypotheses

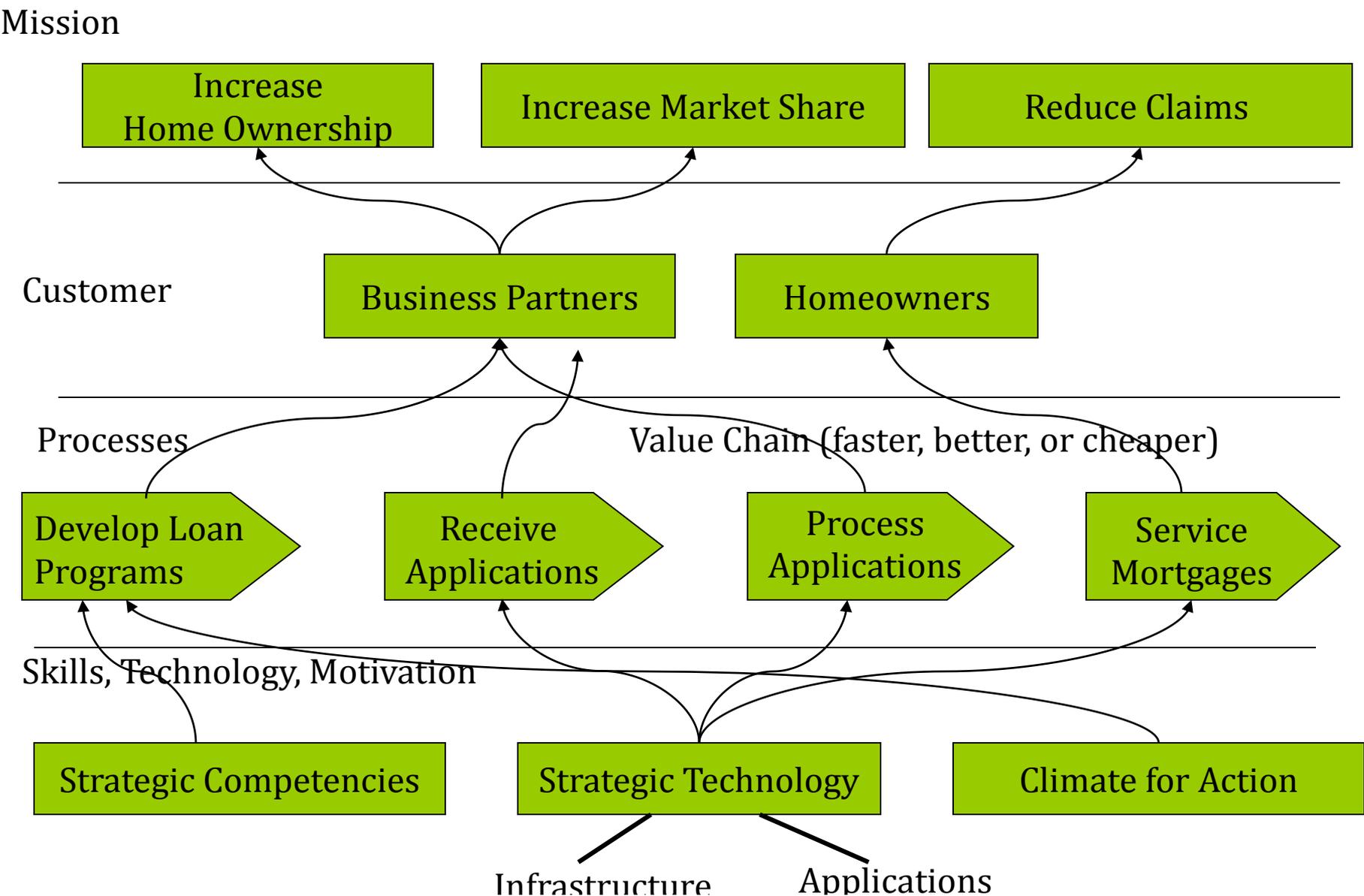
They might have been wrong and/or the assumed environmental/internal realities have been changed.

CHANGE is the name of the game

We must continuously monitor implementation

ABILITY TO DRILL DOWN

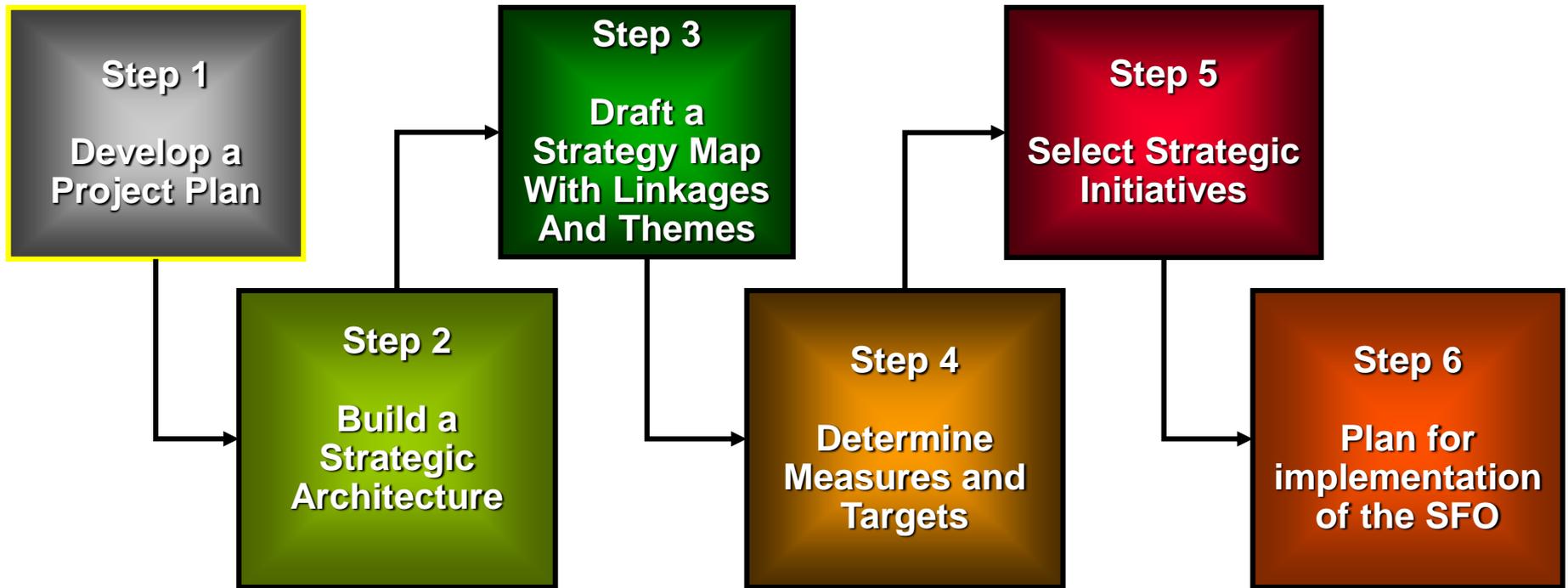
Housing Strategy Map example: Cause-effect hypotheses



Source: Presentation by Patrick Plunkett Department of Housing & Urban Development July 20, 2006

BALANCED SCORECARD DEVELOPMENT PROCESS

Balanced Scorecard Six Step Development Process



Typically 8-12 Weeks

Presentation of the metrics and their visualization

PUTTING THE BSC TO WORK

SCORECARD AT A GLANCE

Virginia Performs | VISION FOCUS RESULTS

"Measuring what Matters to Virginians."

Economy

Goal: Be a national leader in the preservation and enhancement of our economy.

Business Climate	↑
Business Startups	→
Employment Growth	→
Personal Income	↑
Poverty	→
Unemployment	→
Workforce Quality	↑

Natural Resources

Goal: Protect, conserve and wisely develop our natural, cultural and historic resources.

Air Quality	↑
Historic Resources	→
Land Preservation	↑
Solid Waste and Recycling	↑
Water Quality	↑

Education

Goal: Elevate the levels of educational preparedness and attainment of our citizens.

School Readiness	↑
3rd Grade Reading	↑
4th Grade Reading/Math	↑
High School Graduation	↑
High School Dropout	↑
College Graduation	↑
Educational Attainment	↑
Lifelong Learning	→

Transportation

Goal: Ensure Virginia has a transportation system that is safe, enables the easy movement of people and goods, enhances the economy, and improves our quality of life.

Infrastructure Condition	→
Land Use	→
Traffic Congestion	↓

Health and Family

Goal: Inspire and support Virginians toward healthy lives and strong and resilient families.

Adoption	↑
Cancer	↑
Cardiovascular Disease	↑
Child Abuse and Neglect	→
Foster Care	→
Health Insurance	↓
Immunization	↓
Infant Mortality	↓
Life Expectancy	↑
Obesity	↓
Smoking	↑
Suicide	→
Teen Pregnancy	→

Government & Citizens

Goal: Be recognized as the best-managed state in the nation.

Bond Rating	↑
Consumer Protection	↓
Internet Access	↑
Taxation	→
Voter Registration & Turnout	→

Public Safety

Goal: Protect the public's safety and security, ensure a fair and effective system of justice, and provide a prepared response to emergencies and disasters of all kinds.

Crime	↑
Emergency Preparedness	↑
Juvenile Intakes	→
Reidivism	→
Traffic Fatalities	↓



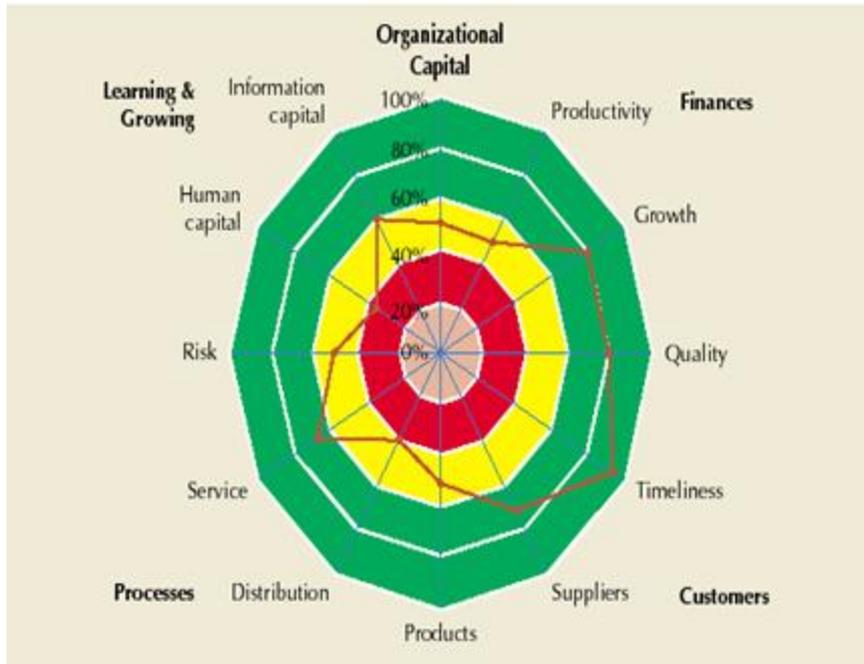
- Valley Region
- Northern Region
- Central Region
- Eastern Region
- West Central Region
- Southwest Region
- Southern Region
- Hampton Roads Region

Performance Trend

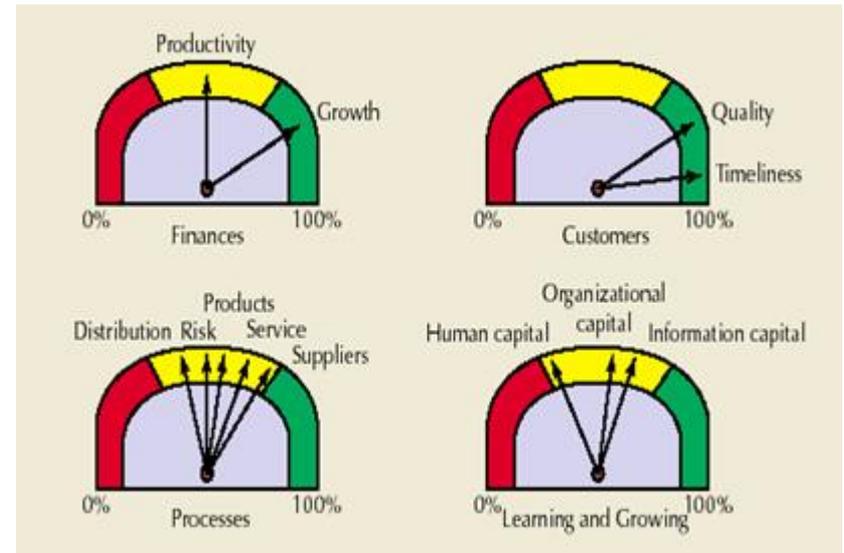
- Improving ↑
- Maintaining →
- Worsening ↓



Balanced Scorecard



Radar Chart



Dashboard

Some of the Indicators of Good Balanced Scorecard

A good Balanced Scorecard will “tell the story” of your strategy in actionable terms.

1. Executive Involvement

Strategic decision makers must validate and own the strategy and related measures

2. Cause-and-Effect Relationships

Every objective selected should be part of a chain of cause and effect linkages that represent the strategy

3. Balance between outcome and leading

measures There should be a balance of outcome measures and leading measures to facilitate anticipatory management

4. Financial Linkage

Every objective can ultimately be related to financial results

5. Linkage of Initiatives and Measures: Each

initiative should be based on a gap between baseline and target.

