

# SCORECARDS & DASHBOARDS

un dashboard es menos transversal, mas focalizado !!!!

Unit 3 – Data exploitation. Query languages  
and visualization

S3-3 – SCORECARDS & DASHBOARDS



V S  
O T



## KEY CONCEPTS:

importante para el examen !!!!!

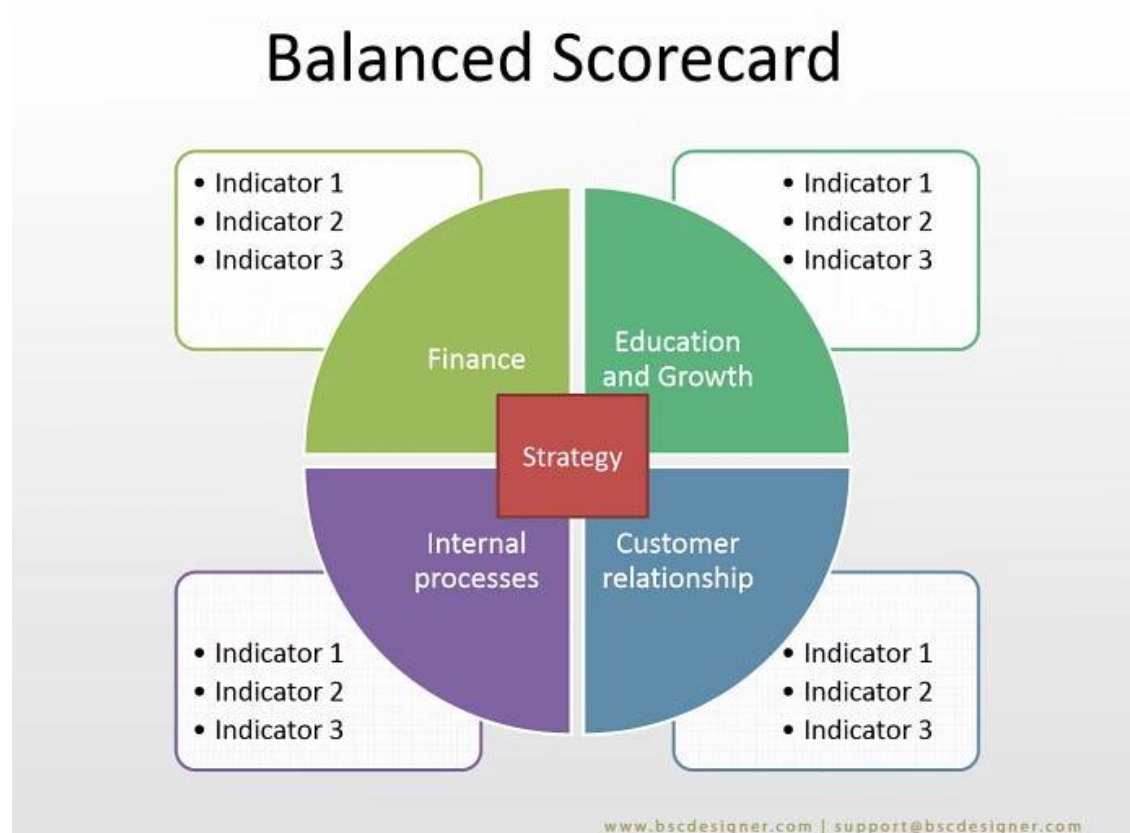
- **Vision:** Vision provides a shared mental framework for everyone in the organization, defining a clear picture of the desired future state and long-term aspirations.
- **Strategy:** the set of priorities and plans an organization adopts to pursue its mission, considering the operating environment.
- **Objective:** a concise statement describing the specific things organization must do well in order to execute a strategy.  
específicos pero no mucho, eso son los target
- **Target:** A target is the specific, desired value or outcome associated with a performance measure, indicating success in achieving objectives.

## **OUTLINE:**

1. Balanced Scorecards (BSC)
2. Strategy Maps
3. Example: BSC in Healthcare
4. Dashboards Essentials
5. Scorecards vs. Dashboards
6. Examples of Dashboards: IT company and ICU.

perspectivas que implementaremos en nuestro cuadro de mando integral

## 1. BALANCED SCORECARDS (BSC)



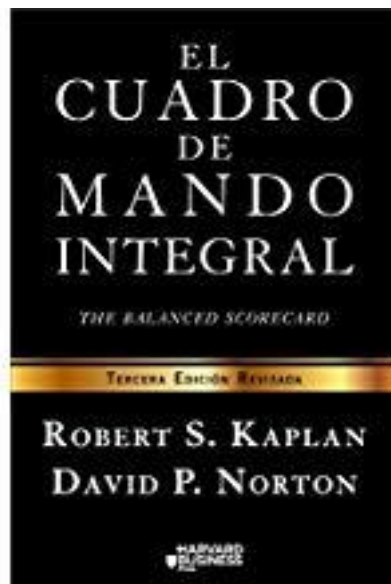
- BALANCED SCORECARDS (BSC)
  - TOP-DOWN methodology in organizations to align organizational objectives and activities with strategy.
  - **Tool to manage and monitor long-term strategy.**
  - It is NOT: tool to design a strategy.
  - It is: tool to move strategy into actionable objectives.



- **BALANCED SCORECARDS (BSC)** englobar todos los elementos en uno

“A carefully selected set of quantifiable measures derived from an organization’s strategy”.

By Robert Kaplan (Harvard Univ.) & David Norton (consultant Boston area)  
BOOK: The Balanced Scorecard (in 1996)



- BALANCED SCORECARDS (BSC)
- Scorecard can be used as:
  - measurement system. Monitoring KPIS aligned with strategic goals.
  - strategic management system. Aligning organization vision and strategy and operations.
  - communication tool across all levels of the organization.



HOW TO DESIGN A BALANCED SCORECARD:

Know **guiding principles**: objectives & strategy.

**Split** the strategy objectives into **actions**.

Strategy Objective Actions from **4 perspectives**:



Financial



Customer



Internal-Business-Processes



Learning & Growth.

## HOW TO DESIGN A BALANCED SCORECARD:

- Strategy **Scores**: measure progress towards achieving each strategy. *"If you cannot measure something, you cannot manage it"*.
- Target: the score value that we expect to reach.
- Program actions: specific short-term actions that must be done **to reach a target**. Tactics.

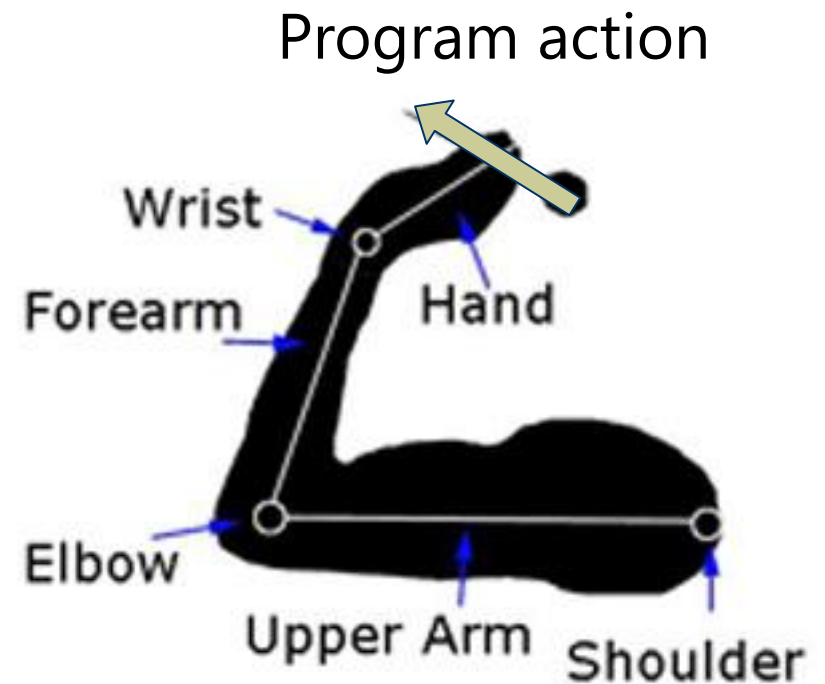
## HOW TO DESIGN A BALANCED SCORECARD:

- Strategy **Scores**, Target, Program Actions.



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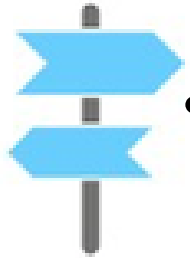


Learning & Growth.



## HOW TO DESIGN A BALANCED SCORECARD:

- Strategy Objective Actions from **4 perspectives**:
  - **FINANCIAL DIMENSION:**



- A scorecard must encourage including the financial goal in the organization strategy.
- The financial goals matches to the phases of the organization life-cycle:
  - Grow, Maintenance, Production.



## HOW TO DESIGN A BALANCED SCORECARD:

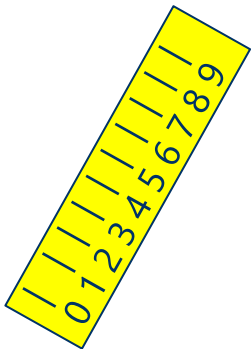
- Strategy Objective Actions from **4 perspectives**



- **CUSTOMER DIMENSION:**

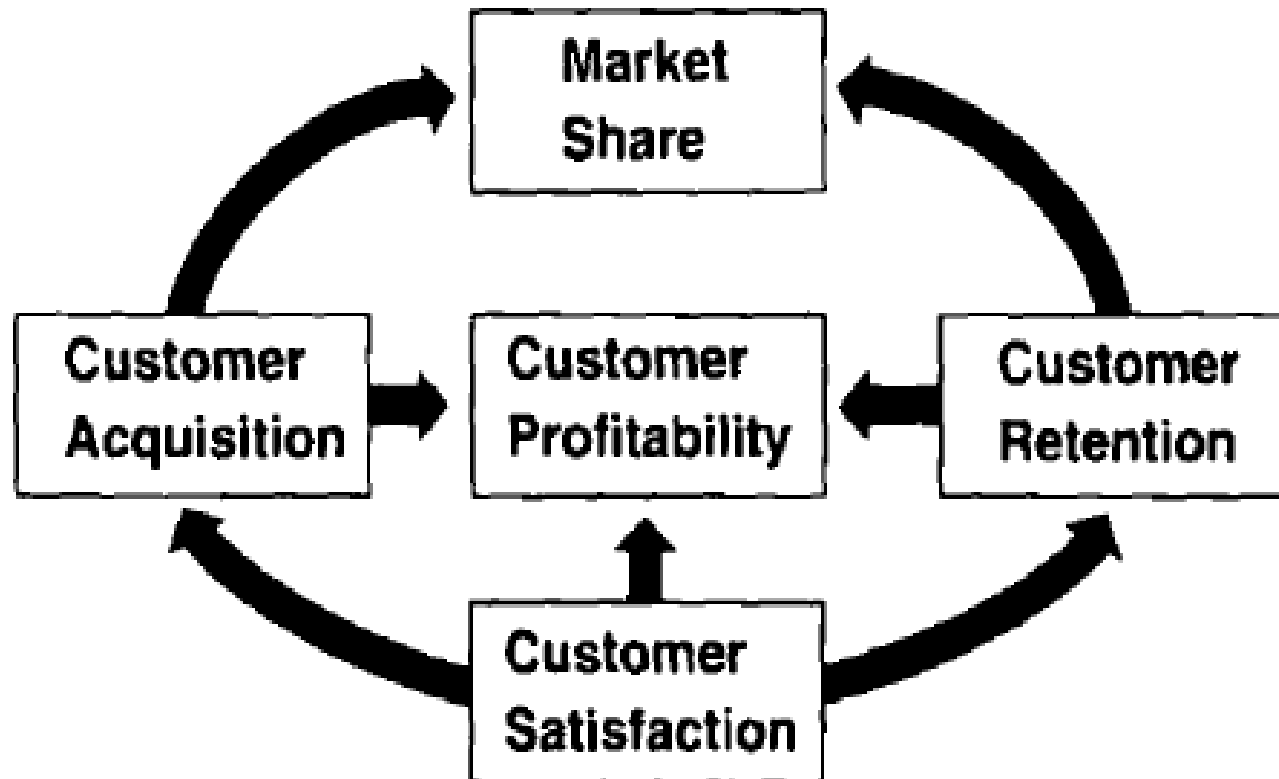


- Identify those **segments of clients and markets** they want to compete.
- **Key scores** of clients:
  - Market and Account Share (ES: *Cuota Mercado*).
  - Customer Retention: maintain and increase the market based on customer segments.
  - Customer Acquisition: increase customer base in targeted segments.
  - **Customer satisfaction.**
  - Customer profitability (ES: *rentabilidad*)



## HOW TO DESIGN A BALANCED SCORECARD:

- Strategy Objective Actions from **4 perspectives**:
  - **CUSTOMER DIMENSION:**



## HOW TO DESIGN A BALANCED SCORECARD:

- Strategy Objective Actions from **4 perspectives**:
  - **CUSTOMER DIMENSION**: Customer Satisfaction:



- Time: major competitive weapon: respond rapidly and reliably to customer requests (TOYOTA Japanese manufacturers).
- Quality.
- Price: whether customers care about current price.

## HOW TO DESIGN A BALANCED SCORECARD:

- Strategy Objective Actions from **4 perspectives:**  
**INTERNAL BUSINESS-PROCESS DIMENSION:**



- Once the financial and customer goals have been developed
- The main internal processes are:
  1. Innovation processes
  2. Operations processes
  3. Post-sale process



## • INTERNAL BUSINESS-PROCESS DIMENSION



Jpatrick McCann [Follow](#)

Director of Regional Events at C2Eventz



25



1



6

We offer three kinds of service  
**GOOD-CHEAP-FAST**



## HOW TO DESIGN A BALANCED SCORECARD:

- Strategy Objective Actions from **4 perspectives**:

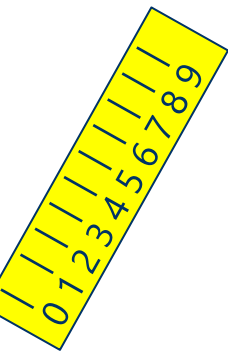


### Learning & Growth DIMENSION:



Goals to follow in order to induct new infrastructures to improve aspects of previous dimensions.

- Invest in the future.
- Key scores:
  1. Employee capacities.
  2. Information system capacities.
  3. Motivation, power, delegation and objective coherency.



## HOW TO DESIGN A BALANCED SCORECARD:





























- EXAMPLE 1: 'Kenyon Stores'
  - **Financial:** aggressive growth , maintain overall margins.
  - **Customer:** customer loyalty , complete product-line offering.
  - **Internal Business Process:** Build the brand, fashion leader, quality product, superior shopping experience.
  - **Learning and Growth:** strategic skills, personal growth.

Dimensions	Guiding principles	Scores	Target	Program actions
Financial				
Client				
Internal Proc.				
Learn&Grow				



## Scorecard

Click on any item of interest to reveal the menu

Financial Perspective			Customer Perspective		
F1. Maintain Business Growth	Y.o.Y.		C1. Improve Customer Satisfaction	Y.o.Y.	
Revenue (USD thousands)			Customer Satisfaction Index		
F2. Optimum Return			C2. Maintain Market Share in Mining Sector		
Net Income (USD thousands)			Market Share of EM Tire		
F3. Improve Cost Efficiency					
Total OPEX to Revenue Ratio					
Learning and Growth Perspective			Internal Process Perspective		
L1. Enhance Employee Competence & Productivity	Y.o.Y.		I1. Improve New Businesses	Y.o.Y.	
Talent Retention Rate			Contribution of New Businesses to Total Revenue		
Employee Productivity			I2. Optimize Working Capital		
L2. Reliable Information System			AR Days		
Implementation ICT Road Map			AR Overdue > 30 days of Total AR		
L3. Enforce Conducive Working Environment			Free Cash Flow from Operation		
EOS Index			I3. Excellent Inventory Management		
			Inventory Days		

YOY Trend: Positive



## 2. STRATEGY MAPS

The Balanced Scorecard is a step in a continuum that describes what value is and how it is created

*Translating Mission into Strategic Outcomes*

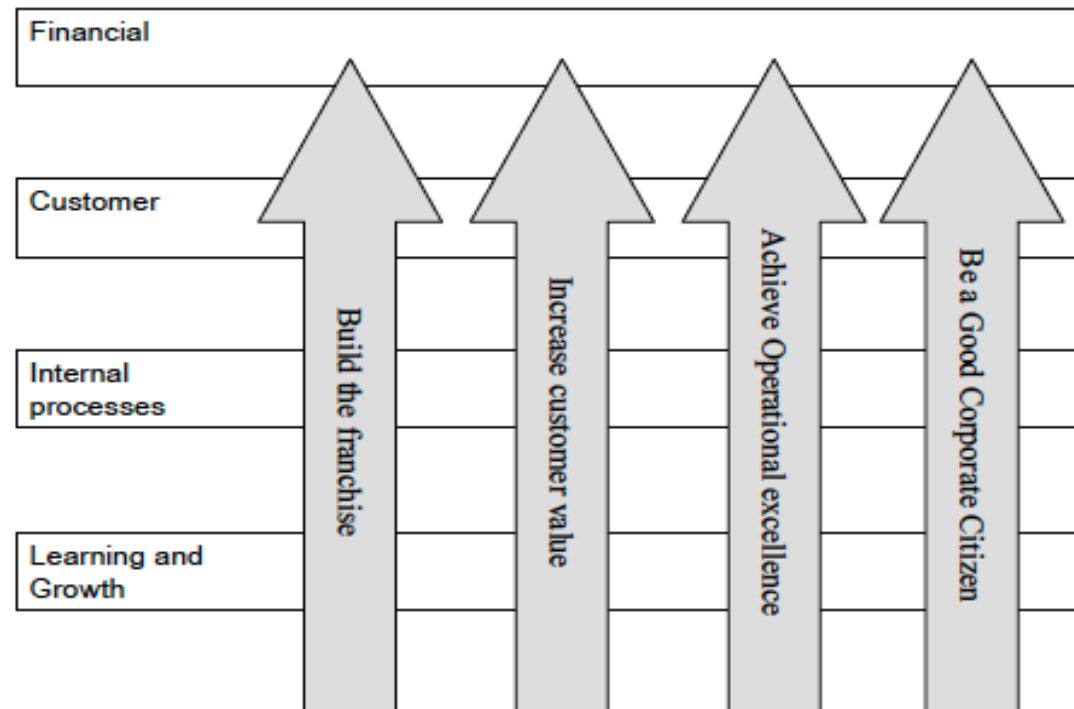


Source: Strategy Maps, Kaplan and Norton, 2004

## STRATEGY MAPS:

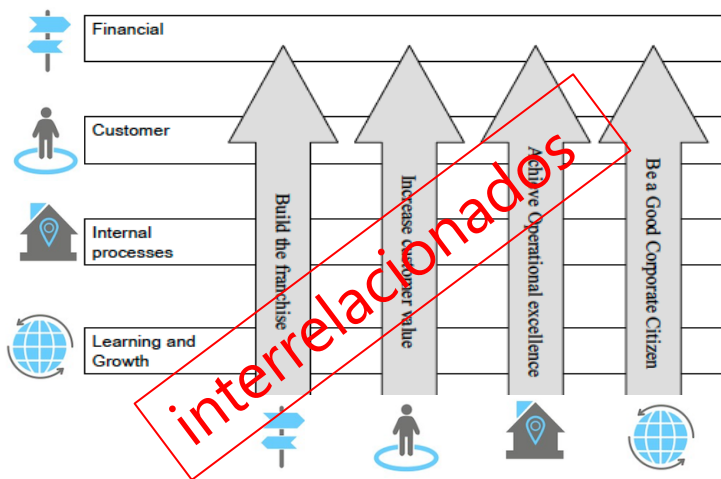
- **Measures** must be chosen **more “strategically”**.
- **Relate** specific high level objectives
- Causal relationship between objectives indicated in the “Strategy Map”.

## STRATEGY MAPS:

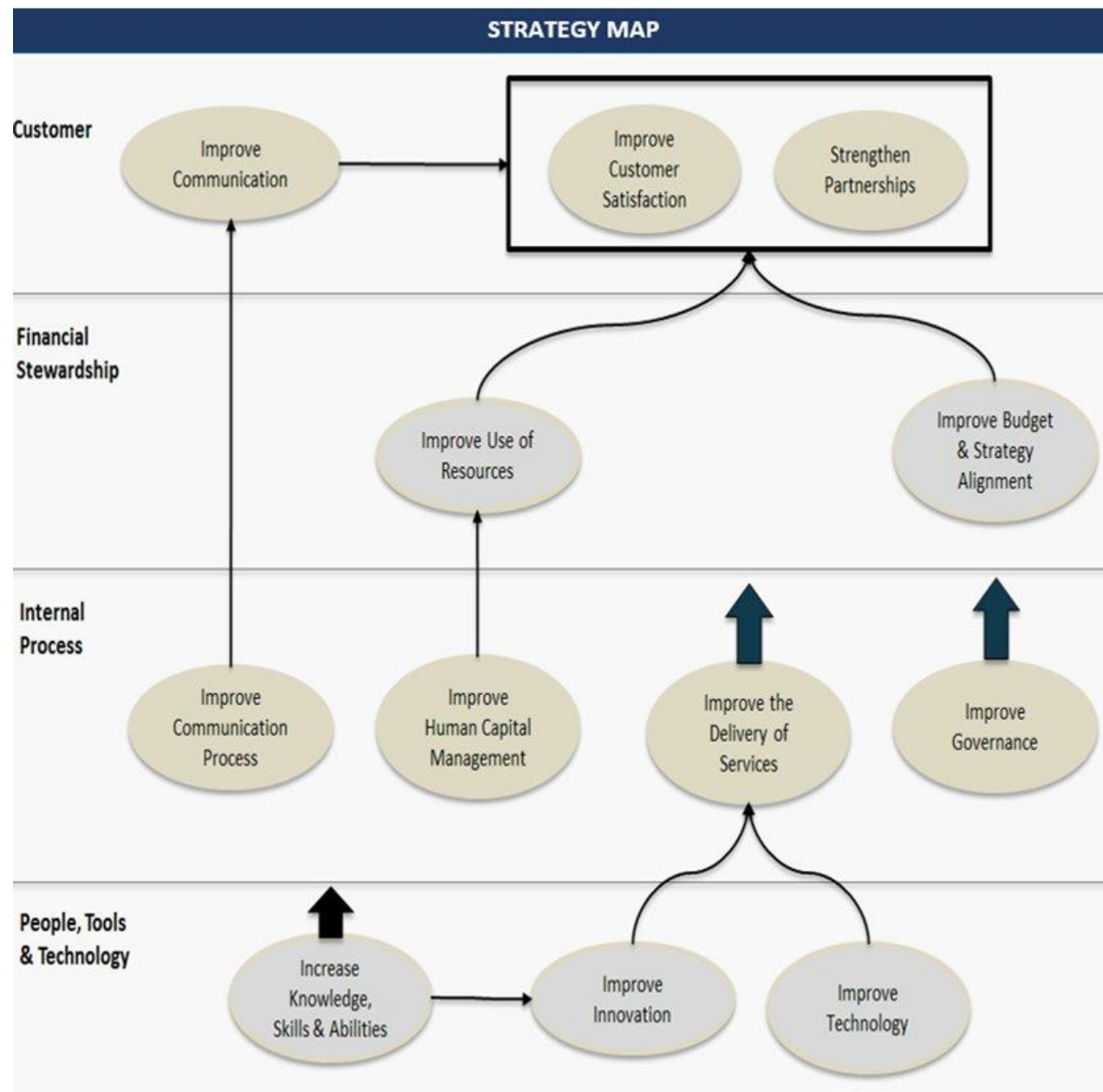


**Figure 2.1: Architecture of a Strategy Map**  
(Source: Kaplan and Norton 2001, p. 79)

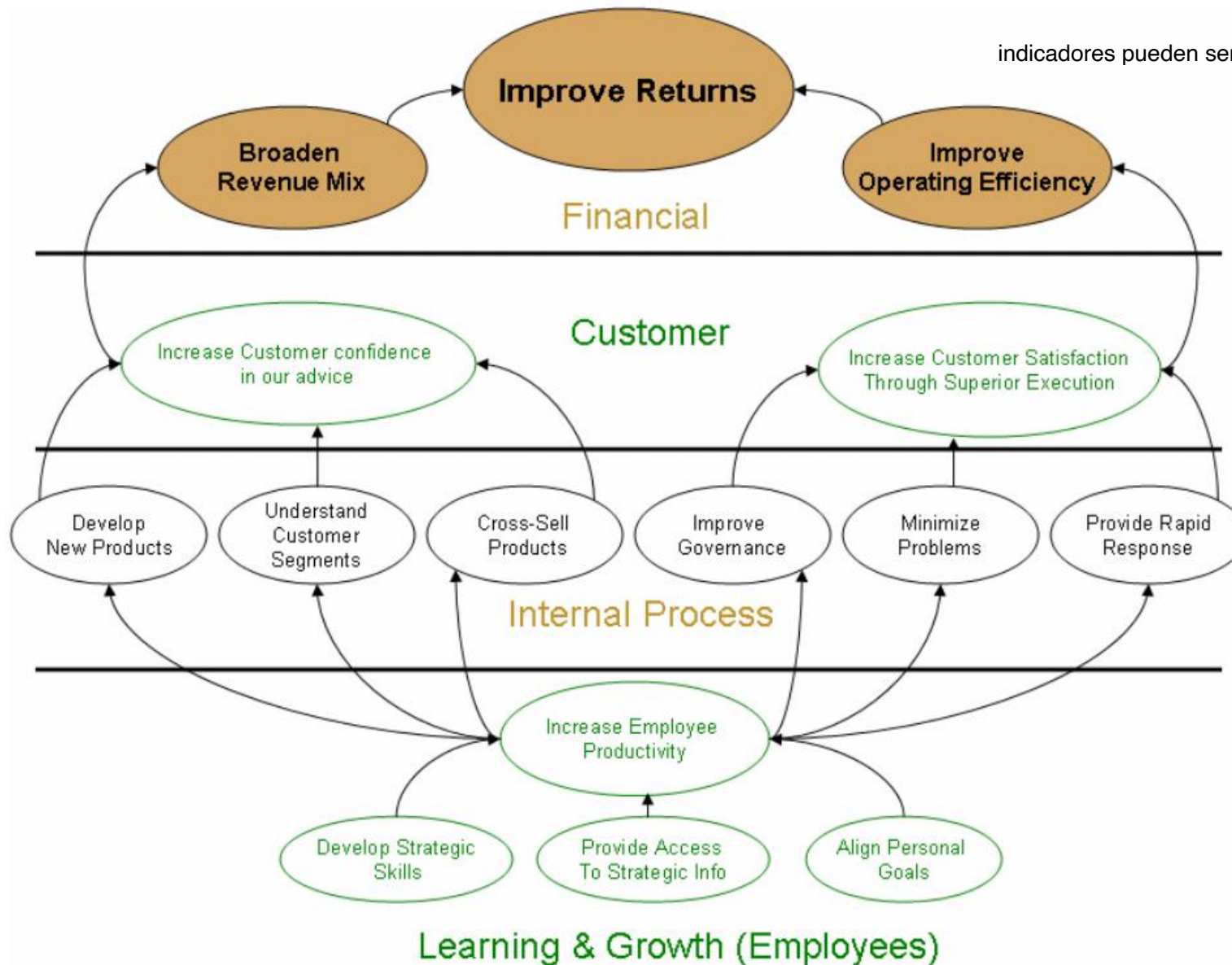
## STRATEGY MAPS:



**Figure 2.1: Architecture of a Strategy Map**  
(Source: Kaplan and Norton 2001, p. 79)



indicadores pueden ser leading o lagging



## 3. EXAMPLE: BSC IN HEALTHCARE

- BSC in Healthcare

## **To what extent has the BSC been introduced to healthcare:**

Hospitals, Healthcare Systems, University medical depts., long-term care, mental health centers, pharmaceutical care, health insurance companies.

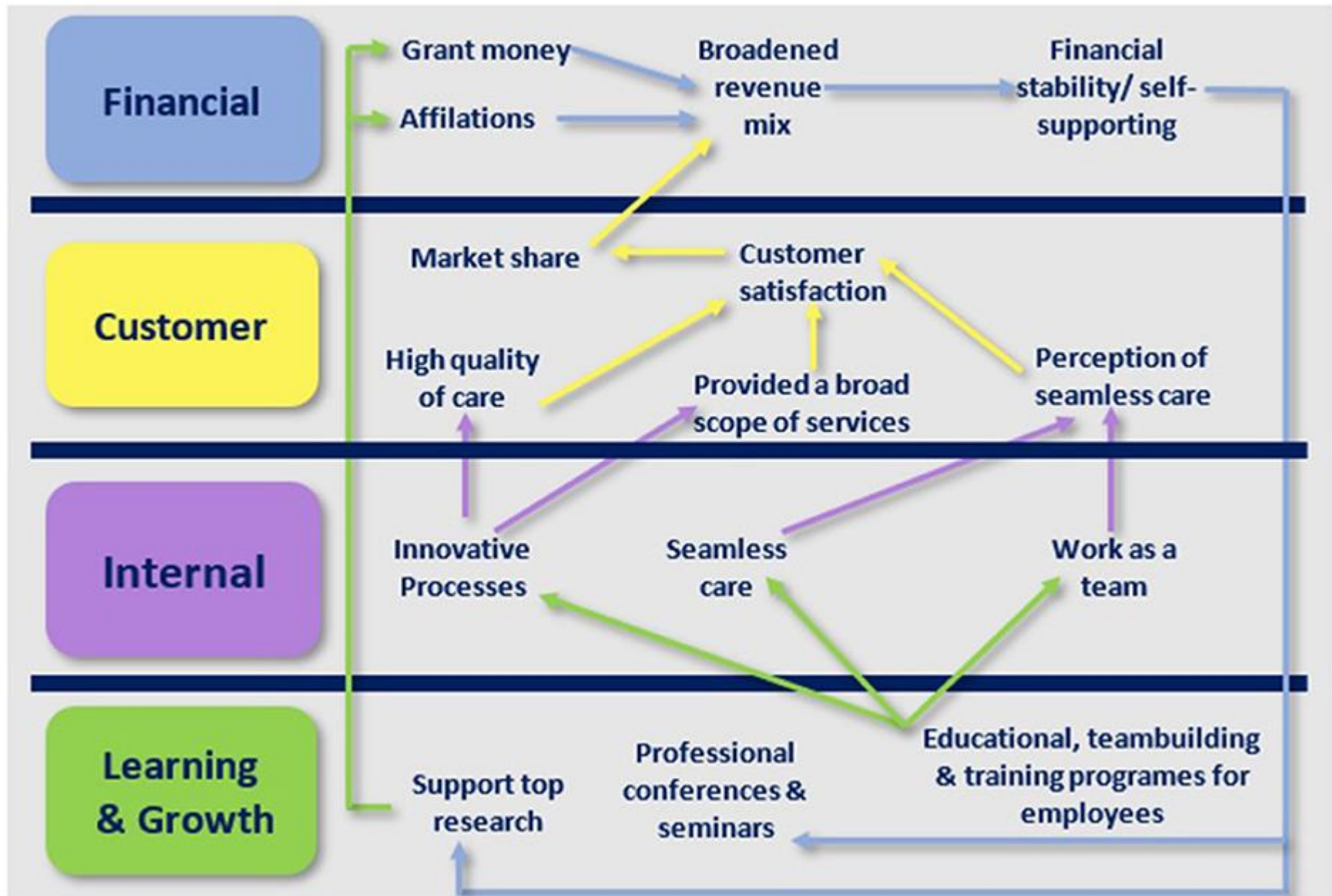
BSC is the most adopted model to measure performance.

- BSC in Healthcare

## Reasons to use BSC in healthcare (diversity):

1. To ensure to be a **high performing** healthcare provider (Northumbria Healthcare Foundation, United Kindgom).
2. How can we demonstrate to the community that they are getting **value for our tax payer** funded services? (>AUS\$ 1 billion). (Hunter New England Health District, Australia).
3. To take a more strategic approach to differentiate their services and **attract more business** (Mackay Memorial Hospital, Taiwan).
4. To achieve **better outcomes** for patients and staff (St Vicent's Private Hospital, Australia).
5. To combine **financial control** with quality improvement (Högland Hospital, Sweden).





## ejemplo de BSC

### Waypoint Strategic Balanced Scorecard 2020-25 (Year 4 - 2023-24)

MISSION	We are a Catholic hospital committed to providing excellence in specialized mental health and addictions services grounded in research and education and guided by faith-based values.										
VISION	As an inspired organization, we will change lives by leading the advancement and delivery of compassionate care.										
STRATEGIC DIRECTIONS	<b>SERVE</b>			<b>DISCOVER</b>			<b>LEAD</b>				
STRATEGIC RESULTS	We will include patients and families as partners in all we do, fostering a healing culture where staff, physicians, and volunteers are inspired to provide exceptional service and care.			We will embrace education, advance research, and seek, generate, and apply best practice and new knowledge to create the best possible outcomes for patients.			We will be a leader and trusted partner who embraces technology to support better overall health, collaborating with our partners to make it happen.				
OBJECTIVES & STRATEGY MAP (read from bottom to top)			MEASURE *Quality Improvement Plan indicator	BASELINE Q3 2022-23	TARGET 2023-24	Q1 YTD unless indicated with ^	Q2	Q3	Q4	TARGET 2020-25	2023-24 INITIATIVES** Initiatives not directly responsible for the measure listed to the left
<div><div>Support Better Overall Health</div><div>Champion High Quality Care</div></div>			Increase % eligible programs demonstrating improvements in patient health outcomes through the use of standardized measures (e.g. Composite Index) ^	■ 55%	■ 63-65%	■ 64%	■ 64%	■ 18%	■	■ 80-85%	■ Develop regional integrated care pathway through the Central Ontario Specialized Health Networks for adult depression and anxiety
			■ Decrease repeat Emergency Department visits (30 days return visit) for mental health and addictions ^	■ 21.4% (Q2 2022-23)	■ 19.8%	■ 22.0%	■ 22.5%	■ 22.1%	■	■ 18.5%	■ Implement coordinated access: Central Waitlist Management Service
			■ Decrease Alternate Level of Care (ALC) Days for regional programs (NEW)	■ 27.8%	■ 25.1%	■ 18.0%	■ 18.0%	■ 18.8%	■	■ 22.4%	■ Continue work on new 20 bed acute mental health unit on Toanche Level 3
			■ *Maintain total margin ~	■ 2.99%	■ > 0	■ (1.87%)	■ (0.20%)	■ (3.38%)	■	■ > 0	■ Advance urgent and emergent mental health services regionally
<div><div>Provide Exceptional Person Centred Care</div><div>Be a Trusted Partner</div></div>			■ *Increase overall inpatient satisfaction	■ 70%	■ 75%	■ n/a	■ n/a	■ n/a	■	■ 84%	
			■ Decrease reported patient incidents per 1000 patient days (Severity 2-4)	■ 12.54	■ 9.87	■ 11.10	■ 12.23	■ 12.46	■	■ 8.98	■ Implement Model of Care
			■ Number of clients enrolled in Ontario Structured Psychotherapy (@Waypoint) (NEW)	■ 1184 (93% YTD)	■ 2537	■ 440	■ 1013	■ 1583	■	■ 2537	■ Implement Six Core Strategies to prevent restraint & seclusion
<div><div>Strengthen Our Healthy Workplace Practices</div><div>Strengthen Patient Oriented Research</div></div>			■ Reduce levels of medium to high staff burnout	■ 89%	■ 74%	■ n/a	■ n/a	■ n/a	■	■ 70%	
			■ *Decrease workplace violence frequency (lost time claims per 100 full time equivalents)	■ 2.8	■ 1.5	■ 2.7	■ 3.6	■ 3.9	■	■ 1.2	■ Participate in Pursuing Equity Learning Network (Institute for Healthcare Improvement)
			■ *Decrease workplace violence severity (lost time claims per 100 full time equivalents)	■ 19.2	■ 25	■ 8.4	■ 56.7	■ 59.2	■	■ 22	
			■ Increase research projects with patient involvement^ (cumulative since 2019-20)	■ 3	■ 3	■ 5	■ 5	■ 5	■	■ 5	■ Develop Human Capital Management System (phase 1)
<div><div>Establish a Centre of Excellence in Forensic Mental Health Research1</div><div>Seek Generate &amp; Apply New Knowledge2</div><div>Adopt Digital/Data-Driven &amp; Physical Technologies</div></div>			■1 Increase annual peer reviewed publications (cumulative) (NEW)	■ 76	■ 98 - 101	■ 92	■ 98	■ 112	■	■ 120 - 126	■ Develop regional integrated care pathway for schizophrenia: Health Quality Ontario quality standards in the hospital and community
			■2 Increase number of quality statements implemented (cumulative) (NEW)	■ 5	■ 14	■ 5	■ 9	■ 9	■	■ 30	■ Expand research training
			■ Increase % of Electronic Medical Record Analytics Maturity (EMRAM) standards met	■ 86%	■ 100%	■ 99%	■ 99%	■ 99%	■	■ 100%	■ Refresh Long Term Master Plan
											■ Implement patient portal
			Measures relate to Strategic Plan, Service Accountability Agreements, Quality Improvement Plan			Within 5% of Target	Between 5 & 10%	>10% from Target			~ Total Margin target parameters differ
■ VALUES											
● Caring											
● Respect											
● Innovation											
● Accountability											

## 4. DASHBOARDS ESSENTIALS

- DASHBOARDS





- DASHBOARDS



FROM: ProjectManager.com

- DASHBOARDS
  - WHAT IS A DASHBOARD?
  - Something called a dashboard :
    - Includes **graphical display mechanisms**: traffic lights, gauges, meters...etc.
    - **Overviews something** going on in the business.

- DASHBOARDS

- WHAT IS A DASHBOARD?

- DEFINITION:

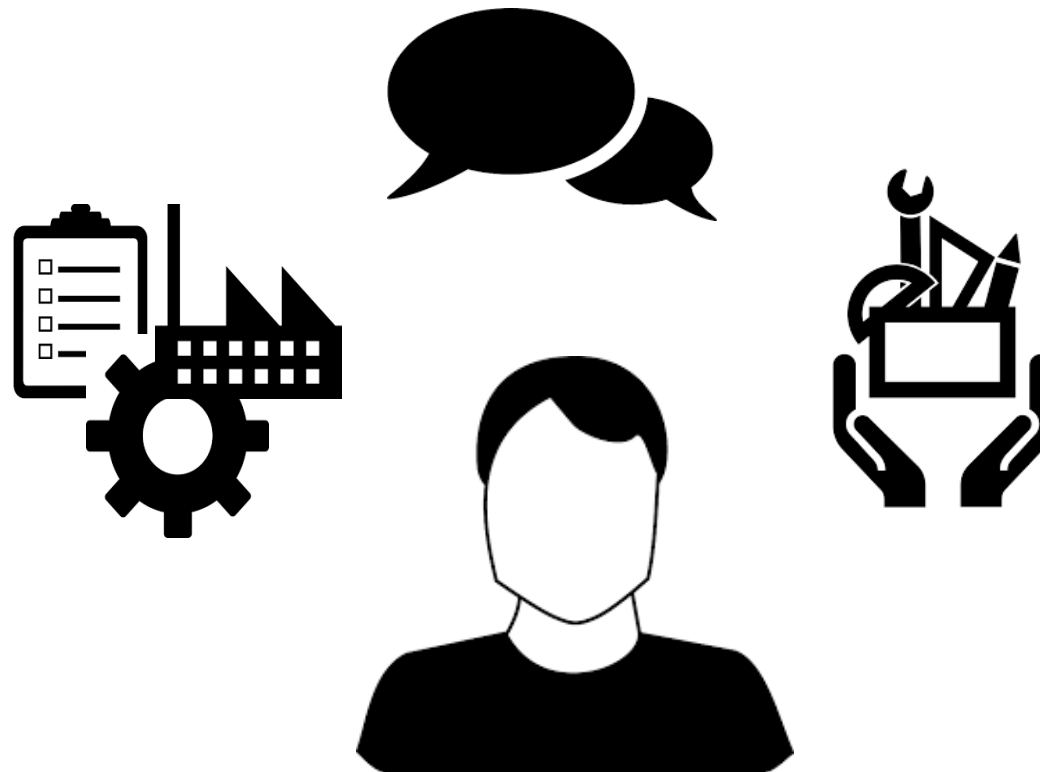
- 'It is a **visual display** of the most **important information** needed to achieve one or more **objectives**; arranged on a single screen so the information can be **monitored at a glance**'

*Stephen Few, "Dashboard Confusion,"  
Intelligent Enterprise, March 20, 2004*

- DASHBOARDS
  - According to this definition:
    1. Dashboards display the information **to achieve an objective**.
    2. Dashboards **fits** on a single computer **screen**.
    3. Dashboards used to **monitor** information **at a glance**.



- DASHBOARDS
  - So... a Dashboard:  
communication tool, good understanding, good design.



- DASHBOARDS
  - Some (obvious) Dashboard principles:
    1. Display right data to the right audience
    2. Right dashboard: adapt the dashboard model to the context
    3. Easy to find: keep the dashboard tidy
    4. Only essentials
    5. Perfection in DB design can never be achieved

- DASHBOARDS
  - Categorization of dashboards:
    - By ROLE: Strategic, Analytical or Operational.
    - By TYPE OF DATA: Quantitative, Qualitative
    - By DOMAIN: Sales, Finance, Marketing, Manufacturing
    - By TYPE OF MEASURE: **BSC**, *Six Sigma*, ...
    - By MECHANISMS OF DISPLAY: Graphical, text, integrated
    - ...etc.

- DASHBOARDS
  - Aspects to consider
    - More KPIs don't mean a better dashboard.
    - Functionality has higher priority than aesthetics.
    - Data Quality is usually lower than expected.
    - Align it with business processes.
    - Take into account the data context.
    - Update!
    - Train and communicate with your intended users.
    - Now, it is easy to incorporate interactivity.
    - Always define the purpose of the dashboard.

## 5. SCORECARDS vs. DASHBOARDS

- SCORECARDS vs. DASHBOARDS
- BOTH:
  - Tools for **supporting management** in companies
  - Support **data-driven decision making**
  - Can display **KPI** (key performance indicators)
- KEY DIFFERENCES:
  - Methodology, users, level of details, timing

- KEY DIFFERENCES:
  - CAR METAPHOR

el gps seria el bsc (a largo plazo, me permite llegar a mi destino) y el caudro de mando del salpicadero seria el dashboard



- SCORECARDS vs. DASHBOARDS
- SCORECARDS:
  - Controlling the progress towards the strategy
  - Formal business methodology (holistic approach)
  - Focus on long-term strategic performance.
    - Periodic snapshots (e.g. quarterly, annually) to evaluate progress
  - Present summaries, not particular data
  - Can be graphically displayed



- SCORECARDS vs. DASHBOARDS
- DASHBOARDS:
  - No specific for business environments.
  - Usually focus on an **specific problem** (no holistic approach)
  - Measuring general performance AND its specific aspects.
  - Used by executives / specialists and other employees
  - Provide updates in real time or **in right-time**.
  - Concerning data, including summaries.
  - Data visualized nicely (raw data also available through drill-down features)

## 6. EXAMPLES OF DASHBOARDS

## Executive Insights

What is driving performance?

Select a measure:

- ☒ Total Profit
- ☐ Total Quantity
- ☐ Total Revenue

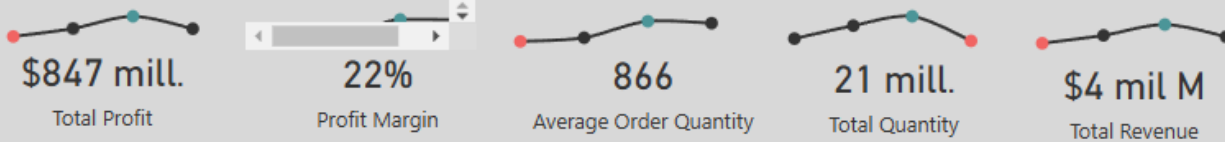
Select a perspective:

Product Category

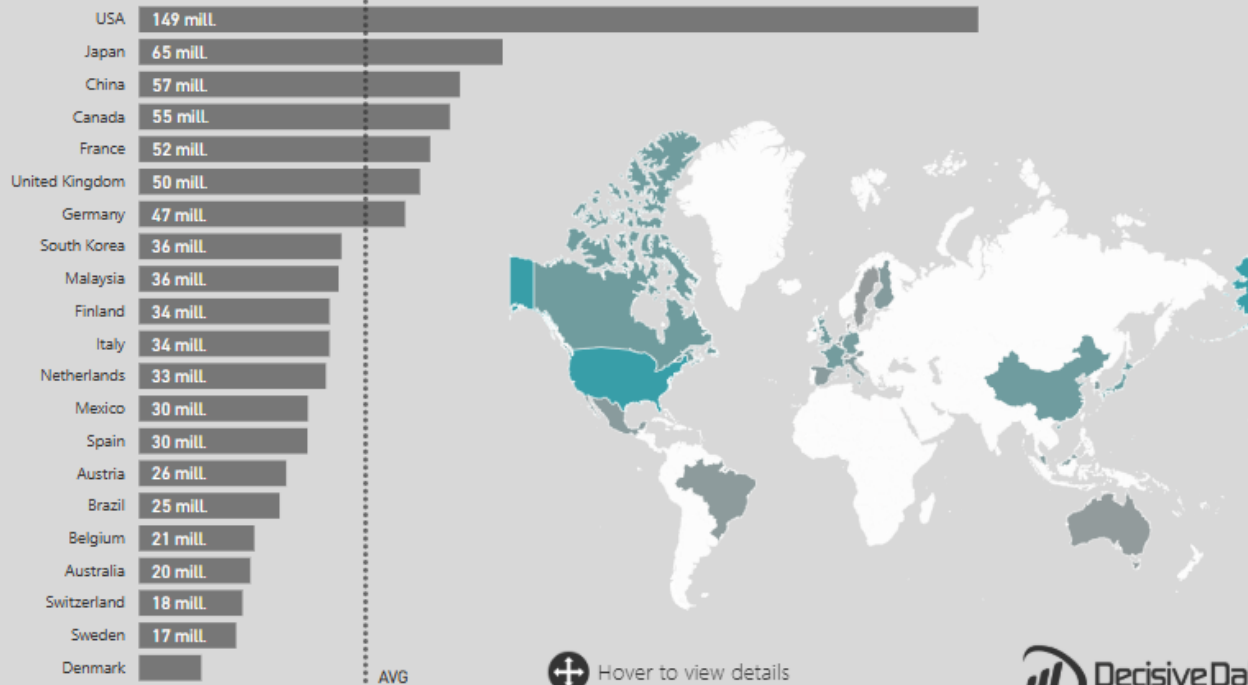
Todas

Order Type

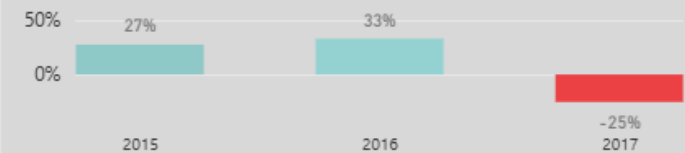
Todas



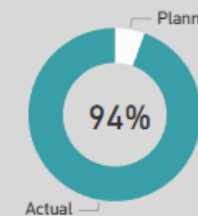
How is our Total Profit distributed geographically?



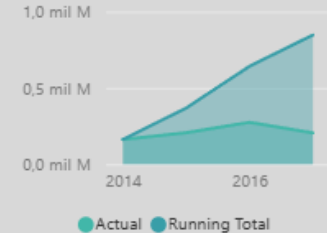
What is our YoY% change in Total Profit?



How close are we to our planned Total Profit?



What is my Running Total by Total Profit?



What are my Top 5 products by Total Profit?



Top 5

Filter

## SUMMARY

USD, mln

**Euro, mln**

Ton, k

Export

Import

2015

2019

CAGR

**4,4%**

TRADE VOLUME

**41.997.925**

EXPORT

**22.078.619**

IMPORT

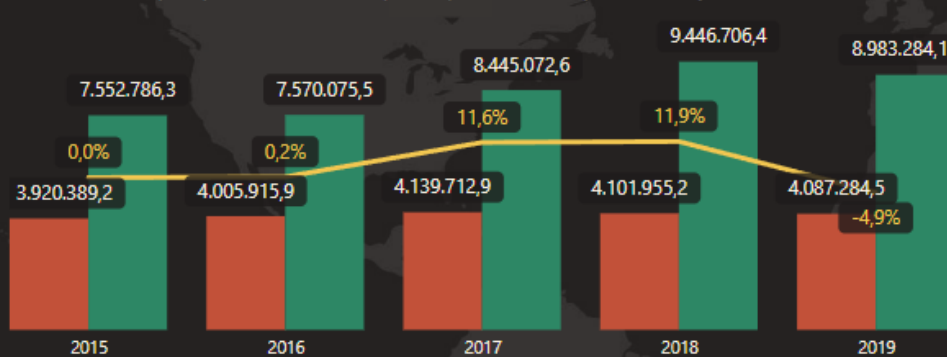
**19.919.306**

EXP / IMP BALANCE

**2.159.313**

## GLOBAL TRADE DYNAMICS

● Trade volume, Ton, K ● Trade volume, Euro, M ● CAGR (Year to Year)



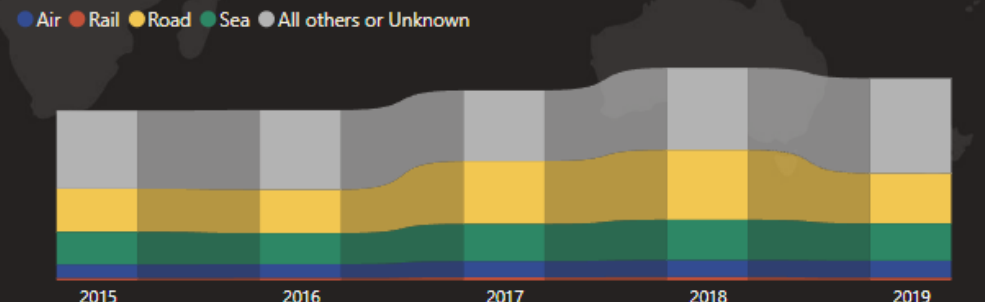
## TRADE BY COUNTRIES

COUNTRY	CAGR, T	Ton, K	Euro, M	CAGR Euro
Germany	-0,2%	3.985.724	12.518.084	3,5%
France	0,5%	2.460.968	5.586.650	5,2%
Netherlands	0,5%	3.573.633	5.431.377	6,6%
Italy	0,2%	2.266.334	4.835.215	3,7%
Belgium	3,3%	2.678.756	4.370.588	3,4%
Spain	1,3%	2.068.190	3.181.991	4,2%
Poland	3,1%	1.238.855	2.238.560	7,0%
Austria	1,8%	658.577	1.632.857	4,5%
Sweden	1,0%	875.428	1.567.313	3,4%
Finland	3,0%	448.791	635.289	5,3%

## CARGO CATEGORIES



## DYNAMICS BY MODES OF TRANSPORT



- DASHBOARDS IN HEALTHCARE
  - Focused on clinical performance indicators.
  - Performance Indicator: *"a statistic or other unit of information which reflects, directly or indirectly, the performance of a health or welfare intervention, facility, service or system in maintaining or increasing the well being of its target population"*. (Armstrong, 1994)

- DASHBOARDS IN HEALTHCARE
  - Focused on clinical performance indicators.
  - Performance Indicator Properties:
    - Definable
    - Clear intent
    - Accessible
    - Reliable
    - Useful

- DASHBOARDS IN HEALTHCARE

- Types of performance indicators.

(by ACHS Performance Indicators)

- Continuity of care: medical record, assessment system, consent, care evaluation, discharge, etc.
    - Access: information about services, access to the needs.
    - Effectiveness: evidence-based , process effective.
    - Patient safety: medication, infection control, blood management, etc.

- DASHBOARDS IN HEALTHCARE
  - Examples of performance indicators.
    - Regarding Medical Records:
      - Percentage of medical records where illegible writing resulted in an adverse event.
      - Percentage of medical records where care plans are not documented.
    - Regarding Blood Management:
      - Percentage of inappropriate storage
      - No. of patients transfused with  $Hb > 100g/L$



## Patients Discharged Receiving Home Health (HH) Services

Overview Hospital 248, Years: Todo, Service: Todo



Total Discharges	Discharges to Home Health	Home Health CMI	Number of Home Health Agencies	Avg # of Patient Referrals per HH Agency
56.688	9,9% (n=5.640)	1,24	211	27

### Home Health discharges by service line

Service Line	Discharges	Overall CMI	HH Discharges CMI	% of Discharges to HH
Hospital Overall				9,9%
<a href="#">General Medicine</a>	10.536	1,17	1.29	10,0%
<a href="#">Obstetrics</a>	9.432	0,70	0.68	9,4%
<a href="#">Normal Newborns</a>	6.720	0,17	0.17	8,9%
<a href="#">Cardiovascular Diseases</a>	6.144	1,06	1.03	11,3%
<a href="#">Pulmonary Medical</a>	4.632	1,25	1.08	14,0%
<a href="#">General Surgery</a>	3.912	2,69	3.39	11,0%
<a href="#">Nephrology/Urology</a>	3.288	1,03	0.97	7,3%
<a href="#">Orthopedics</a>	3.072	2,03	2.72	7,8%
<a href="#">Neuro Sciences</a>	2.448	1,24	1.14	13,7%
<a href="#">Cardio\Vasc\Thor Surgery</a>	2.352	3,69	2.72	4,1%
<a href="#">Neonatology</a>	2.352	1,85	1.55	7,1%
<a href="#">Oncology</a>	840	1,71	1.40	11,4%
<a href="#">Gynecology</a>	456	1,11	1.00	26,3%
<a href="#">Alcohol &amp; Drug Abuse</a>	216	0,72	0.65	11,1%
<a href="#">ENT</a>	192	0,86	0,0%	
<a href="#">Ophthalmology</a>	72	0,90	0,0%	
<a href="#">Psychiatry</a>	24	0,99	0,0%	

Hover for trend

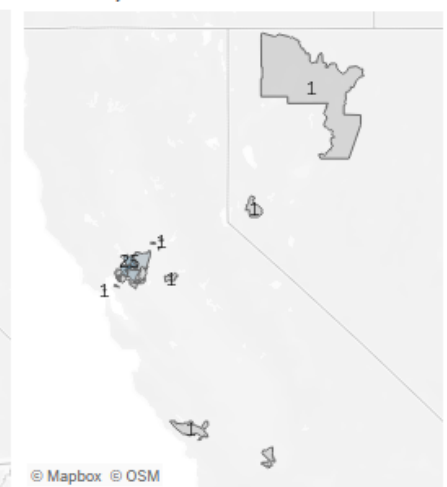
### Home Health agency locations

Click a dot to see specific agencies and the locations of patients they serve



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### Number of patients discharged to Home Health by ZIP Code (Only patients with ZIP Code data)



## • DASHBOARDS IN HEALTHCARE

### • ICU Dashboard Example.

#### • Fluid balance

#### • Severity Score:

##### • APACHE III :

##### • [0..299]

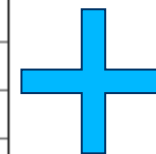
##### • Initial risk classification of severely ill hospitalized patients.

##### • 20 physiologic variables

Variables fisiológicas	Límites críticos anómalos				Normal		Límites críticos anómalos			
	<-4	<-1	<-2	<-3	6	7	<-2	<-1	<-4	<-5
Temperatura, rectal (°C)	≥41°	39-40,9°	---	38,5-38,9°	36-38,4°	34-34,5°	32-33,9°	30-31,9°	≤29,9°	---
Presión arterial media (mmHg)	≥160	130-159	110-129	---	70-109	---	50-69	---	≤49	---
Frecuencia cardíaca (latidos/minuto)	≥180	140-179	110-139	---	70-109	---	55-69	40-54	≤39	---
Frecuencia respiratoria (resp/minuto)	≥50	33-49	---	25-34	12-24	10-11	6-9	---	≤5	---
Oxigenación: AaDO <sub>2</sub> o PaO <sub>2</sub> (mmHg)	---	---	---	---	---	---	---	---	---	---
a. FIO <sub>2</sub> ≥0,5, registrar AaDO <sub>2</sub>	≥500	350-499	200-349	---	<200	---	---	---	---	---
b. FIO <sub>2</sub> <0,5, registrar sólo PaO <sub>2</sub>	---	---	---	---	PO <sub>2</sub> ≥70	PO <sub>2</sub> 61-70	---	PO <sub>2</sub> 55-60	PO <sub>2</sub> <55	---
pH arterial	≥7,7	7,6-7,69	---	7,5-7,59	7,33-7,49	---	7,25-7,32	7,15-7,24	<7,15	---
Sodio sérico (mmol/l)	≥180	160-179	155-159	150-154	130-149	---	120-129	111-119	≤110	---
Potasio sérico (mmol/l)	≥7	6-6,9	---	5,5-5,9	3,5-5,4	3-3,4	2,5-2,9	---	<2,5	---
Creatinina sérica (mg/dl) (puntuación doble para I Renal Aguda)	≥3,5	2-3,4	1,5-1,9	---	0,8-1,4	---	<0,6	---	---	---
Hematocrito (%)	≥60	---	50-50,9	46-49,9	30-45,9	---	20-20,9	---	<20	---
Recuento de leucocitos (total/mm <sup>3</sup> )	≥40	---	20-39,9	15-19,9	3-14,9	---	1-2,9	---	<1	---
Puntuación GLASGOW COMA SCORE = 15 – Puntuación GCS real										
A PUNTUACIÓN FISIOLÓGICA AGUDA (PFA) total = Sumar los puntos de las 12 variables										
HCO <sub>3</sub> sérico (venoso, mmol/l) (no es de elección, usar si no hay GSA)	≥52	41-51,9	---	32-40,9	22-31,9	---	18-21,9	15-17,9	<15	---

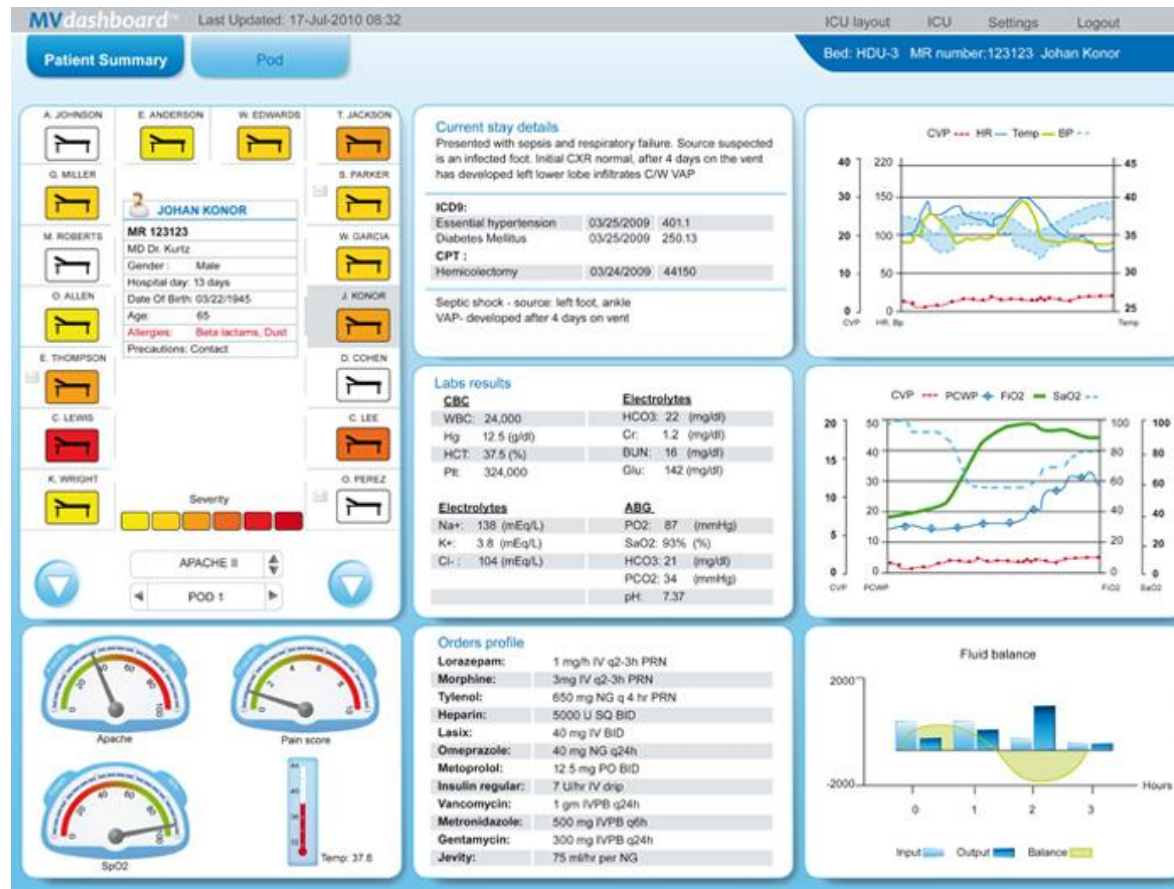


Edad	Puntos
< 44 años	0
45 – 54 años	2
55 – 64 años	3
65 – 74 años	5
> o = 75 años	6



Liver  
Cardiovascular  
Respiratory  
Renal  
Immune depressed

- DASHBOARD IN HEALTHCARE



- REFERENCES & RESOURCES:
  - Robert S. Kaplan, David P. Norton The Balanced Scorecard Translating Strategy into Action.1996.
  - Stephen Few. Information Dashboard Design: the effective visual communication of data. O'Reilly. 2006.
  - Harold Kerzner. Project Management Metrics, KPIs, and Dashboards: a guide to measuring and monitoring project performance. Wiley.2 ed. 2013
- ADDITIONAL READINGS:
  - Beata Kollberg. Exploring the use of balanced scorecards in a Swedish health care organization
  - Casos de éxito con BSC:  
<https://balancedscorecard.org/Resources/Examples-Success-Stories>