Selecting Key Performance Indicators

Ingegneria dei Processi Aziendali

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Quote

“In some organisations only one person has the knowledge, and is too busy to do anything about it.”

The three Purposes of Key Performance Indicators

- To show results across the business … the Scorecard
- To provide knowledge of how to improve
- To motivate and involve… to cause action

Owners getting Control of their Processes…..

The best a front line manager can do with a given Process is:-

1. Define outcome in simple measures
2. Frequently measure whether you are hitting that level
3. If you are …move the target
4. If not why not, where is the leakage/waste/opportunity
5. Agree actions with your people
6. Log the actions
7. Review the actions frequently (SICs)
8. Ensure that actions are done

…and so get control of the process

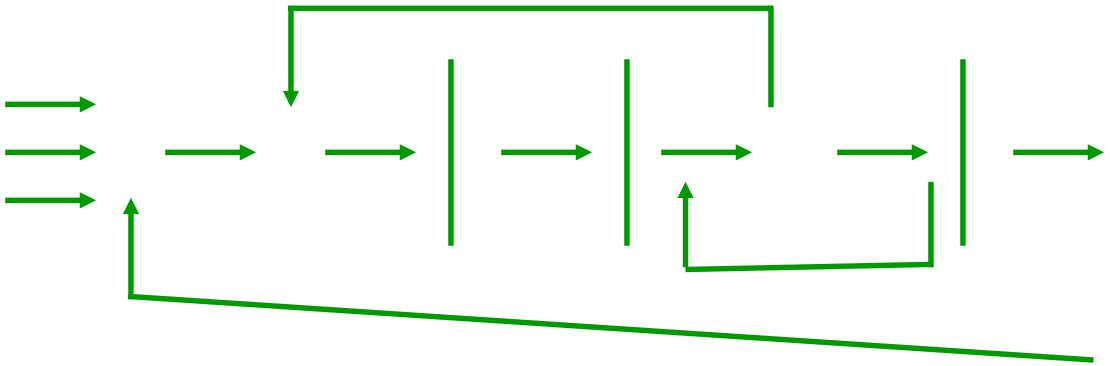
Mapping or modelling a Process should make it clear what to measure

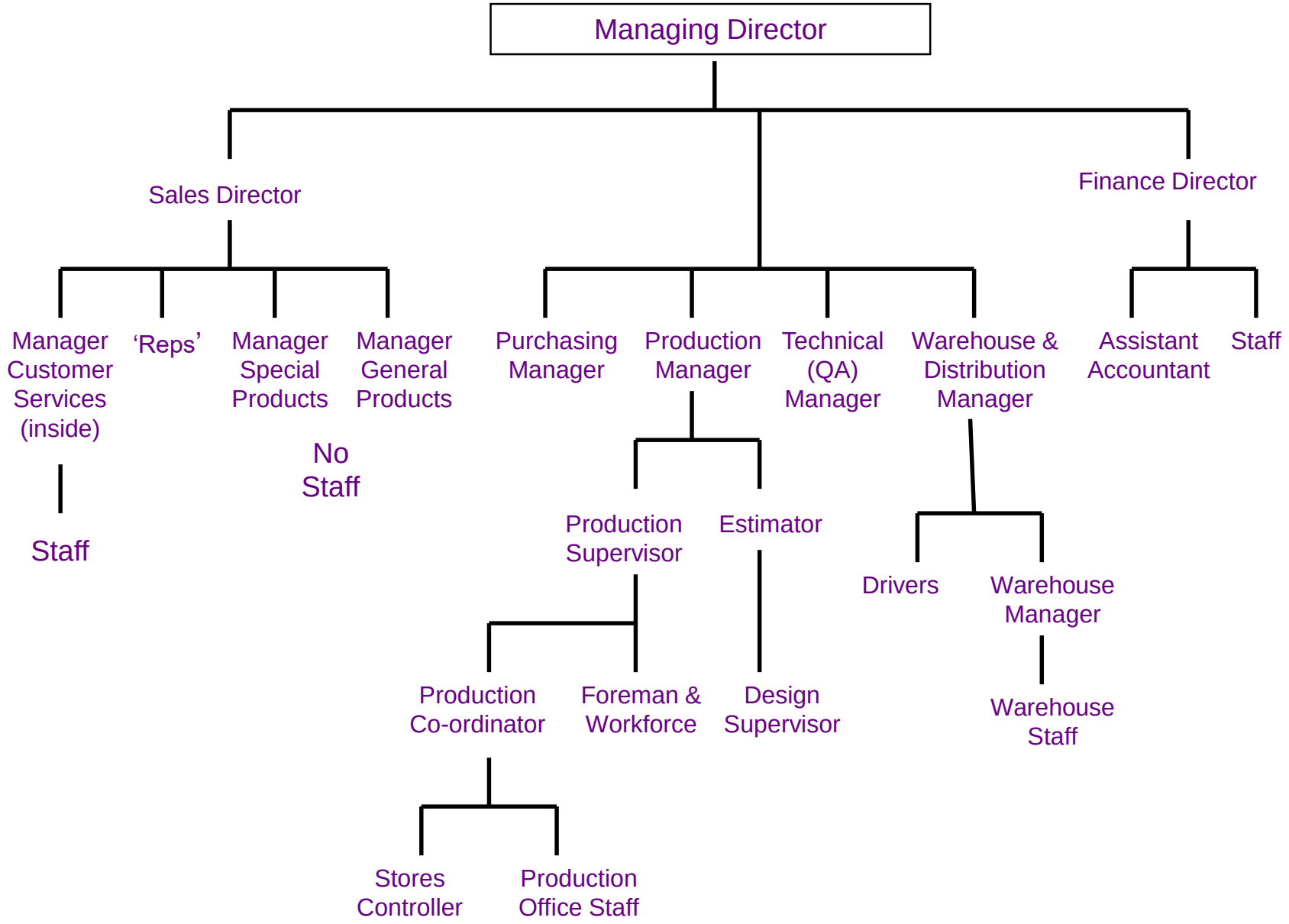
Who do we work for?

We need a hierarchy so that everybody has someone to look to for development. We need it for management.

BUT we should view the organisation as a series of processes with feedback loops. There are internal suppliers and customers and it all leads to the customer.

Ultimately we work for the customer not the boss.




Managing Director
Sales Director
Finance Director
Manager Customer Services (inside)
'Reps'
Manager Special Products
Manager General Products
Purchasing Manager
Production Manager
Technical (QA) Manager
Warehouse & Distribution Manager
Assistant Accountant
Staff
Staff
No Staff
Production Supervisor
Estimator
Drivers
Warehouse Manager
Production Co-ordinator
Foreman & Workforce
Design Supervisor
Warehouse Staff
Stores Controller
Production Office Staff

What does the management literature say?

Good to Great (Jim Collins)

- 'Confront the brutal facts'
- 'Be disciplined'

Winning KPIs (David Parmenter)

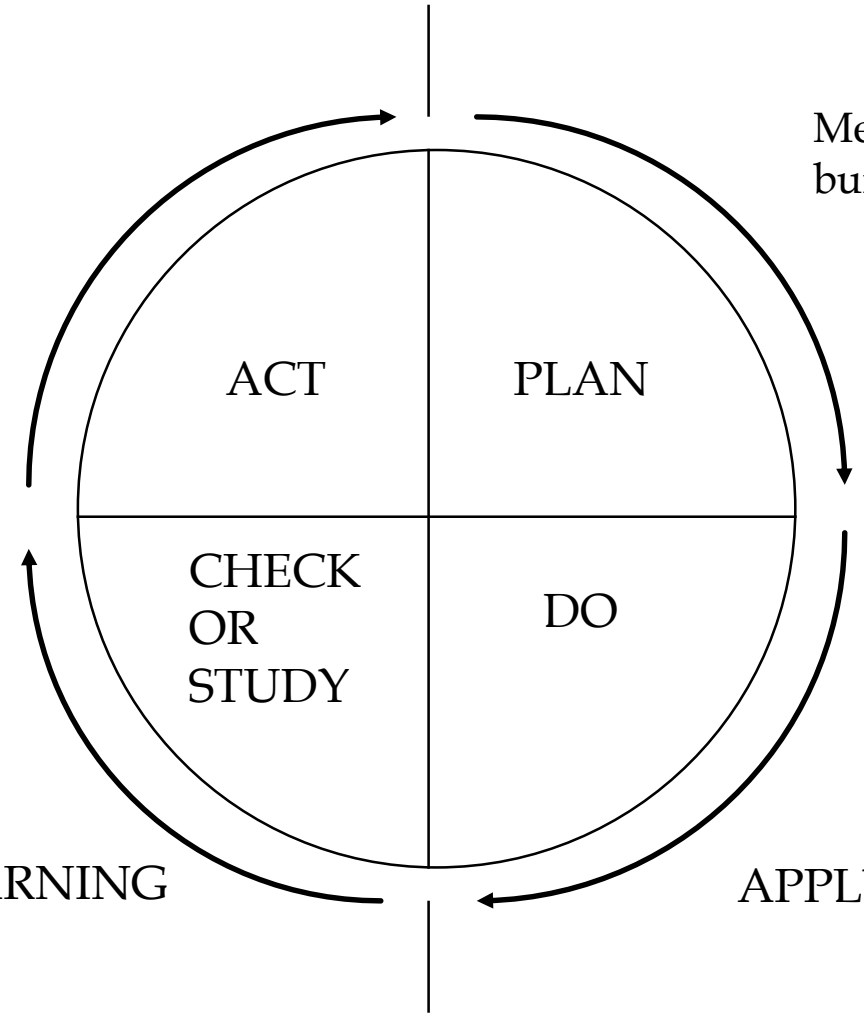
- 'Only 10% of (the Fortune 500) organisations know how to use KPIs properly???'
- 'A KPI which is not (reviewed) at the very least weekly is useless as a performance tool'

Out of the Crisis (W Edwards Deming)

- 'Understand the process'

The Deming or Shewhart Cycle

Essentially a Circle..



Measurement built in here

LEARNING

APPLYING

Monitoring Defined…

"A continuing function that aims primarily to provide managers and main stakeholders with regular feedback and early indications of progress or lack thereof in the achievement of intended results. Monitoring tracks the actual performance or situation against what was planned or expected…. Monitoring generally involves collecting and analyzing data on implementation processes, strategies and results, and recommending corrective measures."

Source: Evaluation Office, United Nations Development Programme (2002)

Short interval controls

Look closer at the process and see more

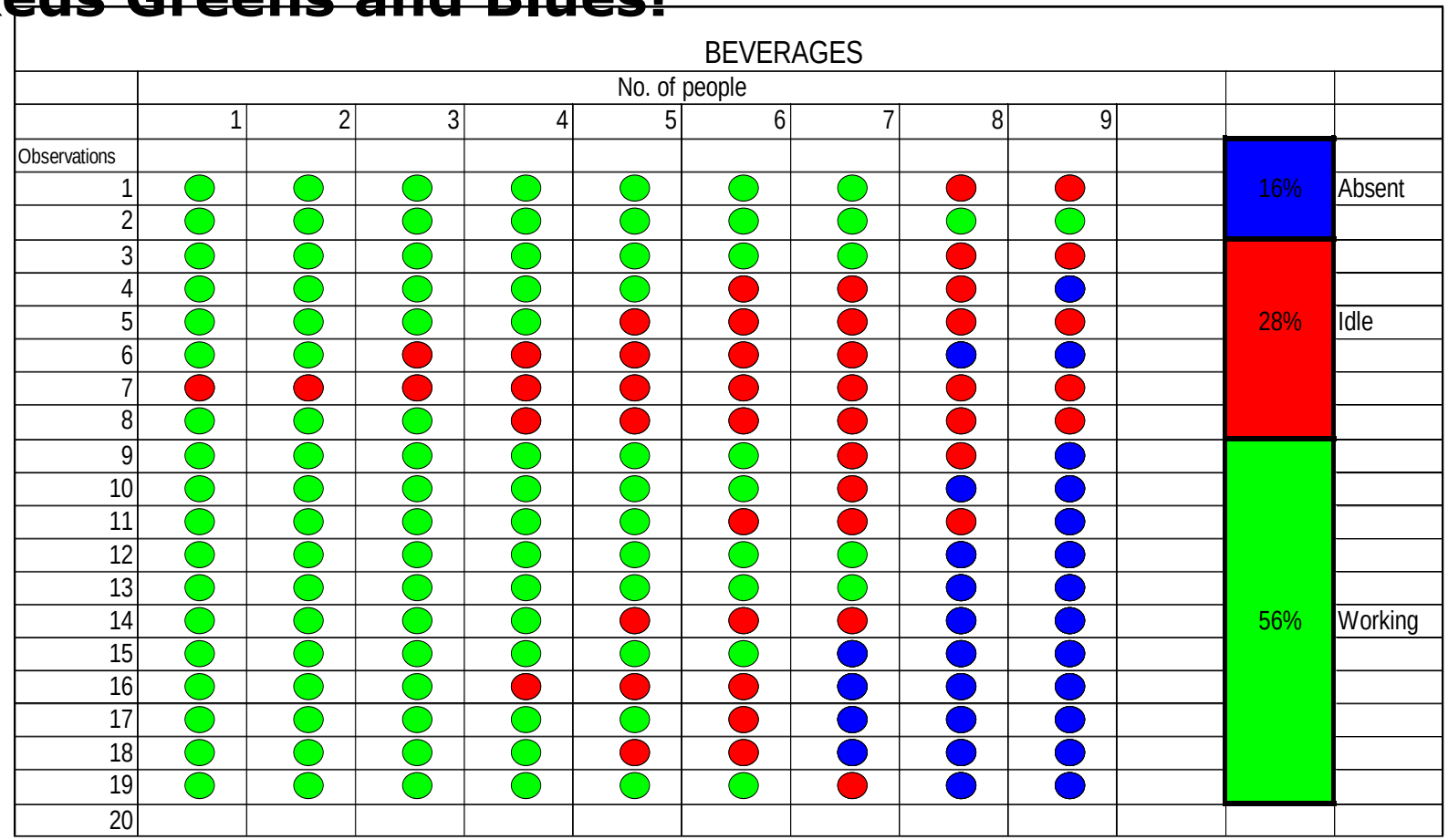
Aid the psychological 'attitude to change' process

Enhance, reinforce and accelerate the learning process and therefore the quality of the process improvements which actually happen

Give time for re-adjustment when off plan, therefore creating prevention

Observations on Management Control

Reds Greens and Blues!



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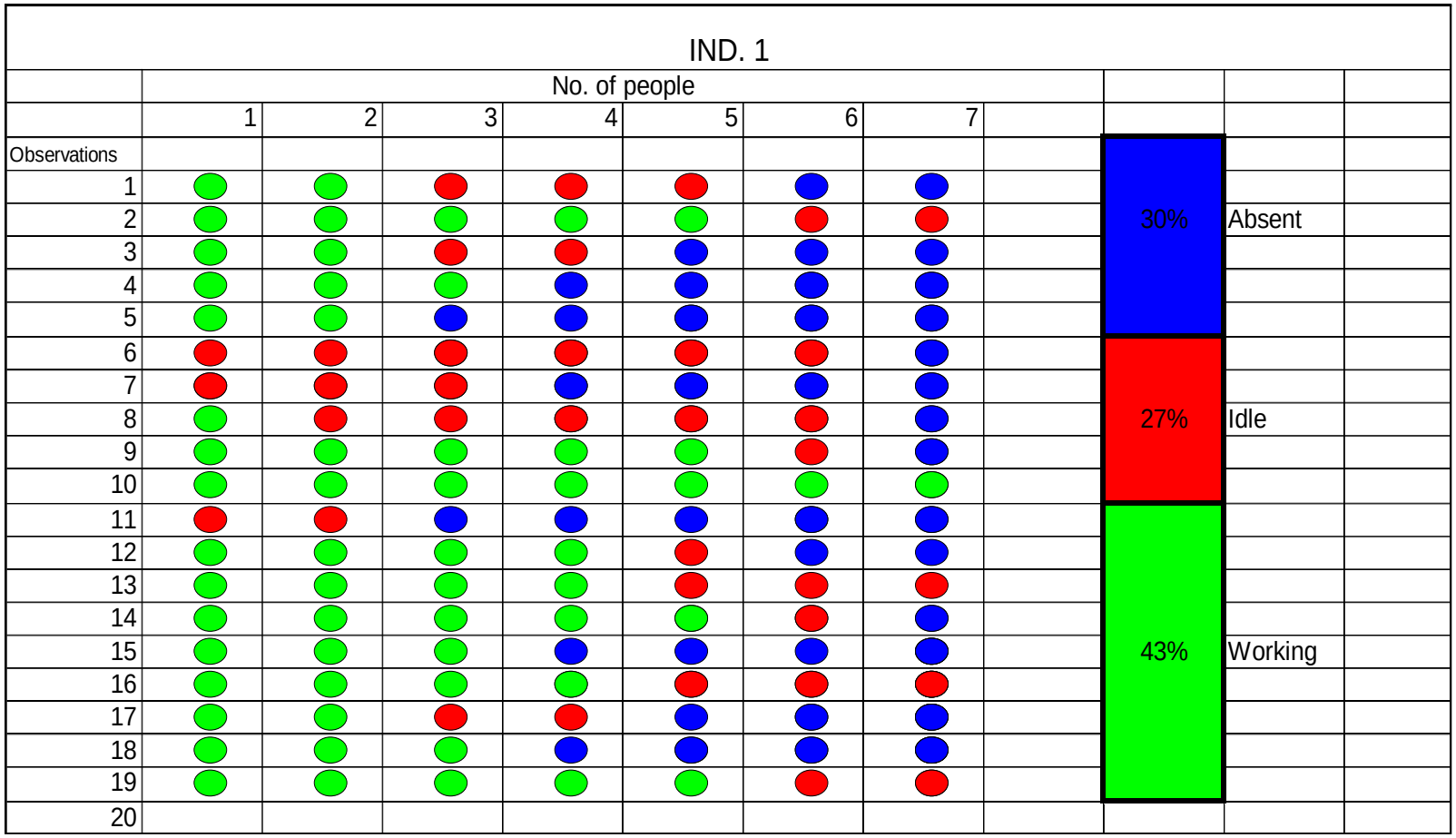

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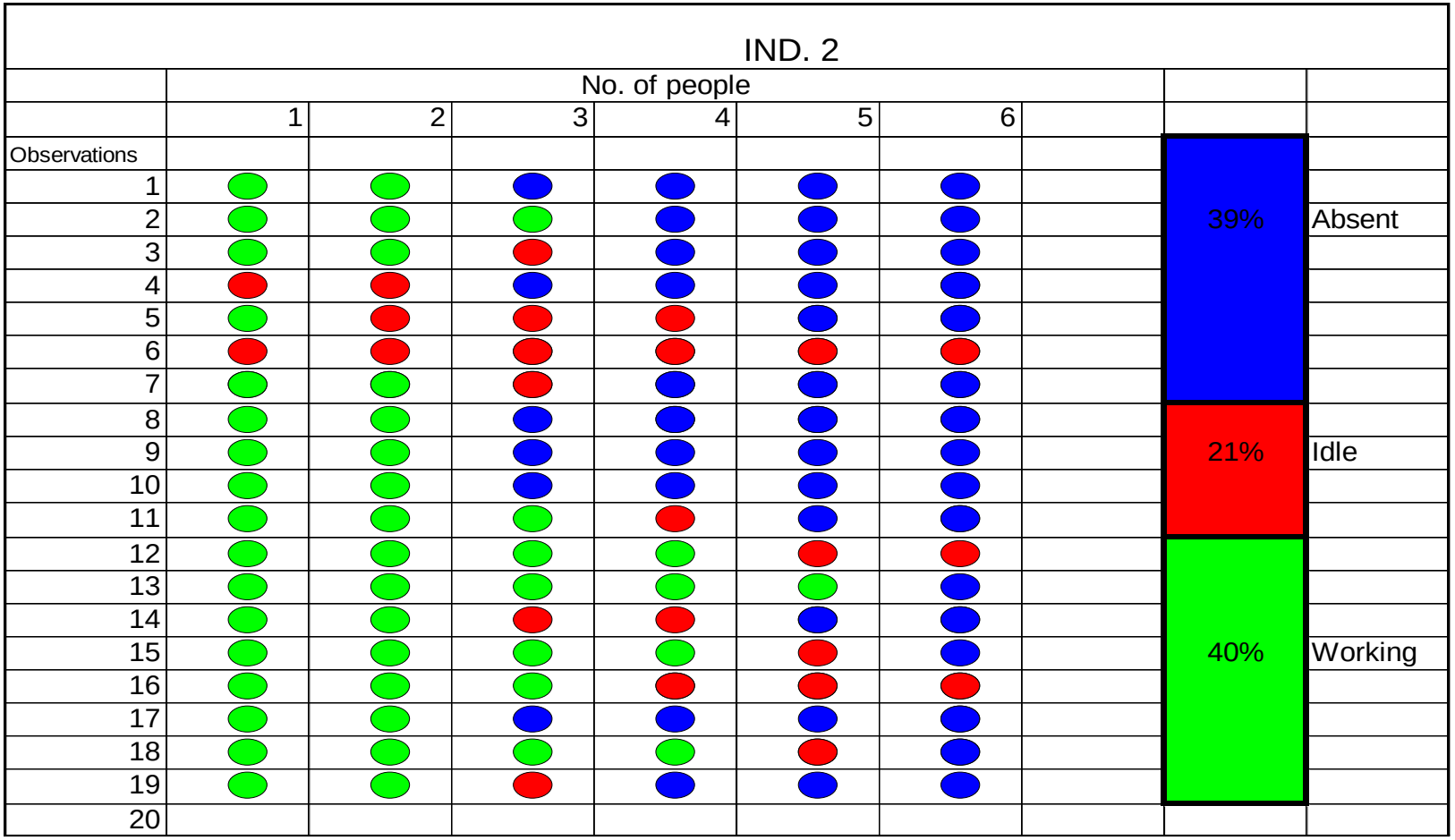

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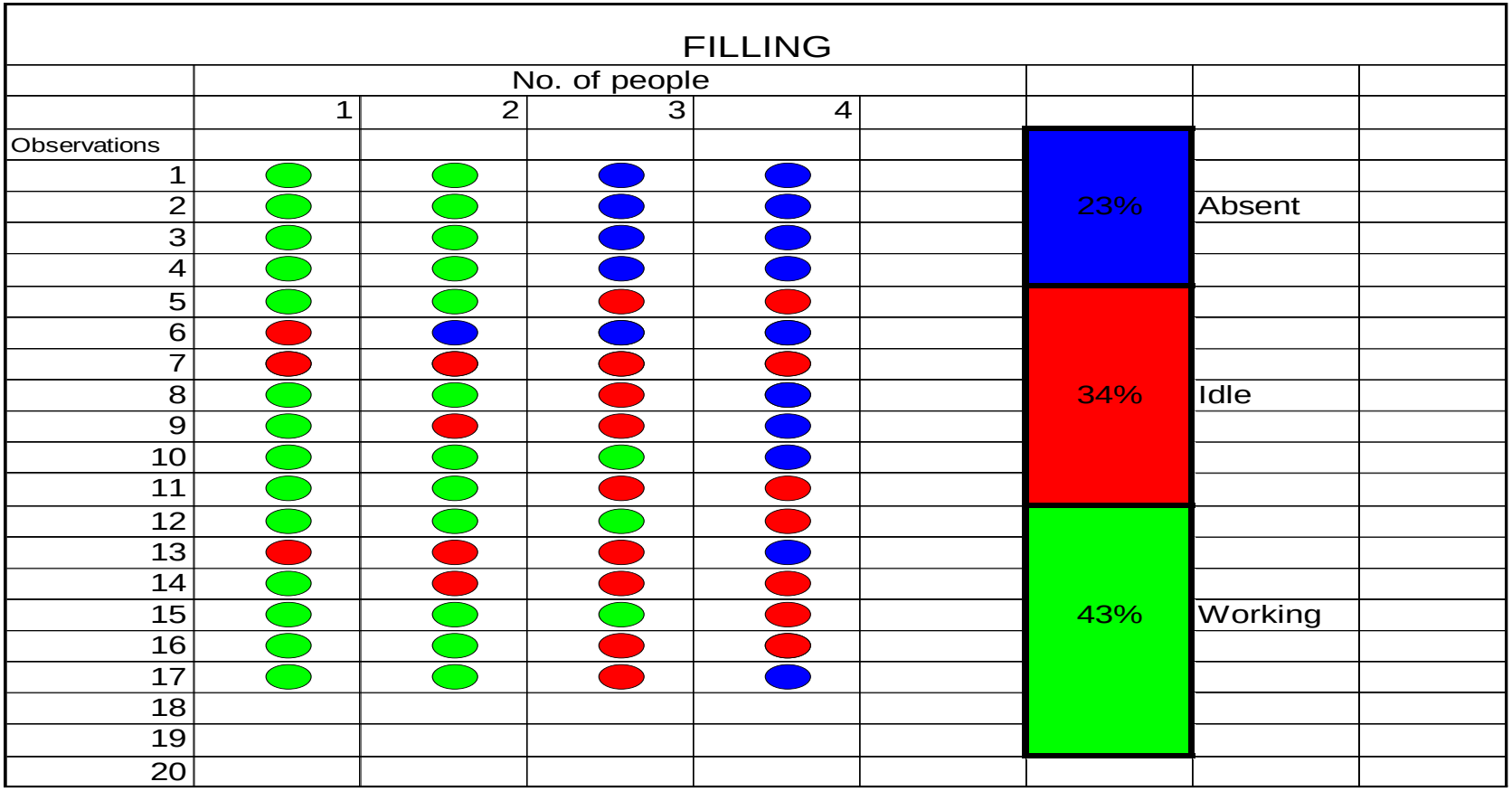


‘Full on’ KPIs

What we mean by ‘Full-On KPI’s’ is:-

every area of the business has its high level and process-level KPIs revised at the ideal intervals

being reviewed with the people in the process against improvement targets in a fixed hierarchy of well run Action Review Meetings

being quantified in financial terms ($$ per unit or per cent of out put, resource, waste etc.)

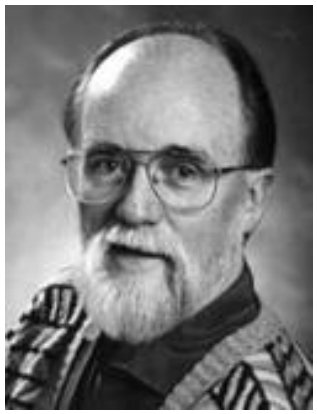
going into a high level dashboard which is also reviewed regularly

allowing top management to see that process owners are controlling their processes

Evaluation Defined…

"systematic collection of information about the activities, characteristics, and outcomes of programs, personnel, and products….to reduce uncertainties, improve effectiveness and make decisions with regard to what those programs, personnel or products are doing and affecting."

Patten, M.Q. (1982) *Practical Evaluation*. Beverly Hills, CA: Sage Publications Inc



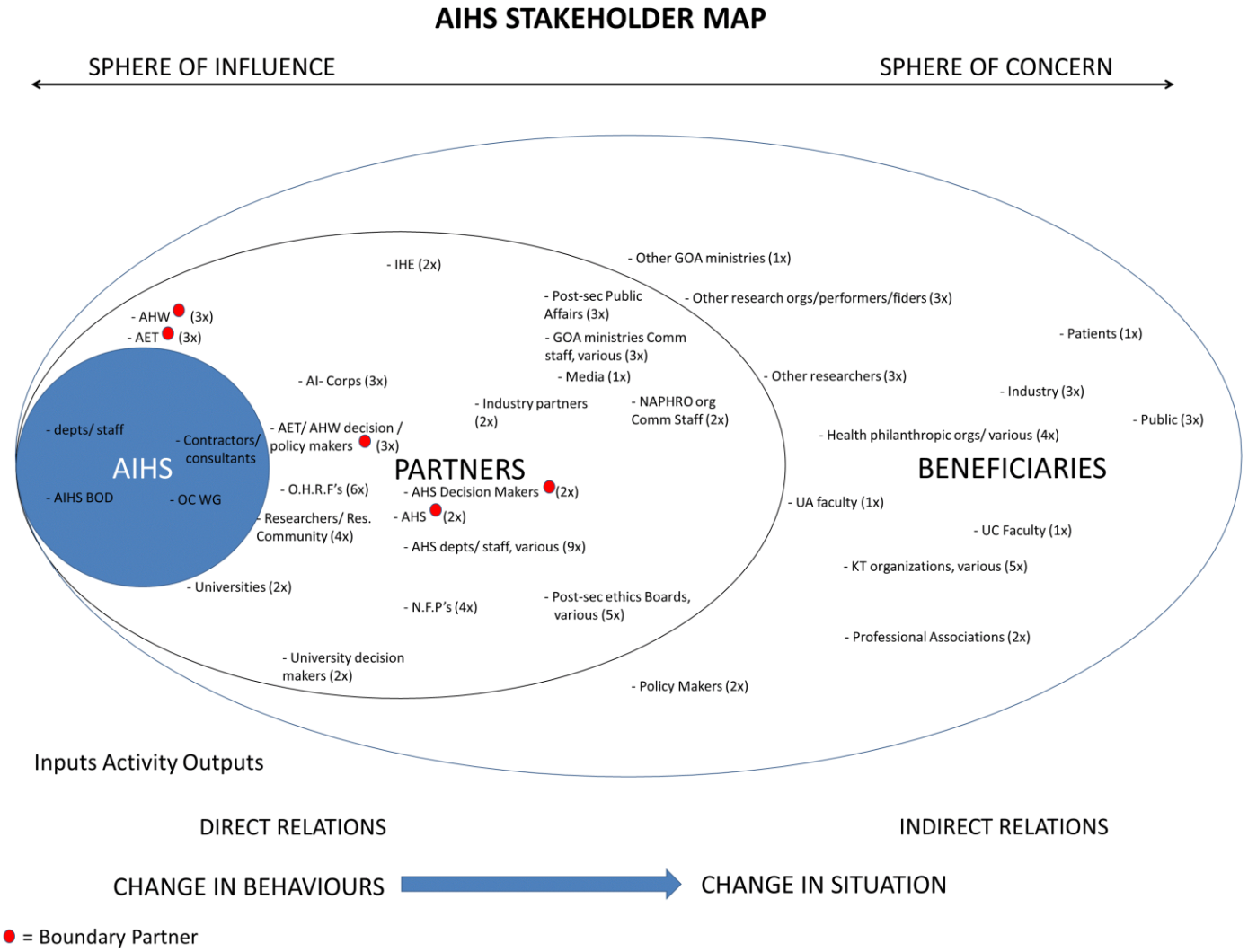
Step 1: Engage Stakeholders

- **Identify stakeholders with the greatest stake or vested interest in the evaluation**

- **Who are your stakeholders? Includes those who:**
  - will use the results (e.g., clients, community groups, elected officials)
  - support or maintain the program (e.g., program staff, partners, management, funders, coalition members)
  - are affected by the program activities or evaluation (e.g., persons served, families or the general public)

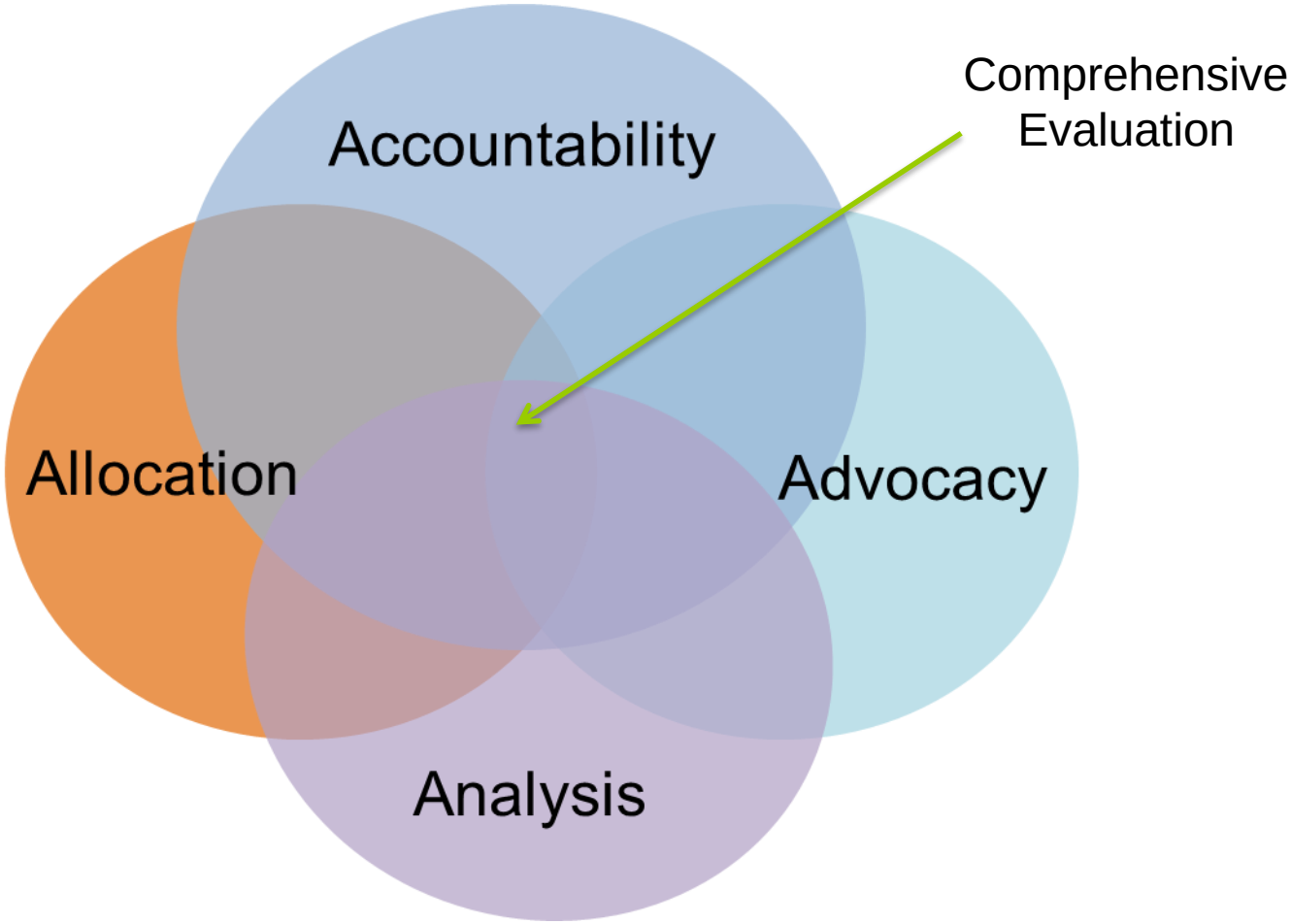
Stakeholder Mapping

Example



Step 2: Describe the Context

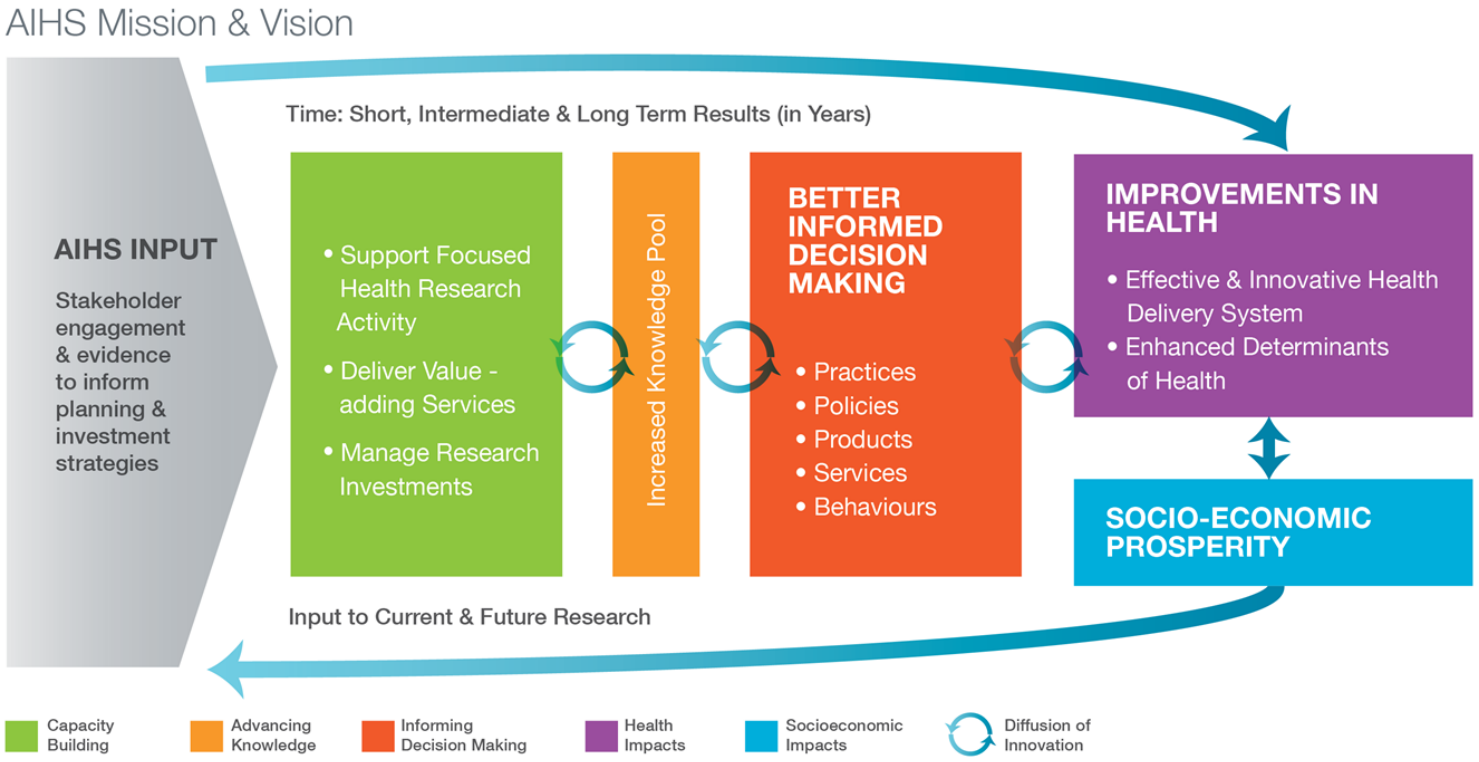
- Establish Evaluation Purposes



Different Perspectives & Purposes

Stakeholders	Purpose (examples)
Funding Organizations	Hold people accountable. Provide assurance that money was well spent. Compare institutions or programmes when allocating budgets.
Program Managers/ Health Providers	Learning: inform the program on its performance and how to grow or improve. Evidence for effective and efficient interventions.
Researcher	Advocating for continued investments through demonstration of value.

Focus on Outcomes of Interest to Stakeholders



Routine Monitoring and Evaluation Systems

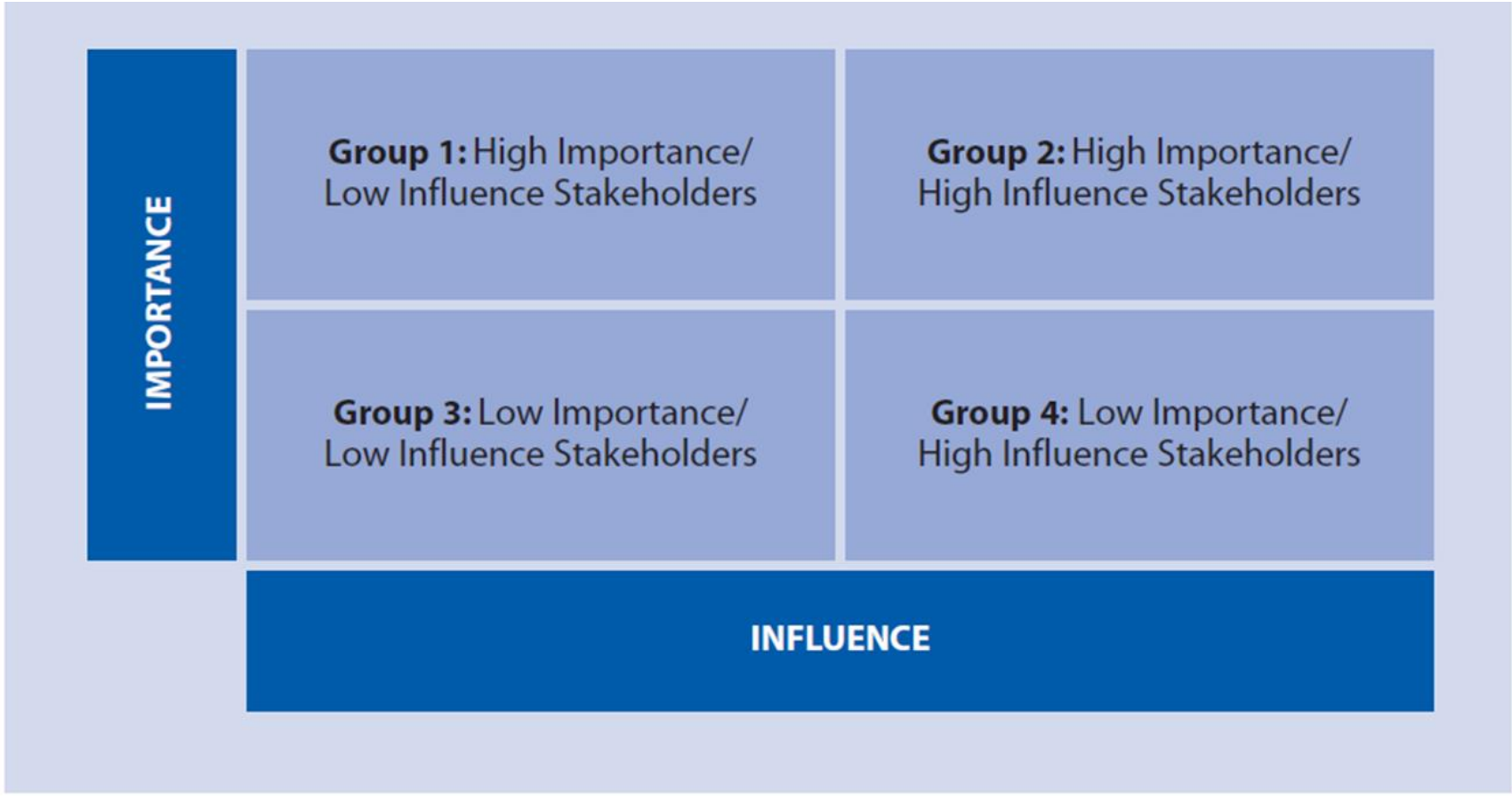
Case Scenario

The rhinovirus is the most common viral infective agent in humans and the predominant cause of the common cold. After years of work, your research team has discovered an unlikely antiviral agent that targets a protein that is commonly found in many types of Human rhinoviruses. Expanding on this discovery, your research team has demonstrated the high efficacy of this agent in mouse models and a recently completed randomized controlled trial strongly suggests that this agent is most efficacious in children. Despite these successes, the research team has several concerns about the treatment effectiveness due to the dietary preferences of your target population. This is because the antiviral agent is found in brussel sprouts and, for reasons yet unknown, only remains active in raw or gently cooked brussel sprouts. Optimal efficacy is achieved when consumed more than 3 times per week and at a minimal serving size of half a cup.

A knowledge translation process was created involving researchers and knowledge translation staff to move this new research knowledge into public health action and to inform health systems policy makers. The process ultimate goal is to increase children's dietary consumption of brussel sprouts on a regular basis (3 times per week) and at the recommended serving size through advancing the research knowledge and educational sessions to knowledge users. You are the evaluator assigned to this program and you have been asked to assess the program and more specifically identify stakeholder needs as well as select KPIs of program success.

1.Evaluation Purpose Statement: The main purpose is for analysis/learning, The evaluation will assess what knowledge translation process worked /didn't under what circumstances and contexts		
2. Stakeholders	**3. Importance of Stakeholder (Scale of 1 to 5, 5 = highest)**	**4. Influence of Stakeholders (Scale of 1 to 5, 5 = highest)**
Funders		
Research Community		
Health System Policy/Decision Makers		
Health Care Providers		
Patients (Children & Families)		
School System (Teachers/ administrators)		
General Public		

Stakeholder Importance and Influence Matrix



Adapted from Source: UNDP, United Nations Development Programme. (2009) *Handbook on Planning Monitoring and Evaluating for Development Results*. New York, NY.

Checkpoint

At this point we have:

- Identified key stakeholders
- Established the purposes of the evaluation
- Analyzed our stakeholders

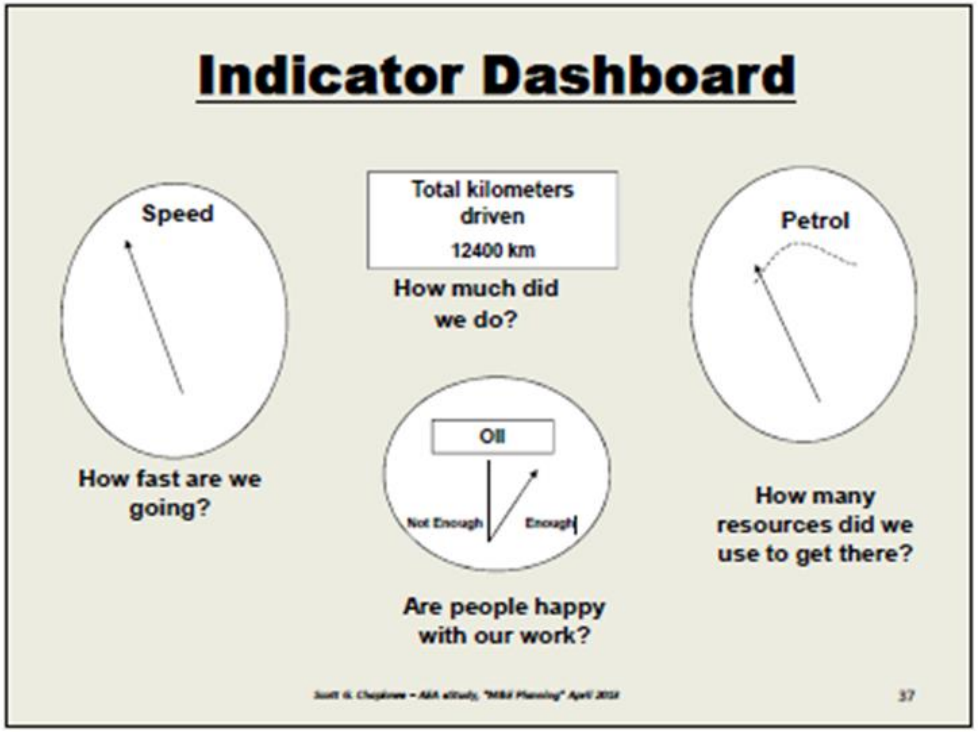
Step 3: Identify and Select Indicators of Success

What's Covered in this Step

- Review approaches and best practices in indicators
- Select KPIs

Indicators Defined …

- **An indicator is the evidence or information that represents the phenomena you are asking about**



Definition adapted from source: *Enhancing Program Performance with Logic Models*, University of Wisconsin – Extension, p. 178.
Image from source: Chaplowe, S. (April 2013) *Monitoring and Evaluation (M&E) Planning for Projects/Programs.* AEA eStudy

Types of Indicators

- Qualitative and quantitative
- Lag and leading
- Proxy

M&E Indicator Matrix

Outcome	General Question	Evaluation Questions	Indicators /metrics
Building research capacity	Are we building research capacity in the province?	Q1: Are we developing highly qualified research personnel in our province?	Graduated students per year (MSc, PhD, MD-PhD) # hospital staff with advanced degrees # provincial government staff with advanced degrees
		Q2: Is the Infrastructure being built to support personnel?	Infrastructure grant $ attracted ($/year)
		Q3. Are we leveraging additional capacity for the province through attracted funding?	Levels of 'additional funding' attracted ($/year)

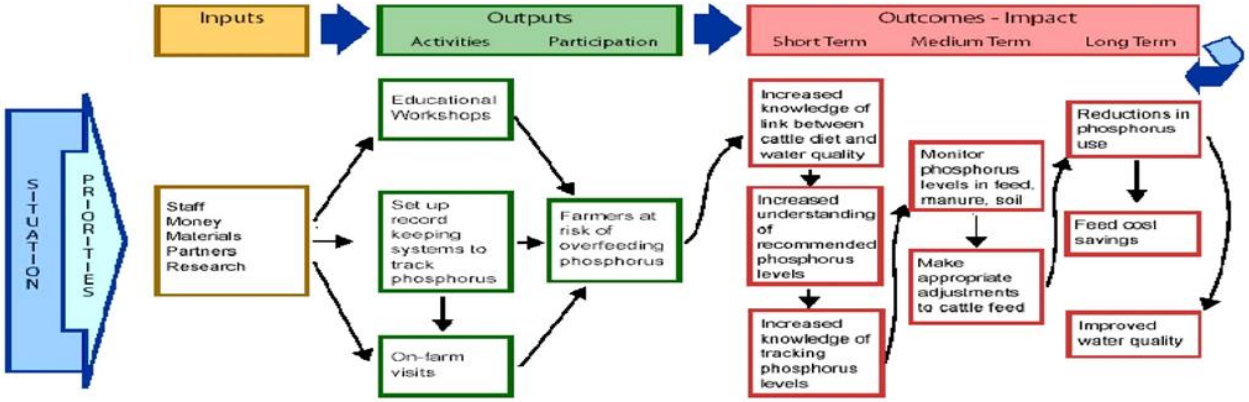
Indicators Across a Logic Model

Components	Indicators /metrics
Goal: Improve economic wellbeing of the people living in the target district.	% people living below one dollar per day poverty level.
Outcomes: Increased household economic activities in target communities.	% households with functioning income generation activities.
Outputs: Income Generation Activity Plans completed in community households	% of households having that completed an income generation activity plan.
Activities: Household livelihood planning sessions.	# of households participated in the planning sessions.
Inputs: Livelihood session facilitator.	# of facilitators recruited to participate for the session.

Chaplowe, S. (April 2013) *Monitoring and Evaluation (M&E) Planning for Projects/Programs.* AEA eStudy.

UW Extension

Water Quality Program: Logic model, evaluation questions, indicators



Evaluation Questions: What do you want to know?

Were the inputs sufficient, timely? Did they meet the program goals? Were they sufficient given the situation?	Did all activities occur as intended? Quality of intervention: appropriate content; usable record keeping system; well planned visits?	Did the targeted farmers participate? Who did not? What were their reactions? Who else was reached?	Did knowledge increase? Did understanding of P levels increase? What else happened?	Are farmers monitoring P levels? Are they adjusting cattle feed? Anything else?	Is there a reduction in P use? How much $ saved? Other benefits? Negative consequences?

Indicators: How will you know it?

# staff; $ invested; delivery timetable	# workshops, data systems, on-farm visits. Farmer self-reports of quality	Actual vs. desired attendance. #, % attended per session.	#, % with increased knowledge of …. Additional outcomes: +, -.	#, % monitoring P levels; making adjustments to cattle feed Additional outcomes: +, -.	#, % reducing P use; level of reduction. # Dollars saved/farmer. Additional outcomes: +, -.

Taylor-Powell, Ellen. University of WI-Extension, October 2002

Indicator Selection Criteria

Attractiveness: validity, relevance, behavioural impact, transparency, coverage, recency, methodological soundness, replicability, comparability

Feasibility: data availability, cost of data, compliance costs, timeliness, attribution, avoids gamesmanship, interpretation, well-defined

Source: CAHS, Canadian Academy of Health Sciences. (2009) *Making an Impact: A Preferred Framework and Indicators to measure Returns on Investment in Health Research*. Ottawa, ON: CAHS.

Criteria for Selecting Indicator *Sets*

Focussed on the organization's objectives that will use them

Appropriate for the stakeholders who are likely to use the information

Balanced to cover all significant areas of work performed by an organization

Robust enough to cope with organizational changes (such as staff changes)

Integrated into management processes

Cost-effective (balancing the benefits of the information against collection costs)

Source: CAHS, Canadian Academy of Health Sciences. (2009) *Making an Impact: A Preferred Framework and Indicators to measure Returns on Investment in Health Research*. Ottawa, ON: CAHS.

Examples of Tools for Indicator Selection

Example Tools: Priority Sort

- **Priority Sort has small groups of stakeholders or 'experts' rank order specified items**
- **The outputs are:**
  - Comparative rankings
  - Rich qualitative data
  - Engaged participants
- **Method evolved out of the Q Methodology**

Adapted from Source: *Priority Sort: An Approach to Participatory Decision-Making*, retrieved October 2013 from http://cathexisconsulting.ca/wp-content/uploads/2012/10/Priority-Sort_presentation-CES2010.pdf

Example Tools: UNDP Selection Table

TABLE 1. HOW TO SELECT INDICATORS

INTENDED RESULTS	PERFORMANCE INDICATORS	CLASSIFICATION OF INDICATORS	TOTAL SCORE	SELECTED
		A B C D E F		
Impact	If any -			
Outcome 1	Indicator 1 Indicator 2...	[Rate 1 per satisfied criteria]		
Output 1	Indicator 1 Indicator 2...			

Select the 2 to 3 indicators with best score

A = the meaning of the indicator is clear
B = data are easily available
C = the effort to collect the data is within the power of the project management and does not require experts for analysis
D = the indicator is sufficiently representative for the total of the intended results (outcome or output)
E = the indicator is tangible and can be observed
F = the indicator is difficult to qualify but so important that it should be considered (proxy indicator)

Source: Evaluation Office of the UNDP, United Nations Development Programme. (2002). *Handbook on Monitoring and Evaluating for Results. New York, NY.* Retrieved October 2013 from: http://web.undp.org/evaluation/documents/HandBook/ME-Handbook.pdf

Cautions

- Not measuring something because it "isn't measureable" or you don't have data, or the measure isn't perfect
  - Sometimes the best KPIs are aspirational
- Too many indicators are difficult to use effectively
- Indicators should inform action to encourage use (e.g., using lead indicators to inform course corrections)

Avoid inappropriate uses: attribution, halo, counterfactual, double-counting

Exercise 1: Generate Indicators

1.Evaluation Purpose Statement: Analysis/ Learning				
Primary Stakeholders	**Outcomes**	**General Evaluation Questions**	**Specific Evaluation Questions**	**Indicators**
Knowledge users and research community	Advancing knowledge of research findings	How did the program advance the knowledge of the research program in terms of reach to knowledge users and research community?	Were the educational resources accessed? By who? Were the educational resources understood by the knowledge users (KUs)? (change in knowledge) Were KUs satisfied with the educational resources? How did the program advance the knowledge of the research findings in terms of reach to the research community?	<u>Educational Resource (ER) Outputs</u> • #/ % of KU aware of results (survey results) •# of copies of the ER initially distributed, e.g. existing contact lists • # of file downloads in a time period •# of people reached by media coverage of the ER •% of users who share their copies or transmit information verbally to others <u>User Satisfacti**on**</u> •% of those receiving an educational resource (ER) who have read it or browsed it •% of users who are satisfied with an ER (rating) •% of users who rate the content of an ER as useable (rating) •% of users who rate the format/presentation of an ER as usable • # and % of users who report that an ER changed their views <u>Educational Resource Quality</u> •# and % of users intending to use the information <u>Knowledge Outputs</u> • # of publications • # of citations • # presentations to research community at a regional, national and international level

1.Evaluation Purpose Statement: Analysis/ Learning				
Primary Stakeholders	**Outcomes**	**General Evaluation Questions**	**Specific Evaluation Questions**	**Key Performance Indicators (KPI's)**
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Circle those indicators that are key (small set), feasible and part of a balanced set

Checkpoint

At this point we have:

- Reviewed potential indicators
- Selected KPIs according to evaluation purpose and stakeholder needs

Reporting and Encourage Use by Stakeholders

What Makes for Quality Reporting

- ❑ Provide interim and final reports to intended users in time for use
- ❑ Tailor the report content, format, and style for audiences
- ❑ Include an executive summary
- ❑ Describe stakeholders and how they were engaged
- ❑ Describe essential features of the programme
- ❑ Explain the focus of the assessment and its limitations
- ❑ Include an adequate summary of plan
- ❑ Provide necessary technical information (e.g., in appendices)
- ❑ Specify the standards and criteria for assessment judgment
- ❑ Explain the assessment judgments and how they are supported by evidence
- ❑ List strengths and weaknesses of assessment
- ❑ Discuss recommendations for action
- ❑ Protect programme clients/other stakeholders
- ❑ Anticipate how people or organisations might be affected by the findings
- ❑ Present minority opinions where necessary
- ❑ Verify report
- ❑ Organize report and remove jargon
- ❑ Use examples, visualizations, stories, etc.

Source: Adapted from developing an effective evaluation plan, Atlanta Georgia, Centers for Disease Control and Prevention, 2011.

Report Planning Table

Example

Targeted Stakeholders	Report Format	Dissemination Method	Timing	Responsibility
Legislative bodies	Executive summary	Print materials	After evaluation is completed	Lead evaluator or a manager
Advocacy groups	Briefing note	Internet communication	After evaluation is completed	Communications manager
Oversight bodies	All types	Internet communication	After evaluation is completed	Lead evaluator or a manager
Senior organization managers	Summary report	Live presentation	After evaluation is completed	Lead evaluator or a manager
Programme managers, staff, contractors	Technical report, All types	Print materials, Live presentation	During evaluation, esp. negative findings and after	Programme manager

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