IT KPIs & Reporting
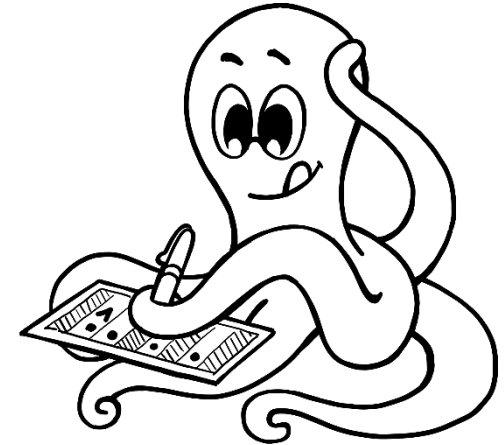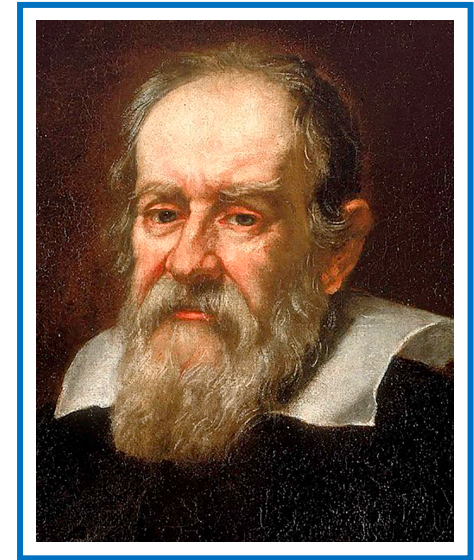
KNOWDigital

October 25, 2020
Lionel Pilorget

- Performance Measurement
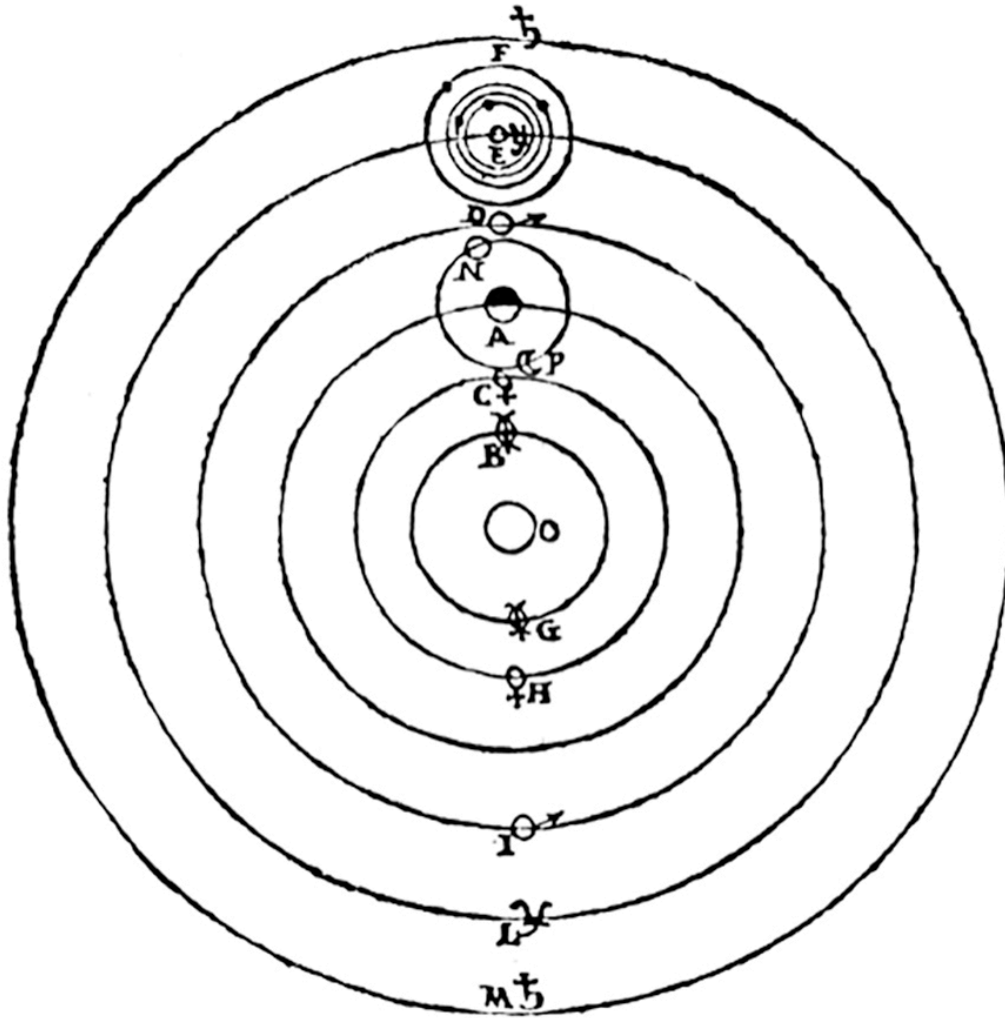
- IT Process KPIs

- IT Strategy KPIs

- IT Service KPIs

- IT Project KPIs

- IT Dashboards

- IT Controlling

"Measure what is measurable,
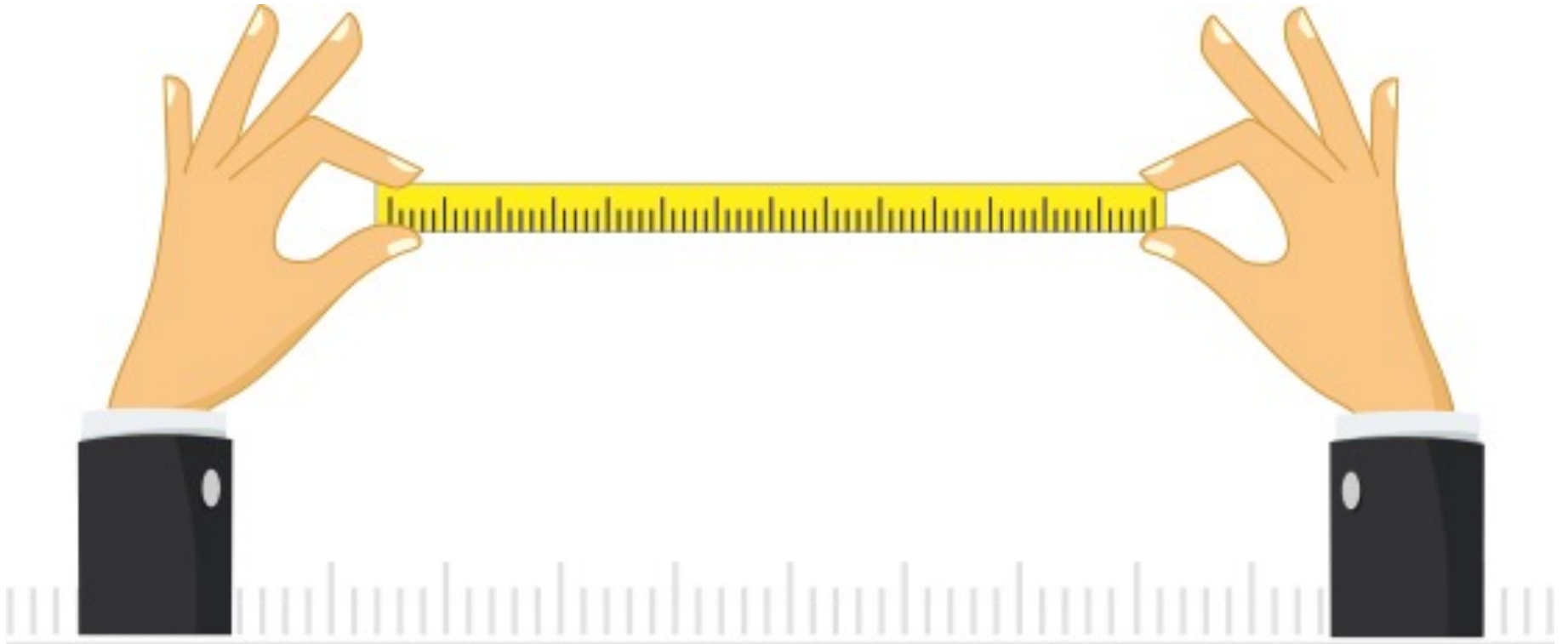and make measurable what is not so."

- …
- …
- …
- …

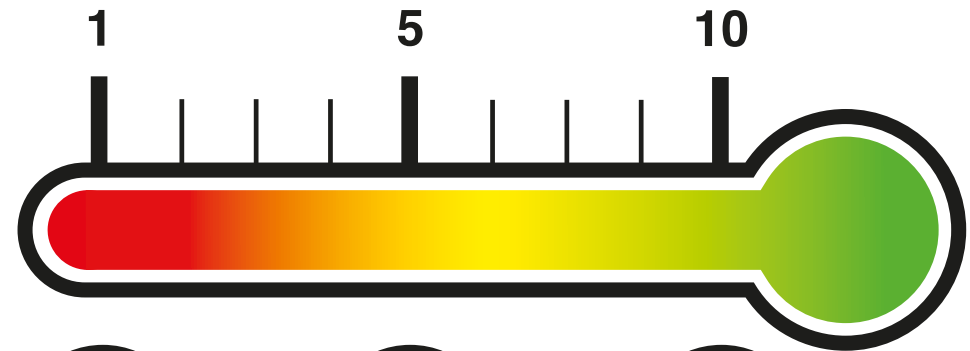## What about your motivation?

1   5   10

Not motivated   motivated   Highly motivated

1. **Balanced Scorecard (BSC)**

2. **European Foundation for Quality Management (EFQM)**

Balanced Scorecard (BSC)

Financial perspective
„To succeed financially, how should we appear to our shareholders?"

Customer perspective
„To achieve our vision, how should we appear to our customers?"

Vision and strategy

Internal business process
„To satisfy our shareholders and customers, what business processes must we excel at?"

Innovation and learning
„To achieve our vision, how will we sustain our ability to change and improve?"

Source: Robert S. Kaplan, David P. Norton – Putting the Balanced Scorecard to Work (hbr)

Enablers

Results

Leadership

People

Strategy

Partnerships & resources

Processes, products and services

People results

Customer results

Society results

Business results

Learning, Creativity and Innovation

Financial perspective

Customer perspective

Vision and strategy

Internal business process

Innovation and learning

steering

Leadership

People

Strategy

Partnerships & resources

Processes, products and services

People results

Customer results

Society results

Business results
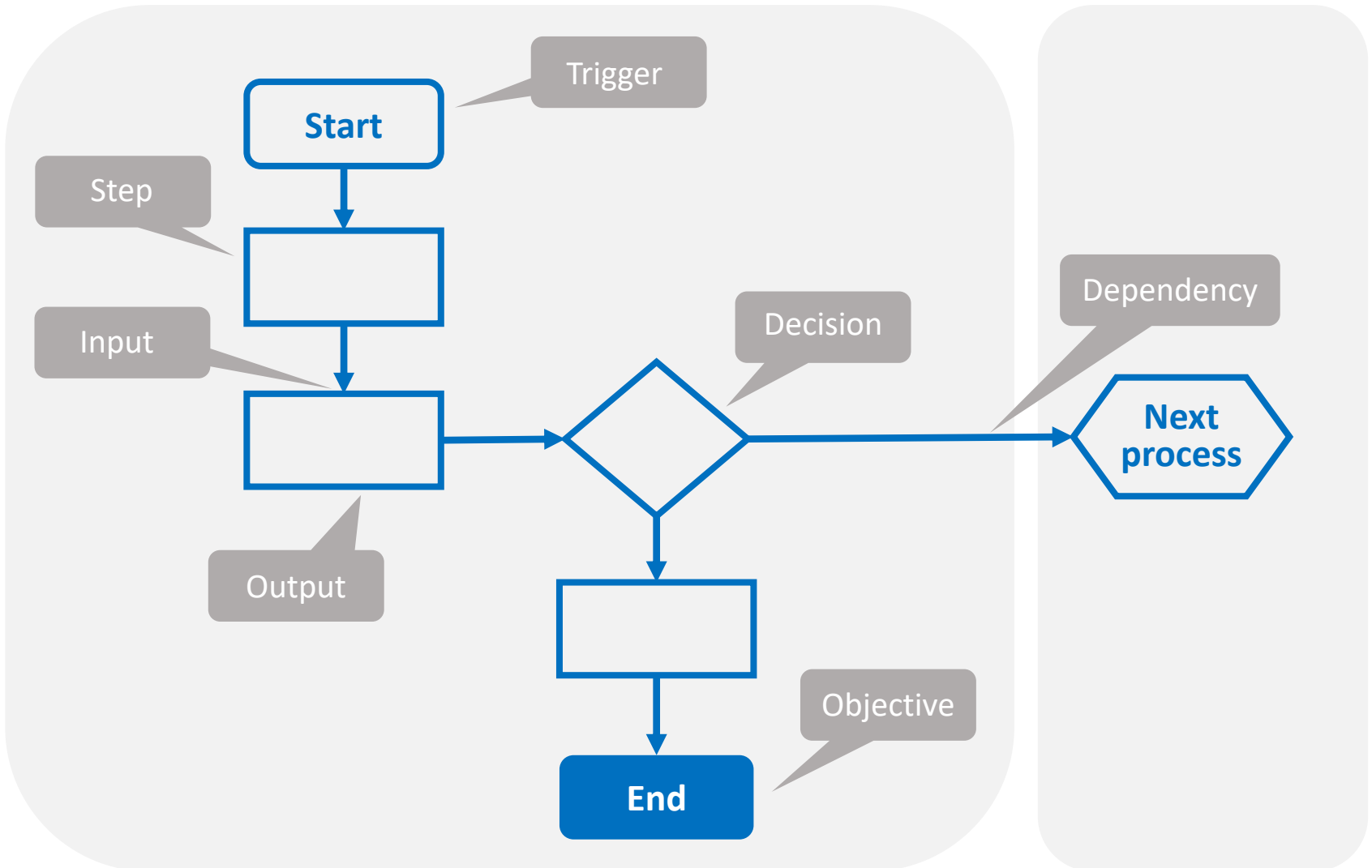
self assessment

a series of actions or steps taken in order to achieve a particular objective
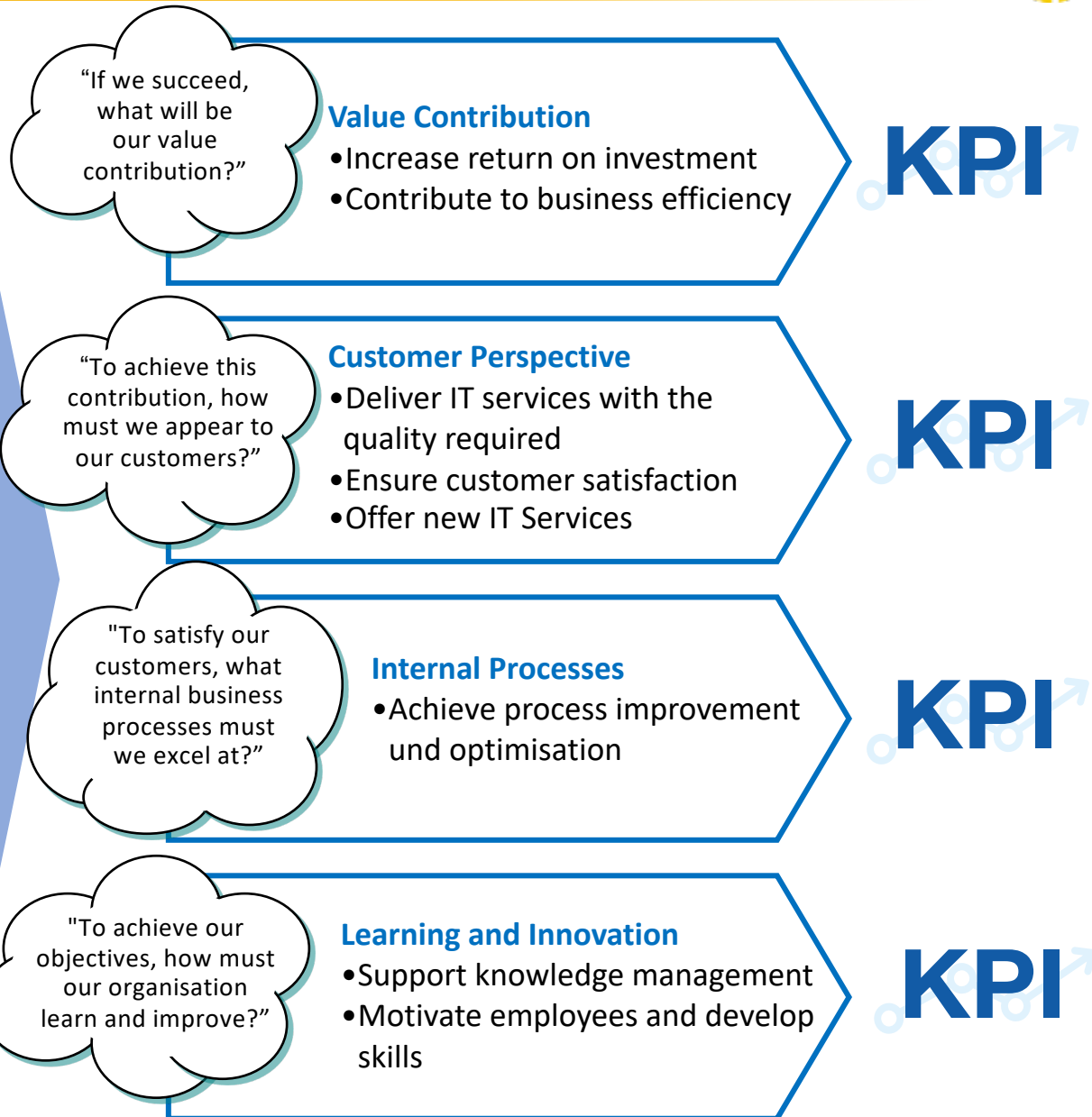
IT PROCESSES

Define IT Process KPIs based on BSC
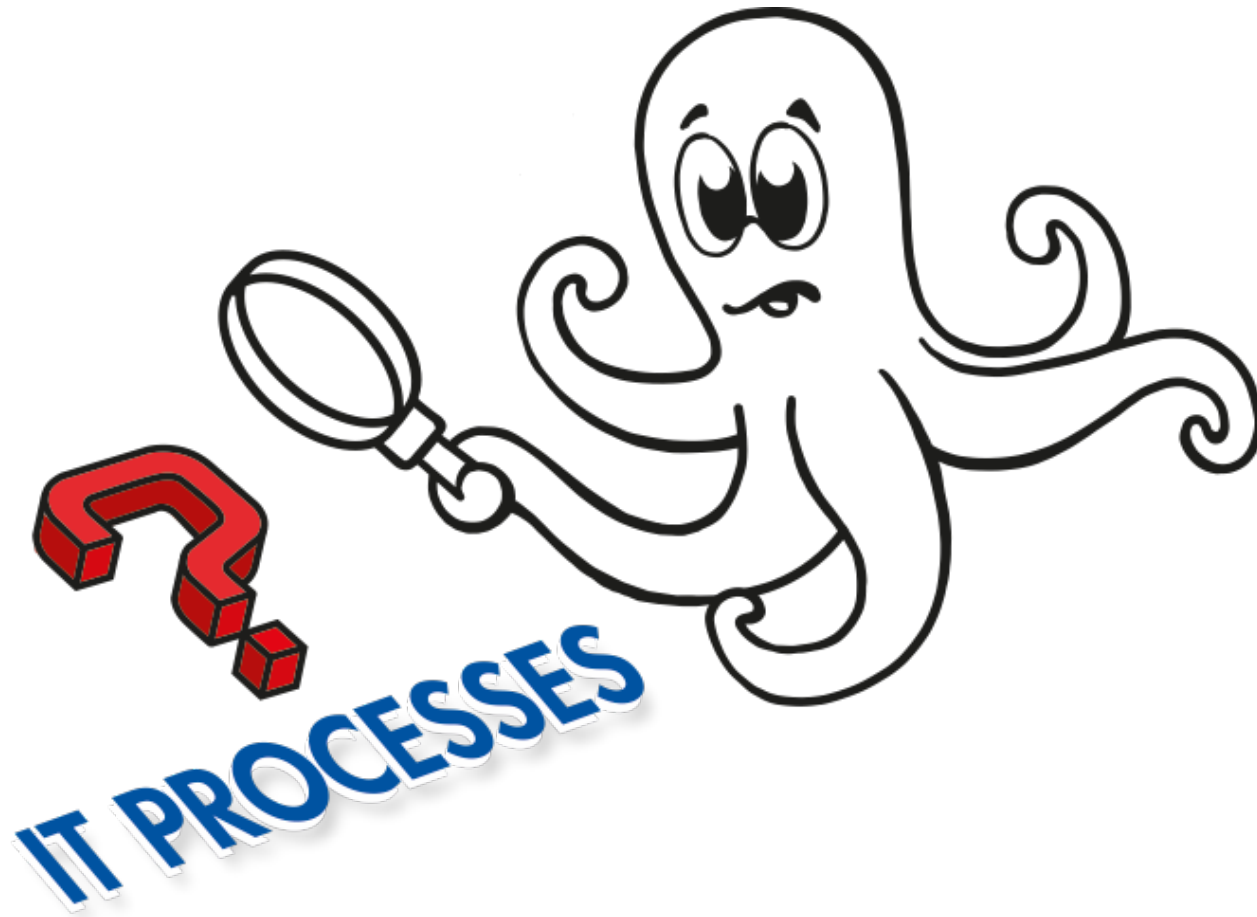
IT Processes

P01 - IT Strategy
P02 - HR Management
P03 - IT Standards & Architecture
P04 - Financial Management
P05 - Quality Management
P06 - IT Project Portfolio Management
P07 - Capacity & Availability Management
P08 - Continuity Management
P09 - Service Management
P10 - Requirements Management
P11 - Project Management
P12 - Release Management
P13 - Applications Development
P14 - IT Operation & Configuration
P15 - Supplier Management
P16 - Incident Management
P17 - Problem Management

"If we succeed, what will be our value contribution?"

Value Contribution
- Increase return on investment
- Contribute to business efficiency

KPI

"To achieve this contribution, how must we appear to our customers?"

Customer Perspective
- Deliver IT services with the quality required
- Ensure customer satisfaction
- Offer new IT Services

KPI

"To satisfy our customers, what internal business processes must we excel at?"

Internal Processes
- Achieve process improvement und optimisation

KPI

"To achieve our objectives, how must our organisation learn and improve?"

Learning and Innovation
- Support knowledge management
- Motivate employees and develop skills

KPI

KPIs and Metrics

- Financial significance

- Customer satisfaction

- Efficiency and quality

- Knowledge and skills

EXERCICE

Process 1
Process 2
Process3
Process 4
Process 5
Process 6
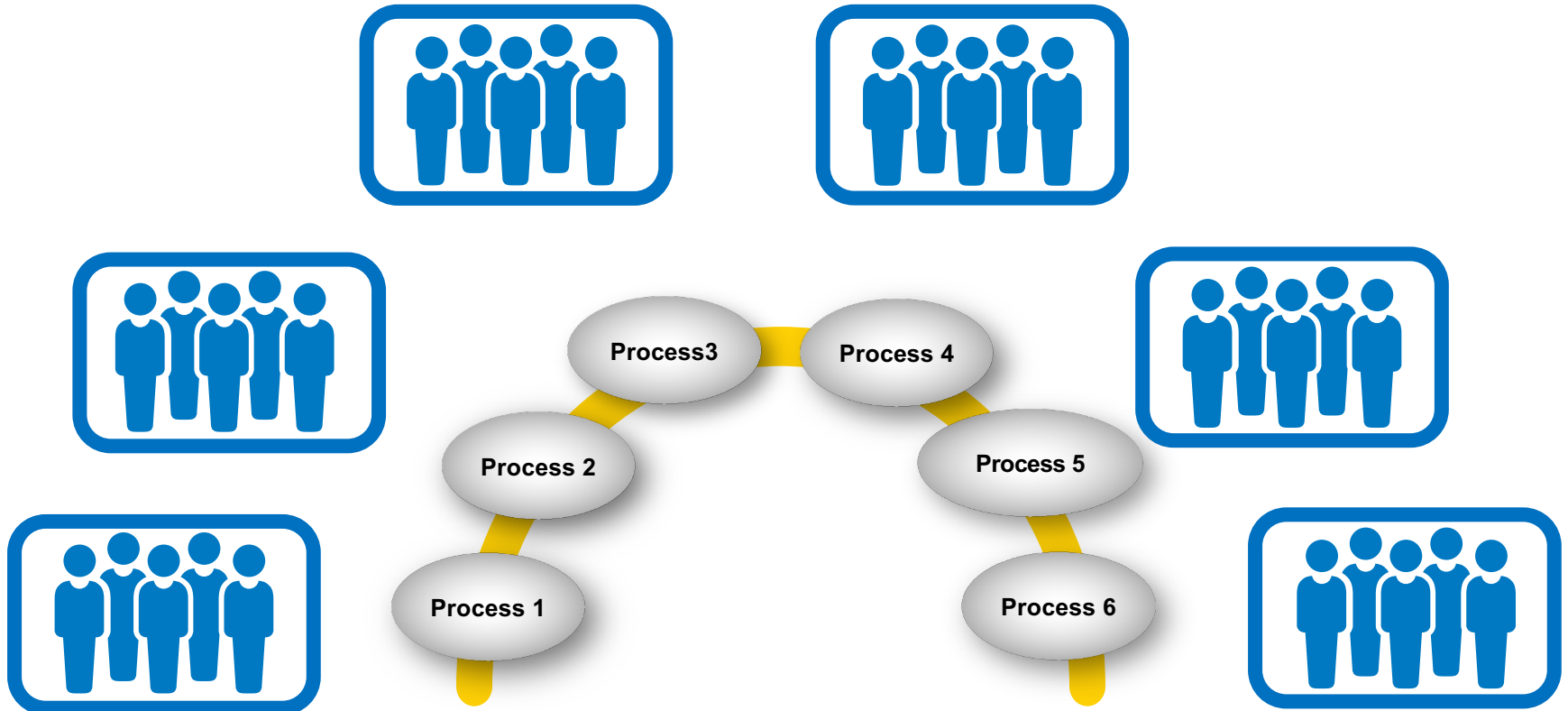
<Process Name>	KPIs	Metrics
Financial significance	• xx	• xx
Customer satisfaction	• xx	• xx
Efficiency and quality	• xx	• xx
Knowledge and skills	• xx	• xx

Release Management	KPIs	Metrics
Financial significance	• Adherence to budget	• Release costs
Customer satisfaction	• Customer satisfaction and delivery of required functionalities	• Customer survey
Efficiency and quality	• Application stability without service interruption	• Number of incidents before and after a release
Knowledge and skills	• Adherence to deadlines in the overall release plan	• Deadline monitoring

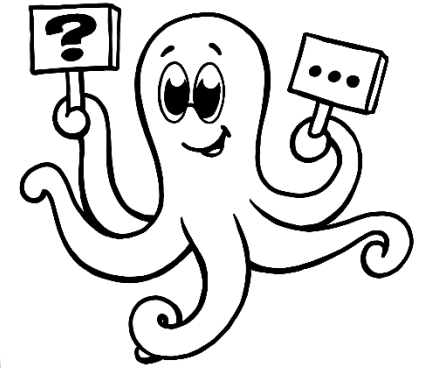| IT Service Management	KPIs	Metrics
Financial significance	• Service price reduction per unit	• Price development
Customer satisfaction	• Comprehensible and measurable SLAs • Customer satisfaction	• Dashboards • Customer survey
Efficiency and quality	• SLA compliance	• SLA reporting • Number of SLA violations
Knowledge and skills	• Bundling of IT services	• Cost transparency

Service Level Management

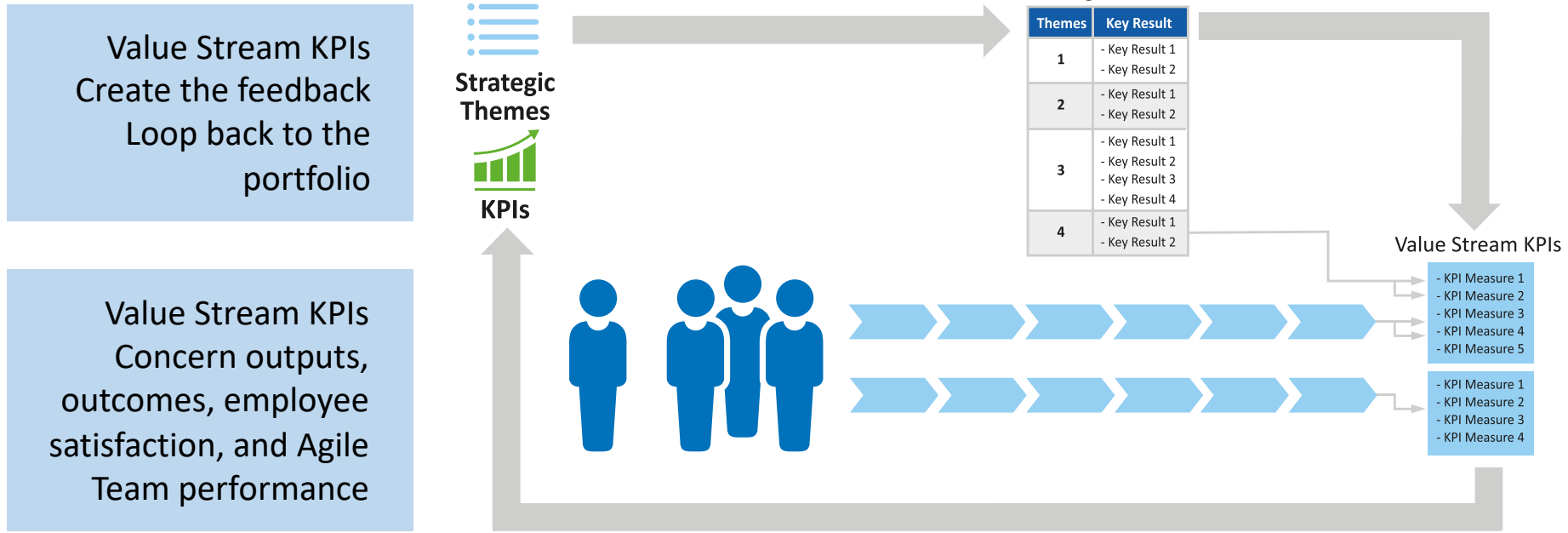| KPI	Definition
SLA-based service coverage	Number of services that are covered by SLAs
OLA or UC-based service coverage	Number of services that are covered by SLAs and OLAs or UCs
SLA monitoring	Number of monitored services for which problems and countermeasures have been reported
SLAs under review	Number of SLAs that are subject to regular review
Service level compliance	Number of SLAs for which compliance was achieved
Potential for improvement	Number of optimization proposals entered in the service improvement plan

Project Management

| KPI	Definition
Percentage of approved projects	Percentage of projects whose implementation was initiated pursuant to a signed project order
Number of project order changes	Number of changes to project orders after project commencement
Adherence to project budget	Comparison of the planned and the actual use of financial and human resources
Project delays	Comparison of the planned and the actual project completion dates

SLA: Service Level Agreement   OLA: Operational Level Agreement   UC: Underpinning Contract

Value Stream KPIs Create the feedback Loop back to the portfolio

Strategic Themes

KPIs

Value Stream KPIs Concern outputs, outcomes, employee satisfaction, and Agile Team performance

Strategic Themes

Themes	Key Result
1	- Key Result 1 - Key Result 2
2	- Key Result 1 - Key Result 2
3	- Key Result 1 - Key Result 2 - Key Result 3 - Key Result 4
4	- Key Result 1 - Key Result 2

Value Stream KPIs

- KPI Measure 1
- KPI Measure 2
- KPI Measure 3
- KPI Measure 4
- KPI Measure 5

- KPI Measure 1
- KPI Measure 2
- KPI Measure 3
- KPI Measure 4

Value Stream	KPI
A web service attracting and retaining users	AARRR (also known as 'pirate metrics'): acquisition rate, activation rate, revenue, retention rate, referrals
Product or service support value stream	First response time, mean time to resolution, net promoter score (NPS), customer experience score, cost per ticket
Product value stream	Units sold, revenue, gross margin, market share, quality metrics, customer satisfaction, trends on all

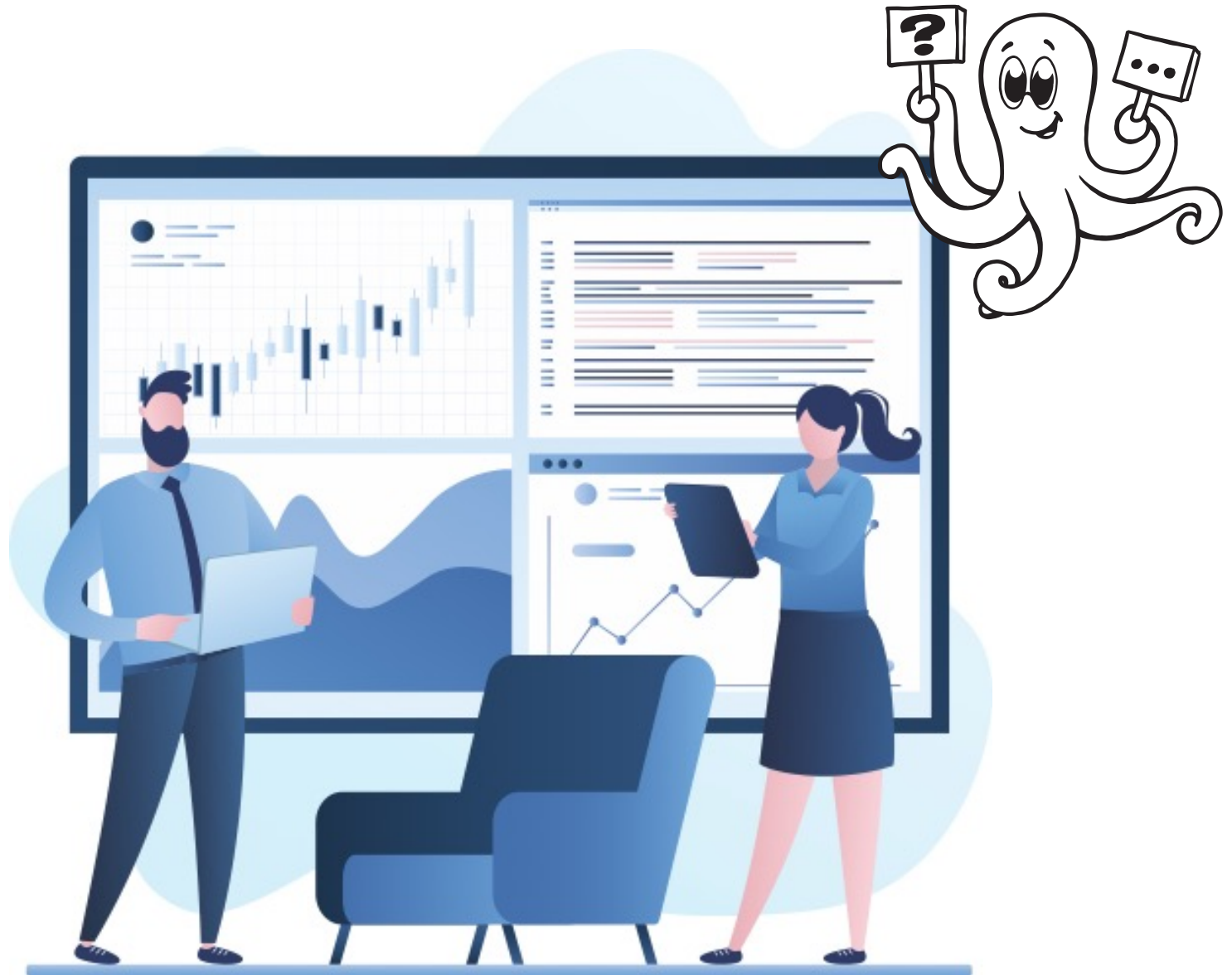| Value Stream	KPI
Software or hardware development value stream	Cost vs. budget, predictability, internal NPS, feature cycle time, quality, release frequency, horizon investments, capacity allocation (growth vs. sustaining), leading indicators
On-line membership value stream	Total members, revenue per member, active members, feature usage, churn, NPS, trends
Professional services delivery value stream	Revenue, margin, customer retention, NPS, referrals, personnel utilization
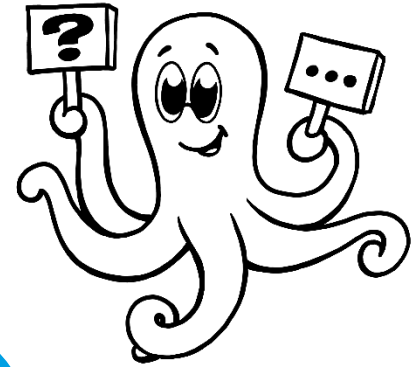
IT Services

Availability

The services listed in this service catalog are provided in one of the three following availabilities.
The availability for the operating hours Standard and 7x24 is indicated for each service.

	Bronze	Silver	Gold
Availability	99.4%	99.7%	99.9%
Max. downtime per year Operating time 5x10h (standard)	16 hours	8 hours	3 hours
Max. downtime per year Operating time 7x24h	48 hours	24 hours	8 hours
Max. downtime per incident	8 hours	4 hours	1 hour

Definition	The KPI "Time" is used to measure the duration of the project, as time is a critical success factor. The measurement will be fixed at the need of milestone 1. The questions to be answered are : • Does the project met the approached schedule for testing and Go-live? • Were the required key deliverables fulfilled in time?
Measurement	Due to the project planning, following dates should be met : • Integration Test Phase done at : • Go-live done at : • Post-implementation achieved at : The final measurement will be done at the project end.
Assessment definition	The assessment of the "Time" KPI will be done the following way, based on the end of the project :

	Duration	Deadline	Points allocated
	(a) -20% duration (b) -10% duration (c) in time (d) +10% duration (e) +20% duration or Go-live window threaten	• week xx • week xx • week xx • week xx • week xx	➤ 20 points ➤ 18 points ➤ 15 points ➤ 10 points ➤ 0 point

Definition	The KPI "Budget" is used to measure the budget performance of the project. The measurement will be fixed at the end of milestone 1. The question to be answered is : • Does the project meet the total budget estimation based on the Milestone 1 assessment?
Measurement	The measurement is based on the project costs (as defined in the project charter). The final measurement will be done at the project end.
Assessment definition	The assessment of the "Budget" KPI will be done the following way, based on the end of the project :

	Project costs	Amounts (TCHF)	Points allocated
	(a) -20% budget	• xx	➢ 20 points
	(b) -10% budget	• xx	➢ 18 points
	(c) in budget	• xx	➢ 15 points
	(d) +10% budget	• xx	➢ 10 points
	(e) +20% budget	• xx	➢ 0 point

Example 3: KPI "Business Satisfaction"

Definition	The KPI "Business Satisfaction" is used to measure acceptance of the project within business. The question to be answered is : • How high is the business satisfaction regarding the project deliverables ?
Measurement	The measurement is based on business satisfaction measured at the project end via a project survey.
Assessment definition	The assessment of the "Business Satisfaction" KPI will be done the following way, based on the end of the project :

	Satisfaction	Note	Points allocated
	(a) very high	• > 5	➤ 20 points
	(b) high	• 5	➤ 15 points
	(c) average	• 4	➤ 10 points
	(d) low	• 3	➤ 5 points
	(e) very low	• < 3	➤ 0 point

Example 4: KPI "Knowledge Sharing"

Resource Development

|	
Definition	The KPI "Resources Development" is used the development of employees. The question to be answered is : ● What have been the resource development capabilities?
Measurement	The measurement is based on the achievement of the following deliverables : ● Approach, ● Number of persons.
Assessment definition	The assessment of the "Resources Development" KPI will be done the following way, based on the end of the project :

	Deliverables	Number of persons	Points allocated
	(a) 4 more than planned (b) 2 more than planned (c) As planned (d) Two missing (e) four missing	● N + 4 ● N + 2 ● n ● n - 2 ● n - 4	➢ 10 points ➢ 9 points ➢ 8 points ➢ 4 points ➢ 0 point

Knowledge transfer contribution

Definition	The KPI "Knowledge transfer contribution" is used to the contribution of the project to the enrichment of business and IT knowledge in the current environment. The question to be answered is : ● What are the contributions made to increase and improve knowledge transfer?
Measurement	The measurement is based on the number of activities developed to transfer knowledge.
Assessment definition	The assessment of the "knowledge transfer contribution" KPI will be done the following way, based on the end of the project :

	Satisfaction	Number of workshops	Points allocated
	(a) very high (b) high (c) average (d) low (e) Very low	● > 10 ● 7 ● 5 ● 3 ● < 3	➢ 10 points ➢ 8 points ➢ 6 points ➢ 4 points ➢ 0 point
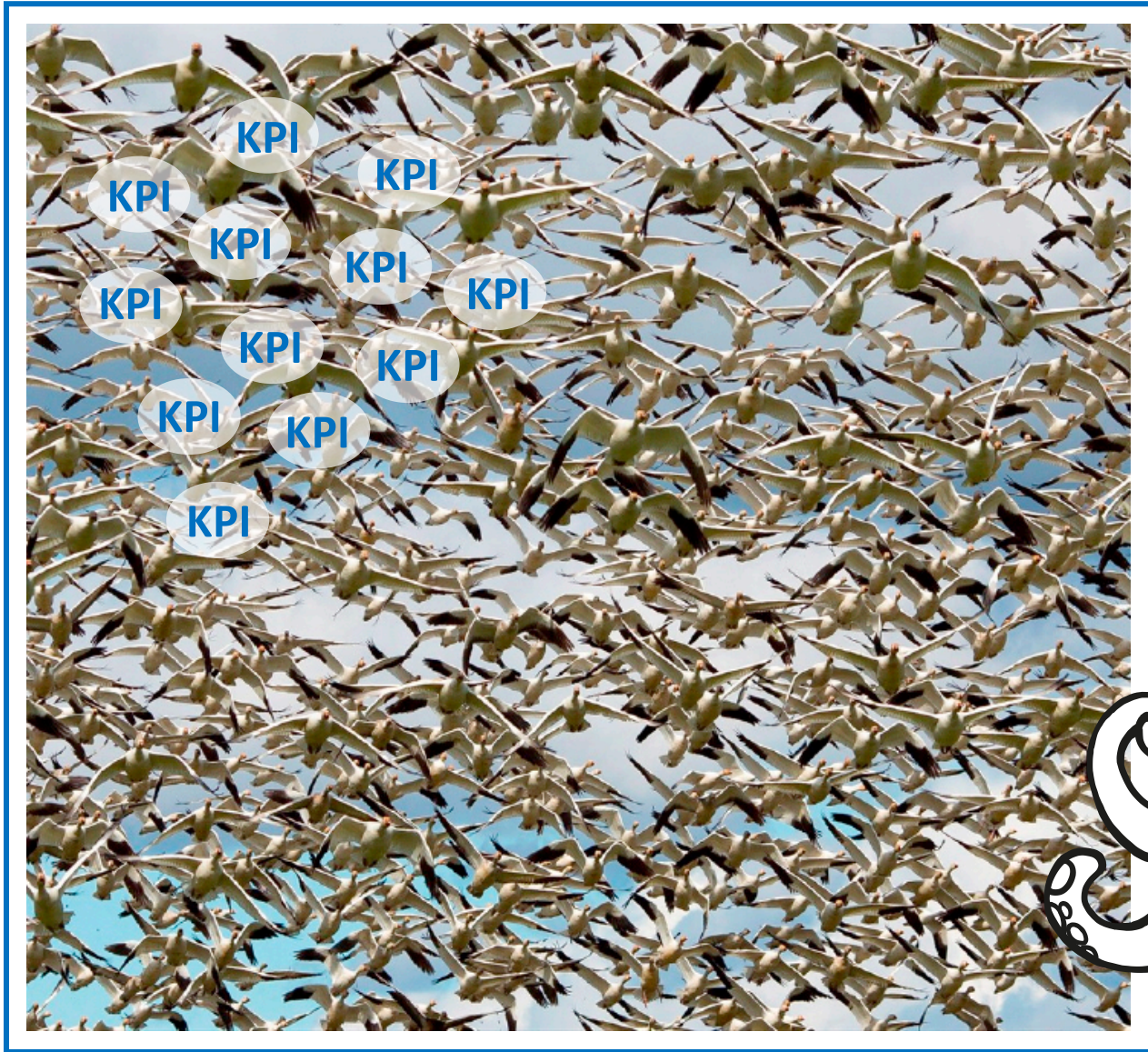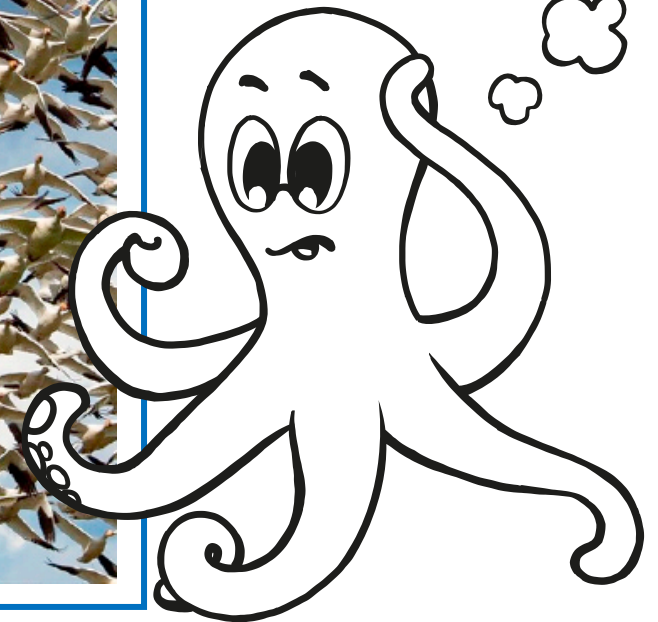
- Target group

- Relevance

- Periodicity

- Report Method

Top Down

Bottom Up
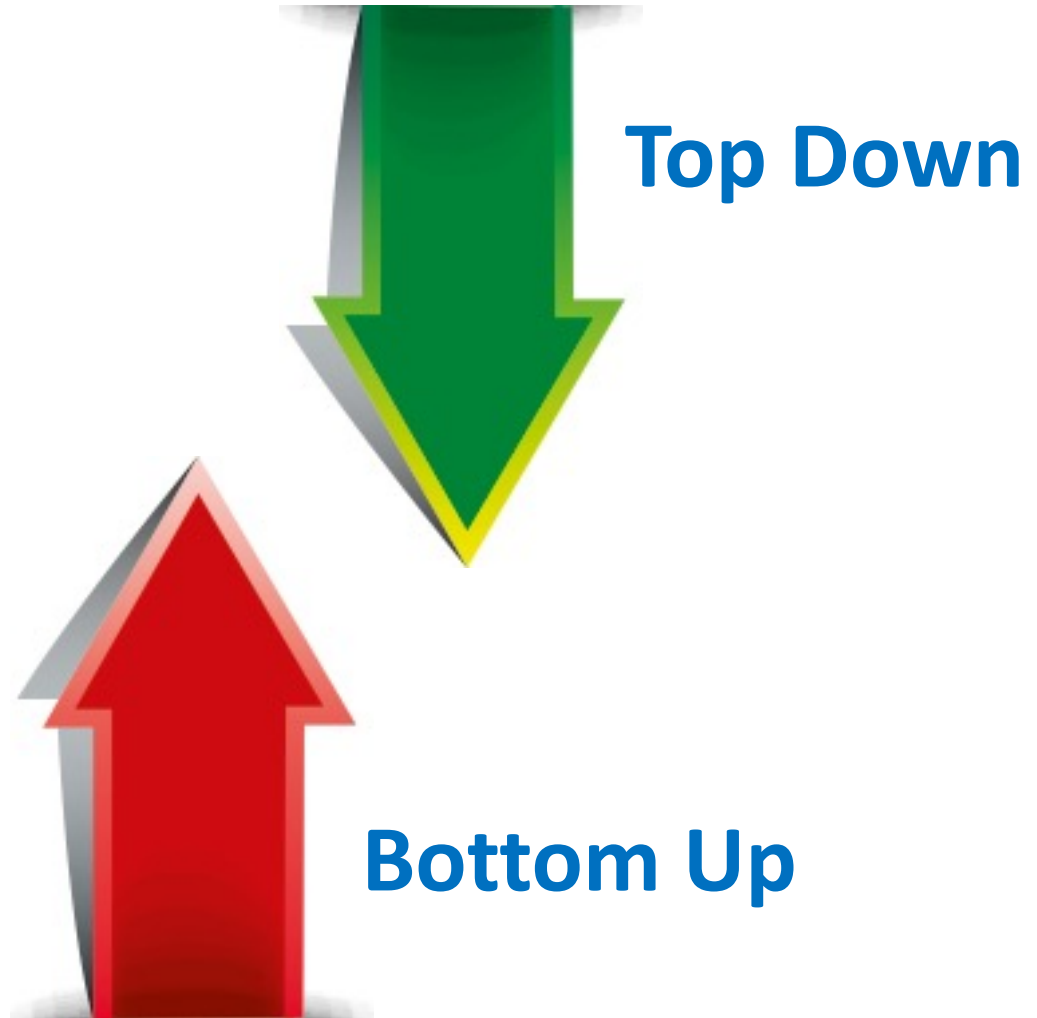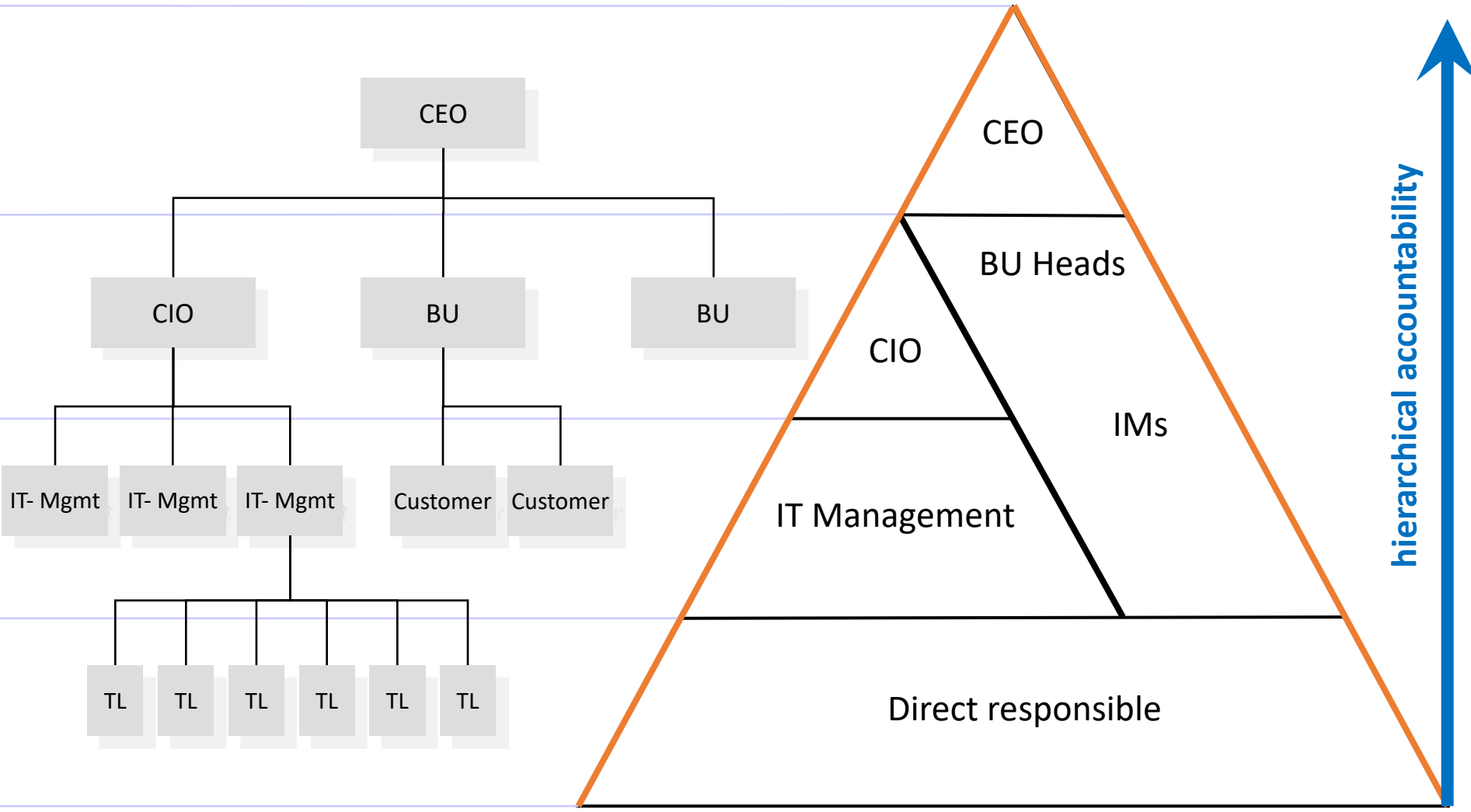
BU = Business Unit / TL = Team Leader / IM = Information Manager

Dashboard XXX		
IT Strategy	**IT Services**	**IT Projects**
• Example 1 • xxx	• Example 2 • xxx	• Example 3 • xxx
IT Processes		
• Example 4 • xxx	• Example 5 • xxx	• Example 6 • xxx

KPIs

- IT Strategy

- IT Services

- IT Projects

- IT Processes

EXERCICE

CIO

Compliance

Head BU

Security

CEO

CFO

Dashboard CEO

IT Strategy	IT Services	IT Projects
• Alignment degree with business • Degree of IT automation • Innovation process maturity • Profit contribution of IT • Degree of IT security coverage	• Availability of key services • Major SLA violations • Escalation for serious failures regarding externally provided services • Incident ticket escalation	• Status reporting on running projects • Project portfolio risk matrix • Balancing of project portfolio (stars, question marks, dogs, cash cows) • Project portfolio roadmap

IT Processes

• IT staff turnover • MbO (Management by Objective) achievement status	• Maturity of business continuity management • Number and nature of security gaps • Number and scope of security audits	• Cost repartition between projects and operations (*run* versus *change* the company)
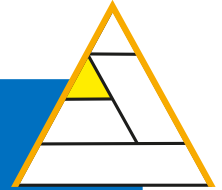
Dashboard CIO

IT Strategy	IT Services	IT Projects
• % IT costs in comparison to company´s turnover • Knowledge availability of critical skills • Supplier reliance • Awareness of the IT strategy • Compliance degree concerning IT standards • Satisfaction of IT staff	• Availability of key services • Number of breakdowns and incidents for key services • Reasons for interruption caused by IT or not • User satisfaction concerning IT services	• Number of running IT projects versus number of planned IT projects • Number of running projects in time, in budget, in scope • Cost performance index (forecast versus budget) at portfolio level • Delivery performance index at portfolio level • Business satisfaction of deliverables • Average project duration

IT Processes

• User satisfaction with Service Desk • Number of major incidents with impact on users and/or customers • Backlog of incident and change tickets • Number of changes and definition of the root causes	• Work load of IT staff • Recording of working hours • Accuracy of SW and HW inventories • Number and fulfilment level of continuity tests	• Number of audit issues or outstanding audit recommendations • Assessment of security leaks • Number of intrusive attacks

Example 1

CEO

IT Financials	IT Processes	IT Services	IT Potential	IT Projects
• Ratio of project, operating and maintenance costs • Total income (projects, services) • IT costs in relation to company turnover • Contribution margin of IT	• Number and degree of fulfilment of the continuity tests • degree of fulfilment of the security audits • open security gaps over time	• availability of the top 20 services	• employee turnover • MbO achievement rate in total	• cost reporting for IT projects • Project portfolio

Example 2

Head Business Unit

IT Financials	IT Services	IT Potential
Customer specific • Ratio of project, operating and maintenance costs • Total income (projects, services) • IT costs in relation to company turnover • Contribution margin of IT • Cost per service, product, user • Revenues per service, product, user	• Availability of the Top 20 Services • Response time of the Top 20 • Number of failures per service of the top 20 • Duration of failures per service of the top 20 • Throughput (service specific) • Delivery time of new infrastructure • User satisfaction with the top 20	–

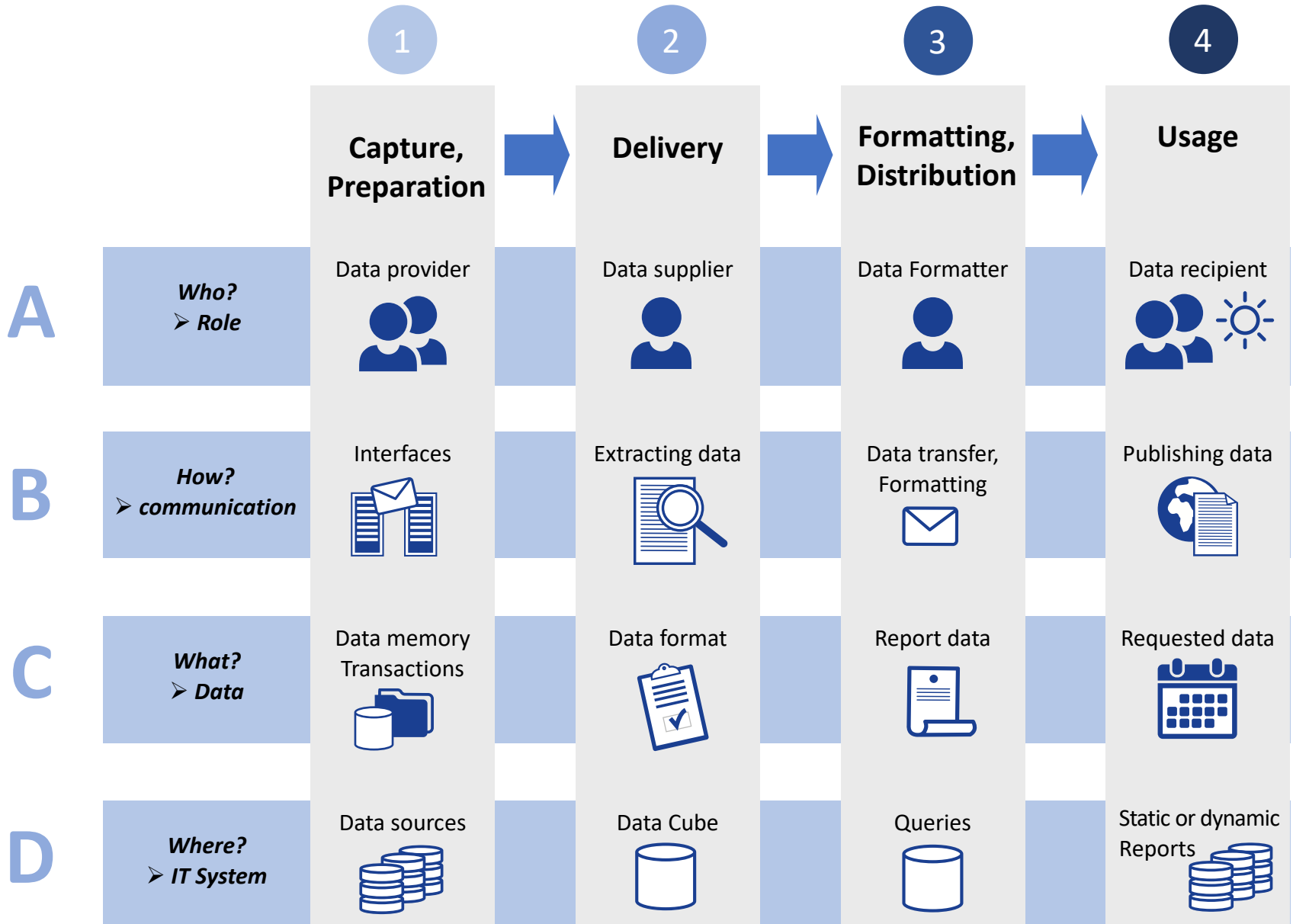| IT Processes		IT Projects
According to SLA: • Number of calls per time unit, per user • Waiting time on the phone • Ratio of Incidents to Service Requests • First fixed rate incidents, service requests • Response time • Solution time in the service desk • Lost calls • User satisfaction with service desk • Number of open incidents • Number of solved incidents per time unit	• Average reaction and resolution time • Solution rate per organizational unit • Proportion of incidents solved in time • Number of incidents per service • User satisfaction with troubleshooting • degree of fulfilment of the security reviews • number and degree of completion of the continuity tests • problems per service • lead time of the offers • deadline compliance for request implementation	Project specific • Cost compliance, deadline compliance, progress per project • Project benefits • Customer satisfaction

Example 3

CIO

IT Financials	IT Services	IT Potential
• Ratio of project, operating and maintenance costs • Total income (projects, services) • IT costs in relation to company turnover • Contribution margin of IT • Cost per service, product, user • Revenues per service, product, user	• Availability of the Top 20 Services • Number of failures per service of the top 20 • User satisfaction with the top 20 • Ratio of interruptions caused by disturbances to planned changes	• Headcount, number of open positions, age structure, percentage of women • Employee fluctuation • MbO achievement level in total • Employee skill level, language skills • Number of trainings per IT employee • Employee satisfaction

IT Processes

• User satisfaction with service desk and troubleshooting • Risk assessment of all problems from problem management • Number of changes made • Percentage of changes with subsequent errors (routine, normal, urgent changes) • Staff utilization and billability • Ratio internal to external hours • Expenses by project, operation and maintenance, consulting, training, downtime • Asset value (new, life cycle, out of life cycle, replacement planned) • Number of changes per asset per lifecycle group	• Share SW without licenses, HW non-standard • Number of contracts awarded to third parties • Number of implementations not in line with compliance requirements • Number of security events, number of attacks per year • Reaction time for security events • Costs for security • Open security gaps over time • Costs caused by security events • Number and degree of fulfillment of safety checks and continuity tests

IT Projects

• Costs Reporting IT projects • Number of new, running and completed projects • Project benefits	• Deviation from forecasted to realized costs / benefits • Percentage of projects in time, in budget, customer satisfaction • Duration time per project • Project portfolio

Relevance and Frequency

	Cycles	Stakeholders	Examples
Strategic	Yearly On Exception	Customers Process Managers Employees	Service Catalogue Process Trends Yearly Goals
Tactical	Quarterly On Exception	Customers Process Managers	Service Report Outcome Statistics Exceptions
Operational	Monthly Weekly On Exception	Customers Process Managers	Alerts and Notifications Outcome Statistics Exceptions

|		**1** Capture, Preparation	**2** Delivery	**3** Formatting, Distribution	**4** Usage
A	*Who?* ➢ *Role*	Data provider	Data supplier	Data Formatter	Data recipient
B	*How?* ➢ *communication*	Interfaces	Extracting data	Data transfer, Formatting	Publishing data
C	*What?* ➢ *Data*	Data memory Transactions	Data format	Report data	Requested data
D	*Where?* ➢ *IT System*	Data sources	Data Cube	Queries	Static or dynamic Reports

St Crispin's Day Speech

…
And Crispin Crispian shall ne'er go by,
From this day to the ending of the world,
But we in it shall be rememberèd—
We few, we **happy few**, we band of brothers;
For he to-day that sheds his blood with me
Shall be my brother; be he ne'er so vile,
This day shall gentle his condition;
And gentlemen in England now a-bed
Shall think themselves accurs'd they were not here,
And hold their manhoods cheap whiles any speaks
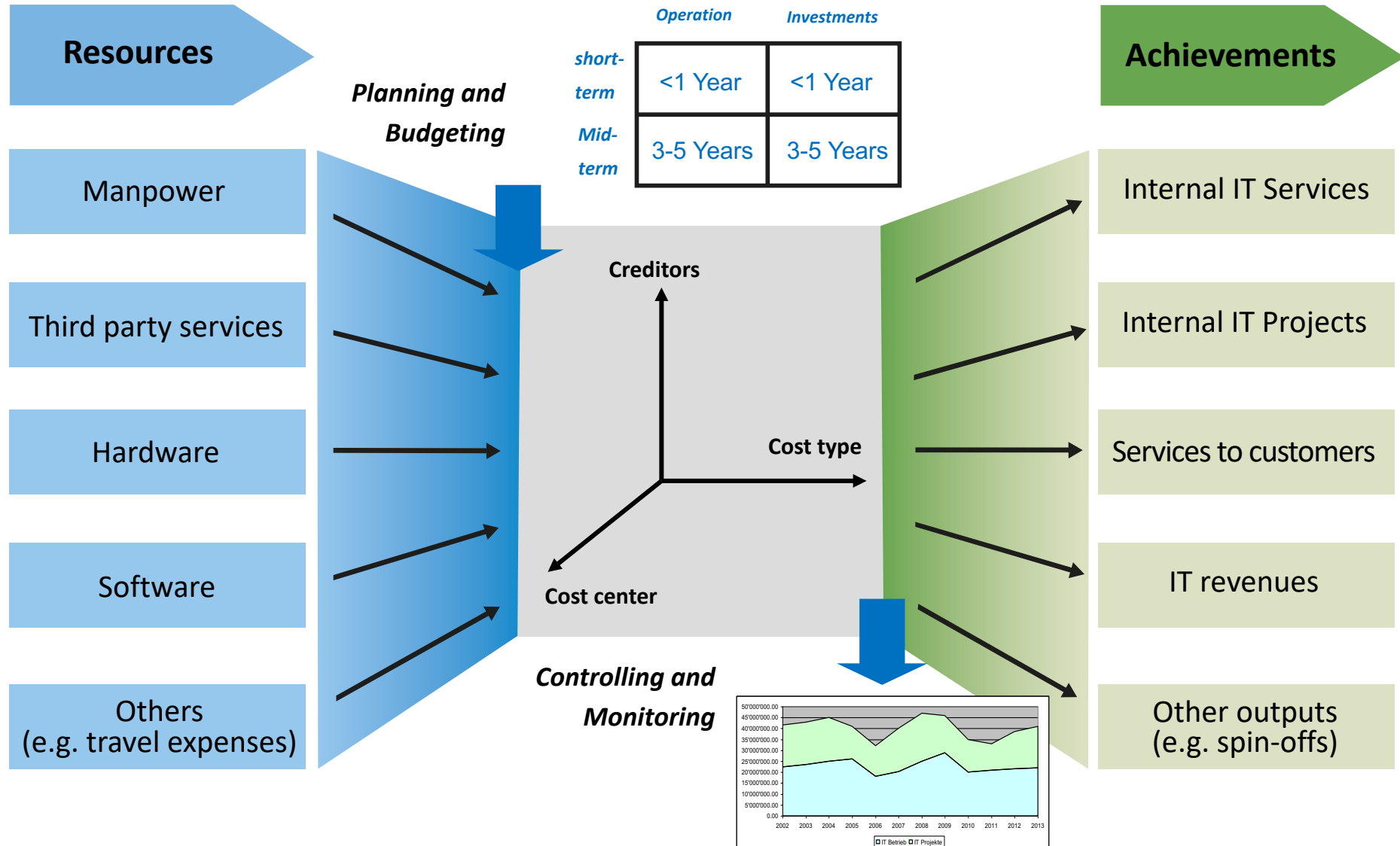That fought with us upon Saint Crispin's day.
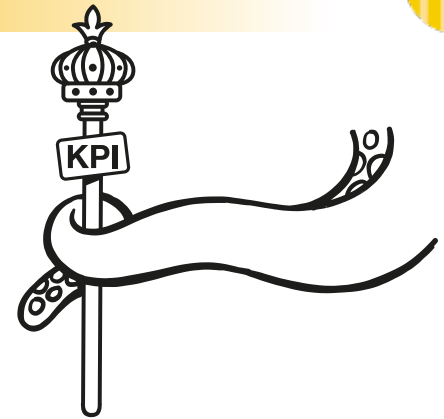
Henry V

*"… tasks of information acquisition and data collection as basis for decisions of IM. For this purpose **IT controlling** applies different approaches and methods, for example, the continuous measuring and interpretation of indicators and characteristic values… "*

Source: www.igi-global.com

Budget Process is Key

Budgeting

Controlling

Contracts, Purchasing	Budgeting	Invoice check, Effort reporting	Bookings	Reporting
All contracts are available and pro-actively managed	Based on cost centre and on valid contracts			
Cash-out (Invoices)	€	Check of invoices and account assignment	Bookings and postings, Forecasts	Cockpit, Dashboards
Internal Efforts		Reporting of internal efforts	Internal cost allocation, Charging to units	Cockpit, Dashboards

Cost optimization

- Define the baseline

- Identify optimisation potentials

- Plan and implement optimisation measures

Cost baseline

- Investment level

- IT Staff costs

- IT operation costs

- Cash-out

- „To-be" Architecture

Analyse & Assessment

- Leverage investments

- Optimise IT organisation

- ABC analysis for operations

- Negotiate with suppliers

- Design optimised roadmap

Measures

- Leveraged investments

- "Lean" processes

- Corrective actions

- Supplier management

- Architecture roadmap
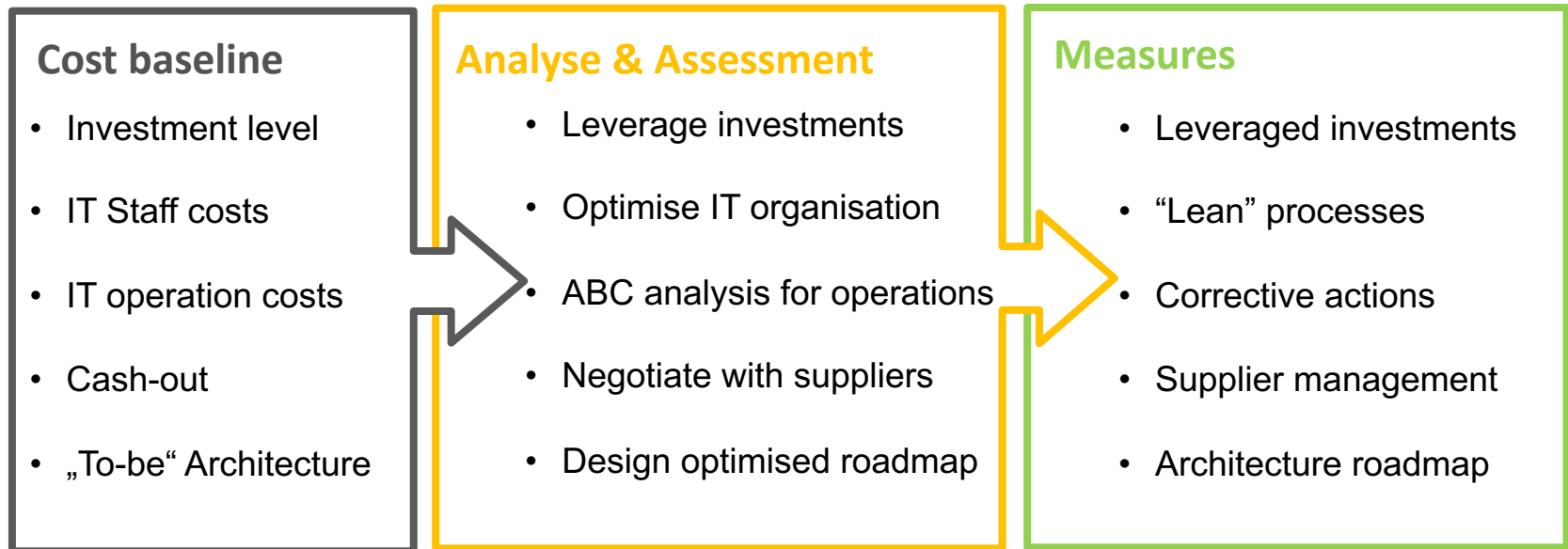
Skillful action and negotiation

- Optimize disk space technically and application-related
- Conduct price negotiations
- Reduce number of printers
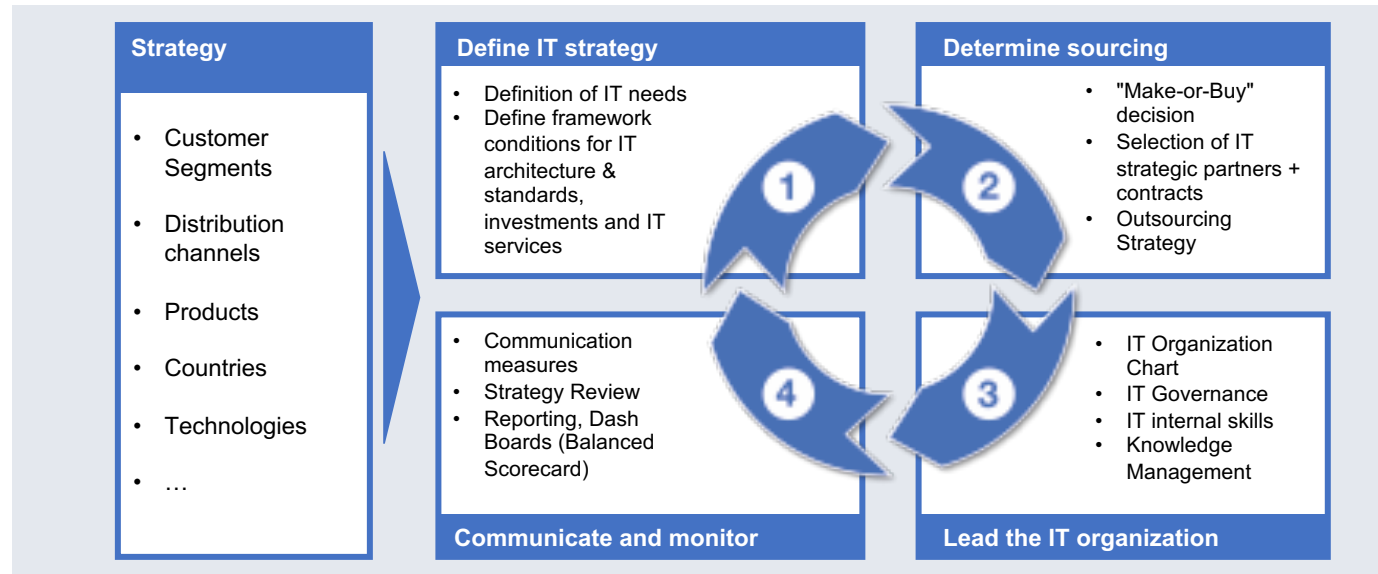- Black and white default print setting
- Check and negotiate telephony tariffs
- Conduct contract negotiations, especially for "larger" contracts
- Assignment to a consulting firm to check the material expenses in order to achieve self-alimentation of the consulting costs
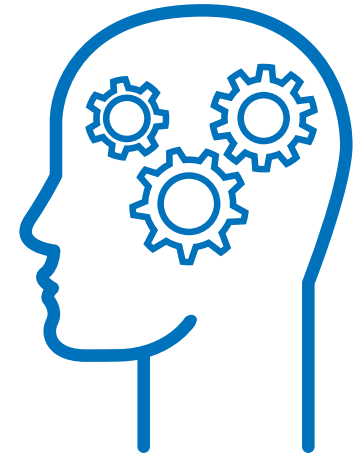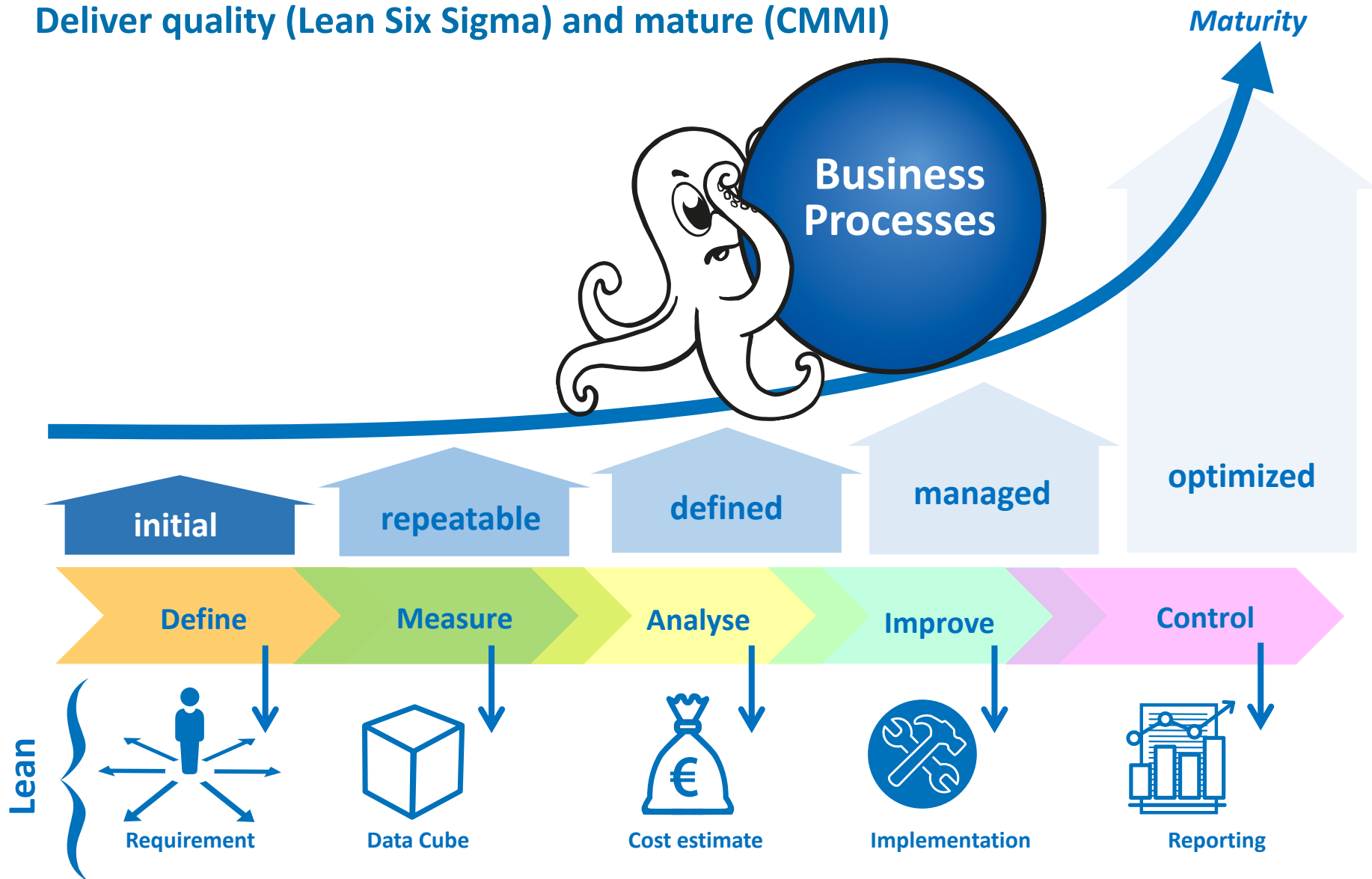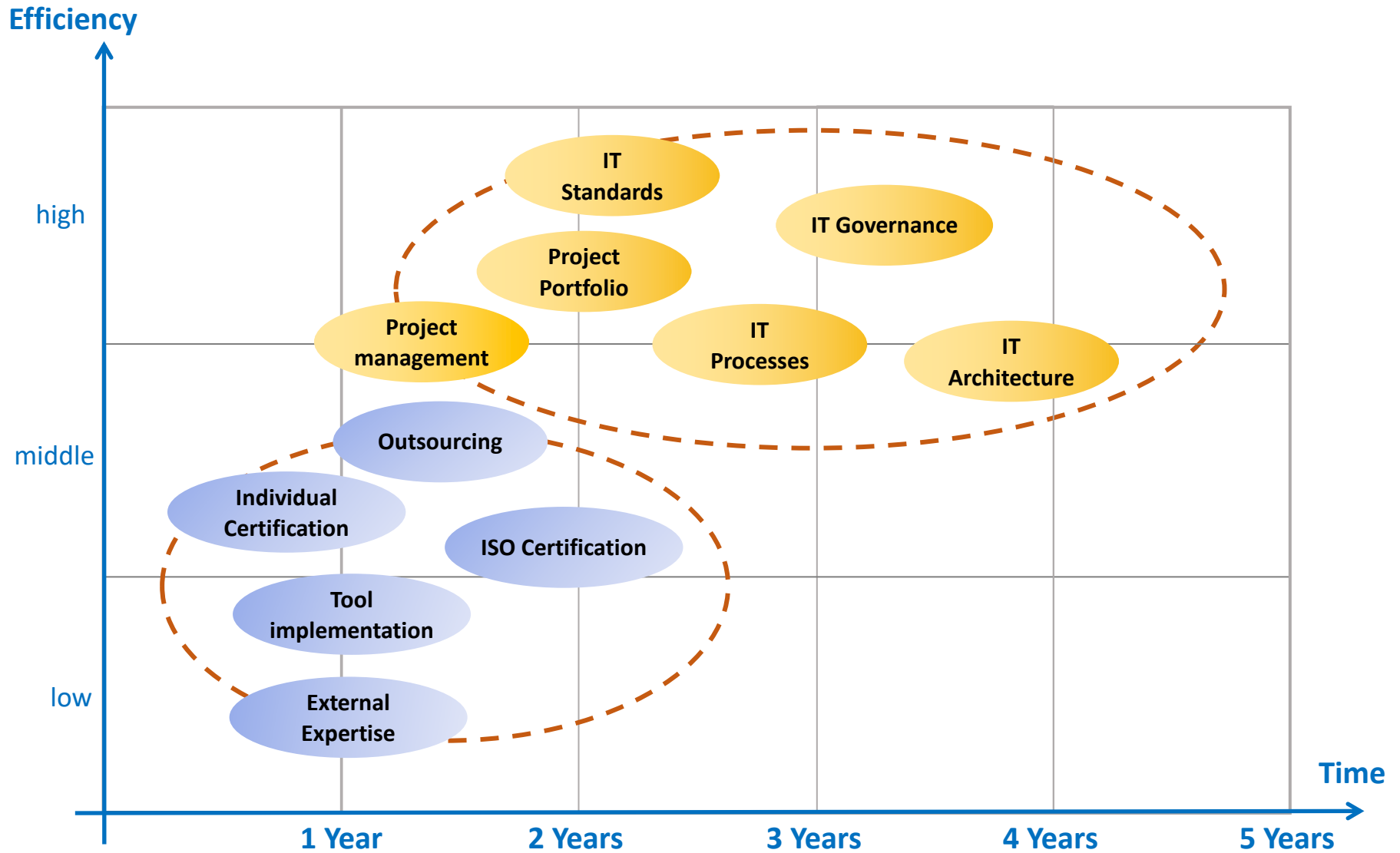
Lean internal processes

Smart strategic decisions

IT Controlling supports the IT Strategy

IT Strategy

Strategy

- Customer Segments
- Distribution channels
- Products
- Countries
- Technologies
- …

Define IT strategy

- Definition of IT needs
- Define framework conditions for IT architecture & standards, investments and IT services

Determine sourcing

- "Make-or-Buy" decision
- Selection of IT strategic partners + contracts
- Outsourcing Strategy

Communicate and monitor

- Communication measures
- Strategy Review
- Reporting, Dash Boards (Balanced Scorecard)

Lead the IT organization

- IT Organization Chart
- IT Governance
- IT internal skills
- Knowledge Management

IT Controlling

Monthly Tasks	01	02	03	04	05	06	07	08	09	10	11	12
Contract negotiation												
Budgeting												
Account for invoices												
Cost reporting												
Benchmark												

Deliver quality (Lean Six Sigma) and mature (CMMI)

Maturity

Business Processes

initial

repeatable

defined

managed

optimized

Lean

Define

Measure

Analyse

Improve

Control

Requirement

Data Cube

Cost estimate

Implementation

Reporting
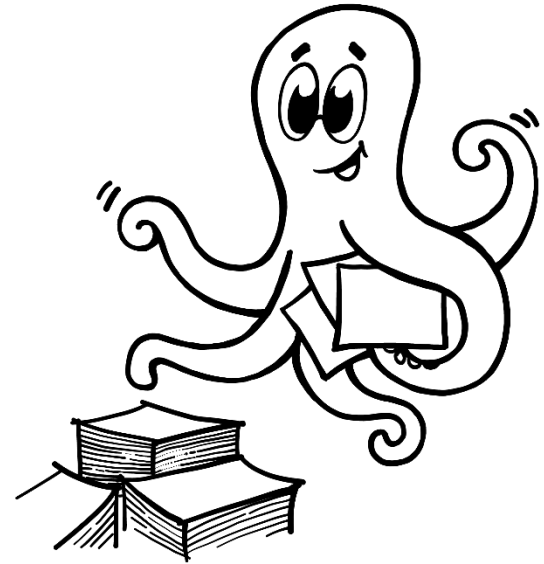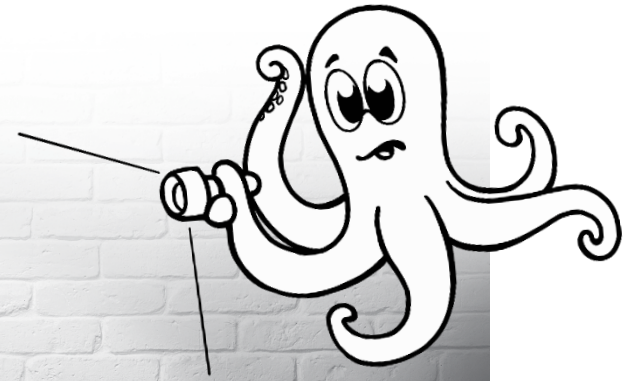
- Understand the BSC model and apply it to define process KPIs

- Define IT KPIs

- Design an IT Dashboard for C-Levels

- Kaplan R S, Norton D P (1992) The Balanced Scorecard - Measures that Drive Performances. Harvard Business Review, Cambridge

- Pilorget L, Schell T (2018) IT Management. Springer, Wiesbaden

- Shakespeare W (1600) King Henry V

KPI Definition Grid

KPI Definition Grid

Role	Name	Department	Function	Mail, phone
KPI Owner				
Reporter				

Objective	
KPI Name	

KPI Definition						
Data source				**Publishing**		
Calculation method						
Frequency	⬭ monthly ⬭ quarterly ⬭ biannually ⬭ annually					

Time	Year n				Year n+1	Year n+2	Year n+3	Year n+4
	Q1	**Q2**	**Q3**	**Q4**				
Target								
Assessment								

Legend	**G** Green: meets target	**Y** Yellow: below target	**R** Red: significantly short of target