

Decision Management in Tax Administration

Inland Revenue New Zealand lessons learnt and
future developments

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Presentation Outline

- » The Goal
- » The Stages
- » The starting Point: GST
 - Results; impact of the results to the next (planned) stages
- » Current stage
- » Approaches
- » The role of decision modelling, simulation and DMN
- » Conclusions

The Goal

Paradigm Shift

from

product centric traditional risk management strategies

to

business strategy and (modern) analytical driven
decision management approach

The Change

Focus: Capability

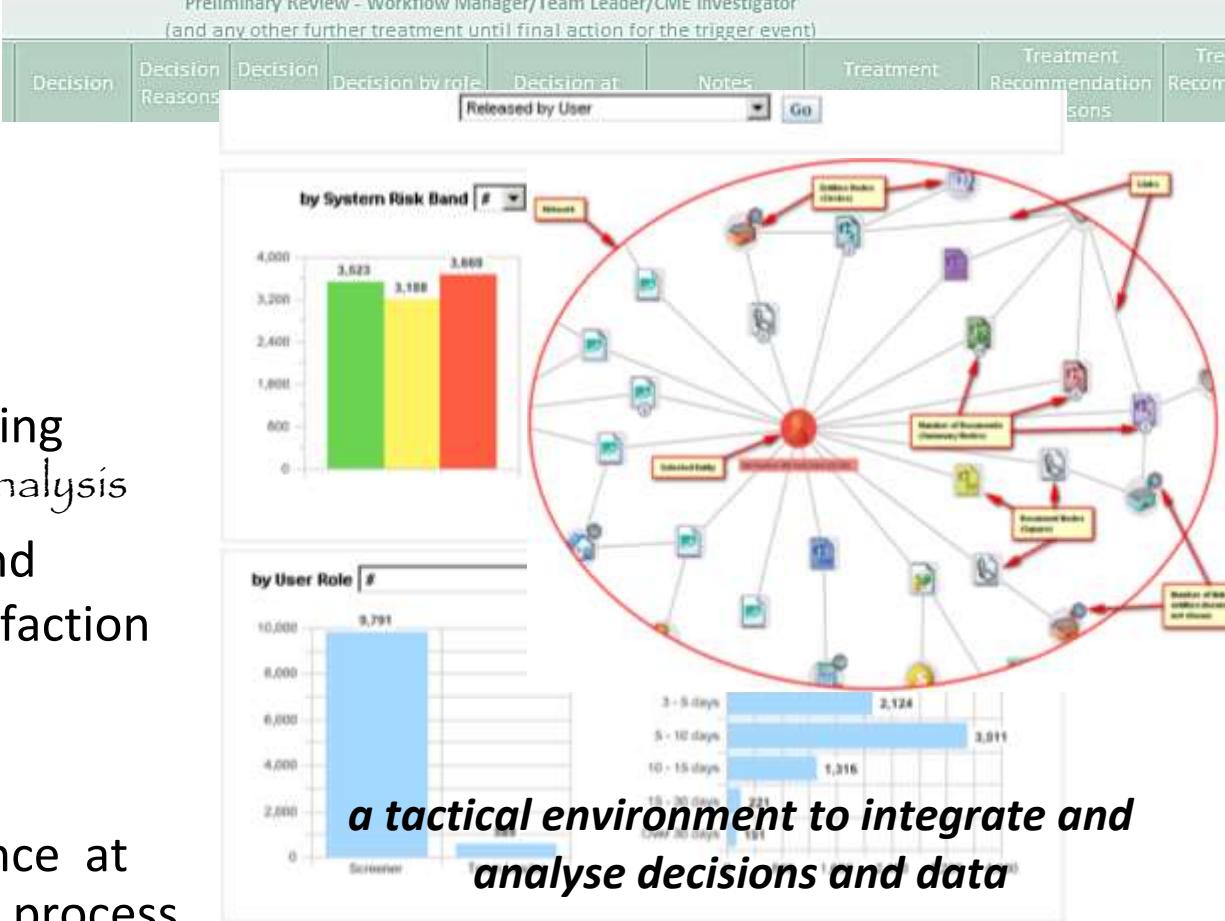
Success: Change Management

Event					Instrument			Automated Risk Assessment							Treatment						
Event	received at	received by	channel	source	—	Treatment	Instrument type	—	GST refund amount	Risk profile	Risk Indicators	—	Decision	Decision Reasons	Treatment Recommendation	Treatment reasons	Perceived Risk profile	Perceived Risk Indicator	Notes	Assessment by	Assessment by

GST

Success!

- ✓ Straight through processing and front end risk analysis
- ✓ Operational efficiency and improved customer satisfaction
- ✓ IR integrity Protected
- ✓ IR Policies Supported
- ✓ Visibility, trail and evidence at any point of the decision process
- ✓ 360° view of the customer
- ✓ Continuous Improvement



- Nodes 33.7 mil
- Relationships 272.9 mil
- Properties 2.06 bil
- Entity types 28
- Db Storage 444 GB
- Index on disk 246 GB

The Move

Focus: Business Strategy

Success: Decision Management

The goal

- » Enterprise Decision Management
 - based on the
- » Delivery of hybrid and integrated enterprise solutions, conducted by the business
- supported by
 - » Modern analytical culture
- driven by
 - » Business strategic goals and principles

Building blocks

- » Decision management Strategy
- » Experimental Enterprise
- » Combination of lean and traditional analytics principles
- » Data Science Framework and Carrier
 - focus: continuous business value**
 - sustainable agility**
 - success: methodology**
- » Definition of a robust and sustainable methodological approach
 - decision modelling; dmn
 - crisp/kads/scrum

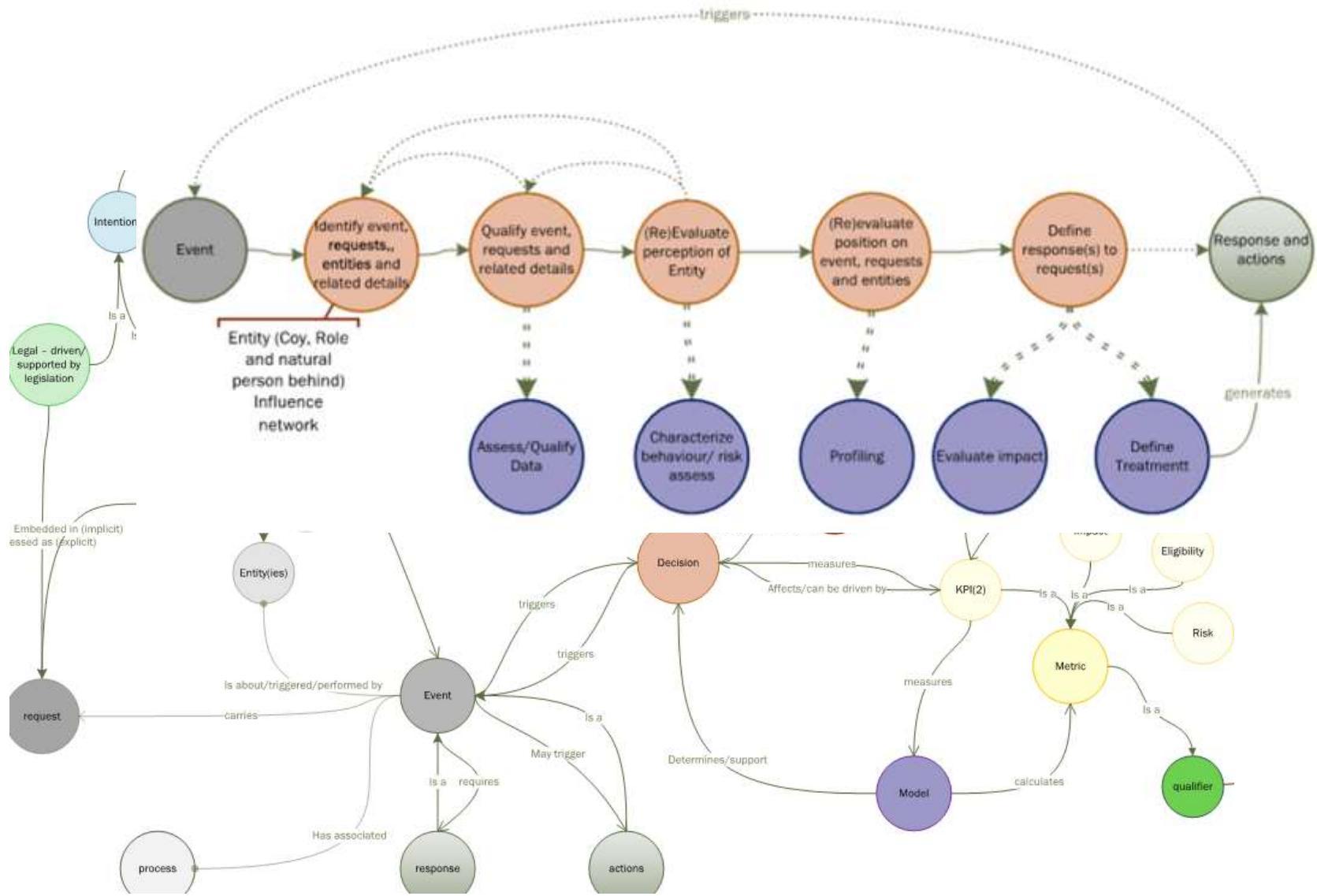


Rolling up the sleeves

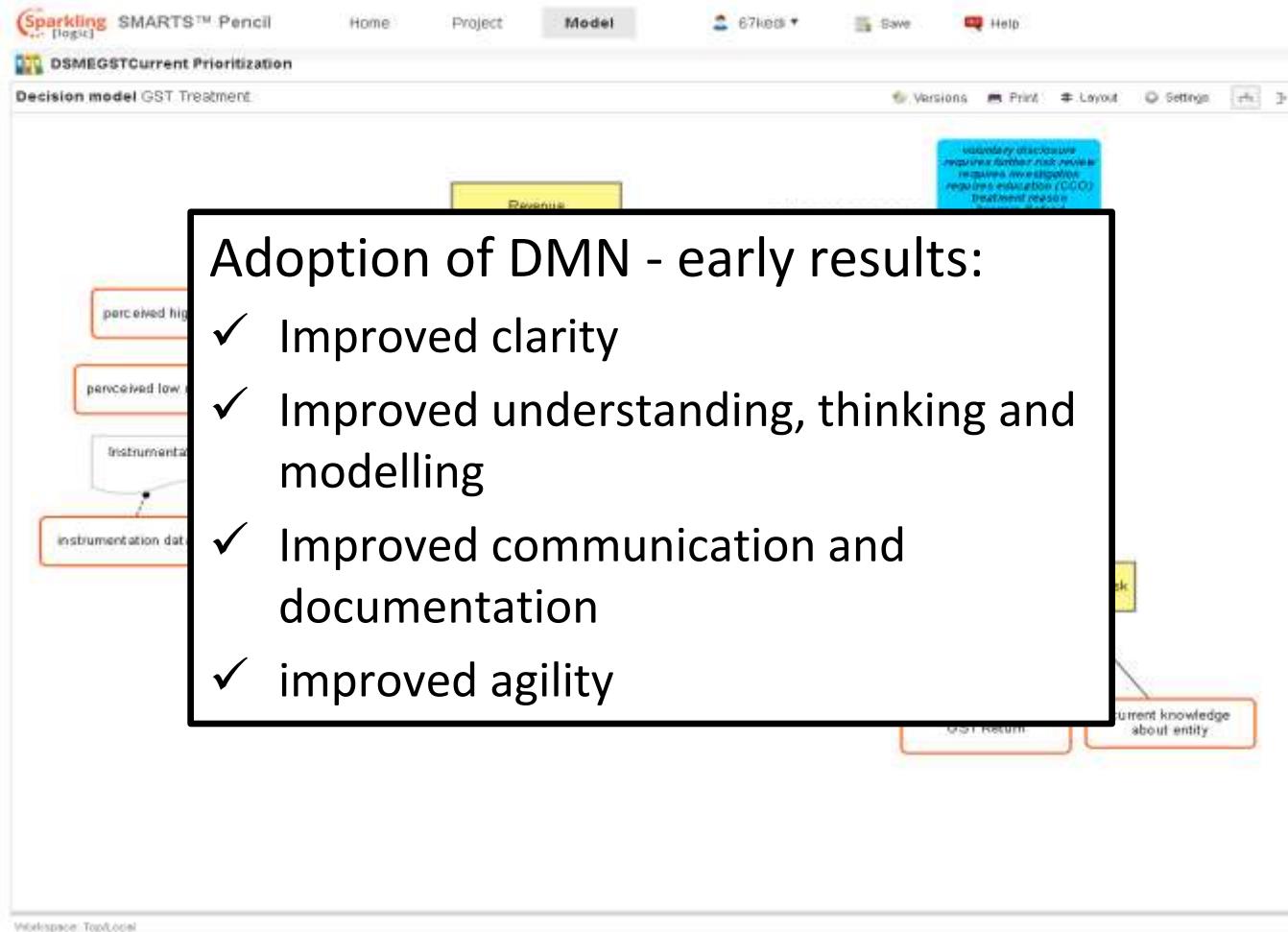
- ✓ GST from risk identification and risk measurement to Risk and Costumer Profiling
- ✓ Other Tax and Social Products
- ✓ Business Strategy Principles
- ✓ Cross Government Collaboration
- ✓ Decision Management Framework
- ✓ Decision Modelling



Decision Management Framework



Decision Model for the GST Solution



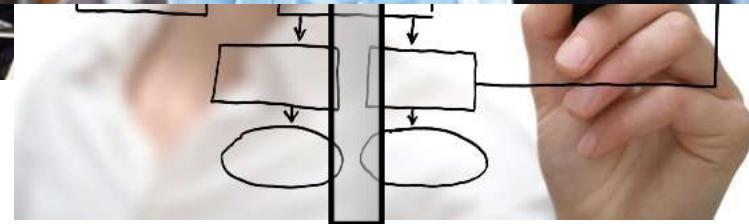
The screenshot shows the SMARTS™ Pencil software interface. The title bar reads "Sparkling SMARTS™ Pencil" and "DSMEGSTCurrent Prioritization". The main window is titled "Decision model GST Treatment". The interface includes a toolbar with "Home", "Project", "Model" (selected), "Save", and "Help". Below the toolbar are "Versions", "Print", "Layout", "Settings", and a "File" menu. The main workspace contains a decision model diagram with nodes like "Revenue", "perceived high", "perceived low", "Instrumental", "instrumentation data", "GST Return", and "Current knowledge about entity". A callout box points to the "Instrumental" node, containing text about its purpose: "Instrumentality on acceptable responses due to risk, available resources, relevant legislation (DCG) Treatment results in acceptable responses". A large black rectangular box highlights the following text:

Adoption of DMN - early results:

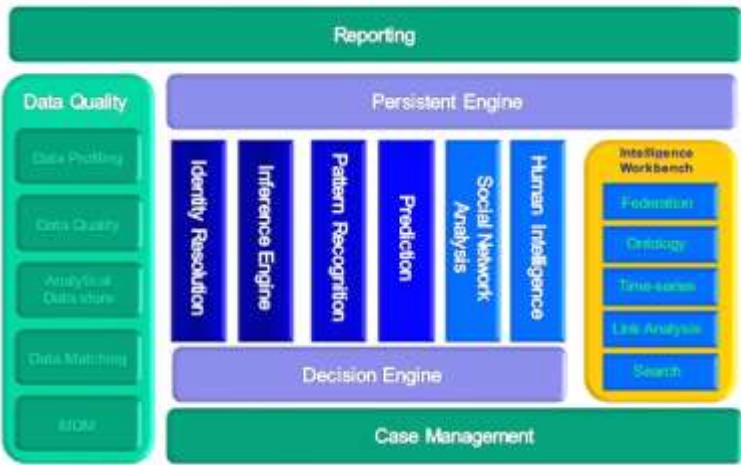
- ✓ Improved clarity
- ✓ Improved understanding, thinking and modelling
- ✓ Improved communication and documentation
- ✓ improved agility

Rolling up the sleeves

- ✓ GST from risk identification and risk measurement to Risk Costumer Profiling
- ✓ Other Tax and Social
- ✓ Business Strategy Pri
- ✓ Cross Government Com
- ✓ Decision Management Framework
- ✓ Decision Modelling
- ✓ Metrics and KPIs
- ✓ Environment for Simulation
- ✓ Broadening the engagement with partners
- ✓ More and different types of data



Opportunities



Objective 1 - support IR's transformation goals

complete end-to-end transformation involving customers, our people, processes, policy and replacing technology

Objective 2 – must serve the business operating strategies

Customer Centric
Intelligence-Led
Agile
Low touch
Decisions close to customer
Networked Organization

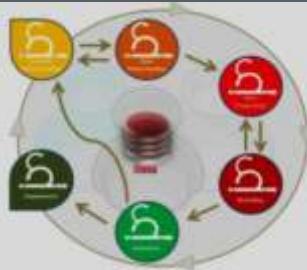


Objective 3 – must be based on a “new” data strategy

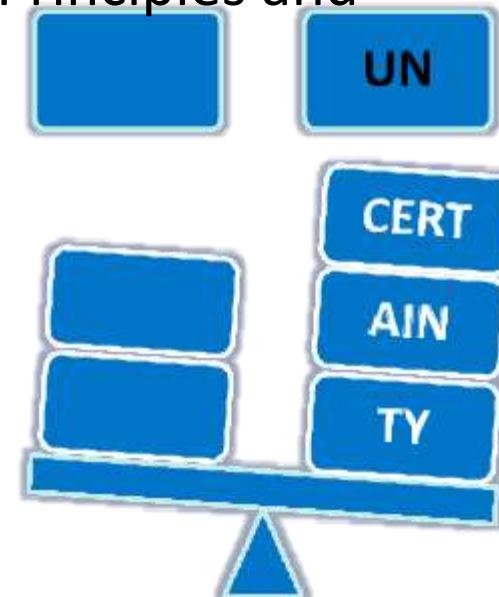
Data as a Key Asset, Data as a Shared Asset, Data as Service, Data Value Chain



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- » Focus on Analytics and Experimental
 - » Advanced Analytic Platform (AAP)
- » Data Science carrier and framework
- » Decision Management Strategy and Framework
- » Decision Modelling Principles and Approach
- » Next Stage

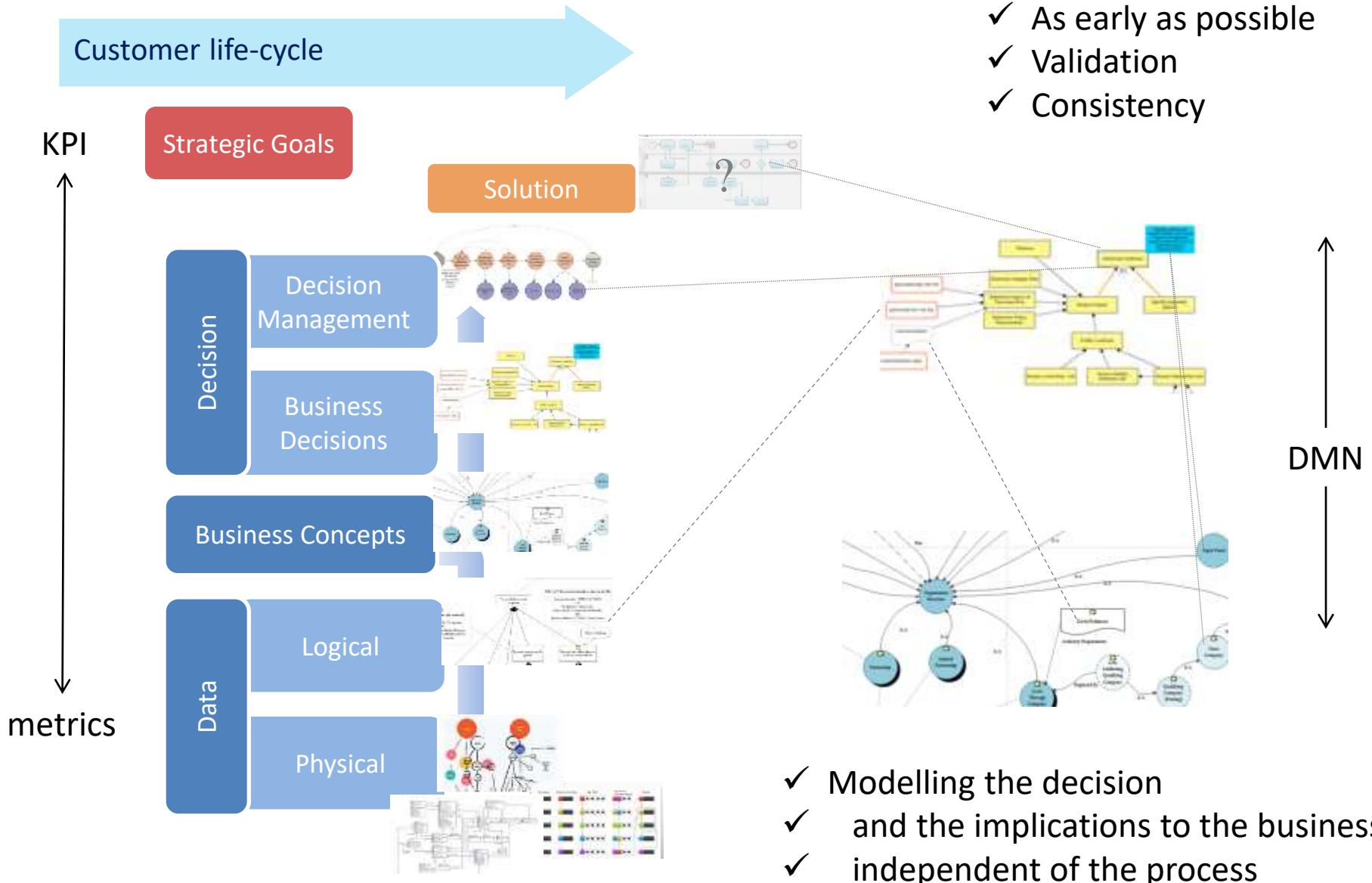


The Shift

Focus: Customer

Success: Decision Optimization
Invisibility

Model Design Principles



Conclusions

- » The paradigm shift on the way to approach the problem and the solutions
 - » enables the ability to deal with complexity
 - » was a definite step towards bringing the Organization to understand
 - » the need for the management of decisions beyond its internal boundaries;
 - » the need for an architecture and infrastructure that supports capturing, integration and analyses of decisions and data;
 - » experimental, lean and analytical approaches applied across the Organization

Conclusions

- » The early adoption of a robust methodology, framework and infrastructure are a paradigm shift enablers and fundamental for a sustainable consolidation and growth
 - » Data Science Framework
 - » Decision Management Framework
 - » Modelling principles
 - DMN applied across different dimensions of the solution (knowledge engineering principles) following an agile and robust methodology (Crisp) supports:
 - » representing and dealing with complexity
 - » agility, consistency, communication, collaboration;
 - » is a powerful documentation and requirements specification instrument

Conclusions

- » Don't underestimate the change that is required and the impact of the change;
- » Cater for more change – including in Exec and sponsorship;
- » There are always opportunities if you know what you want to achieve;
- » Uncertainty, dynamicity and noise are facts; it pays off not to ignore them;
- » Forge solid partnerships;
- » Keep true to your team, goals, role and knowledge; the Organization and its customers need your skills and sanity