# Welcome to
# Parsing Regulations into DMN

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**Business Decision:** The resolution of a question of interest to the business through the application of business rules logic to input data.

Source: The Microguide to Process and Decision Modeling in BPMN/DMN

The essence of decision modeling is:
1) Breaking down complex situations into manageable elements.
2) Matching the elements with data, operators and functions.
3) Structuring data where appropriate.
4) Developing strategies for optimal choices

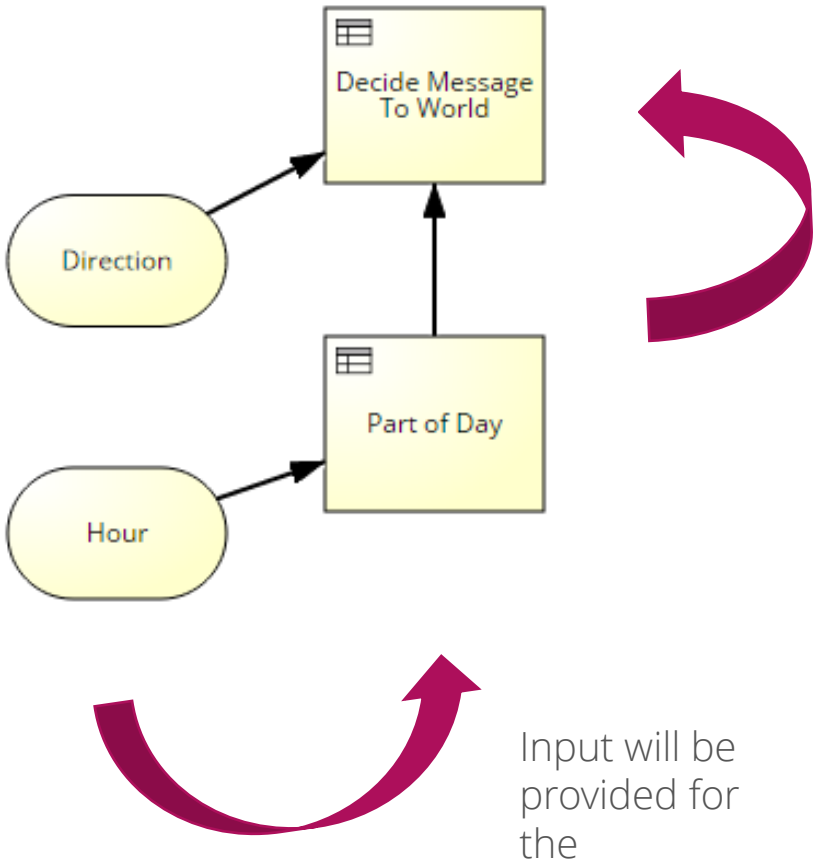
# Regulatory Compliance

- Goals
  - Risk Management
  - Disclosure (Reporting)
  - Consumer Protection
  - Special Event (Fraud) Detection
- It’s a Big Issue for Major Financial Institutions
  - Annual Spend $800m-4bn (FT)
  - 20,000-30,000 Employees; about 10% Staff
  - Consumes 13% of Revenue (US Securities)

# The Big Hurdles of Regulatory Compliance

- Time Pressure
- Size and Internal Consistency
- Safe Agility – Avoiding The ‘IT Trap’
- Accountability and Auditability
- Risk: Financial Organisations Must Get It Right

# The Flow/Structure of the Decision




The outcome of the subdecision will be provided to the Top Level Decision

Input will be provided for the subdecision

| U | Inputs: Direction | | Inputs: Part of Day | | Outputs: Message to World |
|---|---|---|---|---|---|
| | {Coming,Going} | | {Morning,Day,Night} | | Text |
| 1 | = | Coming | = | Morning | "Good Morning and Hello ... |
| 2 | = | Coming | = | Day | "Good Day and Hello Worl... |
| 3 | = | Coming | = | Night | "Good Night and Hello W... |
| 4 | = | Going | = | Morning | "Good Morning and Good... |
| 5 | = | Going | = | Day | "Good Day and Goodbye ... |
| 6 | = | Going | = | Night | "Good Night and Goodby... |

# How do we parse this into a Decision Table?

Dodd-Frank Part 43, Real Time Reporting, Decide if a swap is reportable

Part 1 Entity Rules

- Part 1.a: All swaps are reportable with the exception of internal swaps between affiliates that are wholly-owned subsidiaries of the same parent entity with the exception of any "covered transaction".
- Part 1.b:  A covered transaction includes a loan to an affiliate, a guarantee for the benefit of an affiliate or similar bona fide commercial transactions with an affiliate.

# Continued

Part 43, Decide if a swap is reportable

Part 2:

- Part 2.a: All single names are out of scope except securities issued by the US Treasury, FANNIE MAE, FEDDIE MAC, Tennessee Valley Authority or other US Agencies.
- Part 2.b: All index and broad-based baskets are in scope (including High Delta Options and Quanto Option) except narrow based index or basket.
- Part 2.c: Instruments: Credit Default Swap, Total Return Swap, Option
- Part 2.d: Exceptions:
  - Note Issuance
  - Bank Loan participation

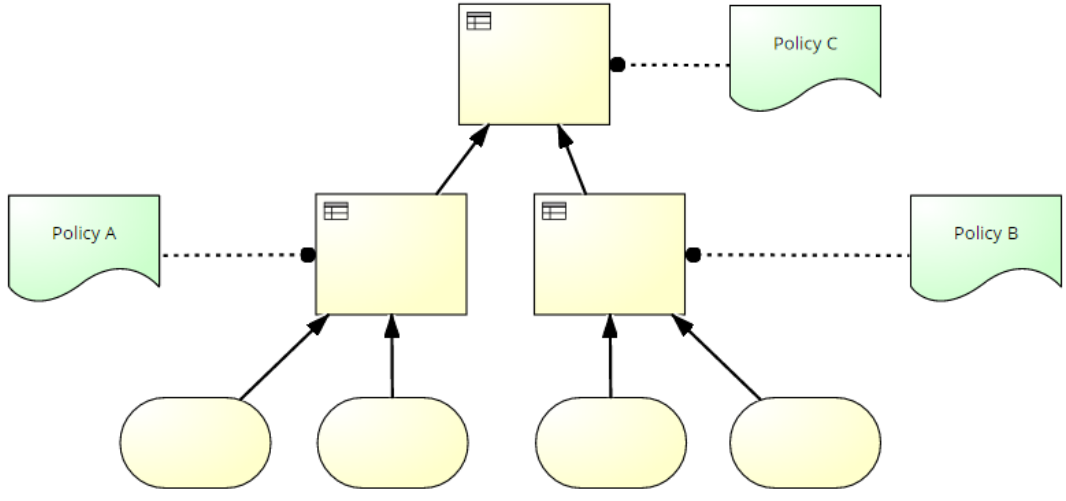
# When to split up Decisions into Sub Decisions?
# - Criteria-

**1 Authority**

- Separate depiction of influenced decision parts
- Influenced by different Knowledge sources

**2 Entity, Topic, Evnt**

- Categorizations that focus and reduce rules
- Instances that are narrowed by a domain of rules (events, types of groups)



A business rule is a statement of the action to be taken when a specific set of conditions are true.

Source: The Microguide to Process and Decision Modeling in BPMN/DMN

# Business Rules Compare, Categorize, Compute and Control

# Business Processes comply with the control

# Business Rules

In General Business Rules group together complaisance areas sections

- Part 1.a: All swaps are reportable with the exception of internal swaps between affiliates that are wholly-owned subsidiaries of the same parent entity with the exception of any "covered transaction".
- Part 1.b: A covered transaction includes a loan to an affiliate, a guarantee for the benefit of an affiliate or similar bona fide commercial transactions with an affiliate

| | Inputs | | | Outputs | Annotations |
|---|---|---|---|---|---|
| F | Client Facing? | Wholly Owned Entity/Bank | Covered Transaction | Reportable-Entity | Compliance Section |
| | Boolean | Boolean | {Loan To Affiliate,Guarantee ,Comm... | Boolean | Regulation |
| 1 | = true | - | - | true | Part 1.a |
| 2 | = false | = false | - | true | Part 1.a |
| 3 | - | - | = Other | false | Part 1.b |
| 4 | - | - | ≠ Other | true | Part 1.b |
| 5 | - | - | - | true | Part 1.b |
| + | Add new row | | | | |

# Parsing Requirements for Business Rules

It is possible to look at a written requirement and derive the business rules.

- One way is the to look for the 4 C's, a business rule Compares, Computes, and Categorizes in order to Control something
- The first 3 C's are characteristics of the Inputs
- The last, Control is the result of the rule evaluation

# From Sentences to Business Rules

Example: Customers must be 18 or older to qualify for a policy.

- Compare
  - 18 or older
  - More than €10,000
  - Between 5 and 9
- Compute
  - Loan to value
  - IRR
  - NPV
- Categorize
  - Reportable Swap
  - Credit Product
  - New Trade Event

Control
- Report Swap
- Approve loan
- Complete NP Procedure

# Parsing Requirements for Business Rules


- What type of constraint is expressed

  Is computed, categorized or compared?

- Identify the data

  Do you need additional data not explicitly expressed?

- Select the input data types.

  Number, Date, Enumeration, Text

- Establish the enumerations.

  Does the sentence list a set of types?

- Decide the output, yes/no, categories, selections

# Parsing Requirements for Business Rules


Locate the rules and determine what the decisions are

- categorizations

  look for the adjective and study what input attributes define the category. A *late* invoice, a *delayed* payment, etc.

- comparison

  look for prepositions or adjectives that connote comparisons, less than, greater than,

- computations

  look for obvious formulas or technical jargon, NPV, Loan to Value, Greater than X,  Dates. etc.

- Control

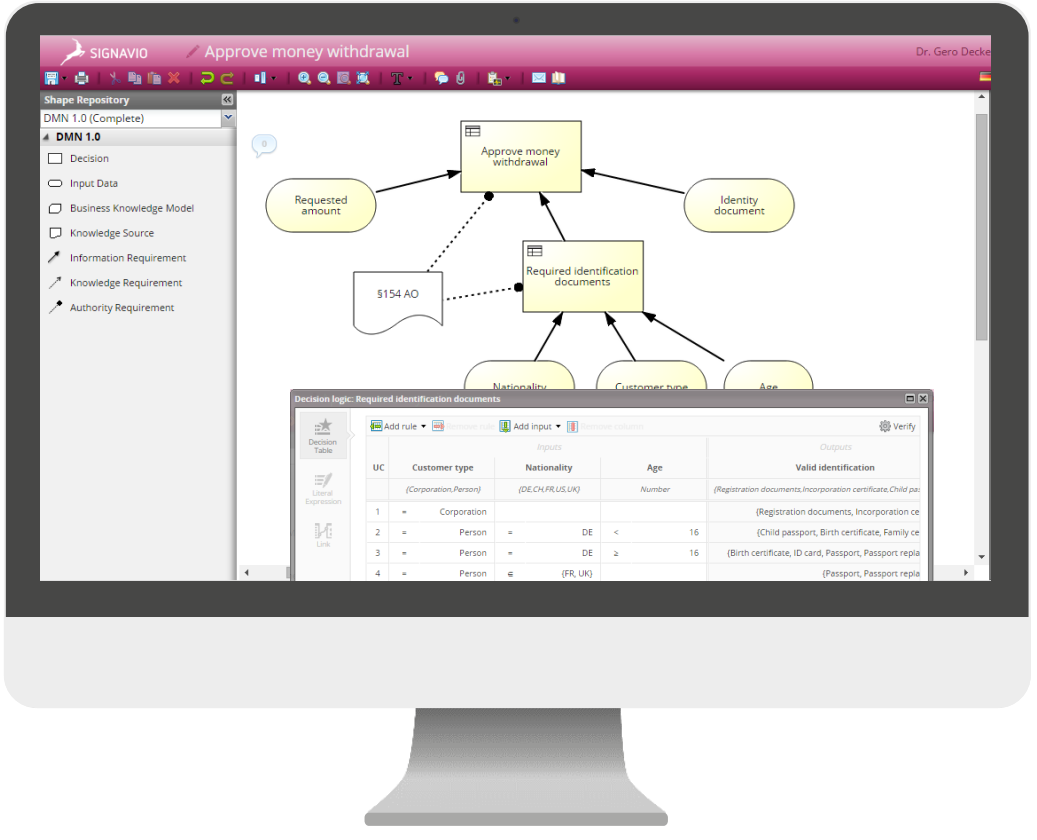
  happens at the end of the business rule the ‘right hand side’, what is the objective

# Parsing Requirements for Business Rules


- Solve the problem
  - Identify the data
  - Select the data types.
  - Establish the enumerations.
  - Decide the output

# Signavio Decision Manager – Demonstration

Demo



# Thank you!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