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.
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

Input will be provided for the subdecision.

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

<table>
<thead>
<tr>
<th>Direction</th>
<th>Part of Day</th>
<th>Message to World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coming</td>
<td>Morning</td>
<td>*Good Morning and Hello...</td>
</tr>
<tr>
<td>Coming</td>
<td>Day</td>
<td>*Good Day and Hello World...</td>
</tr>
<tr>
<td>Coming</td>
<td>Night</td>
<td>*Good Night and Hello World...</td>
</tr>
<tr>
<td>Going</td>
<td>Morning</td>
<td>*Good Morning and Goodbye...</td>
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</table>
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.
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, Event
   - 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

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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
Parsings 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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