

The Need for Business Vocabulary & Rules Management in Knowledge-Intensive Multinationals

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Agenda

- **Business Vocabulary + Rules Use Cases**
 1. What are the facts?
 2. What is this document about?
 3. What intelligence can we discover in our information?
 4. How can I maximize the effectiveness of our policies & best practices?
 5. What does our data mean?
 6. How do we keep track of new things easily
-- and correlate data about them to other data?
 7. How can I globalize data and document content?
- “Semantics of Business Vocabulary and Business Rules”
- **Management of Business Vocabulary + Rules**

Use Case 1: What are the Facts?

- I need to know all the relevant facts:
 - about this subject or relationships among subjects
 - regardless of where and in what system the facts reside
 - whether they are in structured data or text
 - with only having to ask one question in my own business language

Use Case 1: What is needed from a Business Vocabulary + Rules

- The ability to ask unambiguous questions:
 - in terms of the vocabulary used in that part of the business (not in terms of stored data names)
 - in a natural, intuitive way
- A business vocabulary
 - whose terms and facts have an unambiguous meaning (within a specified context)

Use Case 2: What is this document about?



- I need to index each document in a collection to make information in it easy to find

Use Case 2: What is needed from a Business Vocabulary + Rules

- The list of terms that have proven over time to be important in this collection of documents
- Synonyms and Acronyms for these primary terms
- Contexts that each term is meaningful within
- General to specific taxonomy structures for these terms

Use Case 3: What intelligence can we discover in our information?

- It would be very valuable to us if we can find out unknown relationships in are expressed in documents and data we have access to
 - e.g. What new uses are our competitors marketing their products for

Use Case 3: What is needed from a Business Vocabulary + Rules

- Same needs as for Keyword Metadata – plus:
 - Names of events and entities particularly relevant to the business in this context
 - The concept that each event and entity is an instance of
 - Types of facts that are relevant to the business

Use Case 4: How can I maximize the effectiveness of our policies & best practices?

- We need our policies and best practices to be:
 - explicit,
 - well-ordered,
 - plainly expressed,
 - not easily misinterpreted
 - easily found

Use Case 4: What is needed from a Business Vocabulary + Rules

- A business-friendly syntax for term, fact type, rule and policy entries
 - Preferably a minimally structured version of natural language
- Definitions wherever needed
- Fact types and rules structured in a way that their relationships can be searched and navigated

Use Case 5: What does our data mean?

- We want to reuse a single source for our data, especially Reference Data. We need to:
 - know what it means in business terms without ambiguity
 - Including what it means in relation to other data
 - be able to assure that the actual data is consistent with its meaning
 - be able to automatically transform it from one form to another without loss of meaning

Use Case 5: What is needed from a Business Vocabulary + Rules

- Ability to specify the business meaning of data
 - in terms of the Business Vocabulary + Rules
 - in a way that data management software can quality assure and transform the data automatically
 - In a way that data can be exchanged between systems and used in messages with integrity

Use Case 6: How do we keep track of new things easily -- and correlate them to other data?

- We have data in several existing systems
 - that we need to have operating together for new purposes
 - along with additional data that needs to be automated for the first time

Use Case 6: What is needed from a Business Vocabulary + Rules

- Ability to define the business meaning of both existing and new data so that both can interoperate with integrity.
 - In a way that can be understood by both people and the computer
- Ability to specify the business rules that governing the permissible business actions / changes in the database
 - In a way that can be understood by both people and the computer

Use Case 7: How can I globalize data and document content?

- We operate in many different countries and need to have all our information that is common across countries available in local languages at the least cost
 - Web content
 - Document content
 - Data content in application systems

Use Case 7: What is needed from a Business Vocabulary + Rules

- The ability to:
 - enter each discrete meaning, event or entity once and only once
 - uniquely name all meanings and identify all events & entities within specified contexts
 - e.g. community, subject area
 - terms for each concept in all the relevant languages
 - including abbreviations & acronyms
 - names each event or entity in all the relevant languages

SBVR Design Objectives:

- Must be is business-friendly:
 - **no reference to** information or **information systems** concepts
 - **conceptualized** optimally **for** the way **business people** think
 - defined with the most **common dictionary definitions** applicable
 - expressed using the **everyday word** most **commonly** used for that **meaning**
- Business **Rules** are **specified** entirely **from** the Business **Vocabulary**
- Business people can **exchange** their Business **Vocabulary & Rules** in their **own language**
- **Semantic integrity** rules of **Predicate Logic** can be applied to a Business Vocabulary+Rules
 - Predicate Logic is used as a linguist uses it to capture semantics
 - and not in a system execution sense of rule engines or OCL execution

SBVR Contexts, Activity & Audience

Business Context (*excluding recordkeeping & information system activities*)

- **Creating Business Content** in a 'Business Vocabulary+Rules' (e.g. EU-Rent)
 - **Audience:** Business People in General
- **Integrating & Quality Assuring Business Content** in a 'Business Vocabulary+Rules' (e.g. EU-Rent)
 - **Audience:** 'Business Vocabulary+Rules' Integrator/Administrators

'Business Vocabulary+Rules' Technology and Tool Context

- **Providing the Semantic and Logical Foundation** for all 'Business Vocabulary+Rules'
 - **Audience:** Linguists, Semanticists and Logicians
- **Designing a 'Business Vocabulary+Rules' Tool for Business People to Document Business Content** (e.g. EU-Rent)
 - **Audience:** Designers of BV+R Software Tools for Business People
- **Designing Tool capability to interchange Business Content** in a 'Business Vocabulary+Rules' (e.g. EU-Rent) **among Business Communities within and between Organizations**
 - **Audience:** Infrastructure Designers for BV+R Business Tools

Information System (Recordkeeping) Context (*Out of Scope for BRT*)

- **Designing an Information Systems that Talks and Works according to the Business Content** in a 'Business Vocabulary+Rules' (e.g. EU-Rent)
 - **Audience:** Designers of Information Systems that support a BV+R-specified business

Definitions in SBVR Structured English

- **international rental type**
 - Concept Type: **categorization type**
 - **concept** that specializes the **concept** ‘**international rental**’ and that classifies an **international rental** based on whether its direction is to or from the **country of registration of the rented car**
- **international return rental**
 - Concept Type: **international rental type**
 - **international rental** that has **country** of the **return branch of the rental** that is the **country of registration of the rented car of the rental**

Fact Statements in SBVR Structured English

- rental has drop-off location
- rental has return branch
- branch is located at EU-Rent site
- rental incurs location penalty charge

Rule Statements in SBVR Structured English

- **Structural Rule (Definition)**

It is necessary that each car model operates with at least one fuel type.

- **Operative Rule**

It is required that the drop-off date of a rental precedes the expiration date on the driver's license of the customer reserving the rental.

- **Clarification**

A customer reserving a rental may provide what credit card guarantees the rental if the name on the credit card is the name of the customer or the credit card is for a corporate account authorized for use by the customer.

Managing Business Vocabulary + Rules

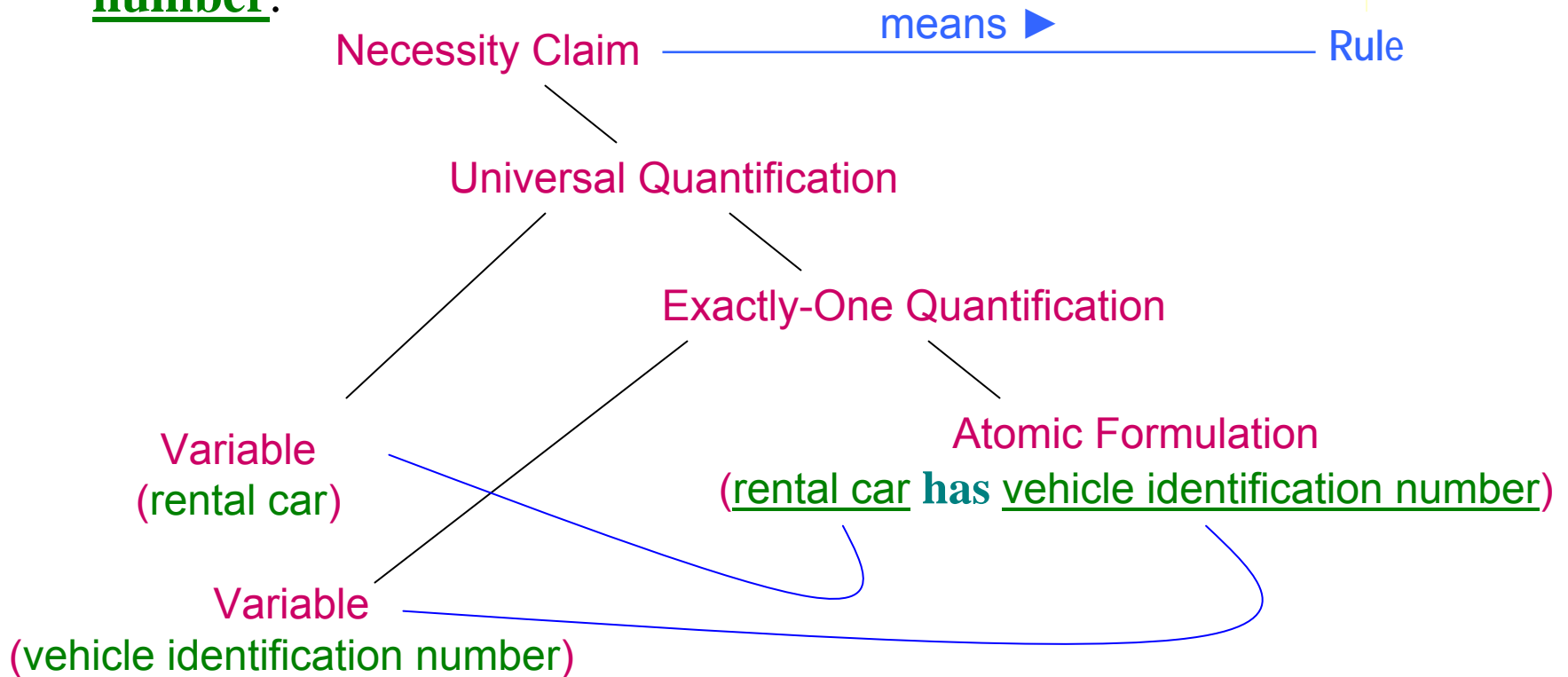
- Capabilities Needed:
 - Support for delegating ownership and management to relevant business community
 - e.g. engineering, marketing, project mgt.
 - Central responsibility for tools, training, mentoring, quality assurance, and semantic integration as new communities form
 - Exploit Business Vocabularies + Rules in MS Office documents
 - especially Word
 - Adequate automated support for management and consistency, ambiguity and completeness checking

Resources

- “Business Semantics of Business Rules” OMG Request for Proposal
 - <http://www.omg.org/cgi-bin/doc?br/2003-06-03>
- “Business Semantics of Business Rules” article on Business Rules Team submission, Business Rules Journal
 - <http://www.BRCommunity.com/a2004/b182.html>
- For OMG members: latest “Business Semantics of Business Rules” submission documents
 - http://www.omg.org/techprocess/meetings/schedule/Bus_Semantics_of_Bus_Rules_RFP.html
- Contact: Donald Chapin, Business Rules Team Governing Board
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Semantic Formulation of a Simple Rule

Each rental car always has exactly one vehicle identification number.



Overview of SBVR

