SBVR – Semantics for
Business Vocabulary and Business Rules
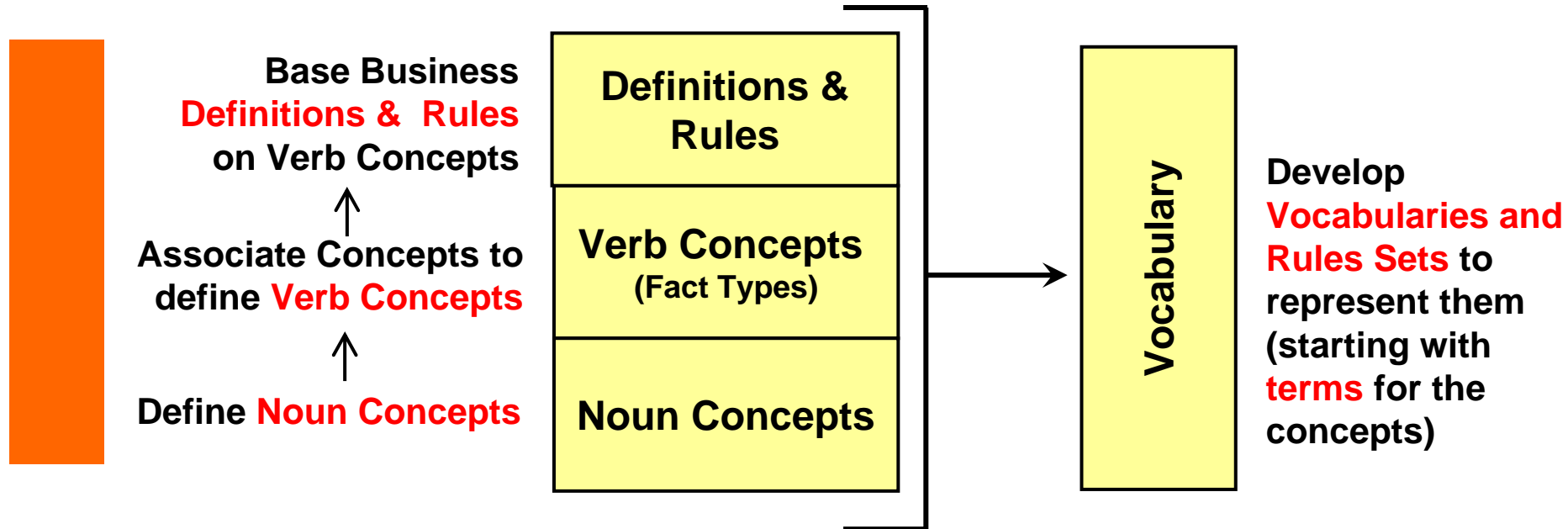
http://www.omg.org/spec/SBVR/1.0

SBVR Specification

- The SBVR specification defines

  - the vocabulary and rules for documenting the semantics of

    - business vocabularies,
    - business facts, and
    - business rules;

  - XMI schema for the interchange of business vocabularies and business rules among organizations and between software tools.

- The SBVR specification is

  - conceptualized optimally for business people rather than automated rules processing, and is

  - designed to be used for business purposes, independent of information systems designs.

What does SBVR do?
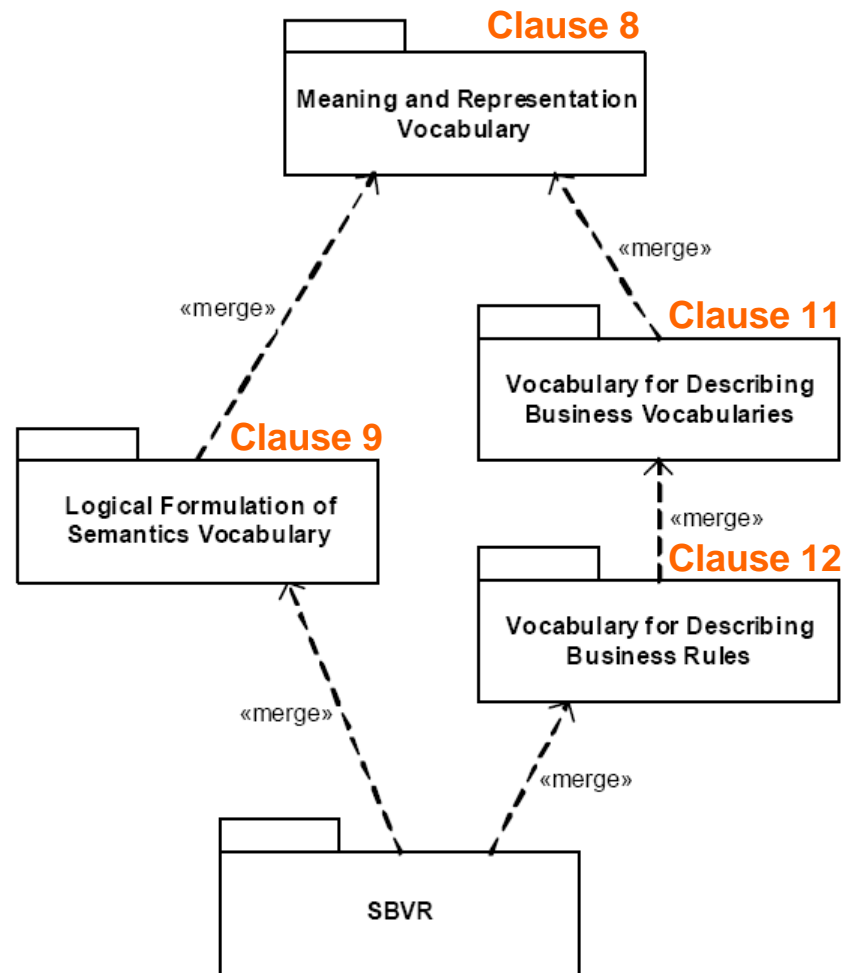
SBVR realizes the 'Business Rules Mantra':

> **"Rules are built on Facts. Facts are built on Terms."**

Base Business Definitions & Rules on Verb Concepts

↑

Associate Concepts to define Verb Concepts

↑

Define Noun Concepts

Definitions & Rules

Verb Concepts (Fact Types)

Noun Concepts

→

Vocabulary

Develop Vocabularies and Rules Sets to represent them (starting with terms for the concepts)

… to describe the business language of the activities of organizations

… in a way that is easily understandable by business people (Chapin et al. 2008)

SBVR is a Vocabulary, not a Language Standard

Clause 8

Meaning and Representation Vocabulary

«merge»

«merge»

Clause 11

Vocabulary for Describing Business Vocabularies

Clause 9

Logical Formulation of Semantics Vocabulary

«merge»

Clause 12

Vocabulary for Describing Business Rules

«merge»

«merge»

SBVR

- SBVR is a vocabulary consisting of interrelated sub-vocabularies
  - ◆ meaning and representation vocabulary
  - ◆ vocabulary for describing business vocabularies
  - ◆ vocabulary for describing business rules

- The SBVR vocabulary permits to capture the semantics of sentences commonly used to express business rules

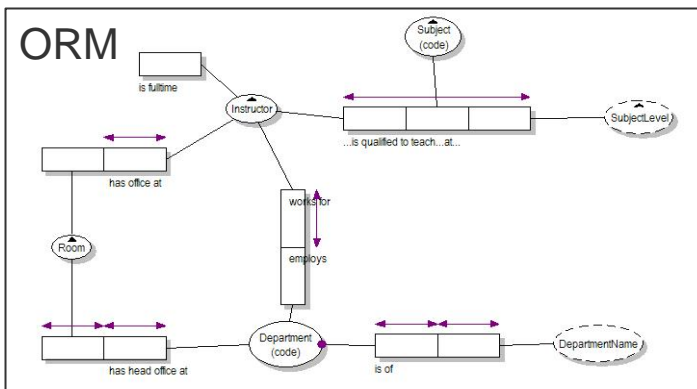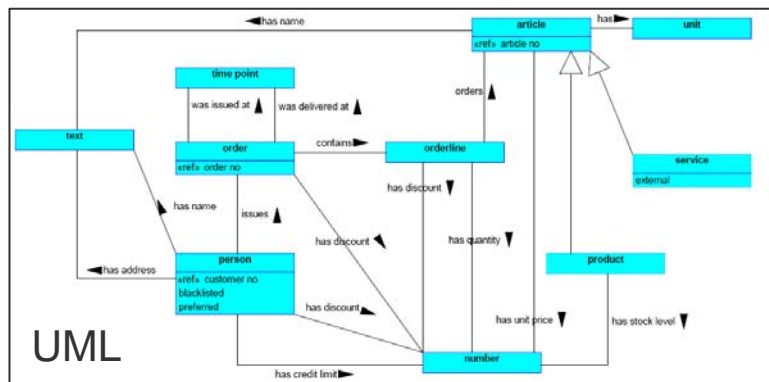- SBVR-compliant tools capture the meaning of business vocabularies and rules

Notations for Business Rules

It is obligatory that each driver of a rental is qualified.

rental has driver

driver is qualified

The noun concept 'driver' is a facet of the noun concept 'person.'

UML

ORM

- SBVR does not prescribe a specific language for terms, facts and rules

- Terms and facts canbe represented, for example, in
  - SBVR Structured English
  - Unified Modelling Language (UML)
  - Object-Role Modeling (ORM)

- The SBVR specification itself uses SBVR Structured English to describe its vocabularies

Conformance of Software and Documents

■ The SBVR specification defines conformance for …

   ◆ an SBVR exchange document

   • An exchange document that conforms to this specification shall be an XML document that represents a 'fact model' as defined in subclause 8.5.

   ◆ an SBVR Producer

   • A software tool that conforms as an SBVR producer shall produce exchange documents that conform to this specification

   ◆ an SBVR Processor

   • A software tool that conforms as an SBVR processor shall accept any exchange document that conforms to this specification

■ Conforming software must support the concepts that are defined in Clauses 8, 9, 11, and 12 of the SBVR specification.

■ In clause 10 the concepts of clause 9 are mapped to foundational concepts of formal logic and mathematics

How to read the SBVR Specification

- This specification describes a vocabulary, or actually a set of vocabularies, using terminological entries.

- Each entry includes a definition, along with other specifications such as notes and examples. Often, the entries include rules (necessities) about the particular item being defined.

- Example:

concept type

Definition:	object type that *specializes* the concept 'concept'
Note:	A concept is related to a concept type by being an instance of the concept type.
Example:	fact type, role, concept type

- The sequencing of the clauses in this specification reflects the inherent logical order of the subject matter itself. Later clauses build semantically on the earlier ones.

- Figures help illustrate the structure of the vocabulary.

- The following slides contain a small subset of the SBVR vocabulary

SBVR Structured English Notation

There are four font styles with formal meaning:

term	The 'term' font is used for a designation for a noun concept (other than an individual concept), e.g. rental car, branch
Name	The 'name' font is used for a designation of an individual concept — a name. Names tend to be proper nouns, e.g. California, 25
verb	The 'verb' font is used for designations for verb concepts — usually a verb, preposition or combination thereof. Such a designation is defined in the context of a form of expression, e.g. local area *owns* rental car, rental *has* pick-up branch
keyword	The 'keyword' font is used for linguistic symbols used to construct statements – the words that can be combined with other designations to form statements and definitions, e.g., 'each' and 'it is required that'.
	Quotation marks are also in the 'keyword' font. Single quotation marks are used (among other purposes) to mention a concept – to refer to the concept itself rather than to the things it denotes. In this case, a quoted designation or form of expression is preceded by the word 'concept' or by a term for a kind of concept, e.g. the concept 'walk-in_rental' *is* a category *of* the concept 'rental'.