**a)** A formal ontological approach for COSBP construction (architecture in three levels of abstraction)

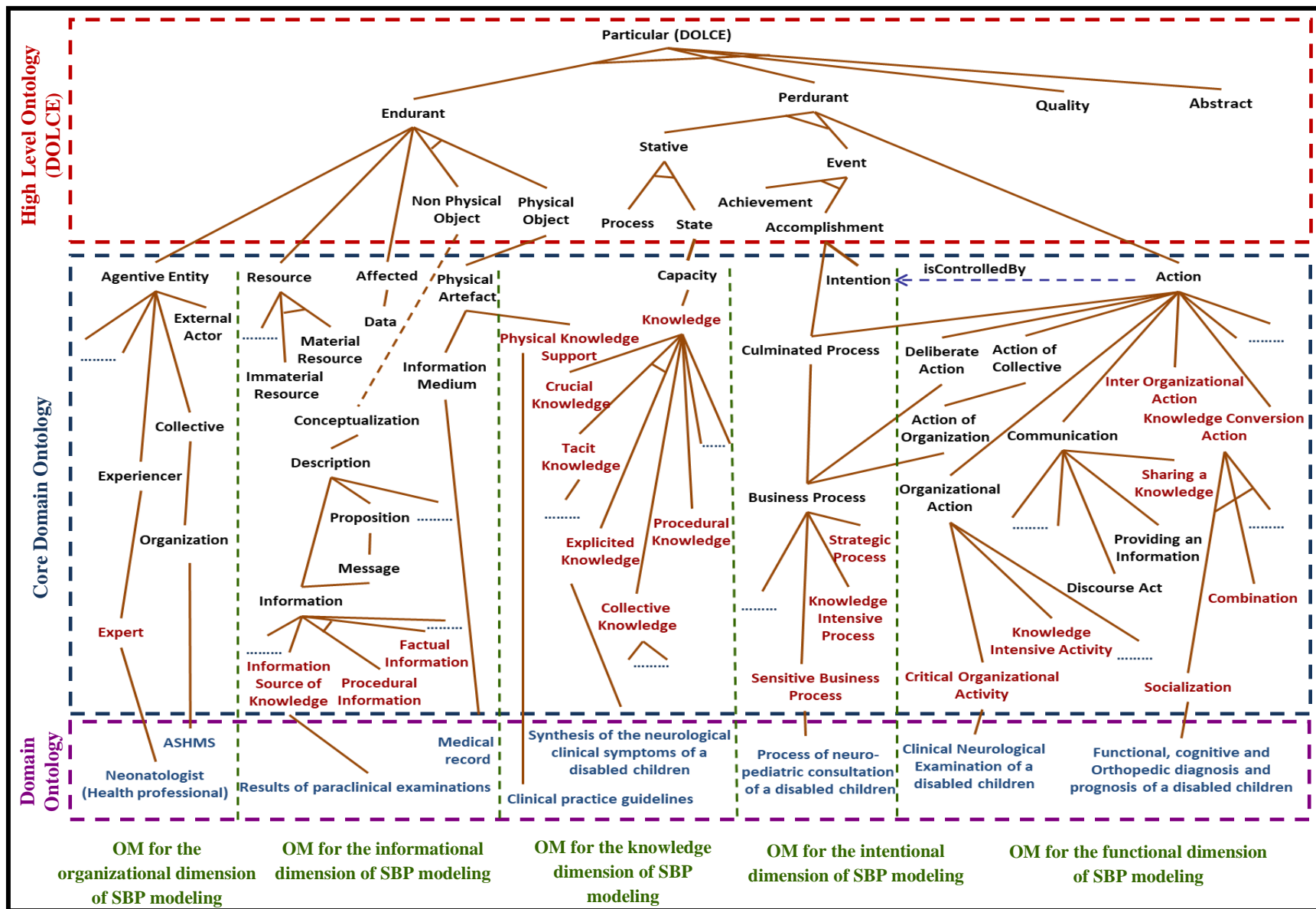**b)** Main generic ontological modules used for the definition of COSBP ontology

**Fig.1.** Structure of the COSBP ontology, a multi-component ontology with several levels of abstraction (Ben Hassen et al., 2024b)

Text content within figure a):

**Abstract Level**

Foundational (High level) Ontology (domain-independant)

{Endurant, Perdurant, Object, Process, Event, Action,....}

Reuse and Specialization of the foundational DOLCE ontology to specify and define the invariant generic concepts of Sensitive Business Process

*specialize*

**Medium Level**

Core Ontology (specific domain-independant)

{Organization, Department, Affiliated, Manager, Activity,...}

Reuse and specialization of OntoSpec's (OS) ontological modules, and proposition of Ontological Design Patterns related to the core domain ontologies

*specialize*

**Specific Level**

Domain Ontology

{Hospital, Medical laboratory, Disease, Doctor, Patient,...}

Specialization of concepts related to the core domain ontologies in a specific domain (e.g. Medical domain)

Text content within figure b):

Stratum 1: Most Abstract Level

Descriptive Ontology for Linguistic and Cognitive Engineering (DOLCE)

Onto Spec (OS) Ontology

Action-OS | Action of Organization-OS | Agentive Entity-OS | Organization-OS

Core Ontology of Organization Processes (COOP-OS) | Participation Role-OS | Function and Artefact -OS

Capacity-OS | IE&C-OS | Resource-OS | Communication-OS | Action Model-OS

Stratum 2 : Intermediate Level

Core Ontology of Organization Know-How and Know-That (COOK)

Stratum 3 : Specific Level

Core Ontology of Sensitive Business Processes (COSBP)

Medical Domain Ontology of Sensitive Business Processes

Abstraction Level

**Fig.2.** Overview of COSBP ontological modules. A descending edge between two concepts represents a subsumption link. A horizontal line between edges from a father concept indicates that the sibling concepts are incompatible.