

## A.5 Relações de Composição & Partes

Tal como discutido na sessão 5.5.4, a tabela A.4 mostra algumas das relações desse tipo encontradas ao se utilizar a abordagem sugerida contra o Corpus do PMBOK.

**Tabela A.4:** 25 exemplos de relações identificadas através de estruturas que indicam composição

Sintagma Nominal 1	Relação Verbal	Sintagma Nominal 2
Organization	has	Resource
Project	has	Objective
Project	has	Scope
Project	has	Phase
Project	has	Scope
Project	has	Duration
Process	has	Result
Resource	has	Cost
Project	has	Product
Activity	has	Outcome
Project Product	has	Description
Product Scope	has	Completion
Project Scope	has	Completion
Project	has	Scope Baseline
Activity	has	Duration
Project Plan	has	Component
Project	has	Cost
Project Product	has	Performance
Procurement Item	has	Cost
Project Stakeholder	has	Need
Project	has	Requirement
Project Participant	has	Expertise
System	has	Performance
Schedule Simulation	has	Result
Procurement Process	has	Review

## A.6 Lista de Relações Identificadas no PMBOK

Como visto na sessão 5.7.3, a utilização do método sugerido neste trabalho contra o corpus do PMBOK revelou as relações da tabela A.5 para fazer parte da lista de relações apresentadas ao ontologista.

**Tabela A.5:** Relações identificadas e apresentadas ao ontologista

Conceito 1	Relação	Conceito 2
Activity	has	Completion
Activity	has	Duration
Activity	has	Outcome
ActivityDurationEstimate	is	Assessment
Budget	is	Constraint
ChangeControlSystem	isACollectionOf	Procedure
Checklist	is	Tool
CommunicationManagement_Plan	is	Document
Contract	is	Relationship
ContractAdministration	is	Process
Control	isOftenPerformedBy	QualityControlDepartment
CostEstimate	is	Assessment
Initiation	is	Process
Management	encompass	Planning
PhaseDeliverable	has	Approval
Pmbok	include	Knowledge
ProcurementAudit	is	Review
ProcurementPlanning	is	Process
Product	has	Description
Product	has	Scope
ProductScope	isMeasuredAgainst	Requirement
Project	has	Duration
Project	has	Management
Project	has	Objective
Project	has	Phase
Project	has	Scope
Project	has	StaffingRequirement
ProjectCharter	is	Document
ProjectLifeCycle	has	Phase
ProjectParticipant	has	Expertise
ProjectPhase	isMarkedBy	Completion
ProjectPhase	isGenerallyMarkedBy	Review
ProjectPlan	contain	Baseline
ProjectPlan	is	Document

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**Tabela A.5** – continuação da página anterior

Conceito 1	Relação	Conceito 2
ProjectPlanExecution	is	Process
ProjectPlanningMethodology	is	Approach
ProjectProduct	has	Quality
ProjectScope	has	Acceptance
ProjectScope	isMeasuredAgainst	Plan
ProjectStakeholder	has	Need
QualityAudit	is	Review
Resource	has	Cost
Scope	has	Description
ScopePlanning	is	Process
ScopeVerification	is	Process
Stakeholder	has	Need
WorkAuthorizationSystem	is	Procedure
WorkResult	has	Acceptance
Activity	has	Result
Contract	has	Requirement
ControlProcess	has	Output
Cost	has	Assessment
CostBaseline	is	Budget
Organization	has	Resource
PlanningProcess	has	Output
Process	has	Output
Process	has	Result
ProcurementDocument	has	Requirement
ProcurementItem	has	Cost
Project	has	Acceptance
Project	has	Completion
Project	has	Cost
Project	has	Product
Project	isComposedOf	Process
Project	has	Requirement
Project	has	ScopeBaseline
Project	has	Work
Project	has	WorkResult
ProjectManagementProcess	has	Output
ProjectPlan	has	Development
ProjectPlan	provide	Baseline
ProjectProduct	has	Description
ResourcePlanningProcess	has	Output
Result	has	Assessment
RiskIdentification	has	Result
RiskResponseDevelopment	isSometimesCalled	ResponsePlanning

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Tabela A.5 – continuação da página anterior

Conceito 1	Relação	Conceito 2
ScheduleVariation	require	Action
Variance	isFedInto	ControlProcess
Checklist	isTypicallyOrganizedBy	Source
CorrectiveAction	is	Output
EvaluationCriterion	has	Application
Inspection	isVariouslyCalled	Review
Plan	reflect	Resource
ProductDesignProject	has	Outcome
ProductionPhase	has	Cost
ProductScope	has	Completion
Project	has	Need
ProjectCalendar	affect	Resource
ProjectCommunication_	include	Process
Management		
ProjectCostManagement	isPrimarilyConcerned_	Cost
	With	
ProjectCostManagement	include	Process
ProjectElement	has	Description
ProjectIntegrationManagement	include	Process
ProjectManagementApproach	has	Description
ProjectManagementProcess	has	Application
ProjectPlan	has	Component
ProjectProcurementManagement	include	Process
ProjectProduct	has	Performance
ProjectQualityManagement	include	Process
ProjectResult	include	ProductResult
ProjectRiskManagement	include	Process
ProjectScope	has	Acceptance
ProjectScopeManagement	include	Process
ProjectTimeManagement	include	Process
ResearchProject	has	Product
ResourceCalendar	affect	Resource
ScheduleSimulation	has	Result
WorkResult	is	Outcome
Agreement	has	Review
CommunicationPlanning	isOftenTightlyLinked_	Planning
	With	
Component	has	Delivery
Decision	has	Result
Estimate	have	Expertise
Information	has	Description
Inspection	include	Activity

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Tabela A.5 – continuação da página anterior

Conceito 1	Relação	Conceito 2
Organization	have	Checklist
Organization	has	System
OrganizationalPlanning	isOftenTightlyLinked_With	CommunicationPlanning
PerformanceMeasurement_Baseline	represent	ManagementControl
ProcurementProcess	has	Review
ProductOrientedProcess	isTypicallyDefinedBy	ProjectLifeCycle
Project	involve	PerformingOrganization
Project	consistOf	Product
ProjectCommunication_Management	is	Application
ProjectIssue	has	Product
ProjectManagement	is	Application
ProjectManagement	has	Quality
Proposal	has	Result
ResourcePlanningProcess	is	Description
Rework	is	Action
ScopeVerification	differFrom	QualityControl
Source	has	Description
Source	include	ProjectContext
System	has	Performance
TeamBuildingActivity	include	Management
Variance	require	Action
WorkBreakdownStructure	is	Input
ApplicationArea	isCategoryOf	Project
Approach	isOftenCalled	ProjectManagement_Methodology
Contract	become	Input
ContractAdministration	include	Application
Cost	is	Cost
Customer	has	OperatingCost
PerformanceMeasurement_Baseline	is	Input
Process	isIn	Control
ProcessGroup	isLinkedBy	Result
ProcurementAudit	has	Objective
ProcurementItem	require	Statement
Project	isCompletedWithin	Budget
Project	is	Organization
Project	is	Result
Project	is	ScheduleSimulation

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**Tabela A.5** – continuação da página anterior

<b>Conceito 1</b>	<b>Relação</b>	<b>Conceito 2</b>
Project	is	ServiceProject
Project	has	Relationship
ProjectPlanDevelopment	usee	Output
ProjectSchedule	includeAt	Documentation
ProjectTeamMember	lack	Management
QualityAudit	has	Objective
QualityManagementPlan	provide	Input
RiskIdentification	isNot	Event
TelecommunicationsSystem	has	Design
WeightingSystem	is	Method
WorkAuthorizationSystem	has	Design

## A.7 Resultado da Representação da Ontologia em OWL

A seguir listam-se as 200 primeiras linhas da representação em linguagem OWL da ontologia criada para o domínio de gestão de projetos. No total a representação contém 1930 linhas de código.

---

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<?xml version="1.0"?> <rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns="http://www.owl-ontologies.com/Ontology1176060652.owl#"
  xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xml:base="http://www.owl-ontologies.com/Ontology1176060652.owl">
<owl:Ontology rdf:about=""/>
<owl:Class rdf:ID="ProjectProcurementManagement">
  <rdfs:subClassOf>
    <owl:Restriction>
      <owl:onProperty>
        <owl:ObjectProperty rdf:ID="include"/>
      </owl:onProperty>
      <owl:someValuesFrom>
        <owl:Class rdf:ID="Process"/>
      </owl:someValuesFrom>
      <rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string"
        >Project Procurement Management includes the processes required to acquire
        goods and services from outside the performing organization.</rdfs:comment>
    </owl:Restriction>
  </rdfs:subClassOf>
  <rdfs:subClassOf>
    <owl:Class rdf:ID="Management"/>
  </rdfs:subClassOf>
</owl:Class>
<owl:Class rdf:ID="Organization">
  <rdfs:subClassOf>
    <owl:Restriction>
      <owl:onProperty>
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      </owl:onProperty>
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        <owl:Class rdf:ID="Checklist"/>
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      <rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#string"
        >Many organizations have standardized checklists available to ensure
        consistency in frequently performed activities.</rdfs:comment>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>
<owl:Class rdf:ID="TechniqueOutput">
  <rdfs:subClassOf>
    <owl:Class rdf:ID="Output"/>
  </rdfs:subClassOf>
</owl:Class>
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