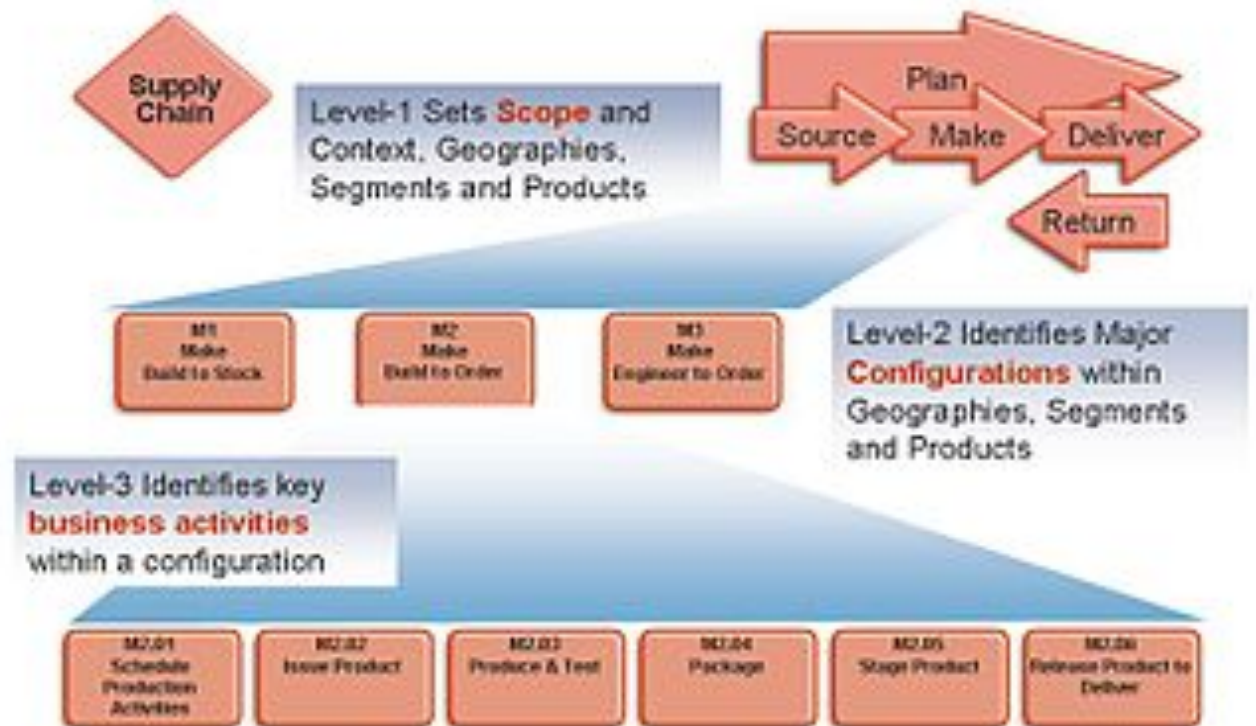# LifeWatch Workshop

Lecce, 9-10 June 2016

Mario Bochicchio – Sham Navathe

Interoperability and Integration of IS
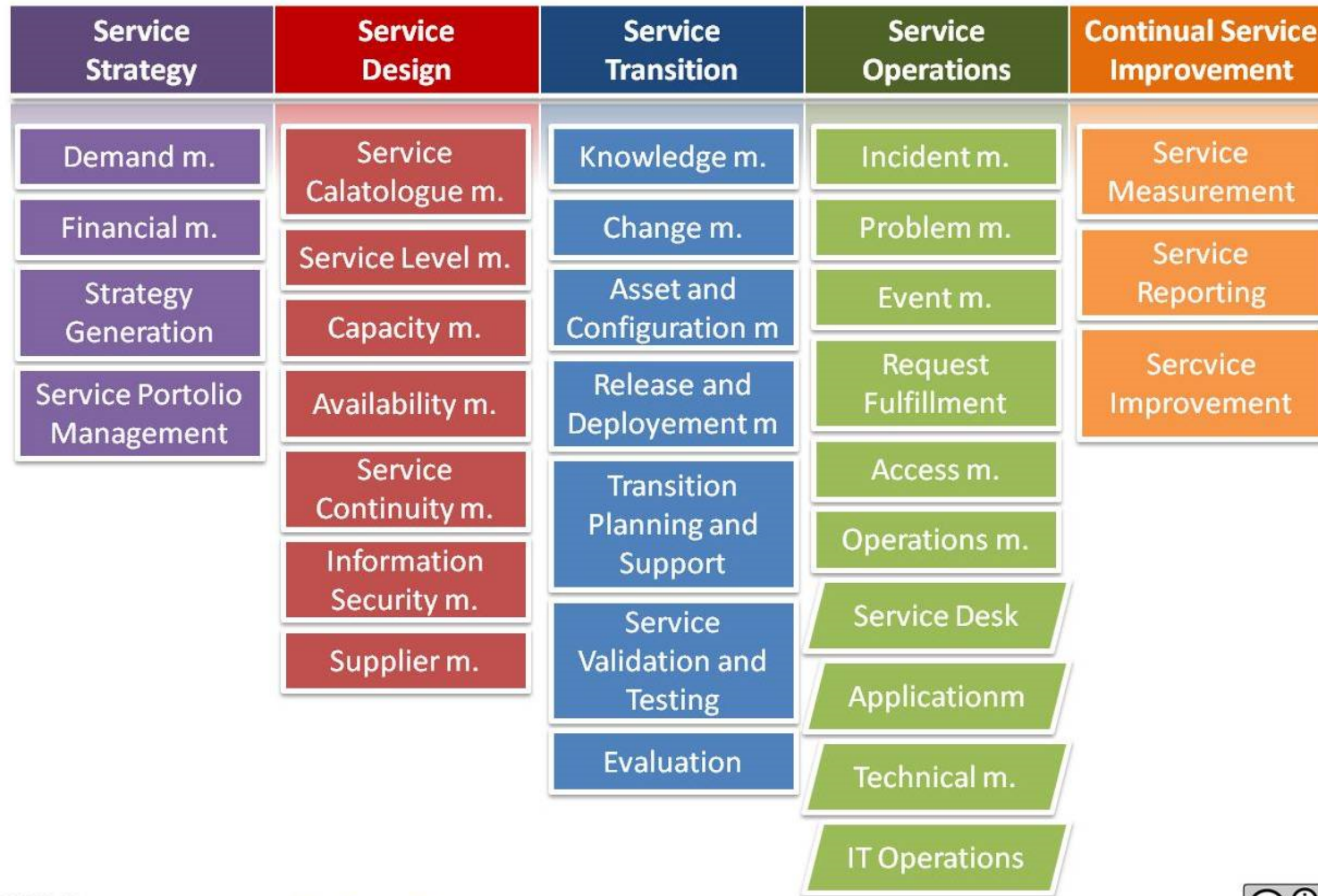
- Reference models

(e.g. SCOR: Supply-Chain
 operations reference)

Interoperability and Integration of IS

• Best Practices

e.g. ITIL: Information
Technology Infrastructure
Library

Service Strategy	Service Design	Service Transition	Service Operations	Continual Service Improvement
Demand m.	Service Calatologue m.	Knowledge m.	Incident m.	Service Measurement
Financial m.	Service Level m.	Change m.	Problem m.	Service Reporting
Strategy Generation	Capacity m.	Asset and Configuration m	Event m.	Sercvice Improvement
Service Portolio Management	Availability m.	Release and Deployement m	Request Fulfillment	
	Service Continuity m.	Transition Planning and Support	Access m.	
	Information Security m.		Operations m.	
	Supplier m.	Service Validation and Testing	Service Desk	
		Evaluation	Applicationm	
			Technical m.	
			IT Operations	

ITIL V3 Structure | Péter Fehér | http://krpm.wordpress.com

Ontologies ?

- An ontology is a specification of a conceptualization that is designed for reuse across multiple applications and implementations. ...a specification of a conceptualization ,is a written, formal description of a set of concepts and relationships in a domain of interest.

- *Peter Karp (2000) Bioinformatics 16:269*

Existing/succesfull ontologies

- The Open Biomedical Ontologies
  - http://www.obofoundry.org/
  - The OBO Foundry is a collaborative experiment involving developers of science-based ontologies who are establishing a set of principles forontology development with the goal of creating a suite of orthogonal interoperable reference ontologies in the biomedical domain.

- The Ontology Lookup Service
  - http://www.ebi.ac.uk/ontology-lookup/
  - The OLS provides a web service interface to query multiple ontologies from a single location with a unified output format. The OLS can integrate any ontology available in the Open Biomedical Ontology (OBO) format.

- NCBO BioPortal
  - http://bioportal.bioontology.org/
  - Use BioPortal to access and share ontologies that are actively used in biomedical communities.

- NCI Enterprise Vocabulary Services (EVS)
  - http://www.obofoundry.org/cgi-bin/detail.cgi?id=ncithesaurus
  - NCI EVS provides a set of services and resources, including NCI Thesaurus and NCI Metathesaurus, that facilitate the standardization of terminology across the Institute and the larger biomedical community.The NCI Thesaurus is an ontology-like vocabulary that includes broad coverage of the cancer domain, including cancer related diseases, findings and abnormalities; anatomy; agents, drugs and chemicals; genes and gene products and so on. In certain areas, like cancer diseases and combination chemotherapies, it provides the most granular and consistent terminology available. It combines terminology from numerous cancer research related domains, and provides a way to integrate or link these kinds of information together through semantic relationships. The Thesaurus currently contains over 34,000 concepts, structured into 20 taxonomic trees.

- NTP Pathology Code Tables

- MESH - Medical subjects headings
  - http://www.nlm.nih.gov/mesh/meshhome.html

Ontologies?

- Shared models to:
  - Discuss with colleagues
  - Produce software
  - Exchange data
  - Search data: smart approach
  - …
- Tools: OWL vs. OntoUML

Ontologies?

- Foundational Ontologies
  - DOLCE
  - UFO

- Domain Ontologies
  - Your Thesauri
  - ?

- Applied Ontologies
  - ?

Open points

- Conceptual Models vs. data models vs. Process Models (e.g. ER, UML, BPMN, …)
- Users, Usage monitoring, Usage analisys
- Other type of database:
  - Multidimensional
  - Relational
  - Graph, Document, Column, …
  - (Reporting Tools)
  - (Querying Tools)
- Deployed services
- Connections

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