

Fractal Enterprise Model and its Usage for Business Model Innovation



Tutorial
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Have you thought



That you company's main business model can be dead in 5-10 years ... and how do you address that?

Solution: Business Model Innovation (BMI)

► Three types of BMI

1. **Industry** model innovation - which amounts to change the position in value change, entering new markets, and/or other type of radical changes.
2. **Revenue** model innovation - which results in changes in how a company generates revenues, e.g. reconfiguring offerings and/or introducing new pricing models.
3. **Enterprise** model innovation – which involves innovating the structure of an enterprise, such as enterprise goals, business processes, products and/or services

Giesen, E., Berman, S. J., Bell, R., Blitz, A.: Three ways to successfully innovate your business model. *Strategy & Leadership*, Vol. 35 Issue: 6, pp. 35(6), 27-33 (2007).

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
	Key Resources		Channels	
Cost Structure			Revenue Streams	

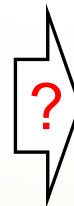
Osterwalder, A., Pigneur, Y.: *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Wiley, Hoboken, NJ, US (2014)

New problem

- How to get from here to there?

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
Publisher Authors Logistic partners	Mechandising Production and Design	Convinience Price Vast selection	Self services Channels Amazon.com Affiliates	Global market Individual leverage
Key Resources Physical Warehouses IT and Web Infrastructure				
Cost Structure		Revenue Streams		
Low cost structures IT and Web Infrastructure		Books Subscription fee ebooks Commission on reseller sales		

AS-IS



Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
	Key Resources			
Cost Structure		Revenue Streams		

TO-BE

Solution

- Find the company's assets (people, processes, machines)
- Try to combine them in another way to get a new BM

In other words use destruction (of an old model) and creation (of a new one) by reconfiguring the existing elements

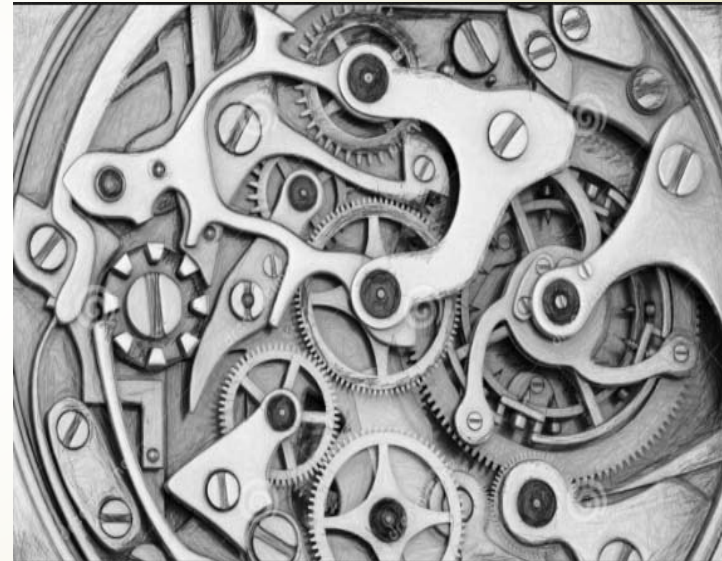
Boyd, J.R: Destruction and creation. Lecture presented to the U.S. Army Command and General Staff College (1976).

New problem

- ▶ How to find the assets?
 - ▶ Very few, if any member of staff has an exact picture of how the company works

Hoverstadt, P.: Why Business should take Enterprise Architecture seriously. In: Gøtze, J. and Jensen-Waud, A. (eds.) Beyond Alignment: Applying Systems Thinking in Architecting Enterprises. pp. 55–166. College Publications (2013)

- ▶ Assets can be hidden for the management



Stockholm
University



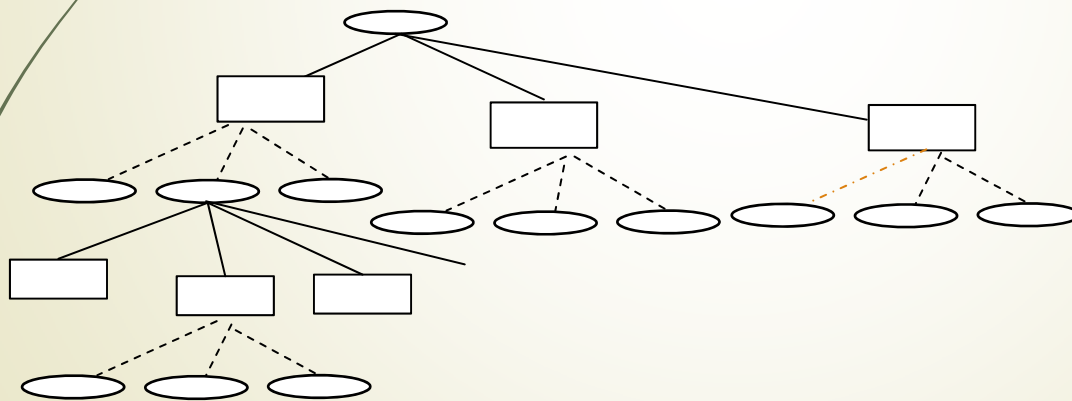
Solution: Model and Method

Requirements on Model and Method support:

- ▶ Should visualize the business and its assets
- ▶ Should support generation of hypotheses for change
- ▶ Should help to evaluate hypotheses

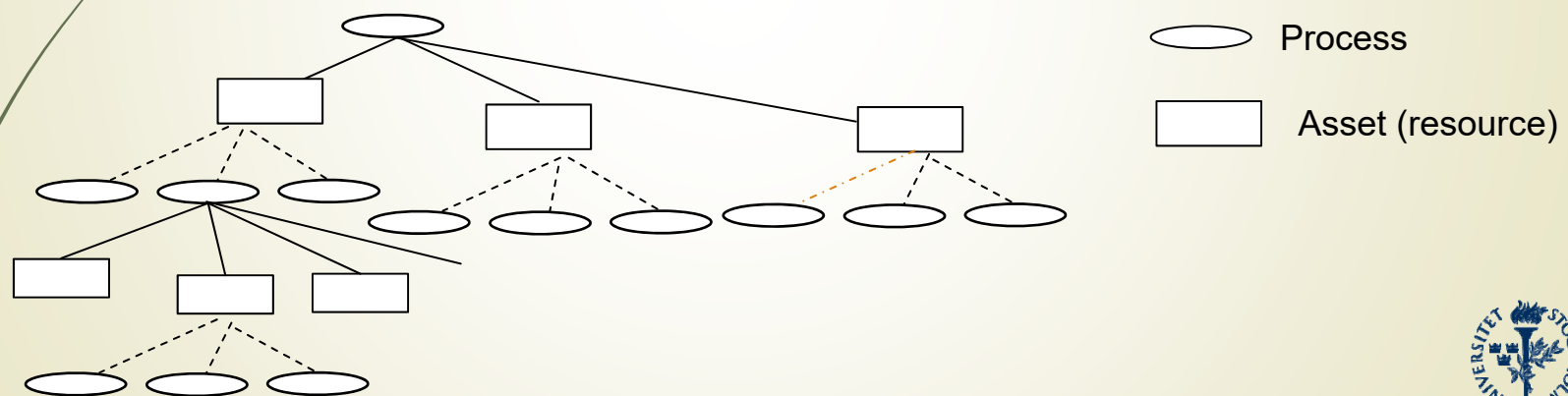
Fractal Enterprise Model (FEM)

- ▶ FEM is a means to identify the enterprise's assets that can be used as a basis for new and innovative business models



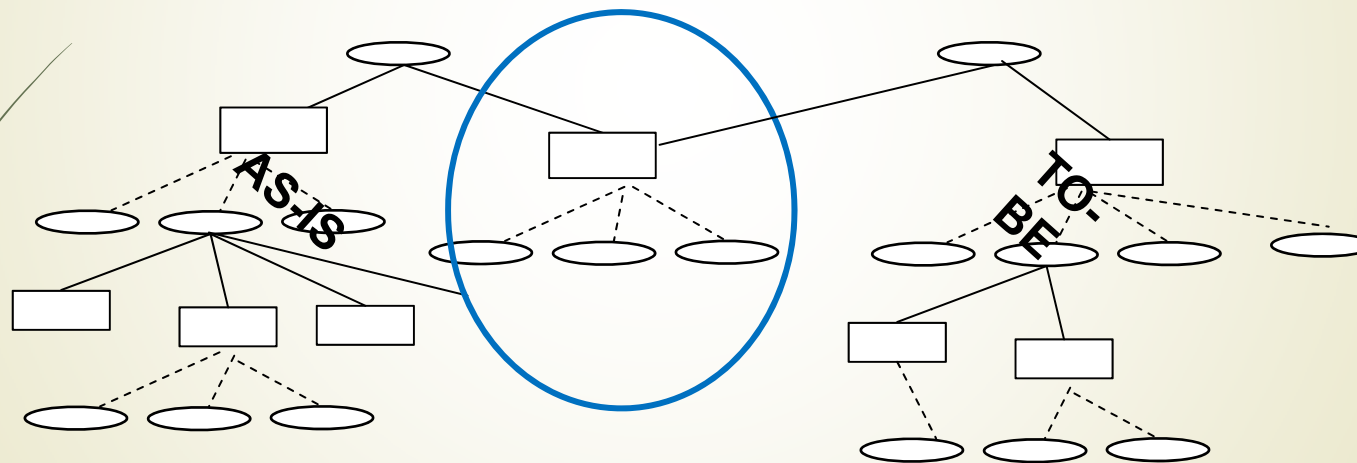
Fractal Enterprise Model (FEM)

- FEM focuses on enterprise processes and assets and relations between them, and helps to visualize these relationships



Fractal Enterprise Model (FEM)

- ▶ FEM facilitates generation and evaluation of hypotheses about new or complementing business models based on the existing processes and assets - and helps to evaluate them



FEM – step by step

- ▶ To build a FEM, one starts with a process (in most cases a primary one)

Book sales
over Internet

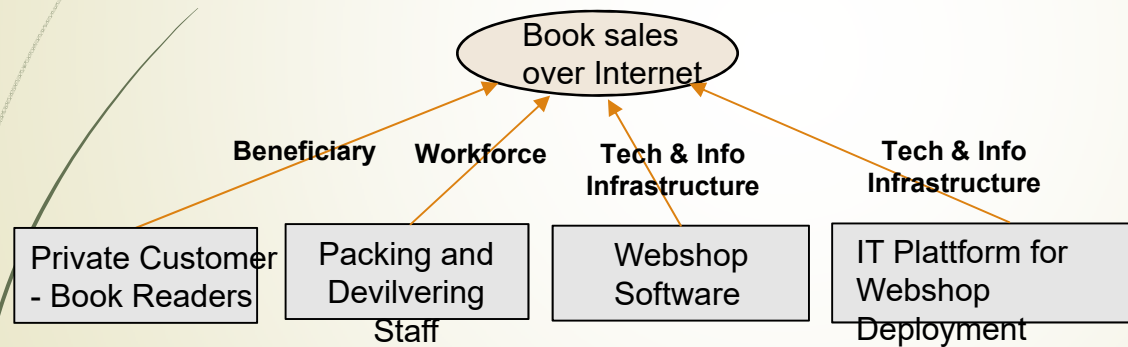
FEM – step by step

- ... then assets that are needed to run process instances are identified

Book sales
over Internet

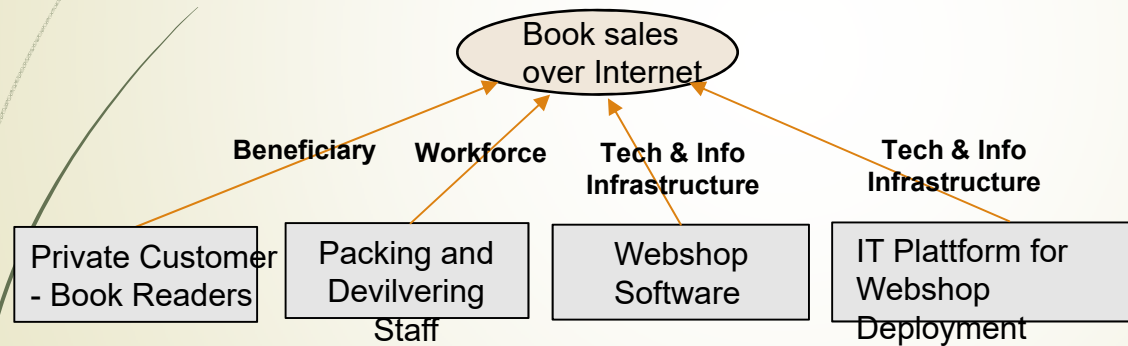
FEM – step by step

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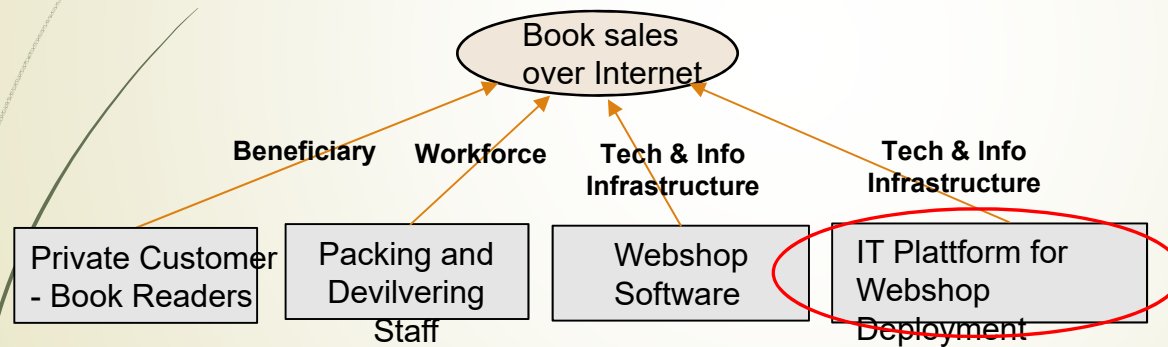
FEM – step by step

- Then for each asset, identify how it is managed (created, maintained and removed)



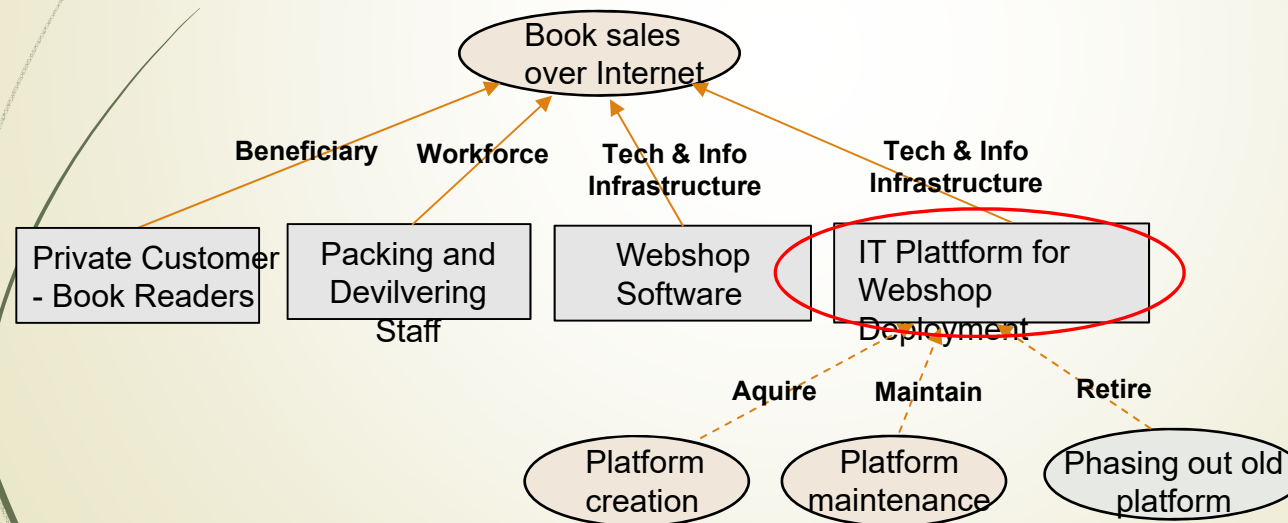
FEM – step by step

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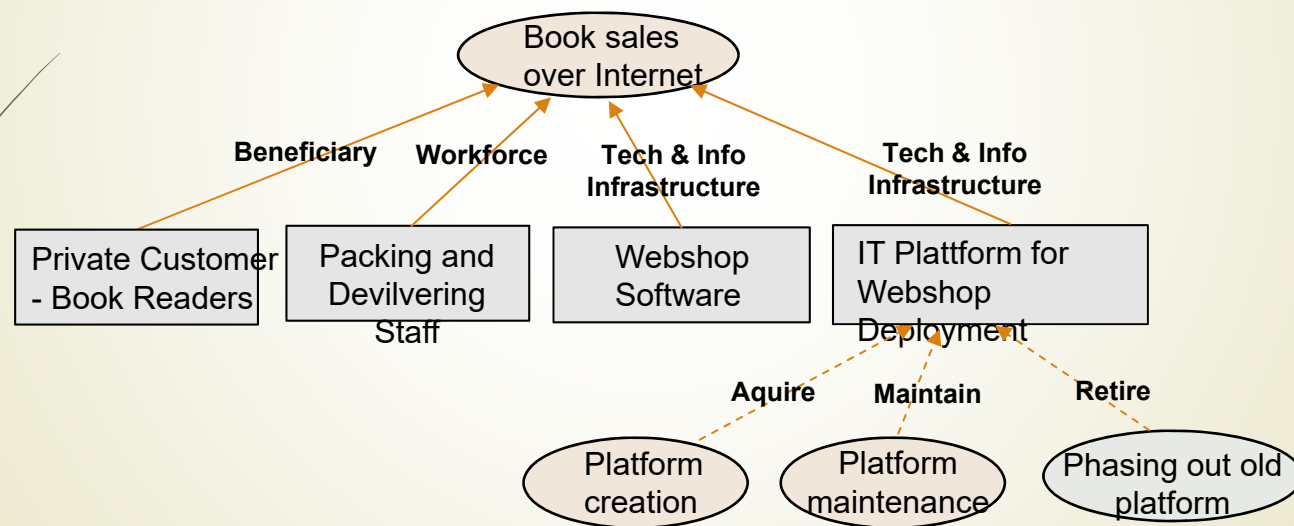
FEM – step by step

- For each assets, identify the processes for its creation, maintenance and removal



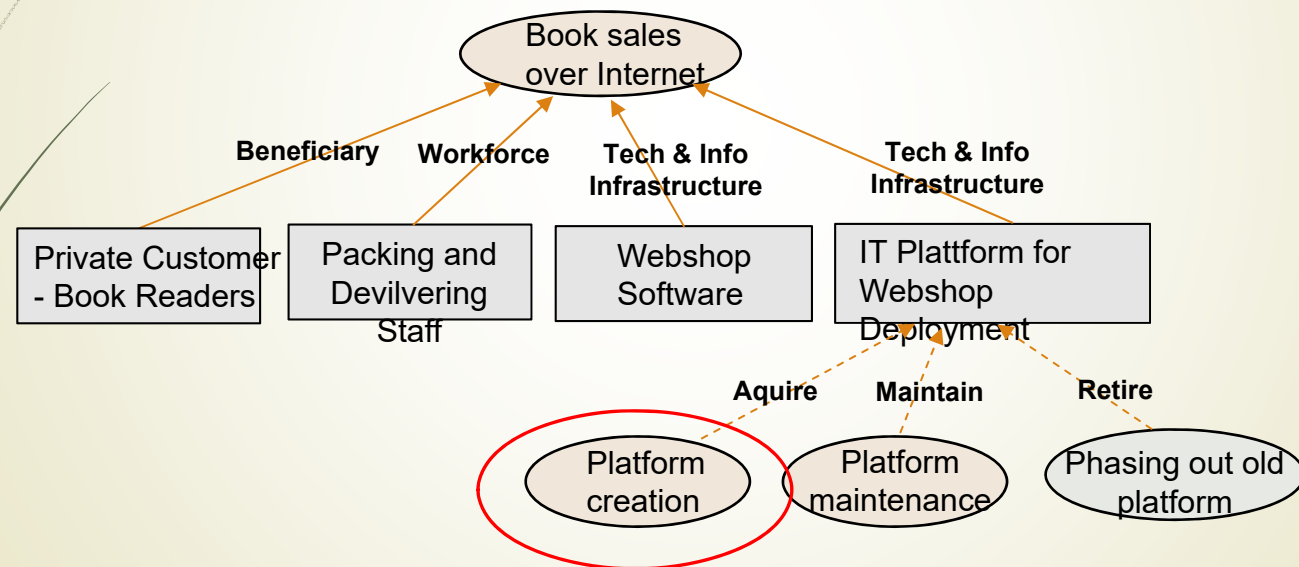
FEM – step by step

- Then for each newly added process, once again, identify the assets that are needed for running its instances



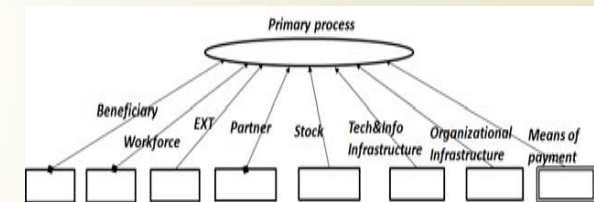
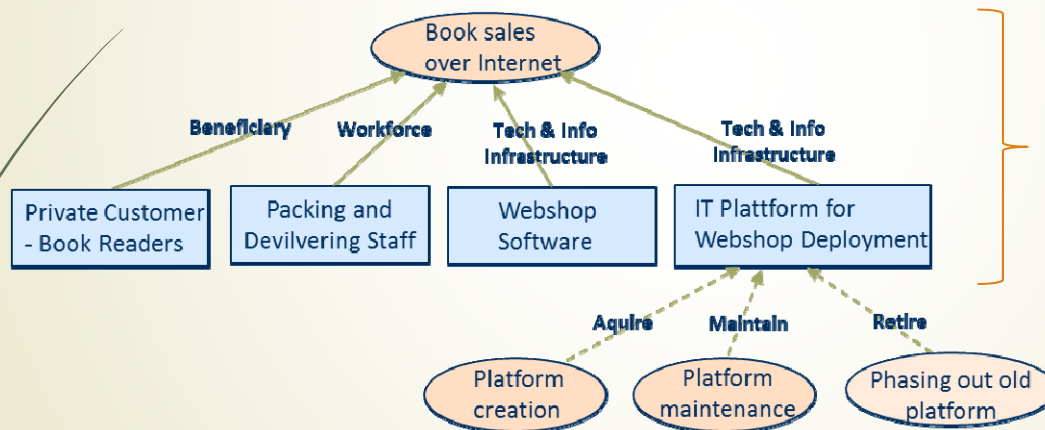
FEM – step by step

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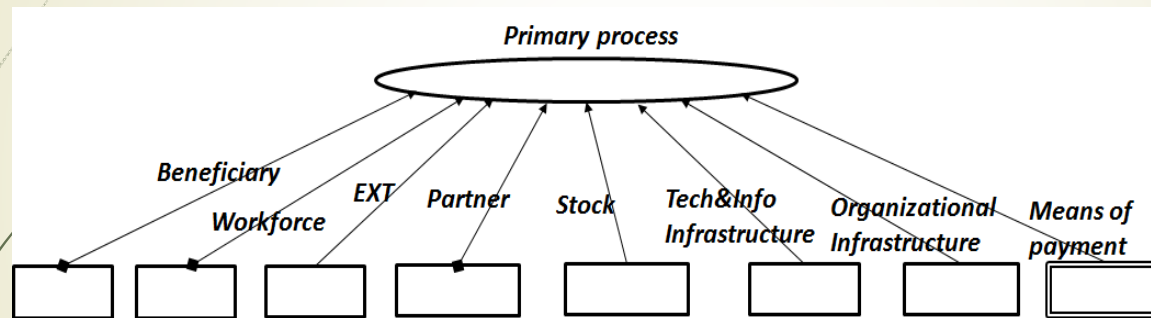
Build FEM – with archetypes (patterns)

- To support identification of assets for a process one can use a process-assets archetype



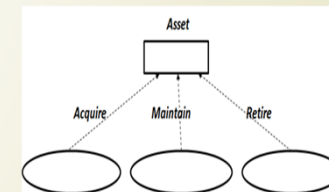
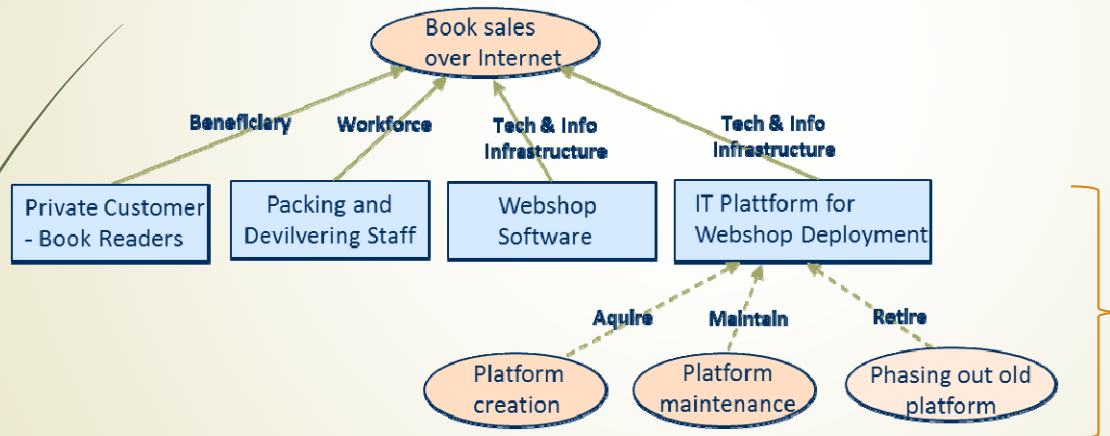
Build FEM – with archetypes (patterns)

► “Process-assets” archetype



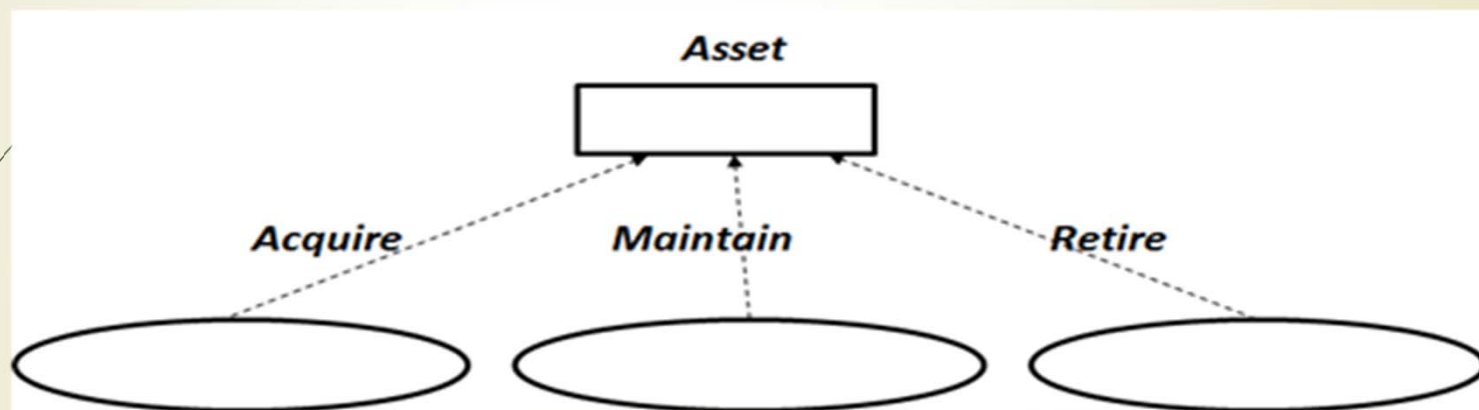
Build FEM – with archetypes (patterns)

- To support identification of processes for an asset one can use a process-assets archetype



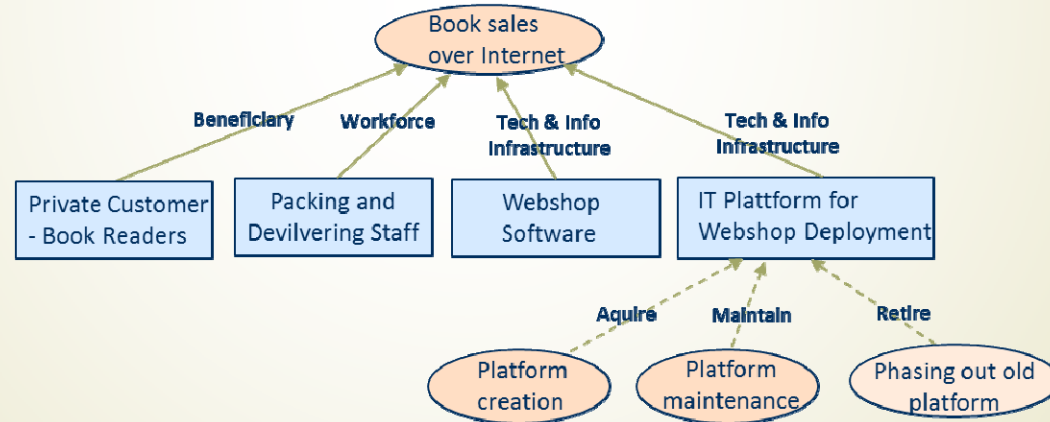
Build FEM – with archetypes (patterns)

➤ “Asset-processes” archetype

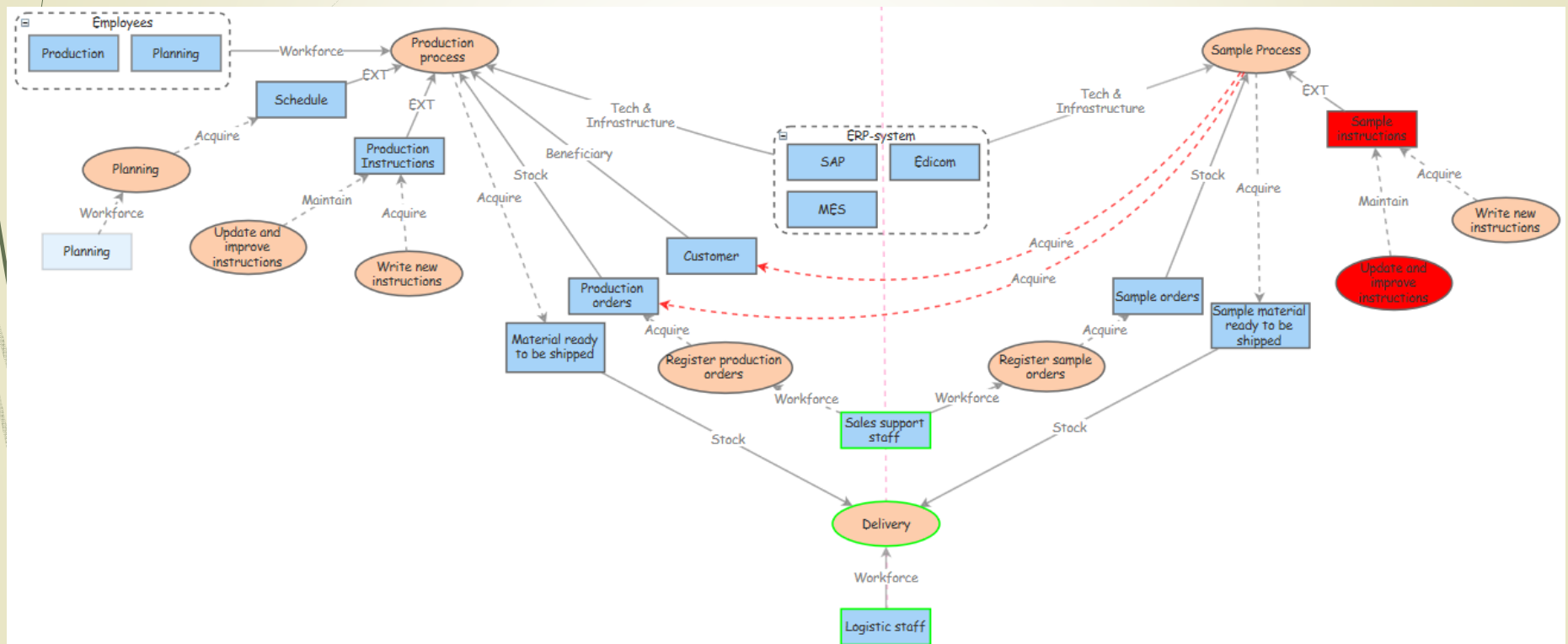


Build FEM – with archetypes (patterns)

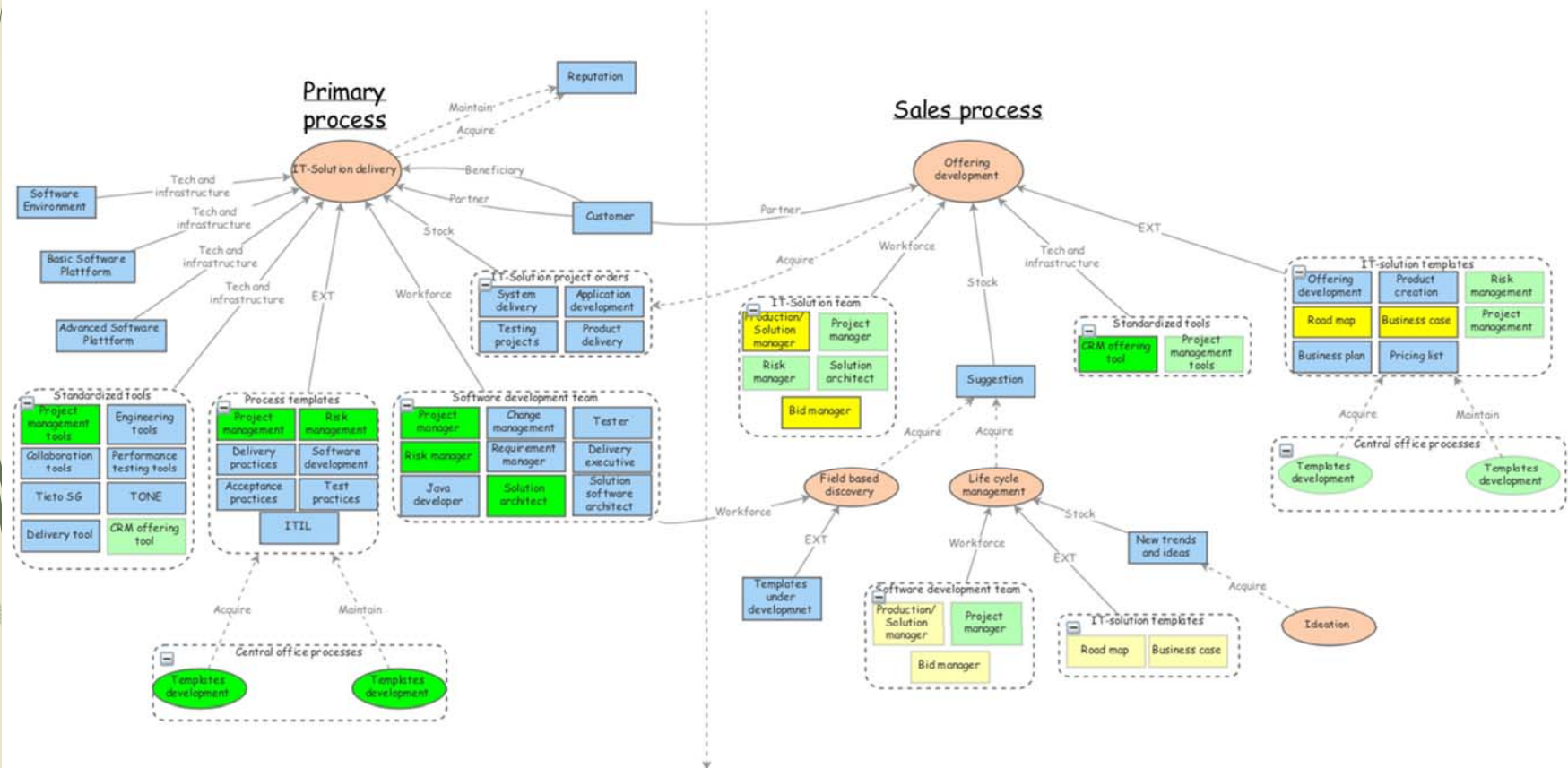
- ▶ FEM is created by recursive application of archetypes (process-assets → asset-processes → ...)



Examples of FEM

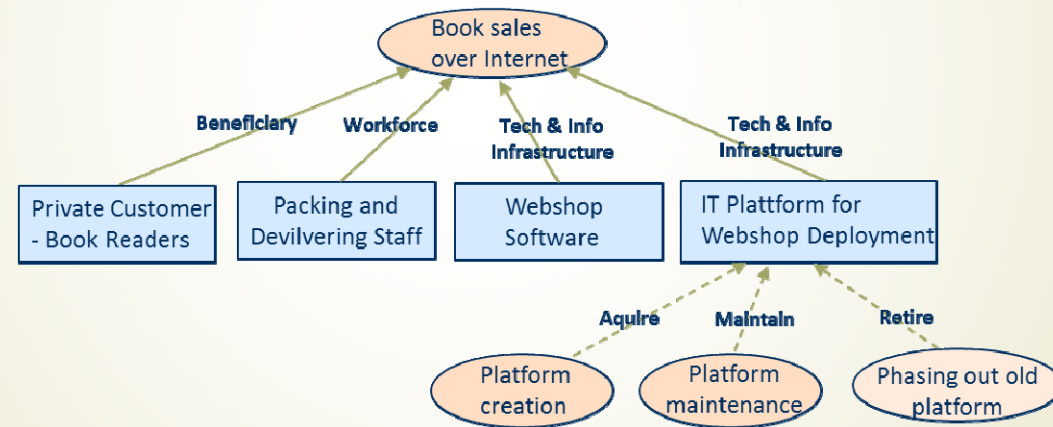


Examples of FEM



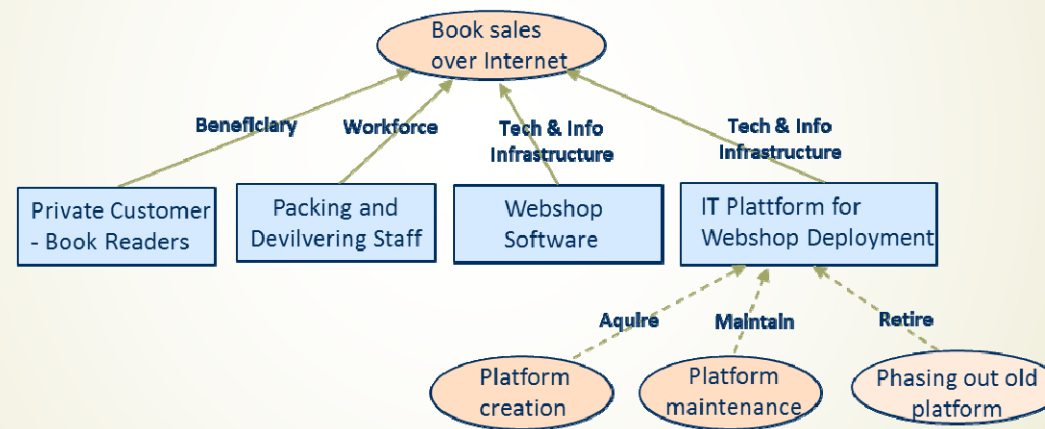
What is special with FEM?

- It is possible to build a FEM relatively quickly using archetypes



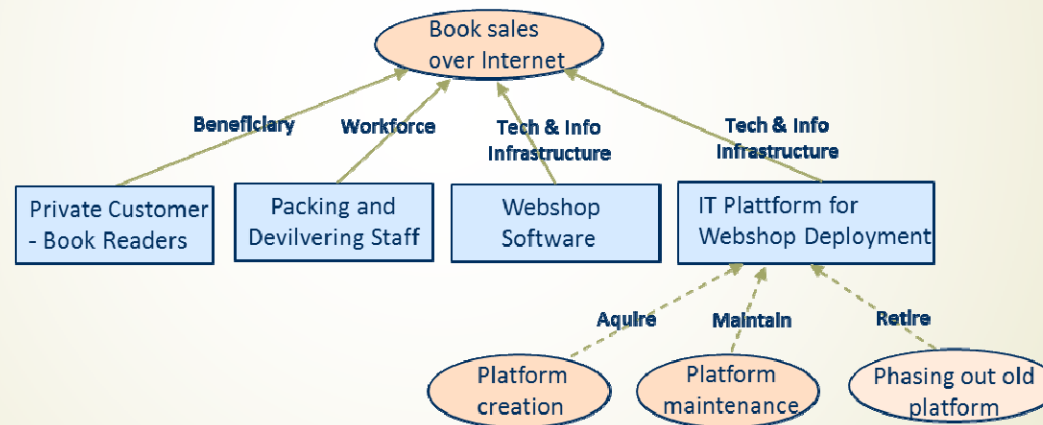
What is special with FEM?

- Reveals all assets that exists in the enterprise that can be used for BMI



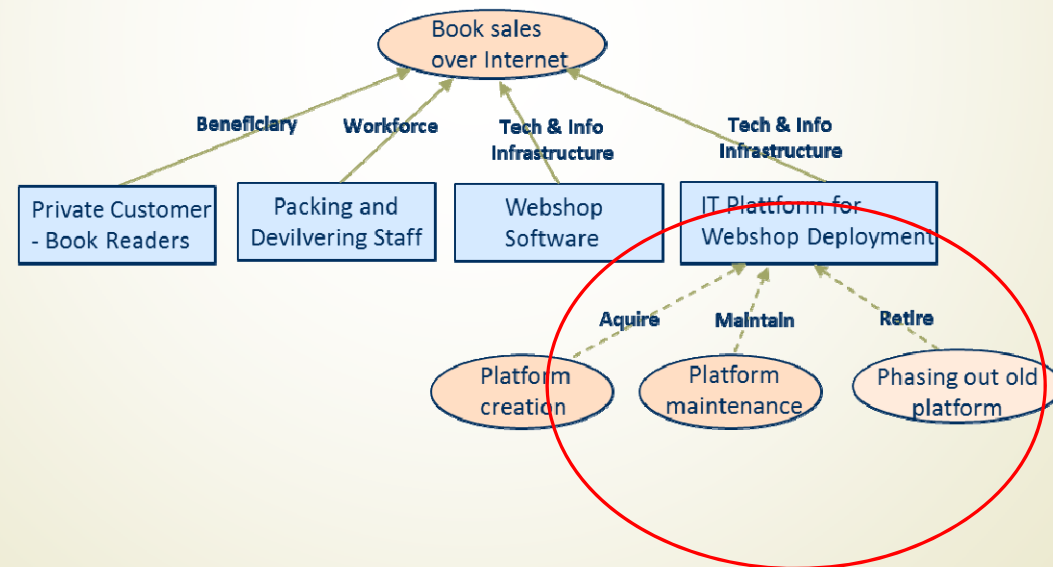
What is special with FEM?

- Relates assets to the processes which gives an overview where they are used



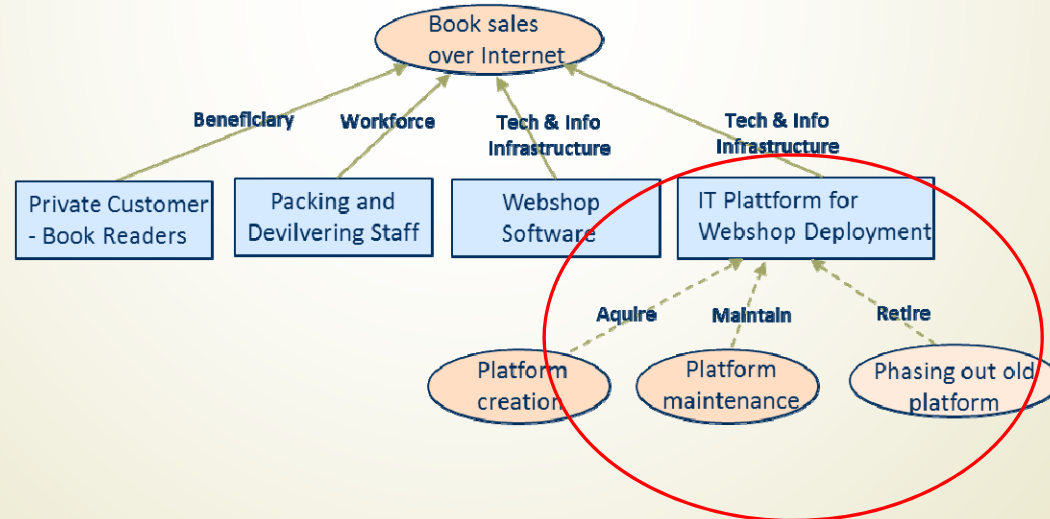
What is special with FEM?

- Supports the process of finding the enterprise's assets (and processes) that can be a foundation for a new BM



What is special with FEM?

- Supports evaluation of hypothesis





Publications of FEM

Bider, I., Perjons, E., Elias, M., & Johannesson, P. (2016). A fractal enterprise model and its application for business development. *Software & Systems Modeling*, 1-27.

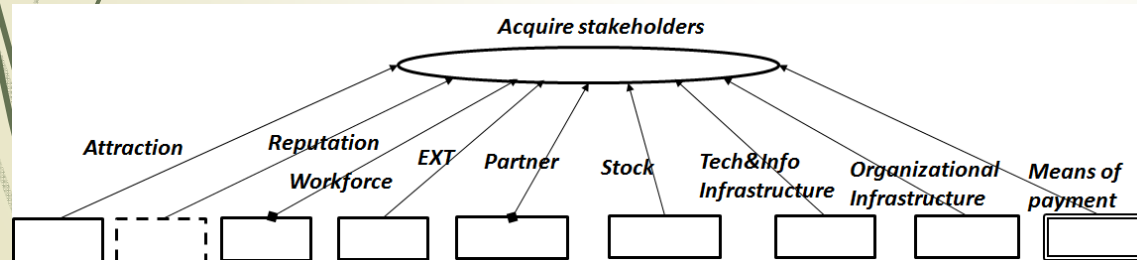
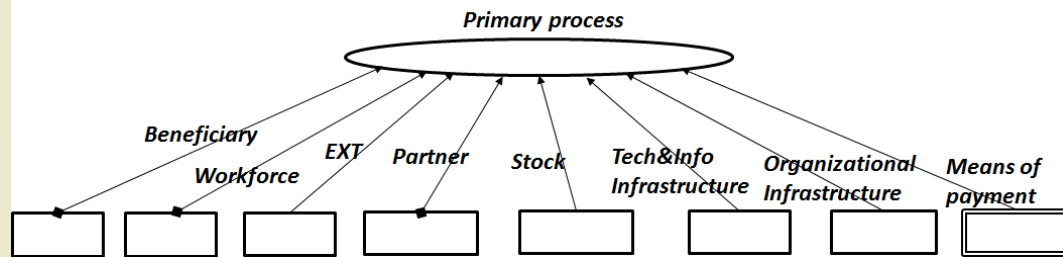
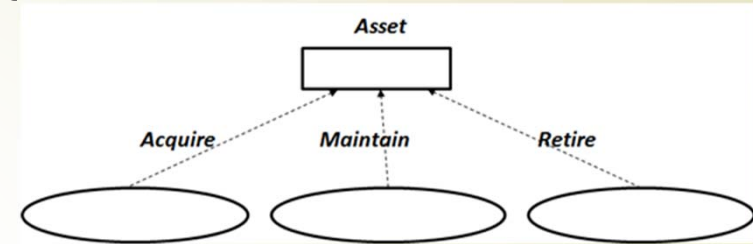
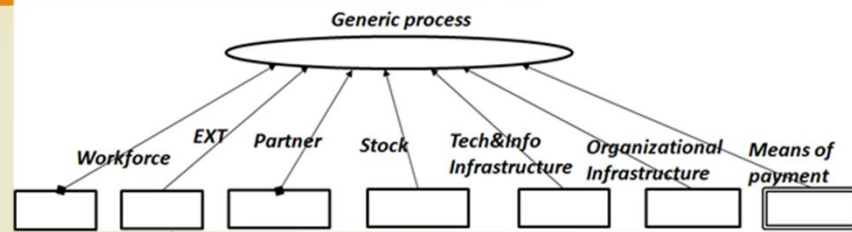
Josefsson, M., Widman, K. & Bider, I. (2015). Using the Process-Assets Framework for Creating a Holistic View over Process Documentation. In : Enterprise, Business-Process and Information Systems Modeling, LNBIP, Vol. 214. Springer, Stockholm (2015) 169-183,

Henkel, M., Bider, I. & Perjons, E. (2014, June). Capability-based business model transformation. In *International Conference on Advanced Information Systems Engineering* (pp. 88-99). Springer International Publishing.

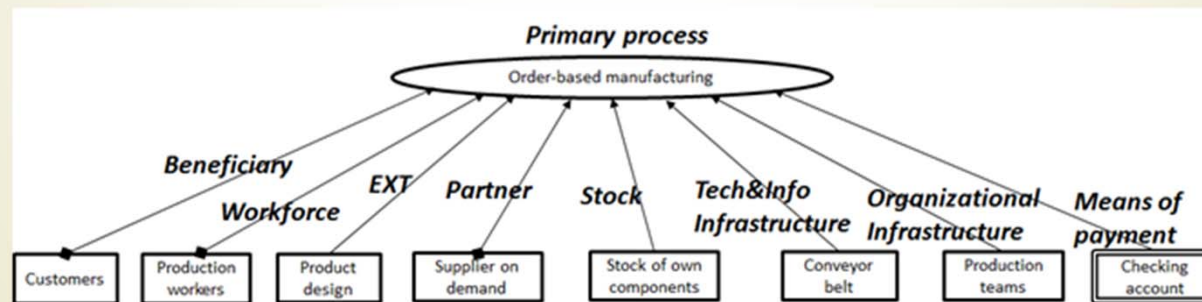
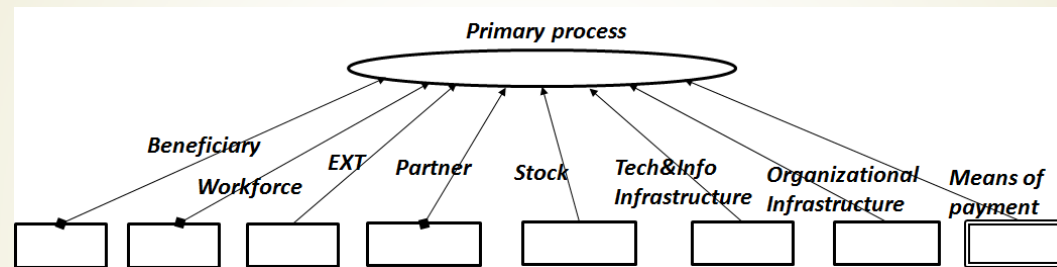
Elias, M., Bider, I. & Johannesson, P. (2014). Using Fractal Process-Asset Model to Design the Process Architecture of an Enterprise: Experience Report. In *BPMDS 2014 and EMMSAD 2014*. LNBIP 175, Thessaloniki, Greece. Springer, pp.287-301.

Bider, I., Perjons, E. & Elias, M. (2012). Untangling the Dynamic Structure of an Enterprise by Applying a Fractal Approach to Business Processes. In *Proceedings of PoEM 2012*. LNBIP 134, Oslo, Norway. Springer, pp.61-76.

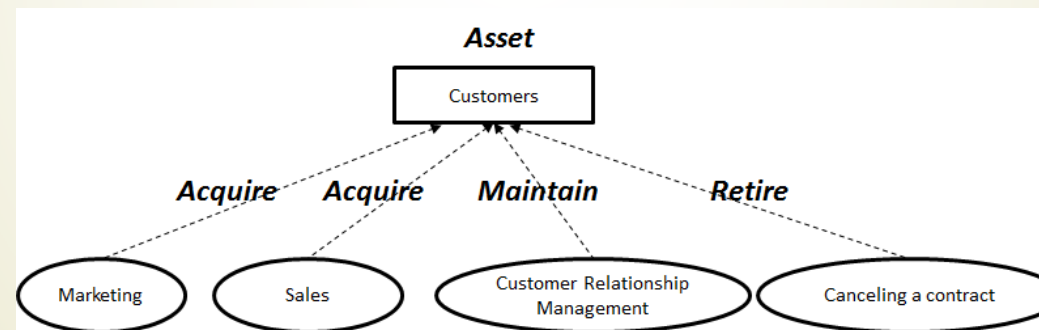
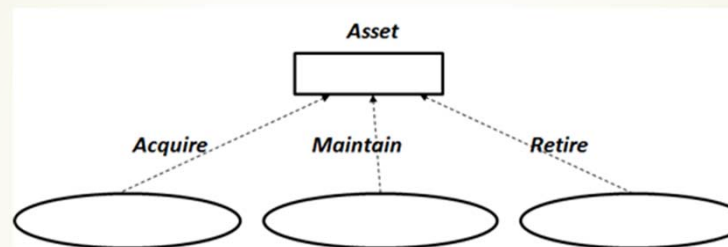
Archetypes



Archetypes - Instantiation



Archetypes - Instantiation



Links

-The presentation of the CAiSE 2018 tutorial:

<https://people.dsv.su.se/~perjons/FEM/>

- Example of Business Model Innovation from the CAiSE 2018 tutorial:

<http://bit.ly/2qakWJR> or use this link:

<https://insightmaker.com/insight/67969/Debating-Businesss-Model-Transformation-an-Example> (Press "View story" in the left bottom corner and use Step forward in the right bottom corner)

- A short paper that takes this example:

<http://ceur-ws.org/Vol-1859/bpmds-02-paper.pdf>

- Erik's slides when presenting the above paper at a research conference. A YouTube recording is included

<https://www.slideshare.net/ilia12/using-a-fractal-enterprise-model-for-business-model-innovation>

- Research paper with detailed information, but might be too heavy to read:

<https://link.springer.com/article/10.1007/s10270-016-0554-9>

- One more example of a FEM model, from the paper above, related to teaching& learning

<https://insightmaker.com/insight/19994/Teaching-Learning>

Contact

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