

Table 1. Rules for detecting structural couplings

#	Rule	Name, sources and examples
1	<p><i>If in a FEM of an organization:</i></p> <p>1. there is an essential process, which is not easy to remove, and this process has an essential asset with high rate of depletion, which needs to be constantly filled, and which is not possible or not easy to remove or substitute, and an <i>Acquire</i> process for this asset is connected to an external pool from which it is getting new elements to fill the asset</p> <p><i>then the organization is structurally coupled to the pool or/and to agents connected to this pool</i></p>	Inbound pool coupling [13], Section 4.1
2	<p><i>If in a FEM of an organization there is a process that constantly adds elements to an external pool then the organization could be structurally coupled to external agents that draw from this pool, and also to the external agents that add to the pool.</i></p>	Outbound pool coupling [13], Section 4.2
3	<p><i>If the major activities in an essential for the organization process happens in a geographical location and cannot be moved to another location without substantial disturbance of the organization functioning, then the organization is structurally coupled with this geographical location.</i></p>	Section 4.3
4	<p><i>If in a FEM of an organization there is an EXT asset that is created by a third party, and the organization need to produce reports back to this party related to this asset, or/and can expect an inspection to check the compliance of respective processes to this asset, then the organization could be structurally coupled to the third party from which the asset originated</i></p>	Regulator/Management, Section 4.4
5	<p><i>If in a FEM of an organization:</i></p> <p>1. there is an essential asset, which is impossible or difficult to substitute for some other (e.g. similar) asset, and one or several processes that are used to manage this asset, i.e. <i>Acquire, Maintain</i> or <i>Retire</i>, have a <i>Partner</i> asset that is difficult or impossible to remove or substitute,</p> <p><i>then the organization is structurally coupled to the Partner asset</i></p>	Essential partner, [13]
6	<p><i>If in a FEM of an organization:</i></p> <p>2. there is a beneficiary asset in a main process that also plays a partner role for <i>acquire</i> process for a <i>stock</i> asset that initiate instances of the main process (e.g. a stock of manufacturing orders) and the beneficiary asset consist of one or very few elements, but as a partner contribute to the major part of the initiating stock</p> <p><i>then the organization is structurally coupled to the beneficiary asset</i></p>	Essential customer, new rule based on [4], a good example is presented in [30]. Added here to cover all types of structural couplings listed in [4]

Table 2. Types of structural couplings and respective identity management

FEM Diagnostic	Structural coupling variants	Explanation	Potential strategy for managing the coupling	Reaction/ influence type
1. Inbound pool from which entities to refill an asset are drawn	Pool itself (market)	Buyers (e.g. potential customers) in the marketplace	Appropriate explicit or implicit (e.g. via other structural coupling) value proposition and providing products and services accordingly	Adjust product/services to demand. Influence buyers to change the focus of their demands towards innovative product and services
		Sellers (Potential employees or vendors) in the marketplace		
	Competitors (drawing from the pool)	In case of hard competition and lack of established niche occupied by the organization	Differentiation, or be as good as your competitors	Maintain differentiation or follow the leader, or influence others to follow you.
	Providers (adding to the pool)	If there is a distinct group of providers that could be monitored and/or influenced	Early discovery of trends in what providers adds or are willing to add to the pool	Adjust to the trends and/or influence providers to add elements that are most suitable for you
2. Outbound pool to which the company adds elements and which can be overflowed	Organizations drawing from the pool	Buyers in the market if pool is a market	Early discovery of changes in demands, finding ways of influencing the demand	Adjust to trends and needs of the buyers, influence their demand
		Cleaners if the pool is waste	Early discovery of changes in technology, finding ways of influencing the cleaner to clean the waste	Adjust to trends and needs of the cleaners, make it easier for them to clean
3. Essential asset bounded to location	Geographical region	Infrastructure, workforce, or something else is rely on being in the region	Looking for trends that may make the coupling dangerous for the organization	Try to decouple in time if there is a danger
4. External producer of essential/ mandatory EXT assets	Upper management	An upper management if the organization is part of a bigger one	Fulfill the obligations, negotiate resources, be ready for (surprise) inspections	Negotiate, adjust itself to the demand
	Regulator	A body that can force certain regulations, but do not provide resources	Complying with existing regulation, influencing changes, be prepared for (surprise inspections)	Complying with regulations, lobbying for changes
5. Partner in one or more processes responsible for managing an essential asset	Partner	An organization that managers an essential/critical asset	Influencing the partner to adapt the asset to better suit the needs of the organization	Discuss and argue for changes
6. Beneficiary of a main process + a partner managing initiation of the process instances	Customer	One or several essential customers on which existence of a main process depends	Discovering the changes in customers' needs, influencing changes in customers demand	Changing products and services, educating the customer