

This supplement relates to section 4.1.3, more particularly to the categories of Institutional Environments as presented in Figure 1:

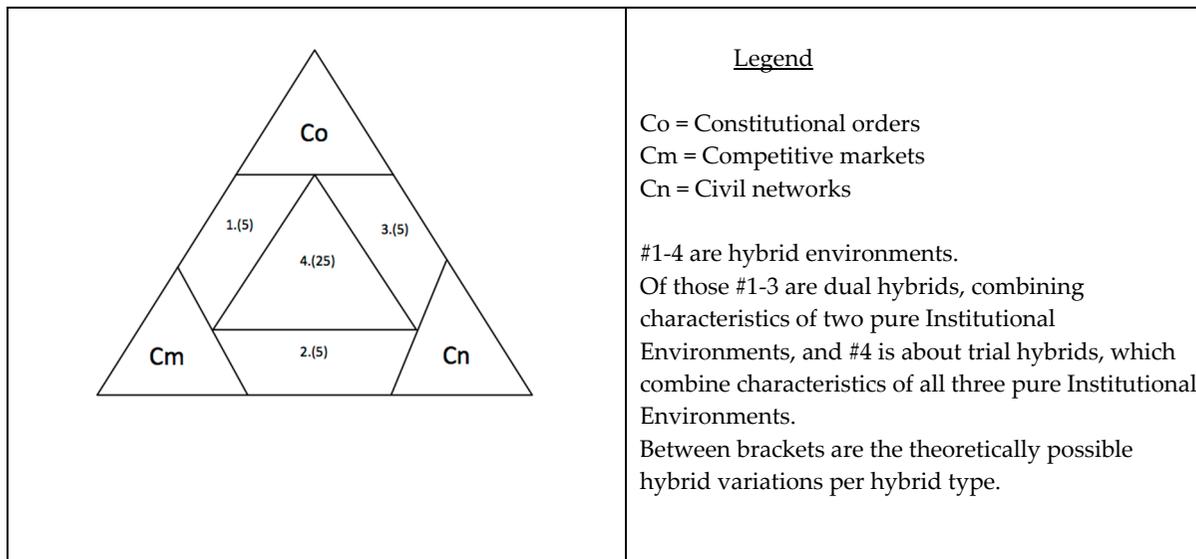


Figure 1: Governance Triangle (with pure and hybrid governance modes of Institutional Environments)

The nexus that defines each environment consists of two characteristics, a key relationship type and a key interest type, each with three possible modalities (relationships order, exchange, cooperation; public, private, and community interests). In all there are 49 theoretically possible combinations. In the below these are systematized, firstly, by distinguishing (under **A.**) 9 groups on the basis of permutations with increasing complexity and, secondly, by distinguishing (under **B.**) 5 groups on the basis of permutations following the above pictured fields within the governance triangle (excluding 6 pure forms that were not discussed in the article). The overviews show the variations (in nexus

composition) within all groups. Both overviews will have their own numbering of 49 and of 43 (excluding the 6 pure forms) variations, but will also have references to the same variations in the other overview.

*For a quick impression of the positioning of type/nexus variations, please fast forward to the triangle graph at the end of this supplement.*

### **A. Overview of permutations by increasing complexity (9 groups)**

The overall grouping upon increasing complexity reads as follows.

Groups (9 in all)	Quantity (49 in all)	Type environment (pure or hybrid)	Nexus composition		Characterization (interest-relation)
			No. of interest types	No of relationship type	
1*	9 (1-9)	pure	1	1	single-single
2	9 (10-18)	hybrid	1	2	single-double
3	3 (19-21)	hybrid	1	3	single-triple
4	9 (22-30)	hybrid	2	1	double-single
5	9 (31-39)	hybrid	2	2	double-double
6	3 (40-42)	hybrid	2	3	double-triple
7	3 (43-45)	hybrid	3	1	triple-single
8	3 (46-48)	hybrid	3	2	triple-double
9	1 (49)	hybrid	3	3	triple-triple

\* Of this group of pure environments we discussed only three: Constitutional orders, Competitive markets, Civil networks (nos. 1, 5 and 9)

In the below we show all variations within each group (nos. behind the nexus refer to the 'triangle numbers').

x. Interest type(s) – Relationship type(s)
Code between brackets refers to place in the governance triangle of the next overview.

<b>[1] Pure nexus – single interest, single relationship type (9)</b>		
1. Public - Hierarchy (i.e. Constitutional order) (A1)	4. Private - Hierarchy	7. Network - Hierarchy
2. Public - Exchange	5. Private – Exchange (i.e. Competitive market) (A2)	8. Network - Exchange
3. Public - Cooperate	6. Private - Cooperate	9. Network – Cooperate (i.e. Civil network) (A3)

<b>[2] Hybrid nexus – single interest, double relationship types (9)</b>
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10. Public - Hierarchy/exchange (B1)	13. Private - Hierarchy/exchange (B5)	16. Network - Hierarchy/exchange (E6)
11. Public - Exchange/cooperate (E4)	14. Private - Exchange/cooperate (C1)	17. Network - Exchange/cooperate (C5)
12. Public - Cooperate/hierarchy (D5)	15. Private - Cooperate/hierarchy (E5)	18. Network - Cooperate/hierarchy (D1)

<b>[3] Hybrid nexus – single interest, triple relationship types (3)</b>
19. Public - Hierarchy/exchange/cooperate (E1)
20. Private - Hierarchy/exchange/cooperate (E2)
21. Network – Hierarchy/exchange/cooperate (E3)

<b>[4] Hybrid nexus – double interest, single relationship type (9)</b>		
22. Public/private – Hierarchy (B2)	25. Public/private – Exchange (B4)	28. Public/private – Cooperate (E18)
23. Private/network – Hierarchy (E17)	26. Private/network – Exchange (C2)	29. Private/network – Cooperate (C4)
24. Network/public – Hierarchy (D4)	27. Network/public – Exchange (E16)	30. Network/public – Cooperate (D2)

<b>[5] Hybrid nexus – double interest, double relationship types (9)</b>		
31. Public/Private – Hierarchy/exchange (B3)	34. Private/network – Hierarchy/exchange (E12)	37. Network/public – Hierarchy/exchange (E15)
32. Public/Private – Exchange/cooperate (E11)	35. Private/network – Exchange/cooperate (C3)	38. Network/public – Exchange/cooperate (E14)
33. Public/Private – Cooperate/hierarchy (E10)	36. Private/network – Cooperate/hierarchy (E13)	39. Network/public – Cooperate/hierarchy (D3)

<b>[6] Hybrid nexus – double interest, triple relationship types (3)</b>
40. Public/private - Hierarchy/exchange/cooperate (E7)
41. Private/network - Hierarchy/exchange/cooperate (E8)
42. Network/public – Hierarchy/exchange/cooperate (E9)

<b>[7] Hybrid nexus – triple interest, single relationship type (3)</b>
43. Public/private/network – Hierarchy (E19)
44. Public/private/network – Exchange (E20)
45. Public/private/network – Cooperate (E21)

<b>[8] Hybrid nexus – triple interest, double relationship type (3)</b>
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46. Public/private/network – Hierarchy/exchange (E22)
47. Public/private/network – Exchange/cooperate (E23)
48. Public/private/network – Cooperate/hierarchy (E24)

<b>[9] Hybrid nexus – triple interest, triple relationship types</b>
49. Public/private/network – hierarchy/exchange/cooperation (E25)

### **B. Overview of permutations by fields within the governance triangle (5 groups)**

In the below the types of pure and hybrid Institutional Environments are placed in the context of the governance triangle, as presented at the top of this document, with a similar but elaborated triangle overview in the below. As said, this overview only holds three types of pure environments, the ones discussed in the article, and the hybrids between them: dual hybrids between two pure environments and trial hybrids between all pure environments. In all there are 15 dual hybrids (between two times two pure environments) and 25 trial hybrids (between all three pure environments). As said in the above, because we exclude 6 pure environments, we thus find only a variation of 43. At the end of this overview there is a governance triangle that shows all 43 variations by place in that triangle.

The overall grouping reads as follows (nos. behind the nexus refer to the ‘triangle numbers’).

Groups (5 in all)	Quantity (40 in all)	Type environment (nos. as in above)	Nexus composition	
			Interest types	Relationship types
A	3 (A1-3)	Pure (1, 5, 9)	Public or private or network	Hierarchy or exchange or cooperation
B	5 (B1-5)	Dual hybrid (10, 22, 31, 25, 13)	Public and/or private	Hierarchy and/or exchange
C	5 (C1-5)	Dual hybrid (14, 26, 35, 29, 17)	Private and/or network	Exchange and/or cooperation
D	5 (D1-5)	Dual hybrid (18,30, 39, 24, 12)	Network and/or public	Cooperation and/or hierarchy
E	25 (E1-25)	Trial hybrid (*)	Public and private and network	Hierarchy and exchange and cooperation
* (11, 15, 16, 19, 20, 21, 23, 27, 28, 32, 33, 34, 36, 37, 38,40, 41, 42, 43, 44, 45,46, 47, 48, 49)				

x. Interest type(s) – Relationship type(s)
Number between brackets refers to place in the earlier / above systematic overview.

<b>[A] Pure nexus (3 types)</b>
A1. Public – Hierarchy (Constitutional order – Co) (1)
A2. Private – Exchange (Competitive market – Cm) (5)
A3. Network – Cooperate (Civil network – Cn) (9)

<b>[B] Hybrid dual nexus – Co-Cm (5 types)</b>
B1. Public – Hierarchy/exchange (10)
B2. Public/private – Hierarchy (22)
B3. Public/private – Hierarchy/exchange (31)
B4. Public/private – Exchange (25)
B5. Private – Hierarchy/exchange (13)

<b>[C] Hybrid dual nexus – Cm-Cn (5 types)</b>
C1. Private – Exchange/cooperate (14)
C2. Private/network – Exchange (26)
C3. Private/network – Exchange/cooperate (35)
C4. Private/network – cooperate (29)
C5. Network – Exchange/cooperate (17)

<b>[D] Hybrid dual nexus – Cn-Co (5 types)</b>
D1. Network – Cooperate/hierarchy (18)
D2. Network/public – Cooperate (30)
D3. Network/public – Cooperate/hierarchy (39)
D4. Network/public – Hierarchy (24)
D5. Public – Cooperate/hierarchy (12)

<b>[E] Hybrid trial nexus – Cn-Co-Cn (25 types)</b>		
<b>[E-I] Single-Triple (3)</b>	<b>[E-II] Single-Double (3)</b>	<b>[E-III] Double-Triple (3)</b>
E1. Public – Exchange/cooperate/hierarchy (19)	E4. Public – Exchange/cooperate (11)	E7. Public/private – Hierarchy/exchange/cooperate (40)
E2. Private –Cooperate/hierarchy/exchange (20)	E5. Private –Cooperate/hierarchy (15)	E8. Private/network – Hierarchy/exchange/cooperate (41)
E3. Network – Exchange/hierarchy/cooperate (21)	E6. Network – Exchange/hierarchy (16)	E9. Network/public – Hierarchy/exchange/cooperate (42)
<b>[E-IV] Double-Double (6)</b>		

E10. Public/private – Hierarchy/cooperate (33)	
E11. Public/private – Exchange/cooperate (32)	
E12. Private/network – Exchange/hierarchy (34)	
E13. Private/network – Hierarchy/cooperate (36)	
E14. Network/public – Exchange/cooperate (38)	
E15. Network/public – Hierarchy/exchange (37)	
<b>[E-V] Double-Single</b>	<b>[E-VI] Triple-Single</b>
E16. Public/network - exchange (27)	E19. Public/private/network – hierarchy (43)
E17. Private/network – hierarchy (23)	E20. Public/network/private - exchange (44)
E18. Public/private - cooperate (28)	E21. Public/private/network - cooperate (45)
<b>[E-VII] Triple-Double</b>	<b>[E-VIII] Triple-Triple</b>
E22. Public/private/network – Hierarchy/exchange (46)	E25. Public/private/network – Hierarchy/exchange/cooperate (49)
E23. Public/private/network – Exchange/cooperate (47)	
E24. Public/private/network – Cooperate/hierarchy (48)	

This grouping (A-E), also pictured in the below triangle graph, assumes for hybrids:

- that there is no dominance of one interest over the other (if there are two or more interests involved) or of one type of relationship over the other (ditto for relationships). Should this assumption be wrongful in a specific case or context then a more nuanced (hence more elaborate grouping will be needed, whereby 2<sup>nd</sup> or 3<sup>rd</sup> interests or relationships would only apply by exception, or as long as not inconsistent with 1<sup>st</sup> or 2<sup>nd</sup> interest or relationship). For the purpose of this supplement/article this elaboration would be too detailed.
- that key interest types are slightly more relevant than relationship types, so in grouping the sequence was organized accordingly, as shows particularly in how the varieties are placed between the pure angular points of the triangle in the below. Again, this is something that may or may not make sense in a given case or context, and if not then the positioning should be changed.

The below triangle presents all variations of overview B, placed in the governance triangle, in accordance with the immediately above.

