Supporting social complexity in collaborative enterprises: a third agenda?

UNICOM EA Forum

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September 2011

The need for enterprises to capture new forms of indirect value in ecosystems, and the demand this creates for platform architectures that can support customers within these contexts.

So what is different about the third agenda?

What does this mean for architectural agendas?

What made this case of the third type?

Supporting social complexity

THE THIRD AGENDA

Contrasting Architectural Agendas

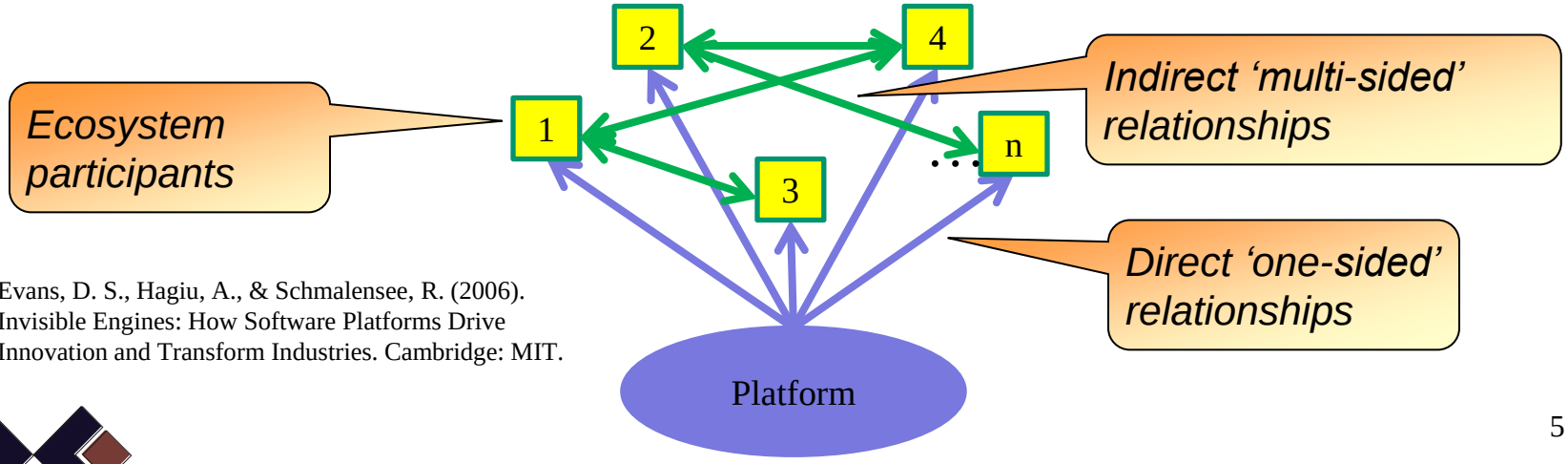
- Simplify and Unify
  - Aligning the systems with the business
- Differentiate and Integrate
  - Managing the complexity of supporting multiple businesses
- A third agenda?
  - Indirect demands, collaborative alliances within ecosystems, platforms supporting multi-sided markets
  - How do we establish an ROI for a query engine?

These present system-of-systems (SoS) agendas

Multi-sided markets:

counting the value of indirect customers

- A multi-sided market supported by a platform is one in which:
  - There is direct value in the platform's direct 'one-sided' relationships with each participant (e.g. direct support to a hotline responding to a citizen's query)
  - The customers of collaborations between ecosystem participants are indirect customers (e.g. support to a collaboration between departments responding to a citizen's query)
  - There is <u>greater</u> value in the indirect 'multi-sided' relationships the platform supports between collaborating ecosystem participants



Evans, D. S., Hagiu, A., & Schmalensee, R. (2006). Invisible Engines: How Software Platforms Drive Innovation and Transform Industries. Cambridge: MIT.

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The value is in supporting the collaborations

	iPhone	Unmanned Airborne Systems (UAS)	Orthotics	e-Government
Supplier	Apple	Thales	Orthotics supplier	IT Department
Platform	iPhone+Cloud	UAS	Orthotics clinic	Query engine
Direct Customer	Service Provider*	Royal Artillery*	Clinician*/**	Query Hotline*/**
Collaboration supported by Platform	Between users and their apps	Between operational capabilities	Between clinicians' episodes of care	Between Departments and external Agencies
Indirect Customer	Phone user**	Mission commander**	Patient	Citizen
Indirect Customer Situation	Arranging a blind date	Interdicting a fleeting target	Managing a patient's chronic diabetic condition	Citizen's Question

* - takes up role on the Platform

** - leads the collaboration supported by Platform

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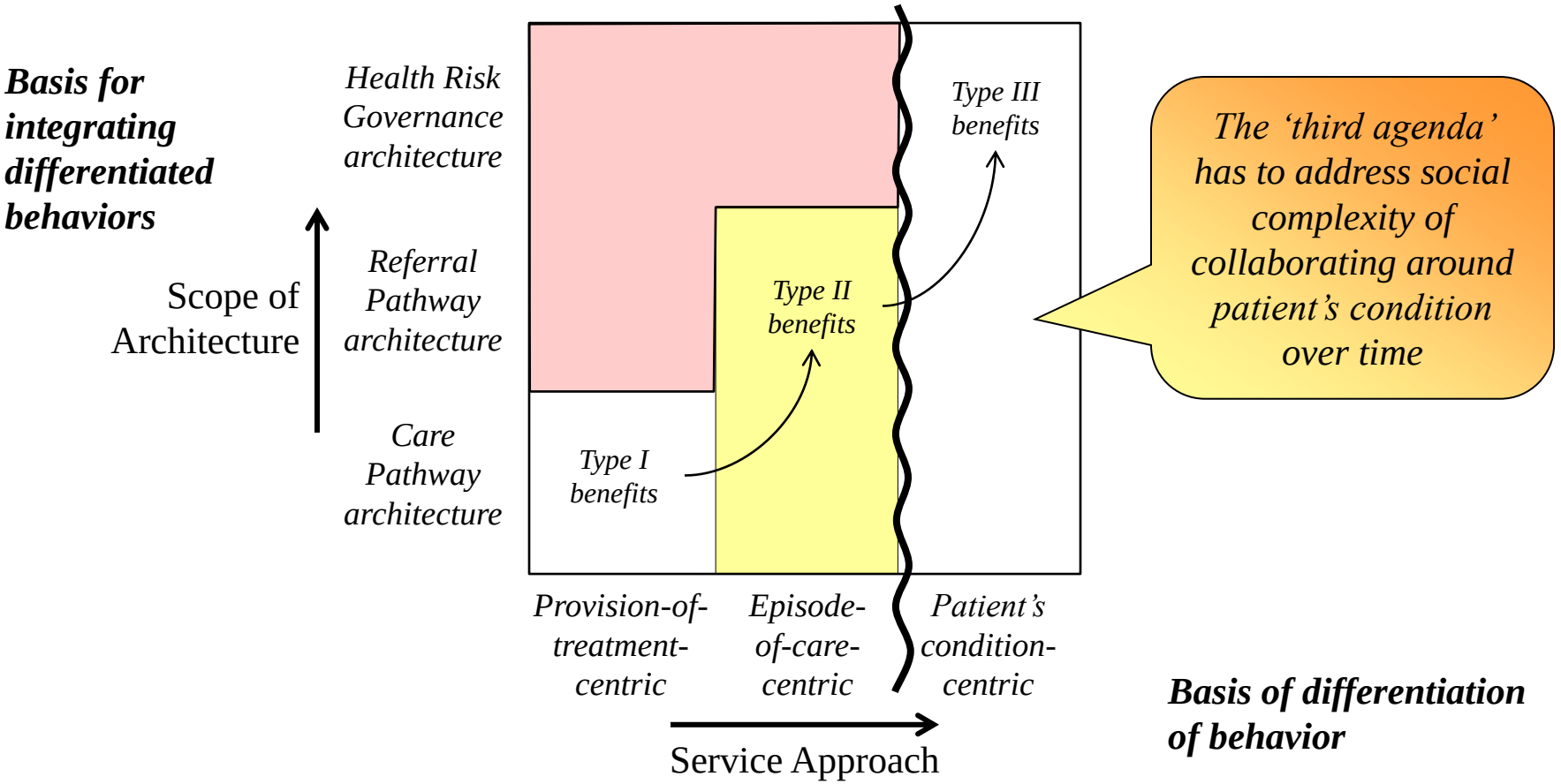
SO WHAT IS DIFFERENT ABOUT THIS THIRD AGENDA?

Healthcare:

addressing the patient's experience of their condition



Type I - defining current demand for treatments and aligning delivery of product/service protocols.
Type II - organising referral protocols and relationships between clinics to improve delivered episodes of care.
Type III - extending the organisation of the clinical service to include through-life management of patients' chronic conditions.

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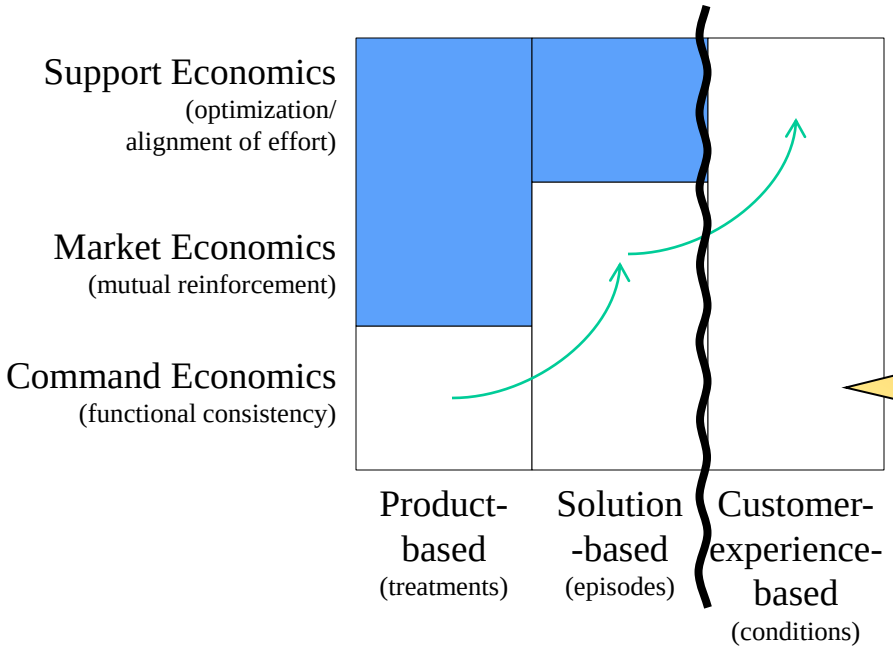
Supporting the indirect customer's experience

Basis of value-creation enabled by architecture



The 'third agenda' has to address social complexity of collaborating around customer's experience over time

Basis of response to demand

Adapted from Zuboff, S., & Maxmin, J. (2002). *The Support Economy: Why Corporations are Failing Individuals and the Next Episode of Capitalism.* New York: Viking; "What is strategy?" by Michael Porter. Harvard Business Review Nov-Dec 1996. in Porter, M.E. (1998) On Competition, Harvard Business School Press pp 39-73; Prahalad, C. K. & Ramaswamy, Venkatram. "The New Frontier of Experience Innovation." *MITSloan Management Review 44*, 4 (Summer 2003): 12−18.

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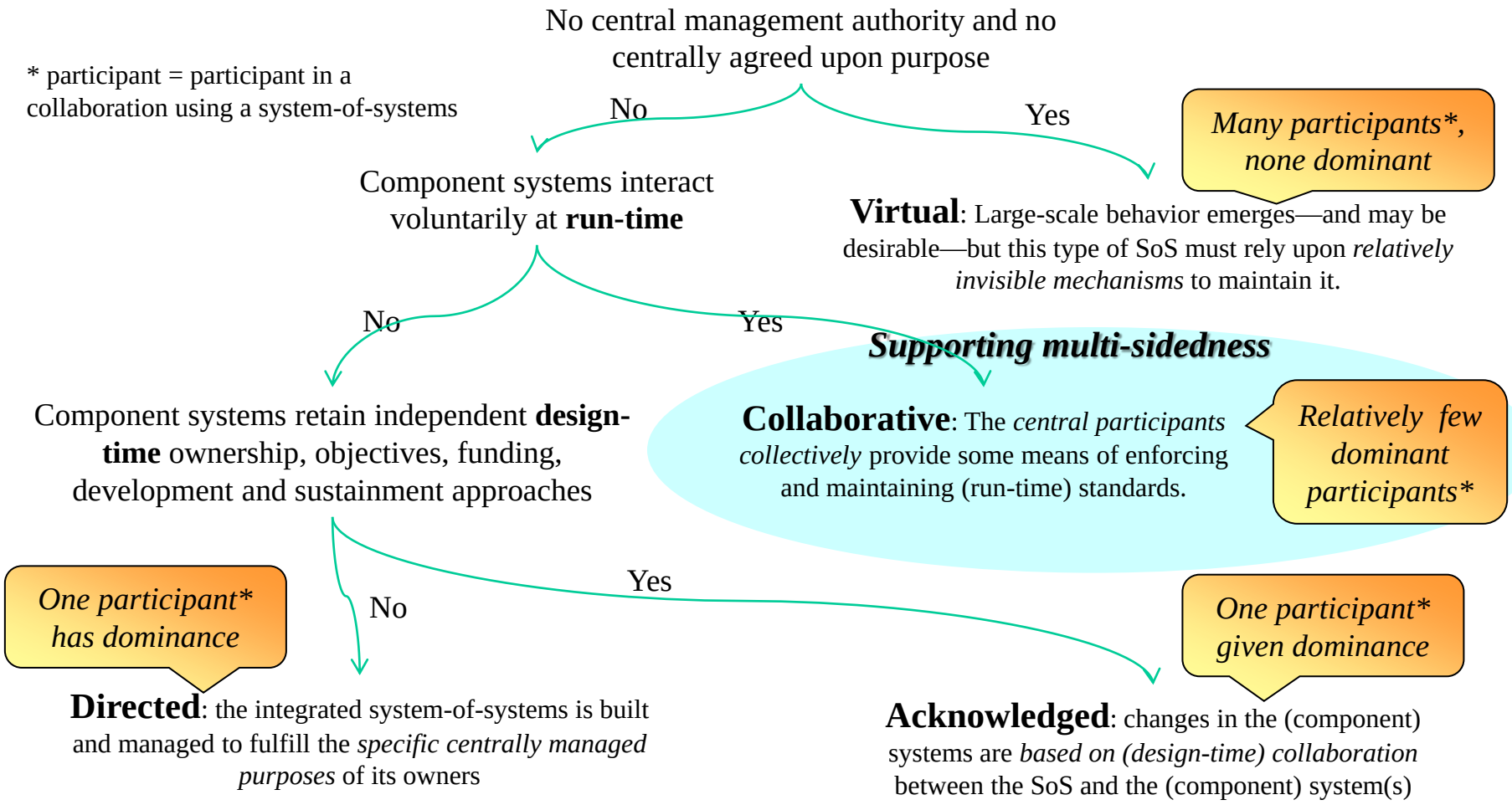
Quantifying indirect value:
reducing the indirect customer's costs of alignment

- Examined the potential savings from improving eGovernment responses to requests for information from its citizens and businesses.
  - Using a platform architecture designed to support the variability in the nature of the requests,
  - produced an estimated 80% saving,
  - with 50% of this saving coming from a reduction in the variation in the costs of collaboration between departments across the anticipated variety of requests
- Examined the economics of responding to demands in theatre for the interdiction of fleeting targets using Unmanned Airborne Systems.
  - Changing the role of the UAS to one of providing a platform architecture supporting the interoperation of other assets in theatre,
  - resulted in a 40% total saving on the operational costs,
  - with 30% of this saving coming from a reduction in the variation in the operational costs of missions across the anticipated variety of mission types.

WHAT DOES THIS MEAN FOR ARCHITECTURAL AGENDAS?

Four kinds of SoS Agenda

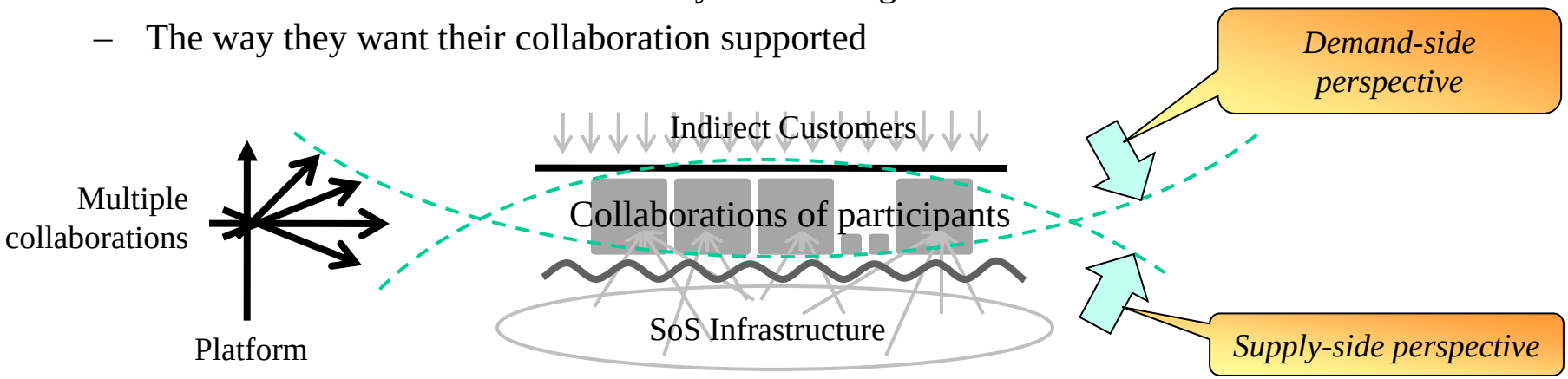


Source of definitions: Systems Engineering Guide for Systems of Systems, OSD, Version 1.0 August 2008. Brackets added.

Collaborative SoS Agendas:

SoS infrastructure supporting multiple collaborations

- The participants in any one collaboration can be spread across multiple businesses and/or different parts of a single business
- The participants participating in any one collaboration will define
  - Their value proposition
  - The indirect customers for whom they are creating value
  - The way they want their collaboration supported



- This means understanding the role of the platform from a demand-side perspective

For example:

The treatment of chronic conditions

Supported by Systems of Record

Supported by Systems of Engagement

		Acute Care (directed)	Primary Care (acknowledged)	Chronic Care (collaborative)
Periodic analysis of costs aggregated by treatment	Patient Treatments	HRGs aggregated across patients for different kinds of condition	Primary care costs aggregated across patient numbers adjusted demographically	Data used
	Multiple service episode	Role of support services subordinated to requirements of acute role as overheads	PCT has to provide a range of services that can be combined as appropriate in response to the patient	Data used
Analysis of through-life costs of treatment	Episode series	Not relevant	Repeat episodes are not tracked	Characteristics of the episode series becomes a fundamental determinant of total cost of treatment

USA data from: *Crossing the Quality Chasm*, National Academy Press 2003:

- Chronic conditions, defined as illnesses that **last longer than 3 months and are not self-limiting**, are now the leading cause of illness, disability, and death in the USA, and affect almost half of the U.S. population.
- About **1 in 6** Americans is limited in daily activities in some way as a result of a chronic condition.
- Disabling chronic conditions affect all age groups; about **two-thirds** of those with such conditions are under age 65.
- The **majority** of health care resources are now devoted to the treatment of chronic disease.
- In 1990, the direct medical costs for persons with chronic conditions was nearly **70 percent** of all personal health care expenditures.

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SO WHAT MADE THIS CASE OF THE THIRD TYPE?

Through-life care is a socially complex process…

Referrals come from many different sources:

- Self-referral - from patient to wherever
- 1ary referral - from GP to consultant or to orthotist (a direct referral)
- 2ary referral - from consultant or PAM (under authority of consultant) to orthotist
- 3ary referral - from PAM (treated as 2ary if under authority of consultant)

Clinical responsibility is located in different places:

- GP episode - intervention under the control of a GP
- Consultant episode - intervention under the control of a consultant
- PAM episode - intervention under the control of an other PAM

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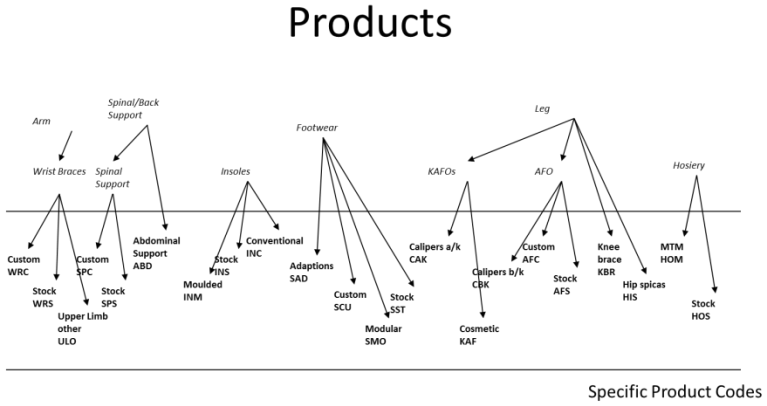
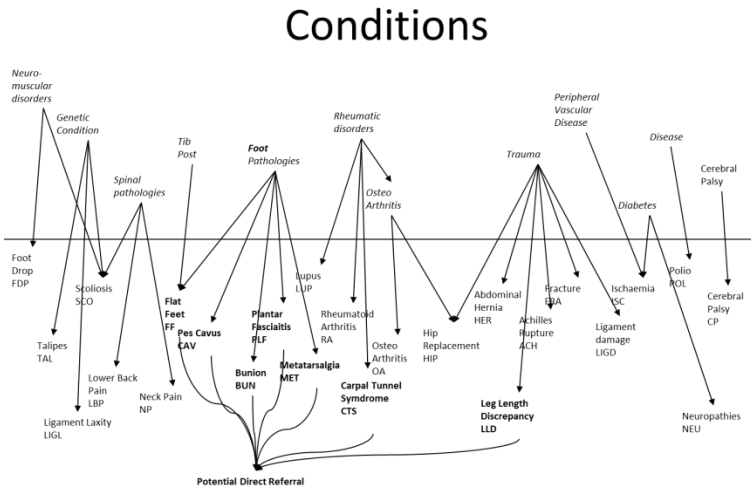
… with each clinic having its own way of collaborating…

- Each clinic will set its own Key Performance Indicators
  - involving the development of protocols to build learning into the way it is managed
  - in a different PCT catchment context,
  - with a different mix of resources available to it,
  - developing its own particular mix of protocols through which to manage





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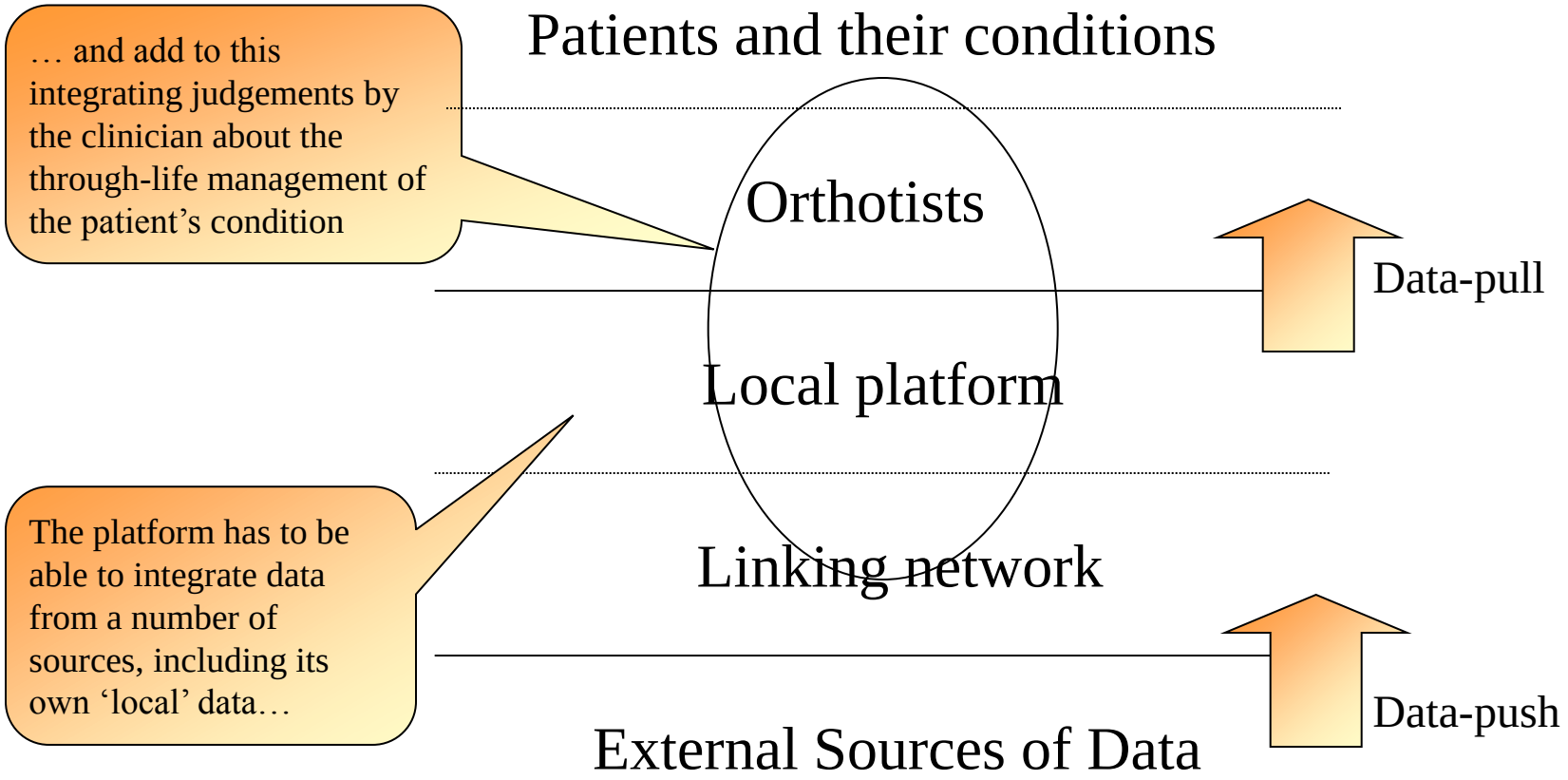
… needing its own supporting platform

combining data-push and data-pull models



SUPPORTING SOCIAL COMPLEXITY

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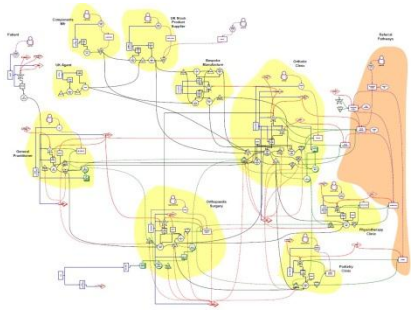
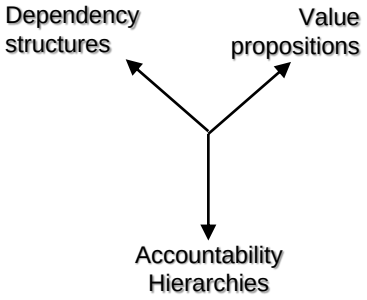
The tools for analyzing gaps in alignment

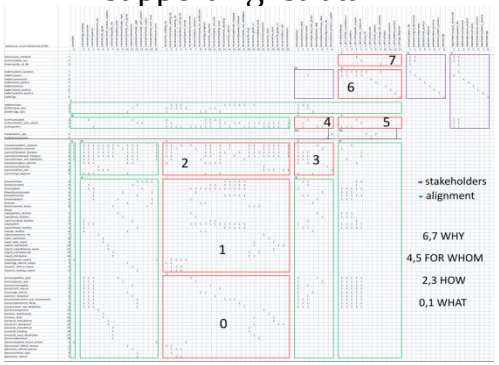
Modeling Socio-technical ecosystem in relation to Indirect Demands



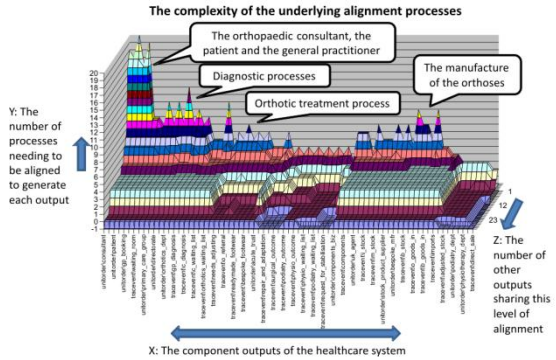
Distinguishing three different kinds of path



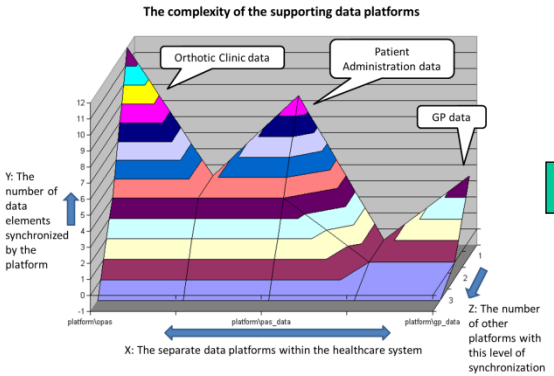
Analysing Granularity of supporting strata



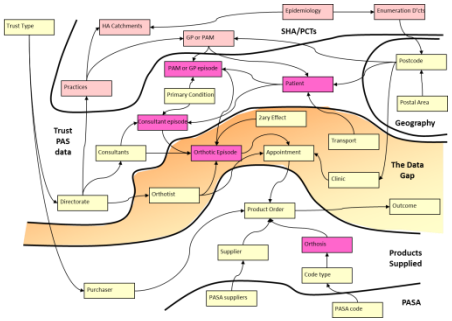
Analysing alignment of strata



Identifying Gaps between the existing social processes



Designing a Platform Architecture



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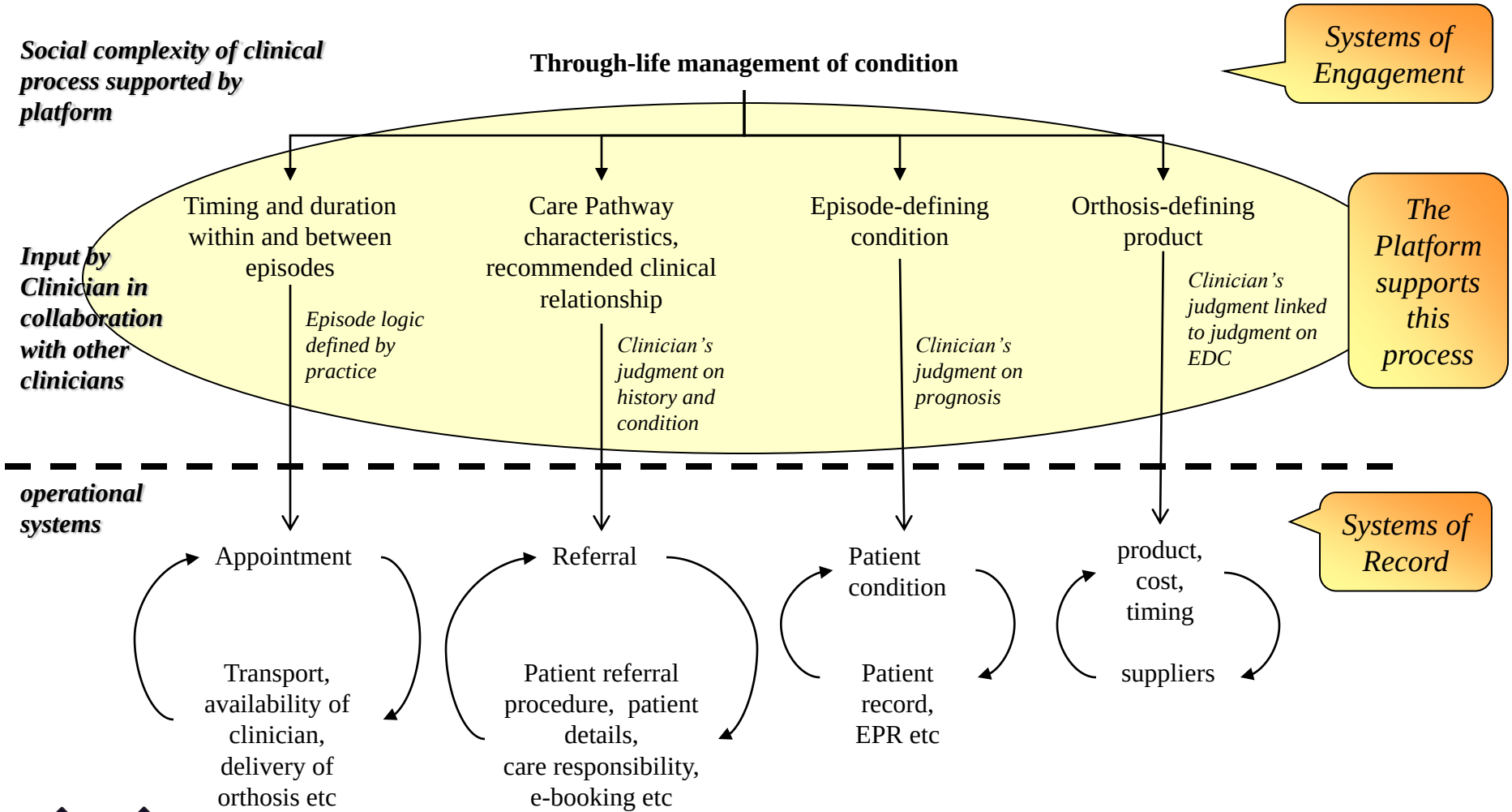
Designing support for the clinic:

separating systems of engagement from systems of record



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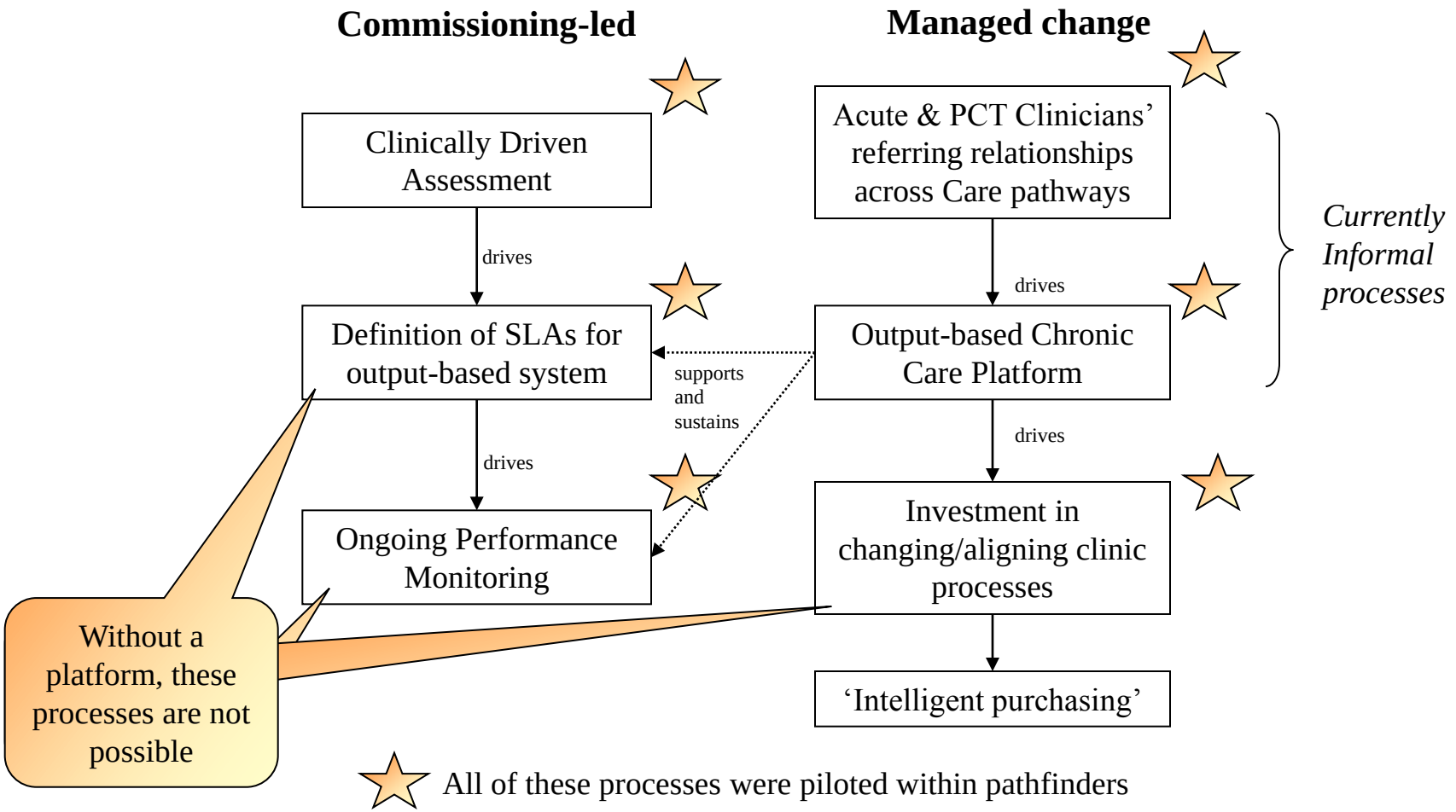
Implementing commissioning-led change



What is different about the third agenda?

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CONCLUSION

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The value is in supporting the ecosystem

- I have shown something of the need for enterprises to be able to capture new forms of indirect value in ecosystems
  - This creates demand for platform architectures that can support the multi-sided demands of customers within these contexts.
- The point, of course, is that the architecture of the enterprise is no longer primary, the primary concern becoming to support the architecture of the collaborations.
  - This involves understanding the variety of ways in which the social complexity of collaborations create value…
  - … and therefore how the platform architecture can itself capture indirect value.

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