

Creating value in ecosystems: establishing a 3-level approach to strategy

A socio-technical ecosystem is a community of managerially and operationally independent organizations interacting with each other and with their environment. For example, an orthotics clinic operates independently within the context of a healthcare ecosystem composed of primary and secondary care organizations supported by a whole menagerie of suppliers. The complex network of relationships within these ecosystems differ from the traditional “closed-world” relationships between a single enterprise and its markets, in which the markets have attributed to them an existence independent of the contexts giving rise to them. This “closed-world” view based on the single enterprise is characteristic of the early work on socio-technical systems [1], in which the sustainability of the enterprise’s identity is dependent on its engaging in its primary task, defined in terms of its relationship to this market environment.

But defining this relationship becomes increasingly difficult as the turbulence of its environment increases [2]. Thus from a distance, it looks as if the orthotics clinic is delivering orthoses into a market for orthotic treatments. And for the routine supply of the plasters demanded by orthopedic practice this may be an adequate simplifying assumption. But many of the patients of the clinic will need treatments that are unique to their condition as it unfolds within the context of their lives. The turbulence that this variation in demands creates for the clinic is characteristic of ecosystems, in which the variety of demands arise from the large numbers of managerially and operationally independent entities within them that are constantly evolving, have no centralized control, themselves have many heterogeneous elements, and which give rise to demands that are inherently conflicting and unknowable [3].

A number of key drivers impact on the ability of an enterprise to sustain its identity within an ecosystem, challenging the former “closed-world” perspective. Amongst these drivers are the tempo at which the ecosystems are themselves expected to evolve, the ubiquity and criticality of the technologies on which they depend, and the entanglement not only between technology systems and the way they are used by people, but also between interoperating technology systems that are themselves managerially and operationally independent of each other [4]. It is this tempo of change that makes the enterprise experience its environment as turbulent.

This paper will argue that in order for an enterprise to sustain its identity within the dynamic environments created by such socio-technical ecosystems, it needs to change the way it understands how it creates value, in order to include its role within the larger ecosystem. In the case of our clinic, becoming more efficient and cost effective in the delivery of treatments is a necessary but not sufficient condition. The clinic also has to be able to delivery over time exactly those changes in treatment that a patient’s condition warrants. This involves going beyond the direct value created in engaging in its primary task of delivering treatments, and giving consideration to the indirect value its behaviors support within the larger ecosystem, in this case through its impact on the quality of the patient’s life.

Asymmetric Advantage

The conventional approach to creating sustainable identity is in terms of creating competitive advantage. The orthotics clinic is competing with other forms of treatment provided by other clinical specialisms, and to survive must secure funding from its services. Following Porter [5],

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competitive advantage is based on owning something that others want, i.e. on establishing property rights, and in these terms it is possible to describe the competitive advantage of the clinic as the intrinsic value of the knowledge its clinicians practice. But new kinds of competitive advantage emerge within the dynamic environment of ecosystems, based on disrupting and displacing others' competitive advantage [6]. In these terms, the value of the clinic is its ability to displace others' treatments with its own more effective and/or more economic treatments.

These more dynamic forms of advantage are based on creating asymmetries of know-how. Asymmetric advantage is based on knowing something that competitors don't know that creates value for customers, and three kinds of asymmetric advantage can be distinguished in terms of three different types of knowledge [7]:

1. Know-how of the uses of technology by socio-technical *product* systems, in which the relationship to the customer is defined in terms of the ability to manage a primary task [1]. For example, the clinician knows how to make orthoses.
2. Know-how of the customization of business processes to deliver particular types of *solution* to customers, in which the relationship to the customer is defined in terms of the ability to manage primary risk on behalf of the customer in selecting the right combination of tasks and solutions [8]. For example, the clinician knows how to customize the use of particular orthoses to the needs of a particular treatment.
3. Know-how of the way products and services can be aligned to the customer's *experience* over time, embedded within the particular customer's context-of-use. This third kind of asymmetric advantage depends on understanding the customer's particular way of organizing demand [9]. For example, the clinician knows how to manage the patient's condition through its life with that of the patient.

A different kind of approach to defining value, i.e. economics, goes with each of these:

1. Superior know-how about the uses of technology generate economies of scale – the ability to produce products and services at less cost than competitors;
2. Superior know-how about customization of business processes generates economies of scope – the ability to deliver solutions into different markets at less cost than competitors; and
3. Superior know-how about embedding and sustaining solutions that remain dynamically aligned over time to the customer context-of-use generates economies of alignment for the customer – it costs the customer less to orchestrate and synchronize the way solutions are delivered that remain appropriate through the life of their evolving needs.

Despite continuing appeals for improved quality of service [10], a project examining the quality of care provided by UK National Health Service Orthotic Clinics showed how existing approaches to these clinics emphasized the first two of these forms of advantage while ignoring the third, leading to the systematic underuse of such treatments in chronic conditions [11]. And despite having identified significantly greater through-life costs for both the patients and the NHS arising from this under-use, the identities of the clinics remained unchanged as a result of the way other entities within the larger ecosystem in which they were embedded conserved their identities [12].

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Asymmetric Demand and the Value Deficit

These forms of competitive advantage are not mutually exclusive. However, the difficulties in taking up the third type of competitive advantage derives from the different relationship to demand it involves. Thus for generating economies of scale and scope, the supplier is only interested in those aspects of the customer's demand that can be abstracted and generalized across different contexts-of-use, since this is how the supplier defines its market. It can then treat the customer's demand as symmetric with its supply-side capabilities, and define its *positional* strategy as one of extracting maximum value from its existing supply-side position, the defensibility of which depends on its being able to maintain its first and second asymmetries with its competitors. This the orthotic clinics were doing.

With the third asymmetry, however, the supplier is interested in those aspects of the customer's demand that are particular to their context-of-use over time, and thus cannot be abstracted and generalized. The supplier must therefore expect the customer's demand to be asymmetric with any existing supply-side capabilities that it has. Its *relational* strategy is now one of extracting maximum value from the ways in which it can create value for its customers through orchestrating and aligning services to the particular needs of the customer, the defensibility of which depends on the quality of its relationship. If we define the customer's *value deficit* as the gap between the symmetric and asymmetric aspects of its demands, then this relational advantage depends on the supplier being able to target the customer's value deficit.

An asymmetric demand is therefore a demand which is specific to the customer's particular circumstances and context-of-use, and which may include tacit or latent demand that the customer is not yet able to articulate. Competitively, the dominant source of threat shifts from losing asymmetry with competitors to not being able to engage with the value deficits of customers.

This allows us to define the 21st Century Challenge for suppliers as one of enabling individuals at the edges of their organization who directly experience a customer's demand to be able to organize forms of collaboration appropriate to the particular nature of the customer's demand. Examples of individuals facing this kind of challenge are service engineers, doctors in general practice, and of course the orthotists in our example. The challenge for suppliers is being able to delegate power to the edge of the organization in such a way that it can support these distributed forms of collaboration [13]. This is ultimately a question of economics.

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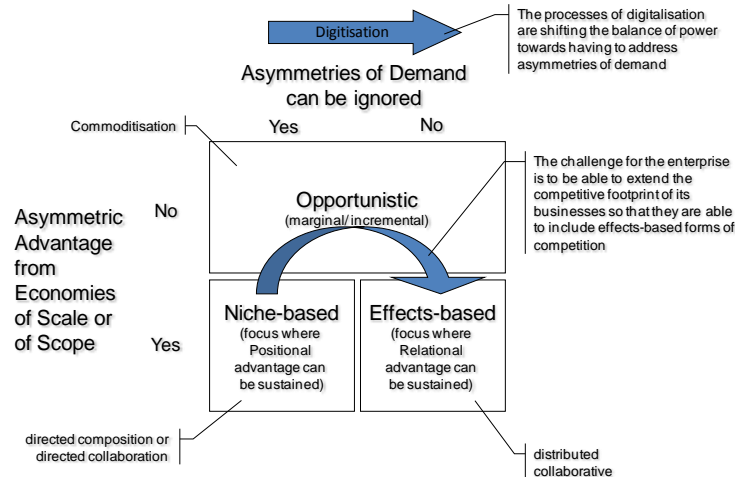


Figure 1: The economics of asymmetry

We can put all this together in Figure 1. The vertical scale describes whether or not a supplier has positional advantage available to it through its ability to sustain the asymmetries of the first and second kinds. If it does, then it can pursue a market niche-based strategy in which it can assume a symmetric relationship to demand. Over time, any such position will be prone to commoditization [14] which means that it will be pushed up into the top opportunistic space in which it will become dependent on an opportunistic approach using marginal costing and pursuing incremental opportunities.

What the third asymmetry introduces is the opportunity to pursue an effects-based approach that targets the customer’s value deficit. Important here is the effect of digitalization, altering the economics of alignment associated with the third asymmetry, such that “technology now makes it possible to demand that products and solutions be customized, personalized, unique and distinctive to ourselves within our context” [15], while accelerating the processes of commoditization.

Learning from the Military Understanding of Strategy

Effects-basing therefore requires a new way of competing that involves starting from the nature of the value deficit being experienced by the customer. We can learn a lot about this by considering how the military approach strategy. The interesting thing about the military is that ‘demands’ takes the form of threats from adversaries, and the imperative to respond at the edge is much greater than in most other types of organization because of the severe consequences of not doing so.

A military approach to strategy starts by considering the nature of the threat being presented by the enemy, and what lies behind it. The threat is treated as a demand that is shaped by what the enemy considers to be in their best interests, and the strategy for the military is therefore about how to shape the way the enemy formulates what is in its interests (Level 3 in Table 1). The uncertainty is about the nature and basis of demand.

From here it is then a matter of deciding how to operationalize an intervention (level 2) in which the main uncertainty is about how to organize an intervention that will be effective, and then on to the tactics of making this happen (level 1), in which the main uncertainty is how things will actually work.

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Uncertainty (potential for error)	Military: 3-levels	Business: 2-levels (positional)	Business: 3-levels (relational)
Level 3: about the nature and basis of demand (potential for errors of intention)	Strategy: Shaping the will of the enemy		Strategy: Shaping the will of the customer
Level 2: about how to organize an effective response (potential for errors of planning)	Operations: Defining operational capabilities to support the strategy	Strategy: Defining Strategic Business Unit positioning to capture sustainable competitive advantage	Operations: Defining operational capabilities to support the strategy
Level 1: about how to deliver a response effectively (potential for errors of execution)	Tactics: The steps needed to deliver the operational capability in this instance	Tactics: The steps needed to implement the strategy, marketing being part of tactics.	Tactics: The steps needed to deliver the operational capability in this instance

Table 1: Military vs Business Strategy

The point about positional strategy is that it treats the organization of demand as being in steady-state, defining it as a market. This means that in the commercial world, ‘strategy’ is frequently defined at the operational strategy of level 2 [16], with marketing being part of the tactics of implementing operational strategy. What the need for relational advantage introduces is the need for a 3-level strategy in business, in which marketing becomes part of how demand itself is shaped. It is this change that makes it difficult to do, since it involves defining value at the level of the ecosystem itself, and not just at the level of the supplier.

To conclude

A positional approach to strategy is a 2-level approach in which “strategy” is about defining the organization within which things will get implemented. This is ‘operational strategy’ that is about organizing the longer term/general policies within which the shorter term/particulars of execution will be dealt with.

A relational approach to strategy is a 3-level approach, however, in which “strategy” now becomes very specific to the situation giving rise to the demand and how effects can be generated upon it. We can say the supplier now needs a strategy for being strategic about the particular demands it is encountering. This involves ‘shaping the demand’, but it also involves considering the variety of forms of value proposition that might be needed to generate to create those effects. This involves working with value at the level of the ecosystem as well as at the level of the individual supplier, leading to two kinds of value [17]. The need for supporting distributed collaboration is a way of approaching the challenge of taking power to the edge in support of relational (3-level) strategies.

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