Archestra
The architecture of enterprise strategy

The End of Disruption:
I.T. is dead; Long Live I.T.

We have had over 60 years of business-class production based on intelligent automation through computing. During that time, business continually drove the evolution of the technology environment and focused intently on being a technology supplier itself.

Now, we have a change of view.

Thanks to the pervasiveness of the diversity of the internet, the demand perspective, not the supply perspective, is the heart of the business view – and Technology Information, not Information Technology, is the heart of the demand perspective on intelligent automation.

In the next normal, when ***the Internet of Things*** is the default activity platform, we get the return of *information services* to the top of the discussion queue.

Information services will allow relief from the limitations of strategy based on fixed process, and will begin maturation of techniques needed in the new production ecology.

Even more to the point, the default business view of service is about service information, not about service technology.

We don't create "Nature"… We discover it, interpret it, and intervene.

The scale and complexity of nature exceeds our practical scope of control, but its dynamics are systemic and we engage it on those terms. Likewise, the environment generated by the IoT is a system that exceeds our presence and influence, but to be practical we engage it on certain terms.

- Context (not priority) is the key trigger of action
- Models and Heuristics (not constructions) provide the visibility of environmental features
- Synthetic (not artificial) Intelligence drives synthetic operations as production

In the demand view:

IoT = Internet of Things = Information of Technology

- Things = tools
- Tools do work = operate
- Operate @ rules, not @ prescriptions
- Goal of operation = presence and influence to manage the "value" of current conditions
- Value of current conditions = effect on a desired future state

IoT = EoE = Environment of Events

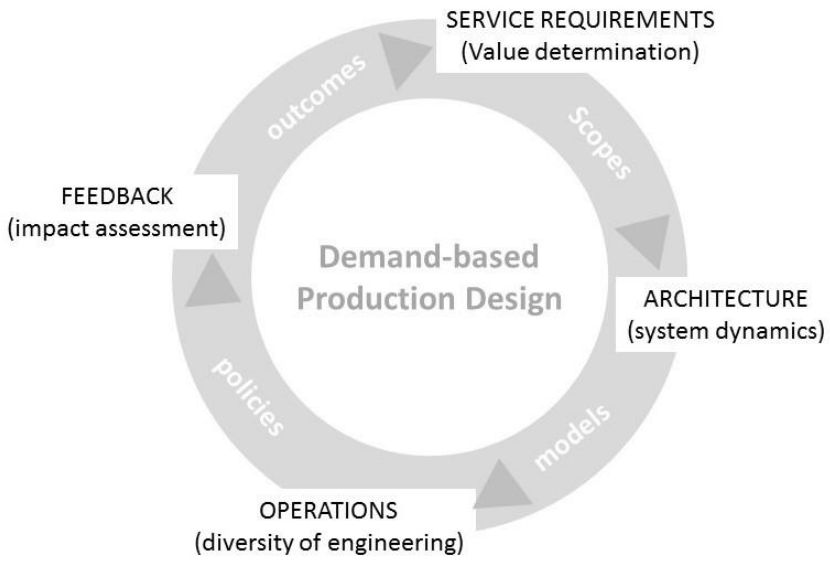
- Internet = production environment
- Actors and Impacts = Factors and Events

Internetworking: The internet is a "platform", but as it becomes totally pervasive, its value is more in a capability than as a place. Just as a culture is significant because it hosts normative behavior, desirable action is the main interest of participating in the internet. As a property of that desire, the primary perspective on value in the internet is based on demand.

The demand orientation makes requests that drive attention to three forms of activity:

- Activity as a function
- Function as an operation
- Operation as a service

Consequently, the focus of *management* on services is on the need for *producing availability* of appropriate services. In effect, through management the availability is designed. This availability in turn becomes the platform for other production. The idea is not new, but the demand-based model is now in charge and, like fractals, remains the same at all scales of applied effort.

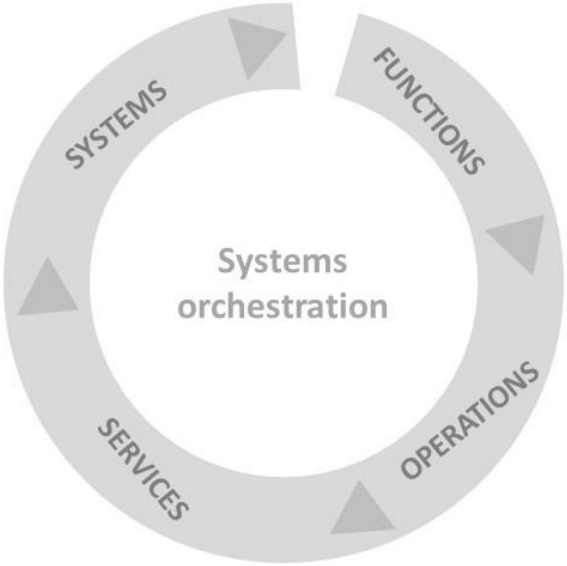


Demand is an intervening presence: forms of activity that establish our presence and influence within the internet environment (system) have four main goals identifiable in Production as environmental interventions:

- Introductions: add things to the system
- Induction: attract interactions
- Propulsion: support interactions
- and Compulsion: push interactions

The goals of those interventions are dynamic "functionality", which is the vision of the system that exists in the demand perspective. The demand perspective then looks for productivity from functionality.

However, that functionality is not just drawn from a system as a hosted behavior or system offering; the functionality of one system is also potentially a component contributed as a function to another system. From the demand perspective, functions underlie operations, which underlie services, which underlie systems, in an orchestrated arrangement. Yet increasingly, while what is underlying is understandable, it is not necessarily visible…



Systems on one level offer functions to a higher level. Activity configurations "spiral" upwards to levels supporting production. Intelligence is developed to intentionally drive the escalation.

As we know from the real world system called the internet, the path from each step in the arrangement to the next (for example *functions* to *operations*) is a set of many-to-many relationships. The internet of things does not change the model at all, but it increases the range of possible variations exponentially. The challenge is to recognize when those choices are beneficial opportunities and when they are not. Then, we want to arrange the opportunities.

Systems management: managing the system's dynamic configuration means achieving an effective certainty and persistence of *state*, not through support of engineering but instead through 5 ways of supporting actor behaviors in interactions:

- Inclusion support (selection, permission)
- Incentive support (convenience, preference, reward)
- Navigation support (insight, communication, history)
- Engagement support (policy, performance, logistics)
- Ecology support (resource, renewal, safety)

For the most part, an essential role of services at any level (tool, actor, manager, or producer) is to provide support of those interaction behaviors.

Actor Functions: there are at least 7 ways that supported actors conduct interactions in the system:

- Goal-seeking
- Solving
- Limiting
- Selecting
- Matching
- Proposing
- Protecting

All of those functions both generate and consume intelligence. In that light, those "*information behaviors"* can be predisposed by various means. But in a system, interactions affect other interactions, which means that the predispositions still may change from one time to another. That makes their *probability* a concern of managing efforts to meet demand.

Intentional influence

The purpose of having presence and influence is to promote our preferred factors and events within the system, in order to increase the probability of meeting demand on time. Actor-generated intelligence is expressed from functional exchanges that are part of interactions. Impact-generated intelligence develops in observation. Ideally, management can subscribe to the intelligence in order to conduct operations that promote preferences. In a subscribed mode, "informative" services can be *embedded* in management's operations.

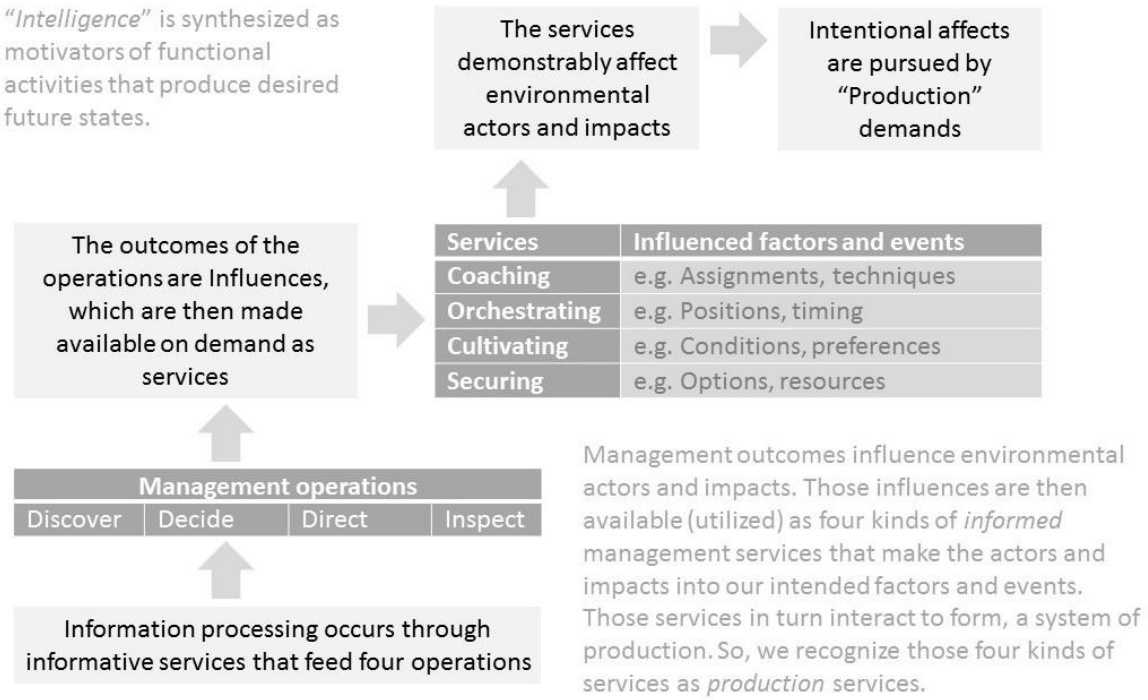
		Management Operations			
		Discover	Decide	Direct	Inspect
Informative Services	Monitor	Detect	Validate	Examine	Track
	Analyze	Identify	Classify	Specify	Query
	Display	Recognize	Define	Select	Plan
	Predict	Forecast	Indicate	Model	Map
	Propose	Simulate	Communicate	Prescribe	Review
	Measure	Describe	Target	Constrain	Grade

"*Informative* services" (monitoring through measuring) can provide functional activities that support basic operations of management (discovery, decision, direction and inspection). Interactions of those services can become management information systems, and combinations of their functions can become processes and interfaces.

Informed management operations generate production services

Outcomes of management operations are *intentionally influential*, and can be packaged as services that produce desired conditions and changes. Demand exerts itself in the form of requirements on the "Production" services to set factors and events in the environment. The *demand-oriented* production services include:

- Coaching
- Orchestrating
- Cultivating
- Securing



Big Information and the End of Disruption

Ideally, the complexity and scale of the IoT environment is maneuvered and not simply encountered or traversed.

To raise the probability of achieving preferences, actors are programmed to process *status* information; event outcomes are governed by *policy*; responses to outcomes are organized by *rules*; and demand for outcomes is expressed by *requirements*.

Seen from the opposite direction, changing requirements calls for the ability to dynamically reconfigure or regenerate the functionality of the system.

At the same time, the pace of innovation has already taught us that what we are seeking in the new environment is not *predictability* per se. We can no longer be greatly surprised when there is yet

another new thing announced, it is hard to know what the next new thing will be, and there appears to be a greater range of innovation than can fully be used.

Instead, we do not want to be unaware of why something can be produced, nor unnecessarily distanced from the production. So, we are interested in the *regularity* of the new environment – that is, what we can usually expect of its dynamics. For most businesses, the potential benefit of new things that *already* can now be done may for a while greatly exceed the need to come up with any even newer platform. The more important question is whether the business will adapt, to adopt the new environment and exploit it.

As technology increasingly becomes a community of items that are autonomous actors, the information that it generates and uses needs to help improve the probability of preferences.

Services supply the majority of practical interfaces between functionality and demand; but the services are not about technology. Rather, they are about demand-oriented information.