



## Interactive value creation

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## Efficiency of activities as the goal

The principle of division of labour reduces organizational effort and cost of work. Division of labour also increases the quality of efforts through specialization. For this reason all societies and all enterprises are heading at least somewhat towards specialism. The assumption has been that the further the division was carried, the greater were the savings and the better were the quality of contributions.

This has led managers to focus on the efficiency of activities separated from other activities and organizational design and management seen as planning and execution of a collection of independent activity systems together forming the whole system. Examples of this are organizational charts, process visualizations and value system illustrations of boxes and lines between the boxes. Resource based approaches have followed the same logic in bringing together analogous resources based on their similarity forming process phases, roles or units.

The function of the manager was accordingly to be the representative of and in charge of his box, his domain of action and resources. The manager enjoyed a high degree of autonomy and was accountable only for that domain. The grounding principle in practice was that “Don’t tread on my grass, and I won’t tread on yours”.

## Division of labour has its points of diminishing returns

As the demands for higher value and creativity are the norm today and the complexity of offerings and value nets have grown, we have begun to see that division of labour has its points of diminishing returns.

What managers have learnt is that division of labour is not something in itself; it always implies a scheme of interaction by which the different divided activities are made to work together. The lines between the boxes matter!

Complex value creation is impossible without interaction. This is because any higher value activities involve complementary contributions from more than one person or one domain of action. In fact the more complex the offering is and the more specialized the resources needed, the more demands there are for efficiency of interaction.

The one-dimensional approaches to interaction have been top down command and control- or workflow based communications where the action of one part is meant to set off the action of another. Interaction has thus been seen as one way signals to which people responded, a system of senders and receivers (Shannon and Weaver 1948). These approaches seemed to work in simple, low value environments but are not creating the desired results any more. What organizations have lately found out is that in pursuit of higher value and when facing the growing demands of complex offerings the value of actions is limited by the value of interaction. The two are mutually dependent.

Resource based management thinking has followed the causality of resources preceding actions and actions preceding and creating the need for interaction. This approach has critically neglected the question of how those resources are created, especially as the most valuable resources for modern organizations are knowledge based. How activity systems form, produce coherent results, change and develop?

### Activities and interaction are mutually dependent

A system of partial activities that go into the completion of the total activity implies always a scheme of interaction among the persons concerned. If the scheme of activities changes, even somewhat, the scheme of interaction will change too. As the two are mutually dependent, it means also that if interaction changes so will the activities change.

The current management paradigm is based on the presupposition that resource led activities are the independent or governing factors and the scheme of interaction conforms to the planned division of labour. The organizational structure, the division of labour is first designed together with development of capabilities creating the activity system. Then, an appropriate system of co-ordination and communication is put into effect. If this presupposition is not correct, it means that poor interaction leads to poorer than planned activities just as well as enriching interaction leads to higher value activities than planned.

The scheme of interaction may be the governing factor in today's organizations!

### Knowledge work is about interdependent people working in interaction

The activity systems and units of activity cannot any more be seen as a collection of independent high performance activities and independent high performing specialists.

There are many challenges ahead if we adopt the thinking of seeing interaction as the governing factor in organizations. One of the challenges is our language. That is the way we speak about work following the system of subjects and predicates. Our language of work is geared towards handling one independent factor and one dependent factor at a time: “someone is doing something to somebody”. Linear cause and effect rather than thinking in terms of mutual dependence, interdependence and non-linearity is built into our management speech. Yet, a situation that can be described accurately in terms of linear, rational cause and effect is least common in social systems.

An organization consisting of people is always a social system following a different logic – complex causality. Organizations as social activity systems are about mutually dependent, interdependent people working in complex interaction.

If we take this view, it means that people and actions are simultaneously forming and being formed by each other at the same time – all the time – in interaction. Instead of thinking in terms of spatial metaphors, of organizational levels, boxes and lines, this explanation focuses attention on how the actions of people are creating patterns in time following a very different approach to communication than the sender receiver model.

As people interact, repetitive and creative patterns of meaning and knowledge are perpetually iterated. Learning and knowledge, the most important resources of knowledge based organizations are creative processes emerging in that interaction.

Organisations can then be described as patterns of communicative interaction between interdependent individuals. All human relating imposes constraints on those relating, while at the same time enabling those relating to do what they could not otherwise do. Supportive, inspirational, energizing and enabling patterns of interaction are the most important *raison d'être* of working together.

If we see interaction as the governing factor and see organizations and organizing as relations between interdependent people, our methods of sense making need to change. Social interaction is not following linear causality, seen as a system of senders and receivers, but is fundamentally non-linear, responsive and complex. Following this logic, organisations can only be understood if seen as complex patterns of interaction in time.

Complexity sciences have studied the above mentioned interactions through modelling the dynamics of iterated, nonlinear interaction. These simulations reveal properties of interaction between digital agents. An agent in the

simulations is an algorithm, a string of code. When these agents are sufficiently different to each other and when they are sufficiently connected to each other, then the simulations display the capacity to evolve in novel, unpredictable ways. What the simulations are demonstrating is that it is quite possible that widespread, coherent patterns will emerge from the local interaction between agents.

Patterns emerge from local interaction in the complete absence of an overall plan or goals. These processes are called self-organisation and emergence.

### Emergent allocation of resources

Resource allocation has always been one of the main tasks of management: planning what is to be done by whom and by when? In integrated systems and with homogenous resources, allocation can easily be done top-down and in advance. Planning can take place separate from action. When knowledge resources are the decisive factors of value creation and when work takes place in global de-centralized environments, this top down process is increasingly inefficient. A manager can not know who knows best or where the most valuable contributions could come from? The solution has been so far to try to “know what we know”, and even more importantly try to “know who knows”. Neither of these approaches has quite fulfilled expectations. The knowledge databases have not met the situational needs of users. Accordingly, people have not been able to explain to others or even to themselves in a meaningful way, what they know.

Because of the aforementioned growing needs in daily organizational life a new, different approach has to be adopted. One could even claim that a new mode of knowledge based production is now emerging in the digitally networked environments. This approach is called peer production. The most important platforms for peer production are social software tools like Wikis and Blogs.

Peer production as a method refers to a new social and economic phenomenon: People from all around the network contribute small pieces of their time and expertise to common projects emergently based on their interest, time and experience working in a transparent, open “one company” environment. This method has systemic advantages over traditional production hierarchies when the work in progress is mainly immaterial in nature and the involved capital investment can be distributed. For most knowledge based products, peer production is the most efficient method of creating value from a resource allocation point of view.

The system of peer production is developed bottom-up instead of top-down. In a top-down system everything is created and provided by the organization to the user. The user has none or very little control over what services, information and people are available for him. Instead of forcing people into predetermined groups like groupware does, social software facilitates the natural formation of groups based on spontaneous, contextual needs for interaction. In social software, people affiliate through personal choice. Understanding this difference in community formation is crucial for building self-sustaining, dynamic communities that span across the organization. Emergent peer communities often act as a networked breeding ground for innovations.

A Wiki is a typical peer production medium, a platform for interdependent people to work in interaction. A Wiki provides the most efficient way for a group of people to contribute, edit and interact on information that is meant to be shared. A Wiki can be seen as a way to create and iterate collective meaning and knowledge, thus developing shared dynamic learning. It's about making visible what has been learnt and the road to get there. This leads to a better sharing of experiences, use of skills and utilization of the total number of brains in the network.

The primary goals are increasing the value and quality of information and interaction and at the same time lowering the costs associated with information and interaction.

Even more importantly a Wiki is a medium for sharing what we would like to know next, where we would like to go, what we would like to explore. It is a medium for continuous, creative learning, a platform for any content to be in perpetual beta. This thinking is based on a belief that everything can and should develop in interaction among the network of users. This means in practice voicing questions and concerns for others to answer at their free will: the small deviations, the small questions that we don't normally pay much attention to, nor have time to explore when we work with information, are the starting points for change, improvements and learning.

There is a shift in thinking from sharing what we know to sharing what we don't know.

All organizations essentially operate already in practice like Wikis. Every organization has their own language, resulting in a unique understanding of concepts and terms and sense making of actions and results. There is also a lot of information that is continuously evolving. In the "encyclopaedia" of an organization, the articles are things like projects, strategies, customer databases, product information and drawings, pictures, video or Podcasts etc.

In these kinds of contexts, information artefacts that don't connect with ongoing conversations are often of less value, even obsolete and most likely out of date. A Wiki helps the organization to connect and collectively manage information and communication related to operations.

## Interaction as the governing factor

Creative learning in interaction becomes the core entrepreneurial activity of tomorrow. Learning that is not narrowly technocratic and industrial in today's sense of acquiring pre-set information, earning credentials or passing tests, but from the perspective that continuous learning is the foundation for value creation and creative action. Learning to better meet the needs of customers and daily work cannot effectively take place outside of work any more. High efficiency organizational learning cannot be a separate educational domain outside of the practice of work. Neither can it be something with beginnings and ends.

Our current understanding of learning suggests that learning is a social interactive process. The primary learning asset for a knowledge worker is the social, interactive, reflective practice, a practice for making own learning not only visible to oneself as increase of human capital, but also to others, thus creating the platform for feedback, conversation and even accreditation. Learning is thus largely about reflective conversations taking place in the context of every day work.

Modern social software tools not only provide a knowledge worker a space for reflective conversations. They also make it easier to connect, test and edit ideas in a social context because of the networked, interactive nature of these platforms.

If we accept the view that the scheme of interaction may be the governing factor for corporate success, specialization and efficient action, the main emphasis we need to have is on individuals interacting with each other in their own everyday situations.

This view of organisation focuses attention on the way in which ordinary daily conversations between people are perpetually creating the future through creative learning that takes place in the present.

An organisation is understood as local self-organising patterns of conversation, communicative interaction, through which knowledge and value are created and coherent action, change and learning emerge as patterns in time.