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# Co-Creation in Distributed Value Creation Systems and Networks

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## Abstract

Design and management are characterized by intangible processes. A common perspective dominates both fields, since it most often is implicitly assumed that they take place inside well defined organizational boundaries.

In this paper, we assume that design as well as management takes place in open organizational systems, including activities crossing organizational boundaries.

Based on this assumption, it is proposed that designing includes stakeholders in a number of organizational units, cooperating in order to contribute to the process of creation and implementation of specific designs.

It is thus proposed that design and management are intertwined in several ways, i.e. relationship management facilitates distributed design processes and collaborative design processes foster new types of organizational and managerial opportunities as well as challenges.

In this context, participatory design approaches have only seldom been explored as a means in the management of collaborative business systems. In this paper we discuss the potentials of combining Co-Design with relationship management/network theories in order to strengthen the management of design processes in distributed systems and networks.

**KEYWORDS:** Co-design, design games, distributed design processes, network theories, relationship management

## Introduction

Since the 1990es Denmark has experienced a huge outsourcing of manufacturing production activities, first to countries in the Eastern part of Europe and more recently to the Far East. One consequence of the outsourcing is that more and more value creating activities are conducted outside the organization in focus and thus outside ownership control.

For the designer this means that the design process no longer takes place inside the organizational hierarchy of the organization, but must include a network of external partners and stakeholders. As a result design and development teams are to a greater extend than before organised as multicultural networks with strong as well as loose relationships between the various actors.

These actors perform different activities and possess different resources, including knowledge and experiences.

It is an important part of the design process to gain access to and commit these actors and combine their activities and resources in the most favourable support of the design process.

On the one hand the asymmetries of resources, information and activities among the partners may be seen as a challenge, since they are associated with perception gaps. On the other hand asymmetric relations may pave the way for unexpected solutions out of reach inside the closed hierarchy of the traditional organisation. In short, we propose that the design process is forced into a change from a dominant causal logic to what Sarasvathy (2008) label an effectual logic, i.e. means driven more than goal driven.

In collaborative business systems, relationship management plays an important role. In the emerging global production systems, design takes place in an interorganizational setting. This reinforces the joint agenda of co-design and relationship management. This intertwined issue has not been treated in research up till now.

In the paper we draw lines to industrial network theories (Håkansson & Snehota, 1995) examining how distributed value creation systems and networks can benefit from a Co-Design approach – in this case design games structured as tools for dialogue. Our aim is to point at future perspectives of combining participatory approaches and network theories in order to strengthen the management of distributed design processes in open organisational systems and networks.

An accepted approach to encourage to dialogue within Co-Design is exploratory design games (Brandt et al., 2008). The Stakeholder Game was developed as a way to engage a variety of stakeholders close to end-use in the early phases of a design process within industrial textile design (Bang, 2010). Scrutinizing the process of the game we have realised a potential in using the game structure as a way to obtain and facilitate a qualified dialogue between emerging partners in an open organisational system or in more loose business networks.

## Relationship Management

The concept of industrial networks is one way to understand an organization with many activities placed outside ownership control. Under the dogma 'No Business is an Island' a group of Swedish researchers has described the characteristics of industrial networks (Håkansson & Snehota, 1989). They propose to understand industrial networks as a mode of governance between the market and the hierarchy (Håkansson & Johanson, 1993).

According to Håkansson and Johanson an industrial network consists of the three basic variables: actors, activities and resources. Figure 1 shows that the three variables are related to each other within a larger network.

Håkansson and Johanson (1992; 1993) argue that in a real industrial setting there is a strong interdependency between these three elements. Therefore it is relevant to discuss industrial networks as a type of governance mode between the market and the hierarchy of the organization.

Actors control activities and resources. An actor can be an individual, a department in a company, a business unit in a company or a whole company depending on the analytical perspective taken.

Actors combine activities in order to create value. Combined activities lead to transformations, implying that actors' resources are combined and changed.

The activities actors can perform differ. Activities controlled by one actor thus depend on the activities of adjunct partners in order to extract value from the resources possessed.

Actors also possess different resources. In order to extract value from these resources they are combined with resources from partnering actors and stakeholders. It is thus important for actors to gain access to external resources through the joint organization of activities.

Asymmetries among actors (differences in information access; values etc.); among activities (differences in capabilities, degree of specialization and for example credibility) and among resources (differences in knowledge, financial and physical resources) are an important driver for the creation of partnerships and networking. It is proposed that a high degree of asymmetry is associated with high symbiotic effects.

However, a high degree of asymmetries may also lead to perception gaps among partners and stakeholders that may turn out as detrimental to the joint value creation process.

It is in this light the tools and process logics of Co-Design may prove to be a valuable contribution to foster co-creation in distributed value creation systems.

## Co-Creation from a Business Perspective

The concept of co-creation was developed as a business strategy in the beginning of the 2000s. More recently Ramaswamy and Gouillart (2010) define co-creation as a strategy for value creation through collaboration between organizations and a variety of stakeholders such as customers, user communities, suppliers, managers and employees.

As a business strategy co-creation is basically about including the customers' and other stakeholders' experiences actively in value creation, innovation, strategy and management of an organization. The idea is that collaboration on a strategic level increases growth, productivity and profit in the organization.

According to Ramaswamy and Gouillart there are three equal important aspects in co-creation: i) engagement platforms, ii) human experiences and iii) a collaborative process.

Usually organizations involve external stakeholders in development projects on many levels. This is often done intuitively and as needed, which raises a range of questions concerning organization of processes, involvement of actors and validation of outcome.

As mentioned in the introduction and argued for during the paper we propose to acknowledge that design and management processes take place within open organizational systems, including activities crossing organizational boundaries. The challenge is that the involved processes tend to be intangible and not explicitly articulated. This can be an obstacle for a functional and generative process. Thus we see a need for a more tangible approach to design and management. Therefore we propose to combine network theories and exploratory design games into tangible tools for dialogue.

## Co-Design as an Approach to Dialogue

Several techniques and approaches to co-design offer the participants an opportunity to physically experiment, sketch, prototype or in other ways visualise knowledge and ideas as part of the process. This is for example design probes (Mattelmäki, 2006), exploratory design games (Brandt, 2011) or generative tools (Sanders, 2000). Common for these examples are that they encourage to dialogue among the participants through tangible means. Within the field of Co-Design it is commonly accepted that these tangible ways of having a dialogue contribute to establishing and/or refining a common platform for knowledge generation between participants coming from different backgrounds (i.e. Bang, 2010; Binder & Hellström, 2005).

### The Stakeholder Game

We use the Stakeholder Game as an example for the discussion in this paper. The Stakeholder Game was organised as a board game inspired by the concept of exploratory design games (i.e. Brandt, 2011). Within the field of design research exploratory design games are widely

acknowledged as a powerful approach for participation and dialogue. Eva Brandt (2006) introduced the term ‘exploratory design games’ as a term covering design games in a broad sense, including organisational design games (Ehn & Sjögren, 1991), concept design games (Habraken & Gross, 1987), and various types of other games. Subsequently Brandt, Binder & Messeter (2008) have discussed board games as a specific genre of design games apt for ‘formatting design dialogues’.

The Stakeholder Game was developed as a way to engage a variety of stakeholders close to end-use in the early phases of a design process (Bang, 2010). The game was structured as five phases that guided the participants to move from personal experience to four common concepts of emotional value for future design.

The participants were invited to share “personal experiences” of textiles at their office workplaces. Playing the Stakeholder Game enabled the participants to establish, substantiate and explore a common platform of emotional value in relation to design of applied textiles.

The game board represented 4 categories of emotional value (see Figure 2). The game pieces were fabric samples and drawings of office chairs and office settings inspired by the participants’ work and office settings. The game rules were designed in a way that encouraged dialogue between the participants. The dialogue was structured by a variation of the repertory grid technique, which is a qualitative interview technique originated within psychology (Fransella et al., 2004). For example the participants used the triadic difference as a rule for discussing three game pieces by asking “How are two pieces similar as opposed to the third piece?” Using mandatory rules like the triadic difference was a way to facilitate the dialogue through the game structure.

## Discussion

### Network thinking through design games

If we look at the Stakeholder Game from a network perspective the facilitating designers from the inviting company are the actors. The other players are also actors. The facilitating designers and the players form a network executing an activity in the design process. The activity in this phase of the design process is the Stakeholder Game. It explores which resources the other players contribute with and ways in which personal experiences of emotional value can be utilized for future design of applied textiles. Facilitators and players have different perceptions and strategies for participating. The designers’ responsibility is to serve as relationship managers in this network. The players are not as such interested in the design process they are interested in the finished design, the aesthetics, the specifications, the function and prices.

## Value creation in broader networks than usual

For the inviting company the Stakeholder Game is a way to open up the value creation in a broader network than usual. The Stakeholder Game was introduced as an opportunity to make perception gaps visual to potential partners and invite to joint reflections fostering mutual adaptation processes.

## Demands to relationship management

As indicated in the introduction recent years has brought an interest in extending the narrow focus on the end-user to include a broader group of stakeholders, such as clients, suppliers, customers etc. (i.e. Bang, 2010; Binder & Hellström, 2005).

A crucial demand to the relationship management is to handle that it is not a given thing that a generative flow is created between the actors. The managers – or in this case the facilitators – must be able to manage the relations between networks of actors and be able to bridge perception gaps among the actors. It is a managerial task to choose and motivate the actors that have a potential for innovation. Furthermore it is demanding to encourage to development- and adaptation processes between the actors in the network in order to increase the activity to a level that contribute to each stakeholder's engagement in the change processes that are needed in order to realize the common vision that the process of co-creation wishes to create.

## Concluding remark

To conclude we propose to develop approaches based on co-design as tangible tools for systemizing and formalizing these network processes. We expect that co-design tools enable actors in a network to discuss concerns around activities and resources, which can otherwise be hard to articulate and have a dialogue about.

## Future Work

This paper has outlined and discussed the potentials of combining network theories with co-design approaches regarding the management of a distributed design processes. Within this perspective we see tangible tools for dialogue developed on the basis of co-design and maintained through a conscious relationship management, as a space for experimenting with the interaction and future opportunities for a network of partners.

The research so far has raised a series of concerns, which we would like to discuss with the design research community:

- » The tools and process logics of co-design as a valuable contribution to foster co-creation in distributed value creation systems.
- » The need for tangible approaches to design and management.

- » The combination of network theories and exploratory design games in tangible tools for dialogue.
- » The possibility of letting the participants stay in the divergent (ideation) phase for an appropriate time and at the same time secure that they move to the convergent (solution-oriented) phase when appropriate
- » The possibilities of benefitting from the asymmetry in the relations in the form of knowledge, competences, user experience etc. in the creative process

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## Figures

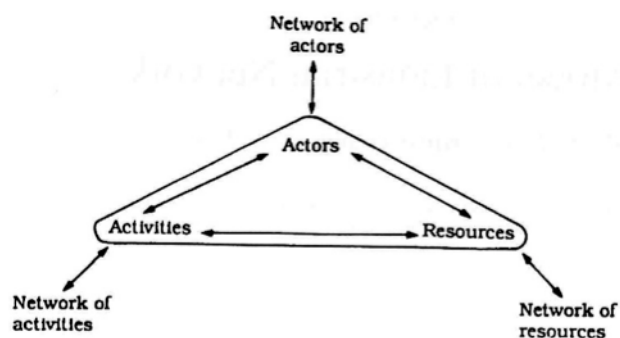


Figure 1: The ARA-model (Håkansson & Johanson 1992:154)



Figure 2: Establishing a common platform of knowledge through dialogue in the Stakeholder Game.



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