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Dividing Multi-Organizational Businesses into Processes: Capturing Value Creation in Assignment Structures

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Abstract

Business transactions of today often rely on the involvement of several organizations in its preparation and realization. This means that value creation is distributed among several actors and needs to be coordinated. The division of multi-organizational businesses into business processes need to reflect the co-production of value arranged in distributed value production structures. There relies however an unresolved quest of which criteria that should govern such division of business processes. In this paper, business processes for conceiving multi-organizational businesses are identified founded in how customer assignments embed and integrate other assignments through value chains in value networks. Five core process types are identified founded in this assignment structure; development processes, planning processes, provision processes, order fulfilment processes, and evaluation processes. These processes are of both condition creating and realization characteristics to enable an efficient co-ordination of the multi-organizational business.

Keywords

Multi-organizational, Business Process, Assignment, Value Network, Value Chain, Process types

INTRODUCTION

Business transactions being prepared for and realized involve many organizations. Within the management literature different ways of framing value creation have been proposed (Peppard & Rylander, 2006). Initiated by Porter (1985) the value chain model was the first step towards portraying the “chained linkage of activities that exist in the physical world within traditional industries, particularly manufacturing”. This metaphor has however been questioned by numerous scholars looking upon networks (Allee, 2000; Håkansson & Snehota, 2006) and thereby introduced the notion of the value network concept: “The focal of the value chain is the end product and the chain is designed around the activities required to produce it. The logic being that every company occupies a position in the chain; upstream suppliers provide inputs before passing them downstream to the next link in the chain, the customer. With the value network concept, value is co-created by a combination of players in the network.” (Peppard & Rylander, 2006, pp. 131). In contrast to a focus on the role of the single company in a value chain, this shift from value chain to value network, put focus upon the value-creating system itself in which different actors co-produce value. The same trend can also be seen in literature related to other “network phenomenon” such as *ecosystems* (Iansiti & Levien, 2004; Adner, 2006), *the extended enterprise*, *the virtual enterprise*, *the virtual organization*, and *the networked organization* (Camarinha-Matos & Afsarmanesh, 2001).

Within business process management the focal point has similarly been looking upon chains of activities (c.f. e.g. Hammer & Champy, 1993). As claimed by Peppard & Rylander (2006) there is a need to rethink traditional methods for analysing competitive environments due to the realities of the network economy. At the core, a business process is defined as “a set of logic related tasks performed to achieve a defined business outcome” (Davenport & Short, 1990, pp. 4) or as lately defined by Davenport (2005, pp. 2) “the set of activities it pursues to accomplish a particular objective for a particular customer, either internal or external”. The traditional notion of business processes as a holistic concept of “value adding activities transforming input to output that is of value for the customer” (Hammer & Champy, 1993) strongly relies on the same notion as the value chain. As claimed in Haraldson & Lind (2011), business processes transcending the single organization, i.e. multi-organizational business processes (MOBP), challenge such linear notion, to reveal how value is created through value chains in value networks. A multi-organizational perspective on business processes adopts an integrated view on value creation conceiving value chains in value networks as the foundation for the structure of such business processes (c.f. Haraldson & Lind, 2011) (c.f. figure 1). However, actions performed in multi-organizational settings need to be structurally ordered in holistic concepts. Since the business process management field not yet have addressed business processes in value networks an unresolved quest is still how to conceive multi-organizational businesses as processes. The research question explored in this paper is; *which sub-processes (process components) constitute multi-organizational businesses and how do these inter-relate?*

The notion of business processes is a conception of how value is being created. An important point of departure for dividing organizational work into different business processes is therefore to understand how value-creating

activities, performed by different actors, contribute to customer value. In this paper, the logic of how such value is being created through value chains in value networks form the basis for dividing and delimiting MOBP. Based on a thorough understanding of such value creation structure, aspects such as the creation of conditions for, and the coordination of, distributed value is acknowledged. Knowledge about how to divide organisational work into business processes as a generative instrument for capturing elements of business processes (as-is/to-be), is essential for the effectiveness of business process modelling.

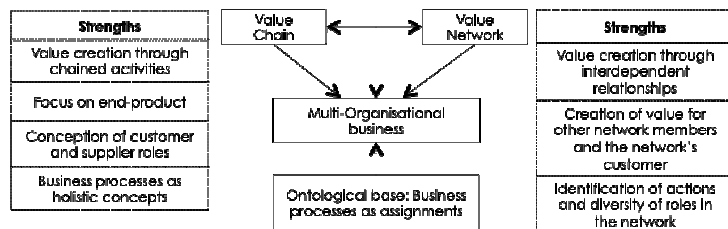


Figure 1: A multi-organizational analysis on value chain and value network

Process modelling is concerned with the task of coping with the complexity of process planning and control (Becker et al, 2000). Besides the “traditional” use of process models within software engineering, process models are used for pure organizational purposes. As reported in Davies et al (2006) the highest average purpose of *modelling techniques* are database design and management. By the same authors, it is also identified that

purposes of modelling such as business process documentation, improvement of internal business processes, improvement of collaborative business processes, workflow management, design of enterprise architecture is almost as common. This places the notion of business processes as the way to classify organizational work into different parts as an important area of concern.

Several scholars have identified a challenge in finding criteria for business process delimitation (c.f. Davenport, 1993; Lind, 2006). As stated by Davenport (1993, pp. 27-28) “Considerable controversy revolves around the number of processes appropriate to a given organization. The difficulty derives from the fact that processes are almost infinitely divisible; the activities involved in taking and fulfilling a customer order, for example, can be viewed as one process or hundreds”. In Davenport’s latter work (Davenport, 2005) this call is repeated, framed as in the need of process standardization, for the purposes of 1) process activity and flow standards for a variety of businesses and industries, 2) process performance standards, and 3) process management standards. It is thus a need for a well-founded theory for process classification. In Lind (2006) an ontological foundation based on social action been used for identifying such criteria for process classification, in which different sub processes beyond the notion of core and support processes, can be distinguished. Lind (2006) uses type of clients (potential or particular) and type of actions (development-orientated or operative) as criteria for dividing organizational work into different process types; two types of delivery processes, provision processes, and condition-creating processes. Admitting that work is performed for both potential and particular clients goes beyond both a pure transformational view on the identification of business processes types founded in Porter’s value chain (Porter, 1985) and in a communicative view on business processes since the latter simply stress the focus on interaction with particular customers. In the classification schema put forward in this paper we are inspired of such division, but acknowledge that the notion of value is not used as a basis for delimitation.

The purpose of this paper is to bring forward foundations for a business process modelling, and a classification schema, for conceiving business processes in multi-organizational settings. The research approach adopted is framed as theory-driven conceptual development empirically illustrated. Essential categories used for forming this classification schema have been identified from several conducted case studies focusing business process modelling in multi-organisational settings (Haraldson & Lind, 2010; 2011). As theoretical foundations, value chains and value networks are used as the value-creating component to develop the classification schema. In this paper, we delimit ourselves to acknowledge actions for the creation of customer value (including customer value components) and business value as a division of core processes. Since a multi-organizational perspective on business processes strives towards successful realization, through optimal planning and coordination of such processes, the support processes are not further conceptualized in this paper.

Following this section, the basic concepts of business processes as it has historically been conceived are analysed in the search for an ontological base for the conception of MOBP. This same section also brings forward a characterization of multi-organizational businesses as a basis for the conception of the different characteristics of MOBP. In the third section of this paper different process types are identified as the basis for the classification schema. These foundations for classifying business processes will then further be empirically illustrated through three different multi-organizational settings. In the next section the basis for the classification schema will be discussed in relation to other ways of classifying business processes. Summarizing the findings and identifying some further research opportunities conclude the paper.

THEORY: MULTI-ORGANIZATIONAL BUSINESS PROCESS CONCEPTS

The basics of business processes

As stated in the introduction a business process was originally a holistic concept capturing value-adding activities transforming input to output that is of value to the customer. This viewpoint is based on the classical definition of business processes given by Hammer & Champy (1993, pp. 35): “a collection of activities that takes one or more input processes and creates an output that is of value to the customer” (c.f. e.g. Davenport, 1993). At the core of this traditional view, framed by Goldkuhl & Lind (2008) as “business process as sequential transformation”, focus on that activities performed for the customer should be of value-creation characteristics.

On the contrary, Keen (1997, pp. 17) gives warnings for a pure use of such transformative view on business processes by stating “the process-as-workflow definition excludes many processes that have no clear inputs, flows, and outputs”. As emphasised by Keen, among others, processes involve coordination. This follows from a basic view on organisations according to which they essentially are created through communicative actions (see e.g. Winograd & Flores, 1986; Taylor & van Every, 2000). Building on the language-action tradition this viewpoint on business processes has been framed by Goldkuhl & Lind (2008) as “business processes as coordination”. Within this tradition, inspired by the conversation-for-action schema (c.f. Winograd & Flores, 1986), commitment as the key construct for capturing the establishment, fulfilment, and conclusion, of assignments, has formed the far most important coordination mechanism for business processes (c.f. e.g. Medina-Mora et al, 1992). Supported by this viewpoint the notion of what is to be conceived as value for the customer can be pinpointed. Besides methods within the language-action tradition, such as Action Workflow (Medina-Mora et al, 1992) and DEMO (Dietz, 1999), approaches to service interaction patterns (Barros et al, 2005) and commitment management (Verdicchio & Colombetti, 2002) has brought up this basic notion of coordination. Following such approaches it has also become natural to bring forward the notion of interaction performed within business processes. Within business action theory (BAT) (c.f. Goldkuhl & Lind, 2004) inter-related patterns of actions constituting related exchanges (of commitments, values, and assessments) made between two business parties are brought forward. Commitments are used by Goldkuhl & Lind (2008) to bring forward the notion of establishment (forwarded), fulfilment, and evaluation of assignments. Goldkuhl & Lind (2004; 2008) is used as a source for inspiration to conceptualise the more complex assignment structures that MOBP are based upon.

Within the language action community the notion of the business transaction is used as a holistic concept binding the (inter)actions performed for the establishment, the realization, and the evaluation of agreements. A full action workflow loop (Medina-Mora et al, 1992), a realized conversation-for-action schema (Winograd & Flores, 1986), and a DEMO transaction (Dietz, 1999) are examples of such transactions. As a reaction towards an asymmetric focus BAT (Goldkuhl & Lind, 2004) brings forward a business transaction as the inter-related exchanges of (proposals), commitments, values, and assessments. In this paper we do however reserve the *notion of business transaction to capture the realization of a customer assignment and embedded assignments*. The basic unit of analysis of a business process is social action (c.f. Lind, 2006). A human intervenes in the world in order to create changes. A social action is aimed towards other human beings (Weber, 1978) and can be of communicative or material nature. Austin (1962) and Searle (1969) hold that to communicate is also to act. Material acts can also count as social actions if they are directed to others (c.f. Goldkuhl, 2001). Actor relationships are established through social actions (ibid.). Such pragmatic stance on business processes means that four basic categories (actors in roles, actions, action objects, and relationships between actions, actors, and roles) are used for understanding the notion of business processes (c.f. Lind, 2006), but a multi-organizational perspective needs to enrich these with the notions of assignments and value properties. Zur Muehlen & Recker (2008) identifies 50 modelling constructs used in the BPMN to graphically represent business processes. Those identified BPMN constructs, identified from 120 BPMN models, map well in relation to such a pragmatic view.

However, surprisingly the notion of products is not stressed in the business process management literature to a wide extent. Products are of different characteristics. As identified by Lind (2006) the notion of product becomes important to take into consideration for distinguishing variants of business processes. In a multi-organizational perspective, the value propositions directed towards end-customers and the propositional content of agreed assignments governs the delimitation of the business processes.

Different types of business processes

Different types of business processes are often used to emphasise the different kinds of work being encapsulated in business processes. Examples of such types are core processes, support processes, primary processes, and management processes (c.f. Davenport, 1993; Harrington, 1991). As identified by Lind (2006) one can however question whether such divisions of business processes are fruitful for supporting business process modelling sessions. As for e.g. how can it be determined whether something is core or not? Further, in multi-organizational settings this could also mean that something that is core for one actor might just be a support process for the

overall multi-organizational business. This means that the single actor's actions need to be regarded as parts of the multi-organizational business in which an identified common object of interest forms the basis for positioning different value-creating actions performed by different actors in the multi-organisational network. Such value creation needs to be coordinated and still today there is a lack of foundations of how such coordination should be performed. It is our strong belief that the underlying logic of how to coordinate multi-organisational businesses needs to go hand-in-hand with the way that multi-organizational businesses are divided into different business processes founded in the assignment logic.

Business process modelling needs to be effective in order to achieve intended purposes. Business modelling is about stating questions and documenting answers in process models. As claimed by Lind (2006) the idea is to pinpoint relevant questions on a holistic level and thereby work top-down. This does however require a solid foundation for different levels of business process concepts. This also holds true for process modelling in multi-organizational settings, which also implies a need to distinguish and relate internal versus multi-organizational processes (assignments). On the contrary Bititci & Muir (1997) recognize the problem of being too top-down oriented during process definitions and thereby recognize a bottom-up approach. Bititci & Muir (ibid.) argue that at an abstract level some consensus may be achieved over a generic set of business processes. "However, it is also becoming evident that as the level of detail increase, disagreements begin to surface. Since most enterprises are concerned with detailed operational models rather than abstract models, the value of a top-down, i.e. generic, approach to business process definition is becoming increasingly questionable" (ibid., pp. 366). Our position is that a generic classification schema bringing the characteristics of different types of actions forward is valuable for making the process modelling efficient. However, it is also essential to avoid a too strongly governed and biased conceptualisation of business processes and thereby missing out important details. Therefore we believe in a combination of a top-down and a bottom-up approach. Generative questions for the areas of concern, on an assignment-based interaction structures, need to be formulated as well as notations for documenting the answers. Therefore, pre-defined patterns of interaction should be seen as a source of inspiration during process modelling rather than a set way of structuring the actions patterns identified. In multi-organizational business process modelling the interrelations between holistic and embedded assignment processes are crucial, why the conception of actor roles becomes essential (Haraldson & Lind, 2011).

The characteristics of multi-organizational business processes

A multi-organizational business process captures the work (c.f. value chain) performed in a value network. The basic conception of a value network is that it generates economic value through "complex dynamic exchanges between one or more enterprises, its customers, suppliers, strategic partners, and the community" (c.f. Allee, 2000, pp.37). In the value network, an organization's creation of value needs to be related to the context of the network. "It is this network of relationships that provides the key to understanding the competitive environment in the network economy" (Peppard & Rylander, 2006, pp. 133). Actions performed by a network participant are the key to understand the dynamic nature of value networks. "An action by one participant in the network can influence other network members. Or an action by one participant may require further actions by other participants to be effective" (ibid., pp. 133). This implies that nodes in the network, for different reasons, affect each other. Allee (2000) claims that value networks are complex and encompass much more than the flow of products, services, and revenues of the traditional value chain. "As more and more products depend on the exchange of knowledge and information, knowledge and intangibles become mediums of exchange or currencies in their own right. Direct revenue exchanges are only part of the picture. Knowledge and intangible value are of equal importance, and success depends on building a rich web of trusted relationships" (ibid., pp. 39). We agree with Allee (2000) that different exchanges are important to capture. This is however not doable until we have established a thorough understanding about the structure of actions that are required to realize MOBP.

A multi-organizational business involves several actors in its realization (Haraldson & Lind, 2010). On an abstract level this means that most businesses are to be characterized as multi-organizational since they, in their realization, and/or in establishing conditions, involves several actor roles. MOBP exists to create customer value for end-customers. In order for such customer value to be produced in a multi-organizational business, coordination of different actors performance and value production is required. Since a multi-organizational business relies on actors performing for the benefit of a common object of interest, incentives for such actions needs to govern the role relationships in the business network. Such incentives can be founded in business values resulting from embedded business transactions as part of the co-production of customer value.

As previously mentioned a multi-organizational perspective distinguish between actions performed for potential and particular end-customers. The conception of MOBP builds upon the importance of monitoring for the purpose of continual evaluation/improvement. The essential point of departure for conceiving MOBP is *customer assignments* and those actions (embedded and integrated assignments) required for the realization of customer assignments. The embedded and integrated assignments, directed to and performed by actor roles in the business network, enables the production of, by coordinating the realization of, components constituting customer value. By conceiving the interplay between coming to an agreement of, and realizing assignments,

requirements for setting up the multi-organizational business can be identified. Such requirements are, among other things, capacity and role relationships required for the future realization of multi-organizational business transactions. Likewise, condition-creating processes are also governed by assignments. These assignments are however based on agreements among actor roles within the business network. Consequently, based on an analysis of value chains and value network approaches strengths have been identified creating the foundation for an integrated view on value creation in business processes (i.e. value chains in value networks), conceived as *action and interaction arranged in assignment structures*.

A multi-organizational view on business processes is different from the traditional firm-focused conception of business processes. The most obvious difference is that different organizations, by undertaking different actor roles, are involved in realizing different parts of an overall customer assignment, as well as the embedded or condition creating assignments (integrated) constituting MOBP. Founded in a pragmatic conception on business processes, reflecting both transformative and coordinative dimensions of organizational work, our definition of a multi-organizational business process reads as follows (c.f. Haraldson & Lind, 2010): “A multi-organizational business process consists of a set of actions where multi-organizational network actor roles create value (customer value (components) and business value) aimed for beneficiaries. Beneficiaries of such processes are end-customers utilizing the products being offered through value propositions from a main actor in the business network, as well as other network member utilizing business values in their production of customer value (components). These actions utilize infrastructure and can be of coordinative and/or transformative character. The value, often operationalized and described as products (goods and/or services), produced, delivered, utilized, and consumed is enabled and coordinated through embedded and integrated business assignments. Within multi-organizational business processes, assignments are established, fulfilled, and evaluated, in patterns of interactions constituted by transformative and coordinative actions. Multi-organizational business processes both covers actions performed for potential as well as particular end-customers. Actions performed for potential customers are oriented towards the establishment of conditions for efficient realization of customer assignments as well as embedded/integrated assignments. Successful multi-organizational businesses rely on the ability to coordinate value creation processes, based on assignments as coordination mechanisms, throughout the value chain using network capabilities”.

BUSINESS PROCESSES IN MULTI-ORGANIZATIONAL SETTINGS

An important point of departure for the conception of different MOBP is to emphasise the necessity of planning before acting. “Planning is defined as formulating in advance an organized method for action” (Friedman & Scholnick, 1997). This means further that principles of coordination need to be set. The basic idea is to manage complex relationships in such a way that the realization of MOBP becomes as smooth as possible. In close relation to the concept of planning, are the notions of strategic actions and orchestration (Friedman & Scholnick, 1997). “Understanding and classifying the different types of processes is important because organizations can appear to managers as a seamless web of interconnected processes, no one entirely separate or even definable without the others” (Davenport & Short, 1990). In figure 2 (and table 1), multi-organizational process types are identified. Actions performed for potential end-customers are oriented towards the establishment of conditions for an efficient and smooth realization of multi-organizational business transactions initiated by a particular end-customer. The realization processes create customer value components for customer value governed by customer assignments established with particular end-customers. Condition-creating processes holds the purpose of creating business values to be transformed (and integrated) into customer value components in governed by the value propositions directed towards potential end-customers. Condition-creating processes are divided into development (e.g. product development, marketing), planning processes (e.g. capacity reservation), and provision processes (e.g. procurement, production, and inbound logistics). Within provision processes business interaction takes place for the purpose of establishing basis (e.g. production of, and stock-keeping, of pre-products) for an efficient realization of the order fulfilment processes (multi-organizational business transaction initiated by particular end-customers). Provision processes as well as order fulfilment processes are structured in integrated and embedded assignment processes. Order fulfilment processes are those

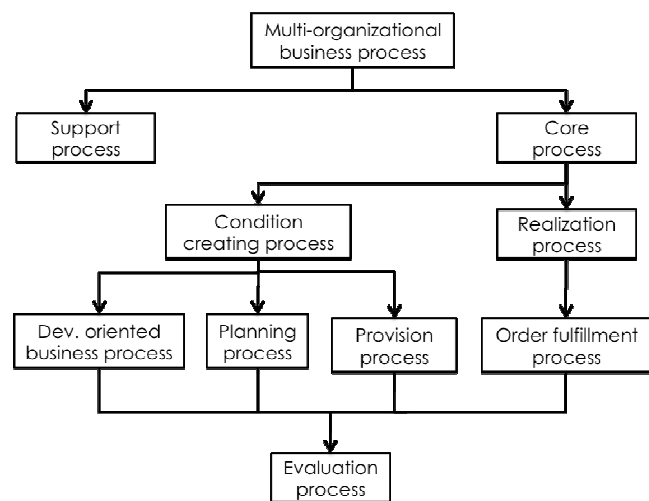


Figure 2: Different types of multi-organizational business processes

that concern the realization of a customer assignment from a particular end-customer. Evaluation processes capture the evaluation activities and conclusion of the assignment.

All these processes are governed by different kinds of assignments, such as e.g. development assignments, planning assignments, provision assignments, customer assignments (for order fulfilment processes), and evaluation assignments. In provision assignments and customer assignments, product assignments (such as e.g. procurement, production, and inbound logistics) and transport assignments are embedded. Inspired by the service literature the customer assignment is seen as a conglomerate of product and transport assignments. To emphasise the final delivery to the end-customer, delivery assignments are also included as an embedded assignment in the customer assignment, i.e. the end product and the delivery are seen as two customer value components in the customer value. The notion of embedded business assignments is our interpretation of how assignments can be forwarded to actor roles within multi-organizational businesses.

As previously mentioned, multi-organizational businesses need to be orchestrated in order to establish conditions for smooth and efficient realizations. Within orchestration, possible variants of action logics (based on the value propositions directed towards potential end-customers) for the realization of multi-organizational business transactions, is established and further related to condition-creating processes. Such action logic variants (including combinations of realization and condition-creating processes) are used to distinguish the different actor roles that are possible for different network actor to undertake in the multi-organizational business (c.f. Haraldson & Lind, 2011). Such knowledge about business actors and their roles in the action logic, forms the foundation for eliciting requirements upon diverse (formal) role relationships (such as e.g. frame contracting) necessary for the realization of the multi-organizational business. The establishment and evaluation of role relationships is also seen as a part of the orchestration.

Table 1: Definition of multi-organizational process types

Process type	Definition / scope	Examples
Development process	Development of offers and products based on the capability of the multi-organizational business network.	Marketing, product development
Planning process	Establishment of conditions for provision and order fulfilment by the reservation of capability (infrastructure and products)	Forecasting
Provision process	Establishment of capability for order fulfilment by (network-internal) commercial interaction encapsulating several sub-assignments (as e.g. production, transportation) performed for potential end-customers	Procurement, production, warehousing, sales
Order fulfilment process	Realization of multi-organizational business transactions based on end-customer assignment encapsulating several sub-assignments oriented towards production, transportation, and delivery	Order entry, order fulfilment, procurement, production, transportation, delivery, after sales
Evaluation process	Evaluation of the fulfilment of agreed assignments for all process types.	Monitoring for continual refinement

The same process (see table 1) could exist as parts of two different process types (see e.g. procurement and production as parts of provision and order fulfilment), due to the assignment type (i.e. performed for potential and/or for particular end-customers). MOBP as such do exist in variants since most businesses rely on capabilities of realizing different kinds of value propositions and that the condition for the actual realization therefore might differ.

MULTI-ORGANIZATIONAL BUSINESS PROCESSES IN PRACTICE

Multi-organizational business processes in third-party settings

This case concerns the collaboration and interaction between LogCom (the third party logistic company) and their customer CusCom. CusCom is a retail home decoration company and have several retail shops. The shops' product assortment is regulated from the central purchasing management at CusCom. Seasonal purchase is conducted based upon estimation of customer needs and orders are then placed to a product supplier. After quality controls, the products are delivered to LogCom, who handles inbound logistics, warehousing, and outbound logistics. The central purchasing management is responsible for coordinating the activities regarding distribution of goods from LogCom to the shops. The case is regarded as multi-organizational since it involves all actors, and their interactions, involved in the realization of the value propositions exposed from the home decoration company as the main actor towards end-customers.

Multi-organizational business processes in mail order and e-commerce settings

This case concerns the establishment of cost-efficient combinations of product distribution alternatives in a mail order and e-commerce setting. Products are produced by manufacturers based on procurement orders from

wholesalers or from particular end-customers. Batches of produced products are transported from the manufacturer to the wholesaler, a designated service point or to a particular end-customer. Based on the stock level at the mail order company/the e-commerce company replenishment will automatically be done by having warehoused products (at the wholesaler) transported to the warehouse of the mail order company. Customer assignments are taken based on the availability of products in stock or planned replenishment (a first order fulfilment variant). Products are transported (delivered) to customers based on the agreed assignment. Sometimes products might be produced for and delivered directly from the manufacturer to the end-customer (a second order fulfilment variant). The case is regarded as multi-organizational based on the same arguments as in the first case above.

Multi-organizational business processes in passenger transportation settings

This case concerns travellers utilizing inter-modal transport solutions (including aviation). In order to ensure a sustainable passenger flow based on, among other things, a high level of traveller satisfaction, a perspective on passenger flow from a door-to-door process has been adopted. This means that the business behind the travel processes has been characterized as an eco-system consisting of a passenger flow process and actors with this process as a common object of interest. Such door-to-door process involves all activities from booking the trip, being transported to the airport, airport process steps, travelling to and from the destination, and then arriving back home again, through several process steps at the airport, and possible inter-modal transportation processes. This case is multi-organizational since numerous actors are involved in the realization of a door-to-door passenger flow process (as e.g. transportation agencies, airlines, handling agents, security, airports etc.) providing services to the passenger. Within this multi-organizational setting integrated business transactions occur framed by an overall customer assignment (i.e. the travellers' passenger flow).

Business processes as assignment processes in the three cases

Different types of assignments form the basis for process division. This means that assignments capture what there is to perform as well as the beneficiaries of the value produced. Inspired from the process division schema provided in figure 2 above different types of assignment covered in these three cases are depicted in the figure 3 below. Included in figure 3 are also the embedded assignments within provision (provision assignment) and order fulfilment processes (customer assignment). Taking the third party logistics example the customer assignment is based on the end-customer coming to the shop purchasing products. This means that the customer assignment has a product assignment and a delivery assignment integrated. The customer assignment however builds upon the realization of two provision assignments (as integrated business assignments). The first covers a product assignment (procurement from product supplier), a transport assignment (transportation to LogCom), and an inbound logistics assignment (at LogCom). The second covers a product assignment (outbound logistics at LogCom), transport assignment (transportation from LogCom to Shop), and an inbound logistics assignment (in shop). In the second case (the mail order / e-commerce setting) provision assignments are established and realized embedding product assignments (procurement orders), transport assignments (from manufacturer to wholesaler), and inbound logistics assignments (at the wholesaler). Products-in-stock is an important condition for the realization of the customer assignment (the first order fulfilment variant) embedding a product assignment (outbound logistics) and a delivery assignment (transportation to the end-customer). A second order fulfilment variant has also been identified in which the customer assignment embedding a product assignment (production for a particular end-customer), and a delivery assignment (transportation from the manufacturer to the end-customer). This means that two realization variants exist in the mail-order/e-commerce setting. In the third case integrated customer assignments possibly embedding product and delivery assignments are identified throughout the door-to-door process. In this case the coordination assignment becomes essential to enable a seamless integration. In all cases, planning assignments are used to establish capacity meeting requirements upon infrastructure and resources in the realization of provision and customer assignments. These assignments (with possibly embedded assignments) give rise to different MOBP.

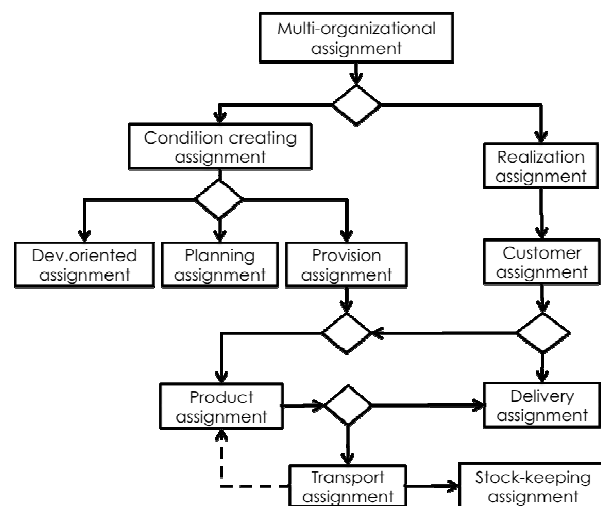


Figure 3: Different assignments derived from the cases forming business processes (as initiations of figure 1)

DISCUSSION: DIFFERENT MULTI-ORGANIZATIONAL BUSINESS PROCESSES

MOBP are complex phenomenon. Based on a pragmatic conception of such business processes five types of multi-organizational core business processes have been identified. This process division enables us to conceive which processes that are essential for a successful realization of value propositions. These business processes have been distinguished based on the type of beneficiary (potential or particular end-customers), whether actions are part of a multi-organizational commercial interaction (network-internal or end-customer initiated assignments), or whether plans or developments are made for the realization of these interactions. Numerous authors bring forward different business processes in their struggle to characterize actions being performed in a business. However, by applying a multi-organizational perspective on business processes, different processes are identified based upon a logic of assignments capturing the value creation (and its coordination) performed within the multi-organizational network. In order to theoretically ground the foundations for classifying MOBP examples of business processes identified by other authors (not applying a multi-organizational perspective) could be used to exemplify the use of our classification. In table 2, some business activities/processes identified by Bititci and Muir (1997) has been positioned in relation to multi-organizational process types identified.

Table 2: Examples of MOBP from theory (related to Bititci & Muir (1997, pp.371))

Support processes	
Non identified type	Financial planning (e.g. business planning, pricing control), Financial planning (e.g. Financial accounting), Logistics
Core processes	
Development process	Marketing (e.g. sales and marketing, product management, product development)
Planning process	Forecasting, Production planning and analysis
Provision process	Customer services (e.g. Customer and order management, Order processing, Delivery performance monitoring), Production planning (e.g. procurement), Shipping, Logistics
Order fulfilment process	Customer services (e.g. Customer and order management, Order processing), Production planning (e.g. procurement), Shipping, Logistics
Evaluation process	Delivery performance monitoring, Progress monitoring

As claimed, differences in the realization of multi-organizational business transactions give rise to process variants. These process variants also need to be distinguished in relation to each other. Based on the existence of process variants in multi-organizational settings the following criteria have been used to distinguish process variants; *Characteristics of value propositions* made to end-customers, *Actor value* (bound to the End-customer or the network actors reflecting the norms of values that governs their incentives to act in a collaborative manner), and *Product characteristics* covering both goods and services to be produced, delivered, consumed and utilized. To give an example, from the empirical setting above, it has been identified that there exists two realization variants within the mail order / e-commerce setting. These two have been distinguished in relation to each other by using the criteria product characteristics (standard products in stock or products produced for the particular end-customer), but could also be characterized by using the two other criteria (Actor value (in this case instantiated into customer value)): one process variant with longer lead time, Value Proposition: direct delivery from the manufacturer).

CONCLUSIONS

Most business transactions of today are multi-organizational since they involve numerous business parties in creating value for end-customers. A multi-organizational business is based on distributed value creation processes (i.e. condition-creating and/or realization processes) involving several (network) actors. Modelling of business processes requires a good basic knowledge and understanding of the phenomena that are about to be modelled (which in this case is MOBP). The classification developed in this paper can be used for this purpose. The different characteristics of MOBP derived in this paper form an important foundation for stating questions and documenting answers in process models. The scope and the purpose with the modelling becomes the basis for identifying which business processes that should be included in the analysis. However, the perspective applied in this paper emphasises that focused business processes needs to be contextually understood in relation to other business processes (on some level of granularity) due to the current situation. Relying on pragmatic foundations, essential categories (actors in roles, actions, action objects, relationships between actions, actors, and roles, assignments, and value propositions) have been used for identifying five core processes (development processes, planning processes, provision processes, order fulfilment processes, and evaluation processes) based on assignment structures. For the purpose of identifying and characterizing these different process types, their role in the multi-organizational business logic (founded in assignment processes) has been used to delimit and relate the business process (types) to each other. A theoretical contribution to the quest of which criteria that should govern division of business processes has been made in this paper.

One important conclusion in this paper is that both condition creating processes and realization processes need to be conceived as core processes. The coordination of multi-organizational businesses relies on an understanding of possible variants in action logics due to the realization of business transactions. Hence, the realization should be taken as the starting point when coordinating MOBP. Condition-creating processes also need to be coordinated in relation to desired value propositions and in relation to the realization processes that these create conditions for. This means that both realization processes and condition creating processes need to be coordinated in relation to each other governed by value propositions. Since different variants of action logic in MOBP give rise to different expectations on future actions captured in realization processes (such as order fulfilment processes) such variants need to include requirements to be realized through condition-creating business processes (development, planning, and provision processes). Distributed value creation requires coordination. Thereby multi-organizational businesses are divided into different process types reflecting such requirements. Since the process division proposed in this paper is based on an assignment logic, assignments become the coordination mechanisms for the coordination of the distributed value creation in multi-organizational businesses.

Three areas of further research could be identified. First, role models for multi-organizational business interaction becomes a necessity in order to understand how assignments are established (forwarded), fulfilled, and evaluated. Secondly, based on a multi-organizational business process foundation there is a need for process documentations that covers essential aspects of such business processes (as for example interaction patterns, collaboration patterns, value structures, and assignment structures). By analysing existing methods for process modelling founded in a multi-organizational view on business processes, additions to existing as well as new notations need to be brought forward. Thirdly, inspired by Davenport (2005), a process classification schema as proposed in this paper would form a basis for comparing and benchmarking different processes within and across industries. Would it then be possible to use this classification as the basis for being inspired of, and contributing with, best practices?

REFERENCES

- Adner R. (2006) Match Your Innovation Strategy to Your Innovation Ecosystem, Harvard Business Review
- Allee V. (2000) Reconfiguring the value network, Journal of Business Strategy, July/August 2000
- Austin, J.L. (1962), How to do Things with Words, Oxford University Press.
- Barros, Alistair P. and Dumas, Marlon and ter Hofstede, Arthur H.M. (2005) Service Interaction Patterns. Proc. of 3rd International Conference on Business Process Management 3649, pages pp. 302-318, Nancy, France
- Becker J., Rosemann M., von Uthmann C. (2000) Guidelines of Business Process Modeling, Lecture Notes in Computer Science, Vol. 1806/2000, pp. 241-262
- Bititci E. S., Muir D. (1997) Business Process Definition: A bottom-up approach, International Journal of Operations & Production Management, Vol. 17(4), pp. 365-374
- Camarinha-Matos L. M., Afsarmanesh H. (2001) Virtual Enterprise Modeling and Support Infrastructures: Applying Multi-agent System Approaches, LNAI 2086, pp. 335-364
- Davenport T. H., Short J. E. (1990) The New Industrial Engineering: Information Technology and Business Process Redesign, Sloan Management Review, Vol. 31 (4)
- Davenport T. H. (1993) Process Innovation – Reengineering Work through Information Technology, Harvard Business School Press, Boston
- Davenport T. H. (2005) The Coming Commoditization of Processes, Harvard Business Review, June 2005
- Davies, I., Green, P., Rosemann, M., Indulska, M. and Gallo, S. (2006) How do Practitioners Use Conceptual Modeling in Practice?, *Data & Knowledge Engineering*, 58, 358-380.
- Dietz J. L. G. (1999) Understanding and Modelling Business Processes with DEMO, Proc.18th International Conference on Conceptual Modeling (ER'99), ParisLind, 2006
- Friedman S. L., Scholnick E. K. (1997, Eds.) The Developmental Psychology of Planning: Why, How, and When Do We Plan?, Lawrence Erlbaum Associates, New Jersey
- Goldkuhl G. (2001) Communicative vs material actions: Instrumentality, sociality and comprehensibility, Proceedings of the 6th Int Workshop on the Language Action Perspective (LAP2001), RWTH, Aachen
- Goldkuhl, G., Lind, M. (2004), “Developing e-interactions – a framework for business capabilities and exchanges”, Proceedings of the 12th European Conference on Information Systems (ECIS2004), Turku

- Goldkuhl G., Lind M. (2008) Coordination and transformation in business processes: towards an integrated view, *Business Process Management Journal*, Vol. 14 (6)
- Hammer M, Champy J (1993) *Reengineering the corporation. A manifesto for business revolution*, Nicholas Brealey, London
- Haraldson S., Lind M. (2010) The Emergence of a Multi-Organizational View on Business Processes – Experiences from a Double-loop Action Research Approach, AMCIS, Lima, Peru, August 12-15, 2010.
- Haraldson S., Lind M. (2011) Challenging dyadic interaction in the context of multi-organizational business processes , Australian Conference on Information Systems, Australia
- Harrington H J (1991) *Business Process Improvement: The Breakthrough Strategy for Total Quality, Productivity and Competiveness*. McGraw Hill, New York.
- Håkansson H., Snehota I. (2006) No business is an island: the network concept of business strategy. *Scandinavian Journal of Management* 22(3), 256–270.
- Iansiti M., Levien M. (2004) *The Keystone Advantage – What the New Dynamics of Business Ecosystems Mean for Strategy, Innovation, and Sustainability*, Harvard Business School Publishing Corporation,
- Keen PGW (1997) *The process edge*, Harvard Business School Press
- Lind M. (2006) Determination of Business Process Types Founded in Transformation and Coordination, *Systems Signs & Action*, Vol. 2 (1), pp. 60-81
- Medina-Mora R., Winograd T., Flores R., Flores F. (1992) *The Action Workflow Approach to Workflow Management Technology*, CSCW'92, ACM Press, New York
- Peppard J., Rylander A. (2006) From Value Chain to Value Network: Insights for Mobile Operators, *European Management Journal*, Vol. 24 (2-3), pp. 128-141
- Porter M. E. (1985) *Competitive Advantage – Creating and Sustaining Superior Performance*. Macmillan, NY
- Searle J. R. (1969) *Speech Acts. An Essay in the Philosophy of Language*, Cambridge University Press, London
- Taylor J, Van Every E (2000) *The emergent organization. Communication at its site and surface*, Lawrence Erlbaum, London
- Verdicchio M., Colombetti M. (2002) Commitments for Agent-Based Supply Chain Management, *ACM SIGecom Exchanges*, Vol 3. (1)
- Weber M. (1978) *Economy and society*. University of California Press, Berkeley
- Winograd T., Flores F. (1986) *Understanding Computers and Cognition: A New Foundation for Design*, Ablex, Norwood NJ
- zur Muehlen, Michael and Recker, Jan C. (2008) How Much Language is Enough? Theoretical and Practical Use of the Business Process Modeling Notation . In Proc. 20th ICAISE, Montpellier, France

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