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Coordination and transformation in business processes: towards an integrated view

Göran Goldkuhl
Department of Management and Engineering, Linköping University, Linköping, Sweden and
Department of Informatics, Jönköping International Business School, Jönköping, Sweden, and
Mikael Lind
Department of Management and Engineering, Linköping University, Linköping, Sweden and
School of Business and Informatics, University College of Borås, Borås, Sweden

Abstract

Purpose – The purpose of this paper is to contrast two views, a transformative and a coordinative view, on business process management (BPM) in order to propose an integrated view.

Design/methodology/approach – The investigation has been made with the purpose of developing a synthesis of these two views working as thesis and antithesis. The core of such dialectic approach is to create a synthesis that transcends contradictions of the thesis and antithesis. Pros and cons in the two perspectives have been identified and an integrated process view has been proposed, as well as operationalised into modelling methods. The integrated process view comprises a number of definitions of different process types (business process, assignment process, transformation process and provision process).

Findings – The paper derives characteristics of the transformative as well as the coordinative view. These are used as the basis for pinpointing important characteristics of an integrative view. These characteristics put forward coordination in relation to transformation as well as assignment processes in relation to other types of processes (such as transformation processes and provision processes)

Practical implications – The proposed integrated view has practical implications in the work of modelling, analysing and designing business processes.

Originality/value – The value of the paper is that it presents a complementary view on business processes derived from two existing views. In the paper, coordination aspects are seen as superior to transformation.

Keywords Business process reengineering, Process management, Modelling

Paper type Research paper

Introduction

Business process management (BPM) is a view on organisations where emphasis is made on the horizontal work in contrast to vertical division of labour as described in the traditional organisation chart. BPM has its origin from total quality management – TQM (Harrington, 1991) and business process reengineering – BPR (Hammer, 1990; Davenport, 1993). Basically, this can be seen as an industrial view on business processes, where input (raw material) is transformed into output (finished products). This is not the only possible view on business processes as Keen and Knapp (1996) have noted.

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They have contrasted two different views on business processes; "process as workflow" vs "process as the coordination of work". Confer also Ljungberg (1997). The coordination view on business processes is mainly based on the language/action perspective (Winograd and Flores, 1986) where coordination, agreements and commitments are emphasised.

There are several approaches based on the workflow perspective and there are several other approaches based on the coordination perspective. Is it not possible to develop a business process approach based on both perspectives? Are they to be seen as antagonistic rivals? Are they "a thesis and an antithesis" with no possible way to dialectically synthesize?

The purpose of this paper is to investigate these two perspectives on business processes. Are they possible to integrate into one encompassing perspective? Is it possible to develop a business process approach based on these two perspectives? Based on an analysis of these two process views we will present an integrated process view. This view is then operationalised into business process modelling methods. These methods are illustrated through examples from a real life case.

Transformation in business processes

Business processes consist of transformations of inputs to outputs. This view is expressed in a classical definition of business process made by Hammer and Champy (1993, p. 35):

> [...] a collection of activities that takes one or more input and creates an output that is of value to the customer.

Other similar definitions are made by Davenport (1993), Johansson *et al.* (1993) and Rummler and Brache (1995). These definitions build on a value adding perspective (Porter, 1985), where every activity ideally is seen to contribute to more value for the customer. Typically, this is an industrial perspective; in the workflow, input is transformed through some kind of refinement to output (Harrington, 1991). The BPM wave that started during the 1990s had its origin in this transformative view on business processes. The two schools of thought, BPR and TQM, contributed to this transformative process view. The difference between these approaches lies in the view of organisational change; radical in BPR vs piecemeal in TQM (Harmon, 2003; Goldkuhl, 2003). During the 1990s a business process view became the ontological backbone for many change methods; old ones as well as new methods (Born, 1994; Ould, 1995; Österle, 1995; Jacka and Keller, 2002; van der Aalst and van Hee, 2004). Many new approaches and methods were launched based on the business process concept.

BPM is a horizontal view on organisations emphasising operational activities – how things are done instead of who decides according to the organisational chart. Davenport (1993, p. 5) expresses it in this way:

> [...] a process view of the business... represents a revolutionary change in perspective: it amounts to turning the organisation on its head or at least on its side.

Turning the organisation on its side means precisely to change the perspective from hierarchical (vertical) view to horizontal processes. BPM was thus a move away from the traditional way of viewing organisation as a hierarchical structure. A main criticism, from BPM advocates, was that the traditional hierarchical view on organisations, embodied in the organisational chart, disregarded the customers.

This BPM view emphasises the ordering of activities, the workflow. A business process is often seen to consist of sequential sub processes or activities. It emphasises also the customers as the main receivers of the output and that the customers should appropriate a high value to the output. Confer Figure 1 for a simple and prototypical illustration of a business process in a transformative perspective.

There are many aspects of organisations, which are disregarded in a transformative business process view. As said above, issues of power and control are usually not in focus when adopting a business process focus. One exception is Harmon (2003) who tries to integrate the process view with a traditional systems view on organisations. Even if there are certain merits in the workflow view, this can be challenged as a too restricted view, exclusively on transformations. We will now turn to an alternative view on business processes.

Coordination in business processes

The transformative view on business processes gives a powerful template for analysis. But what happens if this template is too restrictive? Keen (1997, p. 17) gives warnings for usage of such a template:

> The process-as-work flow definition excludes many processes that have no clear inputs, flows and outputs.

Keen emphasises in his criticism that processes involve coordination. This follows a basic view on organisations that they essentially are created through communicative actions (Winograd and Flores, 1986; Taylor and Van Every, 2000). Business processes are mainly coordination processes in this communicative view. Business processes arise through requests, offers, agreements and commitments and other communicative acts. The theoretical inspiration comes mainly from speech act theory (Austin, 1962; Searle, 1969; Habermas, 1984). The transformative view on business processes is rejected and as an alternative a communicative and coordinative view has been formulated.

There are several business process methods, which have been launched, based on this communicative perspective or as it is sometimes called the language action perspective (LAP). Action workflow (Medina-Mora *et al.*, 1992) and DEMO (Dietz, 1999) are two well-known examples. Action workflow describes the business process as a loop consisting of four generic phases:

(1) Preparation.
(2) Negotiation.
(3) Performance.
(4) Acceptance (Medina-Mora *et al.*, 1992).

In this model, there are two business parties; a customer and a performer (supplier). These two business parties are communicating in order to come to an agreement of

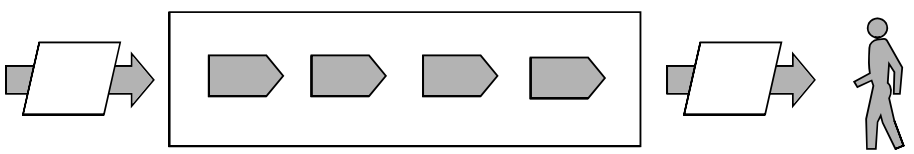


Figure 1.
Business process as a sequential transformation of input to output

what the performer shall do in favour of the customer (phases 1 and 2) and after the performance they communicate in order to come to an agreement on what has been done (phases 3 and 4). Confer Figure 2 for the action workflow loop. This fundamental characteristics of business interaction is also expressed in the DEMO approach by the actagenic phase (an agreement about what to do) and factagenic phase (an agreement about what has been done); Dietz (1999).

The significance of these coordinative approaches is the identification of generic communicative acts in business processes. Business processes are only performed by virtue of established agreements and commitments. Such agreements are recognised as having a basic governing force in the performance of the business.

The coordinative approaches have identified blind spots in transformative approaches, i.e. their lack of explicit recognition of different communicative acts governing business processes. Unfortunately, however, these LAP approaches seem to overemphasise communication and coordination at the expense of transformative and material actions (confer, e.g. criticism in Goldkuhl and Röstlinger, 2003; Lind, 2006).

One thing that transformative and coordinative process approaches have in common is that they both take a strict horizontal view on organisations. Vertical aspects power and authority are usually disregarded.

Towards an integrated process view

The challenge raised in this paper is if it is not possible to integrate these two business process views? They contribute each with important insights to the development of business processes. Is it really necessary to rule out one of these perspectives when developing business processes? The critical reader may ask: Is it really so that one perspective (transformative or coordinative) is ruled out in practical business process development? Is coordination really ruled out in a practical case developing business processes with a transformative view? And is transformation really ruled out in practical development when adopting a coordinative perspective? Our belief is that the corresponding dimension is not totally disregarded in practical development, but anyhow downplayed and only taking into account in an implicit and restricted sense.

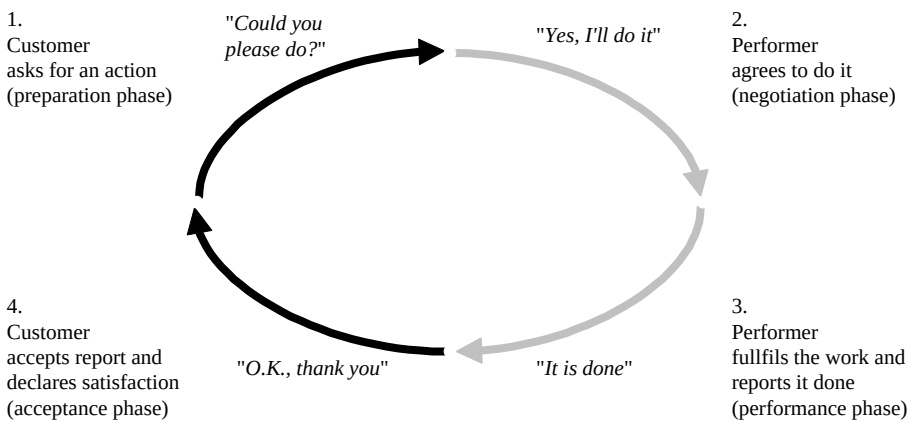


Figure 2.
The action workflow loop

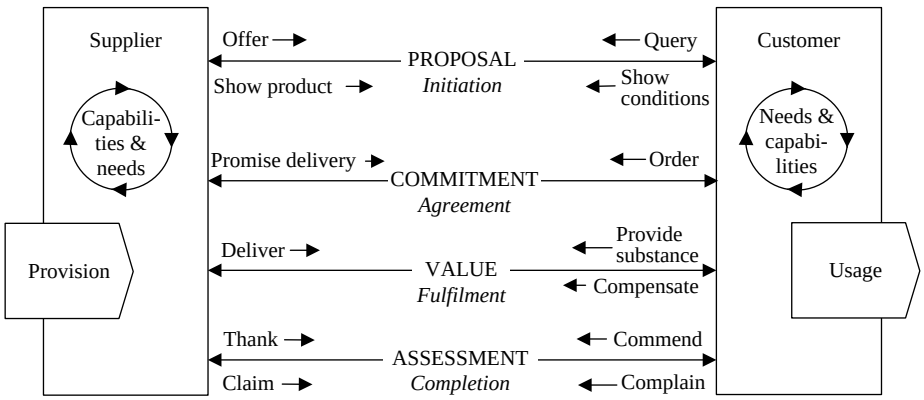
Source: Medina-Mora *et al.* (1992)

If one looks at classical BPM approaches, there are no frameworks to elaborate on coordination and communication issues. And as said above, in LAP approaches to business process development there is an overemphasis on coordination at the expense of transformation.

In our integration endeavour, let us first look a bit closer to what coordination in business process really means. Is it something special in business processes or is it just an aspect of transformation?

The coordination perspective emphasises that two actors need to come to an agreement what should be performed before the actual performance. If we look closer at the business interaction between a supplier and a customer, several phases in such interaction can be revealed. With inspiration from the language-action perspective Goldkuhl and Lind (2004) have developed a business interaction model, the Business Action Theory (BAT) model. BAT stands for BAT. In this model business interaction is divided into four generic phases, depicted in Figure 3.

The business interaction model is based on an exchange perspective (Glynn and Lehtinen, 1995; Gummesson, 1999). The customer and supplier make exchanges of different character on each of the four phases (Lind and Goldkuhl, 2003). The first two phases are associated with coming to an agreement. In the first phase proposals are exchanged. The customer is making queries about products and the supplier gives offers. Bids and counter-bids are expressed and exchanged. If the business parties are satisfied with proposals they can move into the next phase, the commitment phase. In this phase, the business parties come to an agreement; the business deal is settled. Commitments are exchanged. The supplier makes commitments about future delivery and the customer makes commitments about future payment. This is the contracting phase where the customer orders the product and the supplier gives a delivery promise. The third phase is the fulfilment phase. This phase is an exchange of value; product vs money. The supplier delivers the product and the customer pays for the delivery. The fourth and concluding phase is an assessment. The business parties value the fulfilments and if not satisfied they may express their discontent and make claims.



Source: Based on Goldkuhl & Lind, 2004 and Goldkuhl & Röstlinger (2007)

Figure 3.
Four generic phases of business interaction – the BAT model

Claims can lead to a renewed fulfilment or they can be dismissed and resolved in other ways. Satisfaction may sometimes be expressed and commendations given.

This model (Figure 3) describes the generic business logic where agreements are developed, settled, fulfilled and assessed. The first two phases consist of exchanges concerning the creation of an agreement and the third phase is the resolution and the fourth phase is the assessment.

Taking a customer perspective, a business process can (in this coordination view) be described as moving from customer requirements to customer satisfaction. The process can be called an assignment process (a customer-to-customer process). This means that it is a process where the customer gives an assignment to the supplier and the supplier performs what the assignment expresses. In the transformation view the process goes from raw material to finished products delivered to a customer. This is a way to compare the two business process views; the starting point and the end point (Figure 4).

The challenge is to bring these two process views together. In real business processes, transformation and coordination are of course, not separated as depicted above. It is just when inquirers in the business process studies tend to neglect or downplay some aspects that they get separated. In Figure 5, the two types of processes have been superposed. When doing this three cases appear:

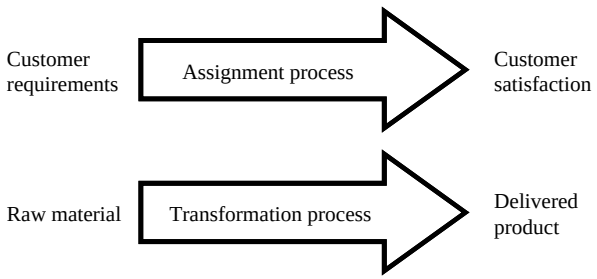


Figure 4.
Two complementary views on business processes

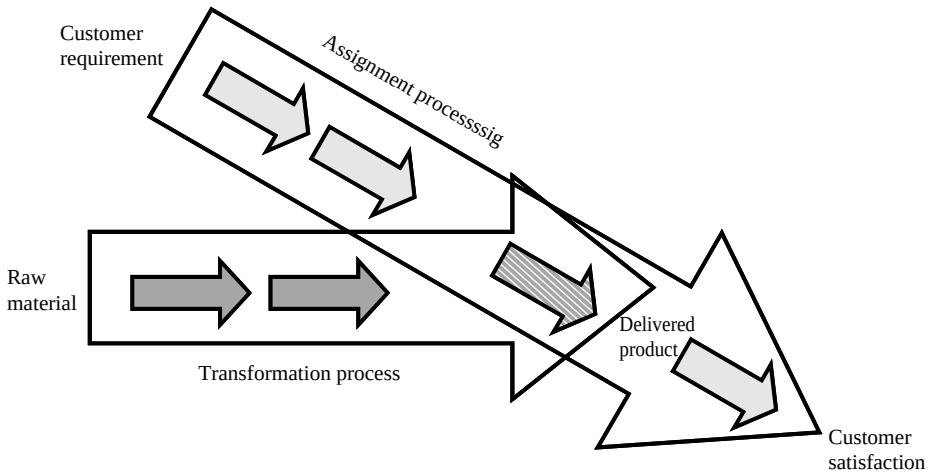


Figure 5.
Integration of assignment and transformation processes

(1) There are things being made in the assignment process that do not belong to the transformation process.

(2) There are things in the transformation process that do not belong to the assignment process.

(3) There are things done that belong to both processes.

What is in the assignment process and not in the transformation process (1)? All kind of coordinative interaction between supplier and customer are parts of assignment process and not in the transformation process. The assignment process in Figure 5 consists of four sub-processes (arrows). Let assume that each sub-process corresponds to one interaction phase according to phase structure from Figure 3. The first sub-process is then a proposal process with offers and queries. The second sub-process is an order process where the assignment (agreement) is settled. The fourth sub-process is what happens after the delivery, the usage and assessment of the product hopefully leading to customer satisfaction. These three sub-processes lie outside the transformation of products. The third phase of the assignment process is the fulfilment. This sub-process is also part of transformation (3).

There may be earlier parts of the transformation process that do not belong to the assignment process (2). What is done with product transformation determined by the customer order is part of the assignment. What is not regulated by the customer order is thus not part of the assignment process. In Figure 5, there are three sub-processes in the transformation. Let us assume that the first one is procurement, the second is manufacturing with stock-keeping and the third one is the delivery to customer. In this case, it is only the third sub-process that is part of the assignment process. There is in this case no direct influence from a particular customer order on procurement and manufacturing. These are sub-processes outside the assignment process. They are activities of product provision that are performed in order to support the assignment process. These transformation activities build up a stock of products that is used in the assignment process in order to manage a quick delivery.

There may be other possible types of organisational arrangements. Procurement and manufacturing can be made based on and initiated by a particular customer order. In such cases these transformative sub-processes will be part of the assignment process. The assignment process may cover the whole transformation process.

Transformation processes are seen to often be partially overlapping with assignment process. Those parts of transformation processes, which are outside an assignment are seen as support processes to the assignment process. The assignment process is supported by product provision through the transformation process. This is interesting to compare to the view expressed by Harrington (1991). He distinguishes between different processes; production process and business process. Production process seems to be rather similar to our transformation process. Harrington (1991, p. 9) writes about production process: "Any process that comes into physical contact with the hardware or software that will be delivered to an external customer". Harrington (ibid) describes business processes to be "all service processes or processes that support production processes". One example of a business process is an order process. In our view, an order process is a fundamental part of the assignment process, and it is rather the production/transformation process that is a support to the business interaction process/assignment process, than the other way around.

This discussion makes it necessary for us to give our definitions of the different process types described above. In these definitions, below we refer to different roles. In the definition of assignment process we use the roles of customer and supplier. In the other definitions we use more general role concepts; producer and beneficiary (Lind and Goldkuhl, 2002). We find terms like "internal customer" and "internal supplier" confusing and hence we avoid these concepts often used by other authors. A beneficiary can be someone internally in the organisation or an (external) customer. Our definitions read as follows:

> A business process is set of activities where some producers create some product aimed for some beneficiary. Activities can be of coordinative and/or transformative character. An assignment process is a business process where agreements are created, fulfilled and assessed through coordination and interaction between a customer and a supplier. An assignment process consists of coordinative and transformative activities. A transformation process is a business process consisting of activities where some producers transform some pre-products into products aimed for some beneficiary. Transformation can be made before and after the assignment from the customer is given. A provision process is that part of a transformation process, which is not part of an assignment process;, i.e. those activities which are performed before the assignment is given.

How these different phenomena are related to each other is clarified in a conceptual model (Figure 6).

These conceptualisations help us to keep coordination and transformation together. This integrated process view shows that coordination and transformation are necessary activities in business processes. Activities of transformation need to be governed by activities of coordination. We should not exclude any of them in a business process inquiry.

When we have described transformation processes above we talked about procurement and manufacturing. This sounds like we are referring to the production of physical goods. Even if we used such examples above, we use the concepts of transformation and products in a generic sense. Products can be goods or services (Goldkuhl and Röstlinger, 2000). Transformation means the production of goods and/or services.

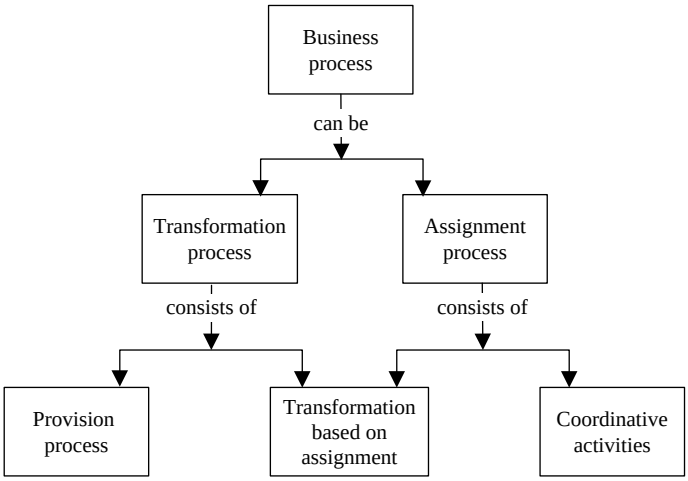


Figure 6.
A conceptual model of different types of business processes and their constituents

Another way to show how transformation and assignment processes are inter-twined is to use the BAT model described above (Figure 3). In Figure 7, the BAT model with its four business exchange phases has been simplified;, i.e. some parts (explicit action labels of each business party) have been left out. Instead we have explicitly put in the transformation perspective and the assignment perspective. Transformation is the transformation of pre-products into finished products aimed for customer usage. Assignment process is the management of assignment between customer and supplier. The two business parties coordinate their action in creating and resolving business assignments. As shown in Figure 7, the two types of business processes overlap in the fulfilment phase; confer also Figure 6. It is also possible to see where assignment and transformation processes do not overlap. An assignment process comprises coordination activities between customer and supplier, i.e. the creation and assessment of assignments (agreements). These coordinative parts are not within a transformation process. On the other side, a transformation process comprises transformative activities before the fulfilment of orders (assignments). These preparatory transformation activities (called provision process above) are not part of the assignment process.

An operationalisation: modelling business processes

The conceptual analysis above was not only an academic exercise in order to clarify different views and notions. The integrated process view can be operationalised into methods for business process modelling and thus used in practical business process inquiries. In this section, we will give some examples of business process models from a real life case where the integrated process view has been applied.

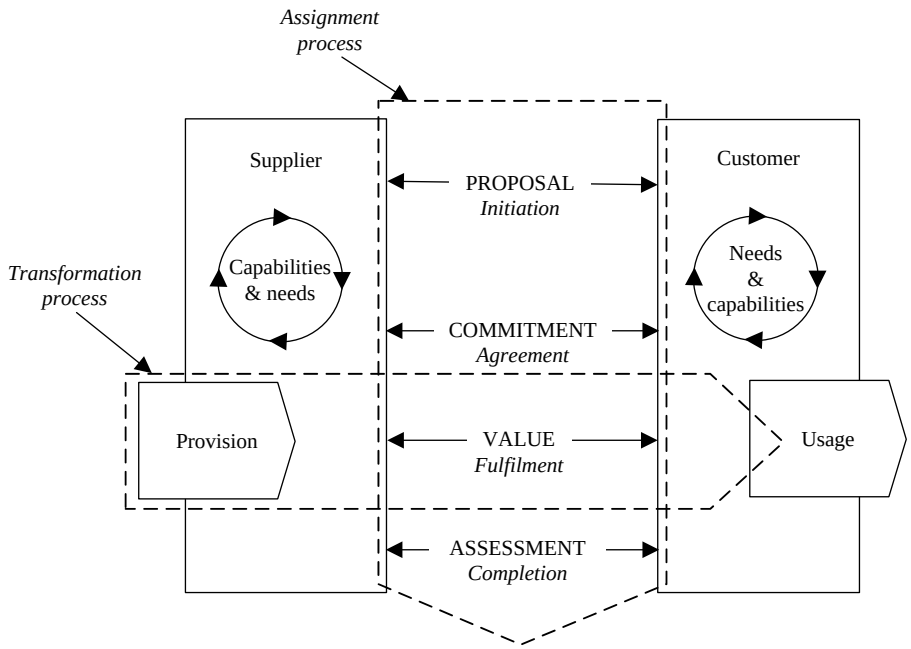


Figure 7.
BAT business interaction model with assignment process and transformation process

The real life case is based on an action-research oriented case study performed at a steel company, here named Steelco. This example is in this paper used for illustrating the integrated process view by the use of different business models. We will describe the business processes by using two types of models: a process diagram (Figures 8 and 9) and an action diagram (Figure 10).

Steelco is a manufacturing company, which mainly transforms steel into pipes for hydraulic cylinders. Steelco has different ways of performing business, i.e. the company takes part in different business interactions. This means that there exists different assignment processes as well as different transformation processes. The strategy that Steelco enacts is to have a variety of ways of interacting with their customers in order to meet different customer needs as well as managing a cost-efficient business.

One way of doing business is to perform one-time-shop selling from the standard stock. This interaction starts with Steelco exposing its product repertoire to potential standard stock customers. The exposed product repertoire is used as the basis for the customer to contact Steelco in order to place a product order. The product repertoire is exposed both by using advertising folders and by using an e-commerce site. Since the products that are subject for the business deal are stored in stock the lead times for

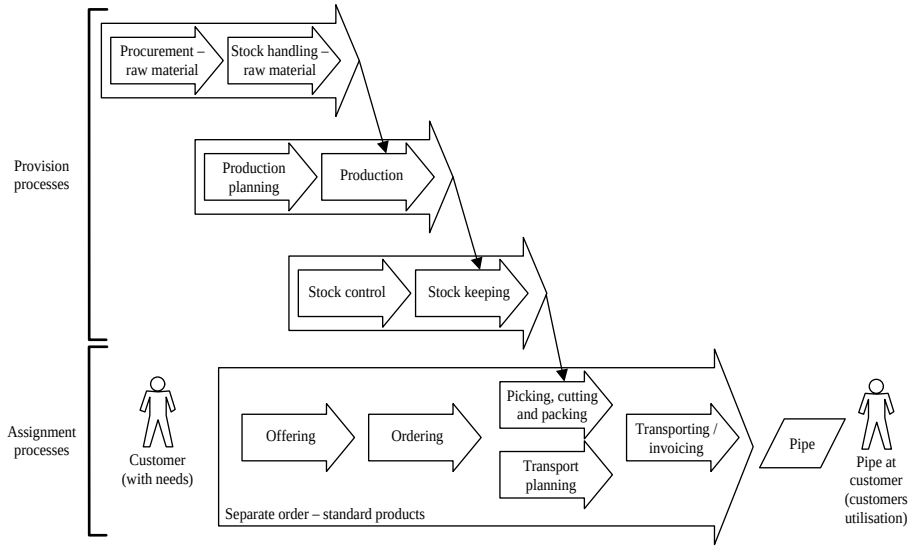


Figure 8.
Process diagram: separate order – standard products

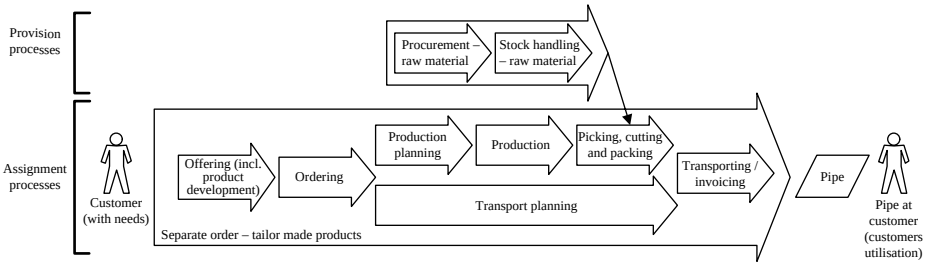


Figure 9.
Business process: separate order – tailor made products

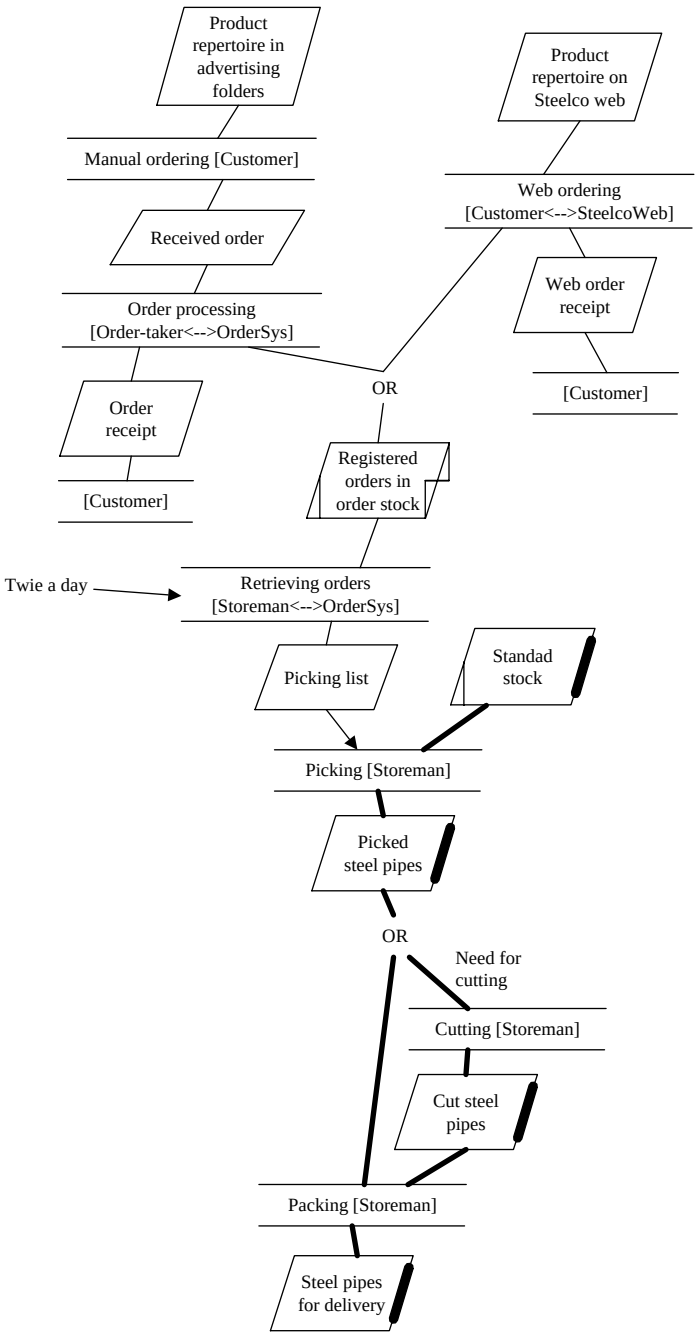


Figure 10.
Action diagram: one-time-shop selling

delivering the products can be short. The business process covering the one-time-shop selling is depicted in Figure 8.

In the process diagram (Figure 8) above the assignment process is divided into a series of steps in which agreements are created, fulfilled and assessed. In order to perform business in this way there is a need for a number of pre-conditional processes such as stock handling, production and procurement of raw material. These transformative processes, which are of provision character, are aimed towards potential clients and are therefore not part of the assignment process.

Drawing upon this business process it can be noted that both dimensions, i.e. the transformative and the coordinative dimensions, need to be understood in relation to each other. To understand the logic of the assignment process (from offer to delivery and assessment) one must understand how the transformation process (from procurement of raw material via production and stock-keeping to delivery) is organised. Agreements made in the assignment process need to be based upon the capability to deliver products from the stock.

A sub process depicted in a process diagram is an aggregation of actions performed. These actions are socio-instrumental actions, which mean that an action can be communicative and/or material (Lind and Goldkuhl, 2003). Such notion of actions is needed in order to put forward an integrated perspective on business processes, i.e. both material and communicative (coordinative) actions must be possible to model in relation to each other. The process diagram is survey model of the business process. It does not give an account of process details. Different actions cannot be seen from process diagrams. In order to show actions and the action logic of the process we need another type of diagram. In Figure 10, the action logic of the business process is depicted in an action diagram (Goldkuhl, 1996). This action diagram shows the interplay between communicative and material action in a particular business context. In this case these actions are about fulfilling the agreement made with the customer. Fulfilment acts made by both the supplier, i.e. the delivery, and the customer, i.e. the payment, are covered in this action diagram.

One-time-shop selling at Steelco is made with standard products. Steelco performs however also development of tailor-made products for particular customers. Customers' needs for tailor-made products have influenced Steelco to establish capability to develop products in collaboration with customers. In the process of developing these products the customers are highly involved. Steelco considers the development of tailor-made products as a way to progress their own capability regarding new product needs. The development of some of these tailor-made products will now and then require investments in new production equipment and production routines at Steelco. In the process diagram below (Figure 9) the business process constituted by transformation and assignment regarding tailor-made products is depicted.

By comparing the two process diagrams (Figures 8 and 9) it can be noted that two different types of products, i.e. standard vs tailor made products, are used as a basis for delineating these two business processes in relation to each other. From the two process diagrams it can also be noted that these two business processes have different transformation and assignment processes with some overlaps. In the case study several of Steelco's business processes were identified. These business processes coexisted and can therefore be addressed as process variants (Lind and Goldkuhl (2006) for a deeper discussion about process variants). The coexisting process variants at Steelco were called:

- *Separate order* – tailor made products, which consists of activities to produce and sell tailor-made products.
- *Separate order* – standard products, which consists of activities that are performed when Steelco is selling standard products from the standard stock.
- *Frame contract* – standard products, which consists of sales and production activities that are performed based on a customer prognosis of future orders covering several recurrent business transactions.
- *Separate order* – traded products, which consists of activities that are performed when subcontractors of Steelco deliver products directly to Steelco's customers. Steelco is not able to manufacture those products itself.

In these business processes there are differences in the different exchanges constituting the assignment process. There are also differences in the product characteristics delivered by each business process as well as the actor relationships governing the interaction between supplier and customer (Lind and Goldkuhl, 2006). Since there is a difference in the interaction logic in the assignment process the consequence will be that the transformation process and related provision processes will be different. In some of the business processes at Steelco there are more things belonging to both the assignment and transformation process while there in other business processes is less overlap. Process variants would not be possible to identify without this integrative perspective on business processes.

Our integrative perspective implies that the assignment process is superior in relation to the transformation process. This means that the assignment process influences the logic within the transformation process as well as which transformative actions that need to be performed for particular and potential customers, respectively. The differentiation between particular and potential customers is important (Lind, 2002; Goldkuhl and Lind, 2004). What is done in the assignment process is done for particular customers (known customers). This means that these are the customers that the supplier is engaged in making business deals with. The transformation process consists of one part belonging to the assignment process. This part means accordingly that transformative actions are performed for such particular customers. The transformation process consists of another part prior to the assignment process. This sub process of the transformation process is called provision process (as stated above). What is performed in the provision process is performed for potential customers, i.e. customers not yet known or at least customers who have not yet entered into a business transaction. There is no customer order governing what is performed in the provision process.

The comparison between the two business processes of Steelco also reveals that the same sub process can in one business process belong to the assignment process and in another business process be external in relation to the assignment process. The sub process "production" is one such example. Production is naturally a part of the transformation process in the two business processes depicted in Figures 8 and 9, but is only part of the assignment process in the case of tailor-made products. This means that given the role that the transformation process has in relation to the assignment process the task to be handled within the sub process might vary. Production in the standard product case is performed without a valid customer demand, but in the tailor-made product case production is performed based on a customer order.

This mix of different ways of performing business affects Steelco to continuously develop and maintain a competitive product assortment. By balancing between standard and tailor-made products the utilisation of Steelco's infrastructure can be efficient. Dependent on the situation the tailor-made product might also be offered to other customers. Thereby the development of tailor-made products drives the development of the assortment at Steelco.

The example from Steelco shows how integrated transformation and coordination are. Transformative and coordinative actions form together a texture of activities arranged to efficiently satisfy customers with products. It is not possible to leave out either the coordinative activities or the transformative activities when inquiring business processes. The two aspects need to be studied in an integrative way. The inquirer needs, however, to be well aware of the different dimensions and how they work together. The key message here is that coordination and assignment are superior in relation to transformation. Especially, since the expected delivery of value to the customer emphasised in BPM needs to be based upon established expectations. Therefore, business process analysis should put primary emphasis on study of the assignment process. The business interaction logic between supplier and customer (Figure 3) should be studied as a basis for further process investigation.

How is this integrative approach in relation to standard business process approaches? We have above characterised most BPM approaches to be transformation oriented (input-process-output models). As also said above this does not mean that coordination is excluded in practical modelling. For example, order processes are usually modelled. The problem is, however, that traditional BPM approaches do not incorporate a coordination framework to govern the business process inquiry. When studying coordination and assignment, without a proper framework, the analysis may become superficial and haphazard. A coordination framework, as in most LAP approaches may govern process inquirers to direct their attention to decisive characteristics in the business process. The coordination logic of assignment process can more easily be revealed when using a coordination framework. As said above, well-known LAP approaches (like Action Workflow and DEMO) tend to neglect the transformative aspects of business processes. Transformation needs to be studied, otherwise important aspects of business processes are disregarded in the analysis. In comparison to those mentioned LAP approaches, our approach is a serious attempt to bring together coordination and transformation into one integrated modelling and analysis. Action Workflow and DEMO build on pre-defined process structures which are put together during modelling. A LAP-based coordination framework does not, however, need to be as rigid as those approaches [critique in Goldkuhl (1996) and Ljungberg(1997)]. The coordinative actions can be modelled in a more free fashion as is done in action diagrams (confer example above, Figure 10).

Conclusions

In this paper, we have investigated two perspectives on business processes. These two perspectives are the transformative view and the coordinative view. The investigation has been made with the purpose of developing a synthesis of these views working as thesis and antithesis. The core of such dialectic approach is to create a synthesis that transcends contradictions of the thesis and antithesis. Pros and cons in the two perspectives have been identified and an integrated process view has been proposed as

well as operationalised. The integrated process view comprises a number of definitions of different process types (business process, assignment process, transformation process, provision process). We base consequently our integrated process view on characteristics from both the transformative and the coordinative view.

Important characteristics of the transformative view are:

- Transformation shall result in deliverable products aimed for customers.
- Deliverable products are transformed in structured and sequenced way from base products.

Important characteristics of the coordinative view are:

- The business interaction logic between supplier and customer frame the process structure.
- Business interaction consists of establishment, fulfilment and assessment of agreements between customer and supplier.

Important characteristics of our proposed integrative view are:

- Coordination and transformation form an integrated texture of actions.
- Assignment processes are superior in relation to the transformation process.
- A transformation process consists of sub processes where some parts belong to the assignment process and other parts may be external to the assignment process.
- Those parts of the transformation process that are external (prior) to the assignment process are called provision process.

The integrated view and its accompanying definitions should be used in evaluating and redesigning business processes. The view has been operationalised by the aid of some modelling methods. In this paper, we have used a process diagram and an action diagram to show how modelling of business process can be performed.

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About the authors

Göran Goldkuhl, professor of Information Systems Development at Linköping University and Professor of Informatics at Jönköping International Business School. PhD at Stockholm University 1980. He is the director of the Swedish research network VITS, consisting of more than 40 researchers at eight Swedish universities. He is currently developing a family of theories, which all are founded on socio-instrumental pragmatism: Work practice Theory, Business Action Theory, Information Systems Actability Theory. He has a great interest in interpretive, qualitative and pragmatic research methods and he has contributed to the development of Multi-Grounded Theory, (a modified version of Grounded Theory). He is editor-in-chief for the open journal Systems, Signs and Actions (www.sysiac.org).

Mikael Lind is with the University College of Borås and Linköping University, Sweden. He is the leader of the informatics department at the school of Business and Informatics in Borås. He is also associated to the research network VITS in Sweden. His current research interests are business process management, e-services, method engineering, co-design of business and IT, design and evaluation of business process oriented information systems, and research methods for information systems development. His research is mainly characterised by empirically driven theory and method development. He is involved in several action-research projects in different settings focusing business processes and information systems. He is associate editor for the open journal Systems, Signs and Actions (www.sysiac.org). Mikael Lind is the corresponding author and can be contacted at: Mikael.Lind@hb.se