

A STRATEGIC MODELING TECHNIQUE FOR CHANGE MANAGEMENT IN ORGANIZATIONS UNDERGOING BPR

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Abstract: Modern day organizations seek to rationalize, innovate, and adapt to changing environments, and circumstances as part of Business Process Reengineering (BPR) efforts. Irrespective of the process reengineering program selected, and the technique used to model, BPR brings with it the issues of organizational, and process changes, which involves managing organizational changes (also called “change management”). Change management is non-trivial, as organizational changes are difficult to accomplish. Though some attempt has been made to model change management in enterprise information systems using conventional conceptual modeling techniques, they have just addressed “what” a change process is like, and they don’t address “why” the process is the way it is. Our approach is novel in the sense that it presents an actor-dependency-based 5-phased technique for analyzing, and modeling early-phase requirements of change management that provides the motivations, intents, and rationales behind activities.

1 INTRODUCTION

Modern day organizations are extensively dynamic, as they seek to rationalize, innovate, and adapt to changing circumstances as part of BPR efforts (Kueng *et al.*, 1996). There exist different process redesign models for use in the analysis, design, and implementation phases (Georgakopoulos *et al.*, 1995, Kueng *et al.*, 1996, Mylopoulos *et al.*, 1999, Ould, 1995). In contrast to the previously proposed modeling techniques, we use a novel approach in our proposed solution by modeling *intentional* relationships between actors of a project (see, for example, Chung *et al.*, 2000, and Yu, 1997) to explore the structural origins of changes in a BPR project.

2 MODELING DEPENDENCIES BETWEEN STRATEGIC ACTORS

In this paper we discuss the application of actor dependency concept using *i** (see, for example, Chung *et al.*, 2000, Yu, 1997). In order to model change management problems, two *i** diagrams are used: Strategic Dependency Model (SD), and

Strategic Rational Model (SR). SD diagram is used to model dependencies between actors, while SR diagram is used to model internally why each actor has those dependencies. In other words, SD describes dependencies at a higher level of abstraction than SR.

3 MODELING CHANGE MANAGEMENT: CASE STUDY

To demonstrate our approach for modeling change management problems, we have considered the case study of a company, Ergonomic Systems, Inc., undergoing change in its organizational systems (details can be found in Harmon, 2003). We briefly introduce the problem in Section 3.1.

3.1 The Ergonomic Systems, Inc.

Ergonomic Systems, Inc. is a company that manufactures, and sells integrated office accessories, and furniture meant for high-tech office environments. Its major product is Ergo Chair, which is an award-winning, well-designed chair.

The executives of Ergonomic Systems, Inc. had decided many years ago that they would not be

interested to embrace Internet Technology (IT). However, recently the company has been acquired by a third party who is interested in evaluating the adoption of IT. Consequently, an important meeting was scheduled, and the following are among a few of the decisions that were made:

- (i) Examine Ergo Chair value chain, and identify opportunities to improve productivity.
- (ii) Create a portal that would allow customers to contact the company via the Web.

3.2 Modeling Change Management

In this section, a solution of the above change management problem is described in phases as discussed below, and the problem is modeled using the actor dependency concept. The idea of breaking down the problem into five phases has been partially motivated by the solution of Harmon, 2003. However, Harmon's modeling technique is based on conventional approaches.

3.2.1 Phase I: The redesign of Ergo Chair Order Process is planned

In the first phase, planning work is carried out. A planning phase should determine project scope, and actors. In this project, the following actors were identified:

- *External Actors*: Customers, and Suppliers.
- *Internal Actors*: Finance, Manufacturing, and Sales.

In this redesign, following *goals* have been identified:

- All orders should be submitted immediately from Sales to Finance in order to deliver Ergo Chairs to clients as soon as possible. Currently, orders take some more time to be submitted. As a consequence, customers are dissatisfied.
- All orders should be submitted correctly.
- As part of corporate goals, Ergonomic Systems must keep sales growth levels.
- As part of corporate goals, Ergonomic Systems must keep highest profit margins.

3.2.2 Phase II: The current Ergo Chair Order Process is analysed

The first, and key step in this phase is to understand, and describe the current Ergo Chair Order Process.

After the initial diagrams are drawn, they must be discussed with the redesign team. These diagrams will be the documentation work on which discussions should be based. All team players should provide feedback to these diagrams. Next, diagrams should be refined. Figure 1 shows current Ergo

Chair order process that is modeled using a SD diagram. SR is not modeled at this stage, since only some evident details to be improved were identified. After Ergo Chair Order Process is redesigned, SR diagram will be included.

3.2.3 Phase III: The current Ergo Chair Order Process is improved

An important change has been detected from the previous phase: Finance should manage credit problems by itself, and not through Sales.

Now the new SD diagram is modelled, after the required changes are taken into consideration. The new SD diagram is not shown here, but the SR diagram for Customers is shown in Figure 2. The SR diagrams for actors Sales, and Finance are similarly modeled and are omitted here.

3.2.4 Phase IV: The Ergo Chair Order Process is redesigned

The SD diagram for the Online Order Process is modelled, but is omitted from here to maintain brevity of the paper. Figure 3 illustrates the SR diagram for the actor, Web Portal.

3.2.5 Phase V: Implementing the New Ergo Chair Order Process

After redesigning efforts are finished, we obtain well-documented diagrams, and rationale behind them. The next step is to implement the suggested changes. These issues are beyond the scope of discussion in this paper.

4 CONCLUSIONS

In this paper we have provided a *novel* approach, using a *5-phased technique* for analyzing, and modeling *early-phase* requirements of organizational change management problems. The technique can reason about the *opportunities*, and *changes* that are associated with BPR.

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APPENDIX

The Appendix contains all the figures referred to in the paper.

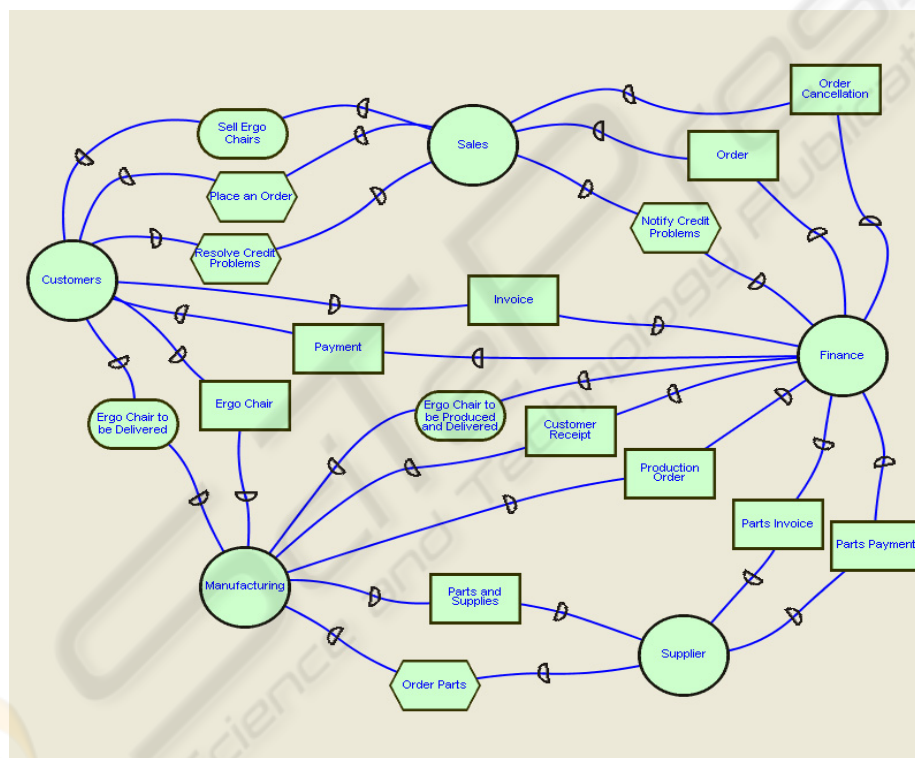


Figure 1: SD diagram for current chair order process.

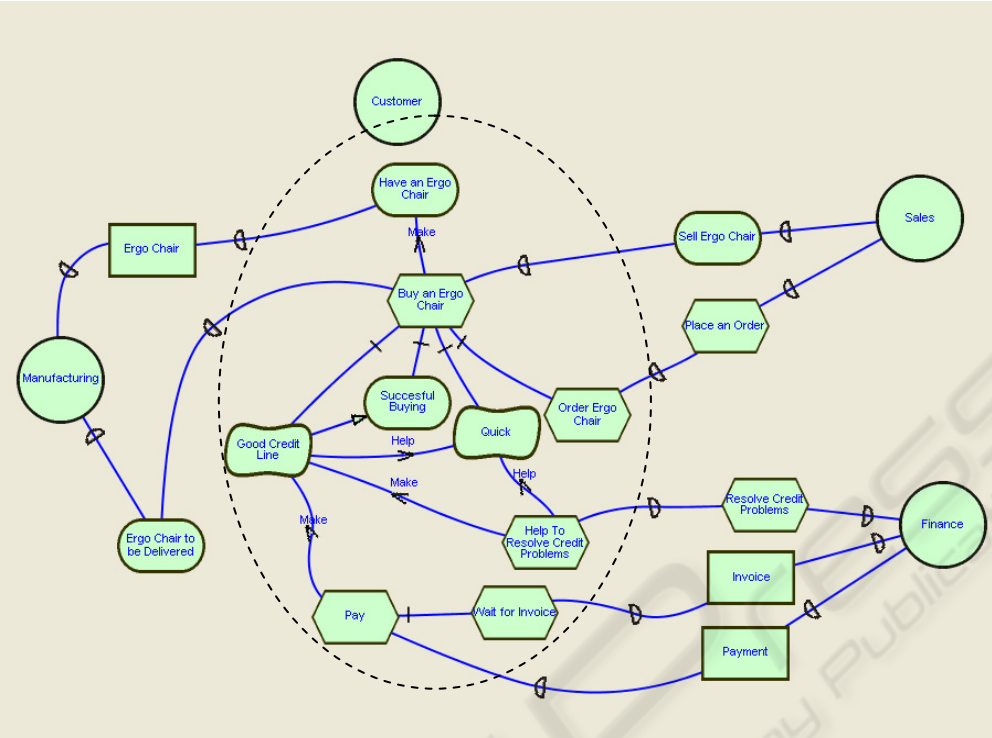


Figure 2: SR diagram for improved Ergo Chair order process: Actor Customer.

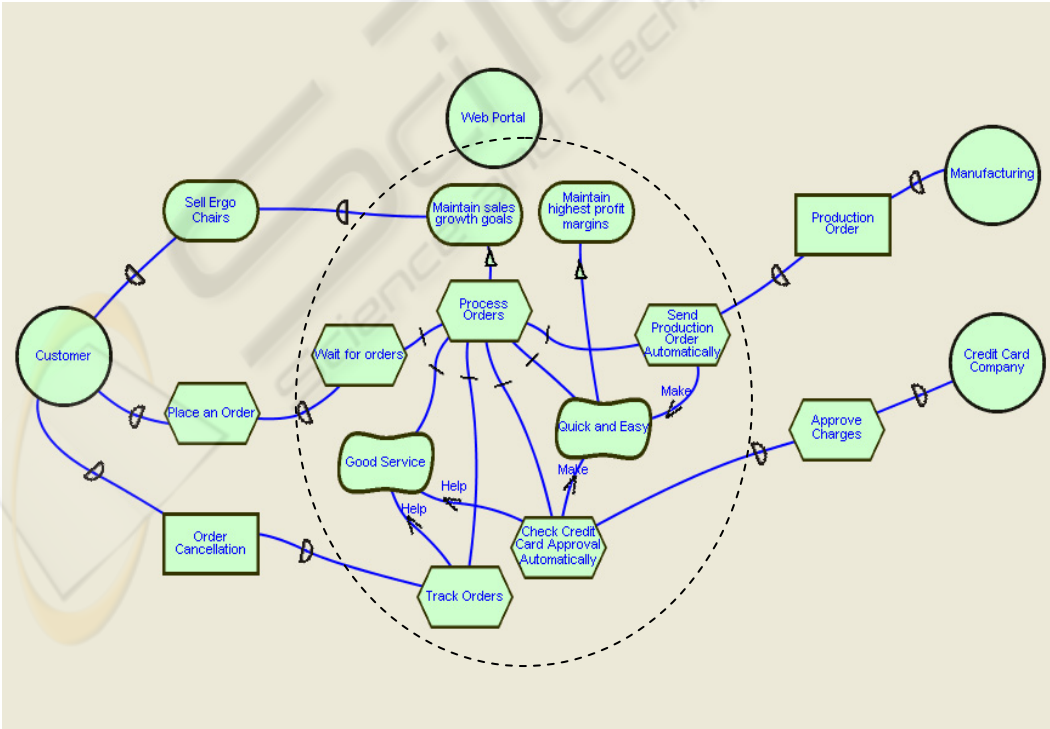


Figure 3: SR diagram for Online Ergo Chair order process: Actor Web Portal.