

AN APPROACH TO THE BUSINESS PROCESS IMPROVEMENT PROJECT IN CONSTRUCTION COMPANY

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Croatian construction companies, during the last two decades passed very hard and dramatic transition. The construction companies faced simultaneously: economic transition of country, privatization of companies, internal restructuring (business process improvement), and in the recent time economic crisis - recession.

Despite of severe difficulties majority of construction companies survived on the internationally opened and very competitive construction market, even trying to modernize their business processes to improve construction company's management.

During the scientific research project „Information technology in Croatian construction“, in the Years 2001 – 2007, authors concluded that in the construction companies is not enough recognized necessity for the systematic approach to the company's business process improvement, as the base for increase of:

- Productivity,
- Competitiveness,
- Profits

Authors are presenting conceptual approach to the development Project of business process improvement in the construction company.

Construction processes, project goals, project scope, construction process rationalization tools, methodology, possible benefits are described.

KEYWORDS: construction company, business process, information technology, IT application.

INTRODUCTION

Increasing complexity of modern buildings and the growing competition in the construction market increased the pressure for performance improvement of the construction business processes. Many construction projects are not delivered within the planned budget, time and quality and often are poorly focused on client needs.

Construction business processes usually require thousands of interdependent, often conflicting, decisions. A large number of various participants should properly cooperate in all phases of construction business processes.

In order to improve construction business processes management, construction company can undertake systematic approach to design and develop appropriate company's business process model, which would allow consistent and integrated construction business process management.

Business process

Business process has been defined as a collection of activities, connected by flows of goods and information that transforms various inputs into more valuable outputs: products and services.(Izetbegović, Žerjav 2009.)

Business process improvement goals

The typical goals of the corporation business process improvement are:

- reducing the work parts
- simplifying the control and checkpoints
- reducing the internal and external communication costs
- rationalization of the decision processes
- transition from sequential processes to simultaneous (parallel) processes through implementation of flexible information systems

Potential benefits after realization of the business processes improvement project are:

For the organization:

- increasing competitiveness
- consistency through process replication
- better predictability of planning processes
- easier partnering and contracting with other construction project participants
- IT systems support

For the business process:

- reducing time and costs
- better planning
- better and timely information exchanges
- better communications
- reduce errors and rework
- benchmark for improvement

For the client:

- better product quality
- fitness for the purpose
- delivered on time
- delivered to planned costs

The agent that enabled companies to break their old rules and create new process models is modern information technology (IT). IT acts as an enabler that allows organizations to work in radically different ways (Hammer, Champy 1993.).

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- Productivity,
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Business process map

Construction company’s generic Business process map is presented on the next page schema.

The Business process map (BPM) is a base for the development Business process improvement project (BPIP) of the construction company.

The concept of the BP improvement project, divided into phases and main activities, is presented in the following Table 1. (Hammer, Champy, 1993, Tzortzopoulos, 2004),

Table 1: Phases and activities of the BP improvement project concept

Phase	Main activities
Implementation Strategy	Strategic goals, objectives and scope of the project Identify the problems Gain management support Promoting the powerful leader Defining the process owners Team building
Planning for the BP model	Appoint a team, and a project manager Analyze existing processes, performance gaps, quantity measure Understanding client’s / customer’s needs Identify core processes Communicate – win acceptance from company employees, disseminate results Provide training
BP Development	BP Redesign Review people and technological requirements Validate new process and realize performance measures Review organizational structure, competence and motivation Develop action plan Pilot implementation
BPM Implementation	Phased implementation roll out throughout the company

and handover	Monitor performance Asses/evaluate performance Identify new uses Standardize process use and implementation method Continuous improvement
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A BPM contains milestones corresponding to the completion of each phase. The timing of these milestones is defining the schedule – master plan for the overall development project. The model is the base for the exchange of informations between Project stakeholders and enables the better communication and coordination between specialists acting in the Project.

In this way, process model in the Business processes improvement project is a tool for the increase of the end project result.

Roles during the BP improvement project execution

The following roles emerge during the BPM execution:

- ◆ Leader - a senior executive who authorizes and motivates the overall engineering effort
- ◆ Process owner - a manager with responsibility for a specific process and design effort focused on it
- ◆ Project team - a group of individuals dedicated to the particular process(es), who diagnose the existing process and oversee its (re)design and implementation
- ◆ Steering committee - a policy making body of senior managers who develop the organization's overall BPI strategy and monitor its progress
- ◆ BPI czar - an individual responsible for developing techniques and tools within the company and for achieving synergy across the company's separate Business process improvement projects (Hammer, Champy 1993.).

The relationship among these roles is normally the following: The leader appoints the process owner, who convenes a project team to reengineer the process, with the assistance from the czar and under the auspices of the steering committee (Hammer, Champy 1993.).

BPM development project

During systems development phase project team starts by modeling of the corporation's core business processes. This could be done as a part of a systems definition study or a strategic business study. It is appropriate to start information analysis in this phase.

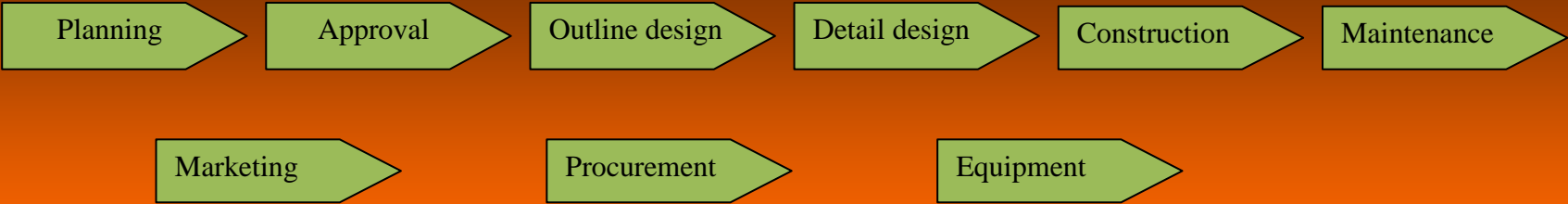
The next phase is analysis of the business requirements in detail, database and application systems. The realization of the above noted phases enables automatically software production for final system implementation.

Construction Company Business process map

Management processes



Core processes



Support processes



System development can be carried out iterative by developing smaller sub-sets of prototype applications by intensive end user participation.

During the business process analysis it is important to identify core business processes. These are the processes that corporation requires in order to survive; the processes that distinguish some organization from its competitors.

Process models use multimedia, animation and critical path techniques to visualize business processes. This is especially useful in communicating a vision of how processes could operate in a reengineered environment.

A key part of processes improvement is measuring how some organization carries them out. The measures are in terms of time, costs, and quality of the processes.

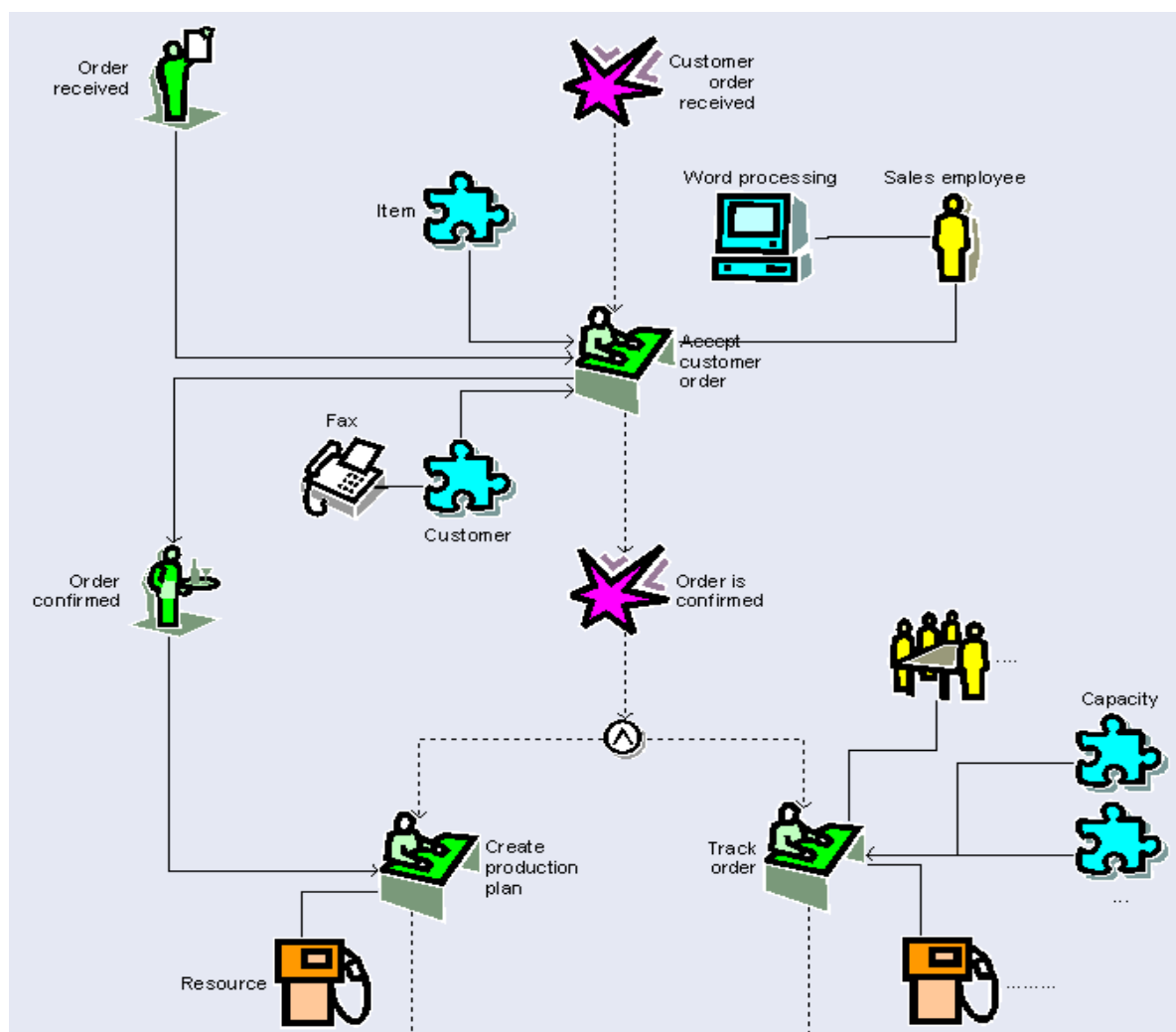


Figure 1. Model of a business process Ordering

Through IT application in the BP improvement process it is easier to:

- ◆ Identify critical informations needed for the business process
- ◆ Rethink organizational issues by bringing to light low value organizational boundary interfaces

- ◆ Facilitate process improvement steps by organizing all organizational information in one common data source (data repository)
- ◆ Enable new creative thinking, which could lead to dramatic improvements.

Through the introducing of the modern information technologies, the business processes should be improved, in the way that process should have possibly less work parts.

There are numerous BPM software tools (ARIS, Designer 2000, Workflow etc.). The precedent Figure 1 is extracted from ARIS Method manual. (IDS Scheer: ARIS Method manual, Saarbruecken, 2006)

Common errors by BP improvement

Michael Hammer and James Champy are reporting that many companies that begin reengineering don't succeed at it. They could not make significant changes; they did not achieve their performance improvement. Hammer and Champy's estimated that 50% - 70 % of organizations that undertake reengineering effort, did not achieved dramatic results they intended. Therefore they analyzed the most common errors in reengineering process. These errors should be avoided, than success is very certain.

These common errors are:

- ◆ Try to fix a process instead of changing it
- ◆ Don't focus on business processes
- ◆ Ignore everything except process redesign
- ◆ Neglect people's values and beliefs
- ◆ Be willing got settle for minor results
- ◆ Quit to early, etc.

Authors argue that payoffs of successful reengineering are spectacular - for the company, its employees and the economy as a whole.

According to some authors there is enough room for skepsis regarding Corporation Reengineering concept application (Nippa, 1995., or Osterloh, Frost, 1994.)

CONCLUSIONS

The potential benefits from the implementation of Business process model in construction company for the organizations as the whole, for the business processes, and for the company's clients are listed above on the page 2.

In construction it is very difficult to quantify BPI project implementation results as well to compare results between the projects because of their variability. Probably the most benefits are qualitative and hard to evaluate through specific measures.

Application of the BP reengineering (Hammer, Champy 1993), according to their research data, brought improvements of service and benefits higher in order of magnitude to some of 30%-40% companies that took this undertaking. This will be carried out through fundamental rethinking of the actual business processes and building them newly "from the ground".

Despite some doubts on the Corporate reengineering process results (Osterloh, Frost, Nippa), there is a lot of positive results in the reengineering process.

Further research in Croatia is needed on the results of BP development and implementation project results in specific organizational context of different construction companies.

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