Selecting the best strategic practices for business process redesign

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Abstract

Purpose – The purpose of this paper is to present a methodology which defines best strategic practices for business process redesign (BPR).

Design/methodology/approach – A total of 29 best practices are studied and evaluated from the literature. The philosophy of TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) method is applied in recognizing the alignment of best practices with the organization strategy. The indicators of cost, time, quality and flexibility are used as the criteria to measure the degree of alignment of best practices with organization strategy. The proposed method is tested in a case study of the registration process at a university.

Findings – The recent investment failures in BPR projects show that the relation between best practices and organization strategies should be highly considered. It is indicated that process redesign can meet organization strategies through recognizing and implementing best strategic practices.

Research limitations/implications – Considering the fact that pundits working in the field of BPR are not accessible, the previous published findings and results have been used in this research.

Practical implications – Owing to the limitations on budget and time, organizations are able to consider only those best practices which play a critical vote in helping them to achieve their goals. Best strategic practices list provides managers and business analysts with a precious resource in BPR projects.

Originality/value – This paper presents a new methodology for introducing best strategic practices for BPR. A strategic best practice is a new term in the BPR literature.

Keywords Business process re-engineering, Corporate strategy, Redesign

Paper type Research paper

1. Introduction

After presenting the work division principle by Adam Smith and industrial revolution in developed countries, a new theory, proposed by Hammer and Champy, was studied by many researchers and was called different names. Among them are.
Core process redesign (Heygate, 1993; Rigby, 1993; Kaplan and Murdock, 1991), process innovation (Davenport, 1993), business process redesign (BPR; Davenport and Short, 1990), organizational reengineering (Hammer and Champy, 1993; Lowenthal, 1994), breakpoint BPR (Johansson et al., 1993), and business restructuring (Talwar, 1993).

BPR mainly aims at creating a process-oriented attitude instead of a functional-oriented one because the business processes provide companies, not products, with long-term success. Successful people in the competitive area present good products, not the good products cause success (Hammer and Champy, 1993).

Studies in the case of BPR indicate that the failure rate is very high in such projects (Wu, 2002; Al-Mashari and Zairi, 1999). Several reasons show that most failures are due to the projects mismanagement (Tinnila, 1995; Al-Mashari and Zairi, 2000; Berg and Pottjewijd, 1997). Generally, BPR initiatives face two challenges (Reijers and Mansar, 2005a):

1. **Technical challenge**: derives from the difficulty in designing and developing the process; if it is adequately met, it provides the current process with fundamental and dramatic improvement.

2. **Socio-cultural challenge**: is the result of the severe organizational effects on involved individuals that may lead them to react against the changes.

In order to meet such challenges, different methodologies, practices and tools have been presented in various research such as (Kettinger et al., 1997; Valiris and Glykas, 1999). One of the proposed practices for encountering technical challenges is that analyzers refer to the best practices. The best practices are successful experienced methods for facing a special problem that may happen in every setting (Reijers and Mansar, 2005a, Reijers and Mansar, 2005b, Reijers and Mansar, 2007). Best practices use professional methods to cope with the current situation and consequently enhance the organization productivity.

Although it is suggested that BPR should be pertinent to organization’s goals and strategies, it does not occur in reality (Wu, 2002). Therefore, it should be attempted to apply those best practices, which align with organization strategies. To achieve such a goal, simulation or practitioners’ work experiences can be exploited to provide a proper analysis of the effects of implementing the best practices on organization components. Finally, the rate of their alignment with strategies can be specified.

Hence, studying and evaluating best practices presented in BPR literature, this research comes up with a methodology for identifying best strategic practices. Owing to the fact that organizations need to produce goods and present services with “low cost”, “high quality”, “high flexibility” and “prompt response to customers’ needs”, these four indicators are used to evaluate the effects of implementing best practices on business processes (Venkatraman, 1994).

Given the aim mentioned above, this research seeks to answer the following questions:

*RQ1*. Which best practices can be employed to face the technical challenge of BPR?

*RQ2*. What are the best strategic practices for BPR?

To answer the research questions above, first of all, a review of literature on BPR is done. In the next step, a methodology for identifying best strategic practices is introduced. Then, applying such a methodology, registration process of students at
Qazvin Azad University is studied. Finally, the findings of the research are discussed and analyzed and a conclusion is made.

The schematic representation of the stages of this research is shown in Figure 1.

2. Review of literature
Since the advent of reengineering concept, it has been studied from different perspectives. The followings are examples which are worth mentioning.

Reengineering implementation methodology (Wastell et al., 1999; Davenport and Short, 1990; Kettinger et al., 1997; Wu, 2002), its relationship with other organizational approaches (Currie, 1999; Dickinson, 1997; Green and Wayhan, 1996; Makridakis, 1996; Ulbrich, 2006), reengineering and IT (Davenport and Short, 1990; Whitman, 1996), quality management and reengineering (Gingele et al., 2002; Macdonald, 1995; Zairi and Sinclair, 1996), implementation experiences, obstacles and results (Belmiro and Rents, 2000; Guimaraes and Bond, 1996; Maull et al., 2003; Ranganathan and Dhaliwal, 2001).

But the important point which should be taken into account here is the difference between the concepts of process improvement, redesign and reengineering that is illustrated in Figure 2.

Considering Figure 2, it can be concluded that reengineering, compared to redesign, has a broader domain and involves all reconstruction dimensions of the organization’s processes from change management to project management. While process redesign is

![Figure 1. Research stages](image1)

![Figure 2. Differences between process improvement, redesign and reengineering](image2)
seeking for a response to the technical challenge presented in the introduction section, or attempting to somehow make a new process that is preferable to the current process from different perspectives, each reengineering process can obviously include one or more redesign processes (Mansar and Reijers, 2007).

There are several researchers mentioned in the literature who have worked on BPR. Some of them are as follows:

- Al-Mashari and Zairi (1999, 2000) studied the reengineering literature and tried to categorize failure and success factors in their implementation. In the second research, they addressed the different definitions of reengineering and resolved the ambiguities around its concepts. Finally, they discussed the integration between reengineering and total quality management, benchmarking and change management and presented a conceptual approach toward the critical role of IT in reengineering.

- Paper, Rodger and Pendharkar (2001) collected organizations’ experiences in reengineering process in the US states and after data analyzing, published them in the form of ten lessons to help those who want to successfully implement reengineering.

- In their study, Ranganathan and Dhaliwal (2001) presented the results of business process reengineering implementation in Singapore’s companies and identified the main problems of implementation as the lack of financial and human resources, IT internal skill and capacity and a hero to promote the plans.

- Maull et al. (2003) investigated 33 public and private organizations in England and analyzed the relationship between different sections and dimensions of a reengineering plan and also their relationship with the maturity in implementing the business process reengineering.

- Hughes et al. (2006), Harders et al. (2006) and Greasley (2004) applied and implemented reengineering and found out considerable results in e-government centers, operation room in hospitals and road accidents dispatching system.

Few studies have specifically dealt with BPR. In 2005, Mansar and Reijers (2005a) studied best current practices for meeting technical challenges of process redesign and analyzed these practices, based on their experiences, from cost, quality, time, and flexibility perspectives. In another research done by the same researchers, they evaluated best practices through experts and analyzers’ questionnaires, identifying and analyzing ten best practices (Mansar and Reijers, 2007). It is noteworthy that in studies mentioned above the relation between the best practices and strategies of organization as well as the way they are selected to implement processes have been neglected.

3. Best practices

Reviewing the literature came up with 37 best practices, some of which are not supported by indicators of cost, quality, time and flexibility. Considering these indicators, only those with the backgrounds of their effects on processes were presented. Before presenting the best practices, the important areas and sections in process redesign should be mentioned. They can be generally categorized into six groups (Mansar and Reijers, 2005b):
(1) Internal and external customers of business processes.
(2) Products or services of processes.
(3) Business processes from two perspectives:
   • *Operation view.* How have the business processes been implemented? (The number of tasks in an occupation, the relation level between tasks and activities, tasks’ nature, consistency rate, etc.).
   • *Behavior view.* When have the business processes been implemented? (Tasks’ sequence, composition, scheduling, etc.).
(4) Participants in business processes:
   • Organization structure (elements, roles, users, groups, units, etc.).
   • Organization population (individuals, representatives that have the authority over tasks’ execution and relation between tasks).
(5) The information made or used by business processes.
(6) The technology used by processes, and finally the external environment (except customers) can be referred to. In Figure 3, an illustration of BPR implementation framework has been presented.

Therefore, from among 37 best practices, 29 best practices were selected which are ranked in Table II and are defined and evaluated using four indicators of cost, quality,
time and flexibility. It is worth mentioning that the study done by Mansar and Reijers, was used to evaluate the best practices (Mansar and Reijers, 2005a, 2005b, 2007).

If an indicator is displayed by −, it signifies the negative effect, if by □, it shows the neutral effect and if shown by +, it symbolizes the positive effect on that indicator. For instance, the best practice of “control relocation” positively influences quality (improves the quality), negatively impacts on cost (increases the cost) and has a neutral effect on time and flexibility.

4. Recognizing best strategic practices

In order to achieve their missions and goals, organizations adopt various strategies. Due to the application of general strategies in most public and private organizations, three strategies of cost leadership, prompt response and differentiation are used for categorizing the best practices (Hambrick and Fredrickson, 2001; Porter, 1985). Analyzing strategies is done using cost, time, quality and flexibility indicators as shown in Table I.

Considering the nature of strategies, analyzing their content, and adapting them to the best practices, the best practices aligned with each strategy can be identified (Table II).

Here, using TOPSIS philosophy, the closeness or distance of best practices to organization strategies are identified and categorized. In this method, in addition to considering the distance of one best practice from main ideal model of strategies (Table III), its distance from strategies’ subsidiary ideal point (Table V) is taken into account as well. That is, selected best practice should have the least distance from main ideal model, and in the next stage, the least distance from subsidiary ideal model. The algorithm of the mentioned method is as follows.

4.1 First step

The main model of strategies should be developed considering the indicators of cost, quality, time and flexibility that should express main requirements of the strategies (Table III). In fact, the main focus of strategies is to take these indicators into account. In this research, three spectrums of increase, decrease and neutral are used to evaluate the indicators. For example, according to Tables I and III, key indicators of prompt response strategy are time and flexibility, so the aim of this strategy is to decrease the time and increase the flexibility. It is also possible to consider cost and quality as neutral factors.

Table III is an illustration of core selective indicators.

4.2 Second step

Distance of best practices with main ideal model is assessed and the alignment of indicators is scored + 1 and the non-alignment of indicators is scored − 1 and finally

<table>
<thead>
<tr>
<th></th>
<th>Cost leadership strategy</th>
<th>Prompt response strategy</th>
<th>Differentiation strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core selective indicator</td>
<td>Based on cost</td>
<td>Based on capacity, prompt response and flexibility</td>
<td>Based on product development skills</td>
</tr>
</tbody>
</table>

Table I.
Analyzing strategies

Source: Chou and Chang (2007)
<table>
<thead>
<tr>
<th>Framework components</th>
<th>Best practice</th>
<th>Definition</th>
<th>Cost</th>
<th>Time</th>
<th>Quality</th>
<th>Flexibility</th>
<th>Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Control relocation</td>
<td>Moving towards the customers' control</td>
<td>-</td>
<td>☐</td>
<td>+</td>
<td>☐</td>
<td>Klein (Kettinger <em>et al.</em>, 1997)</td>
</tr>
<tr>
<td></td>
<td>Contact reduction</td>
<td>Reducing physical contact with customers and third parties</td>
<td>-</td>
<td>☐</td>
<td>+</td>
<td>☐</td>
<td>Hammer and Champy – Buzacott (Berio and Vernadat, 2001; Guimaraes and Bond, 1996)</td>
</tr>
<tr>
<td></td>
<td>Integration</td>
<td>Merging with customers and suppliers' business processes</td>
<td>+</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Klein-Peppard and Rowland (Kettinger <em>et al.</em>, 1997; Maull <em>et al.</em>, 2003)</td>
</tr>
<tr>
<td>Process operation view</td>
<td>Order types</td>
<td>Determining the tasks that are related in an order and designing new processes if necessary</td>
<td>+</td>
<td>☐</td>
<td>-</td>
<td>-</td>
<td>Hammer and Champy – Rupp and Russell – Peppard and Rowland – Berg and Pottewij (Guimaraes and Bond, 1996; Maull <em>et al.</em>, 2003; Belmiro and Rents, 2000; Ranganathan and Dhalwal, 2001)</td>
</tr>
<tr>
<td></td>
<td>Task elimination</td>
<td>Eliminating unnecessary tasks from a process (the tasks with no added value for customers)</td>
<td>+</td>
<td>☐</td>
<td>-</td>
<td>☐</td>
<td>Peppard and Rowland – van der Aalst and van Hee (Berio and Vernadat, 2001; Maull <em>et al.</em>, 2003; Belmiro and Rents, 2000; Sarmad <em>et al.</em>, 1998)</td>
</tr>
<tr>
<td></td>
<td>Order-based work</td>
<td>Eliminating the batch-processing and periodic activities from a process</td>
<td>-</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>Reijers and Mansar (Mansar and Reijers, 2007)</td>
</tr>
<tr>
<td></td>
<td>Triage</td>
<td>Putting a part of a general task in two or more substitute duties or merging two or more substitute duties in one general task</td>
<td>+</td>
<td>☐</td>
<td>+</td>
<td>-</td>
<td>(Kettinger <em>et al.</em>, 1997; Belmiro and Rents, 2000; Sarmad <em>et al.</em>, 1998; Davis <em>et al.</em>, 2006)</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Framework components</th>
<th>Best practice</th>
<th>Definition</th>
<th>Cost</th>
<th>Time</th>
<th>Quality</th>
<th>Flexibility</th>
<th>Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process behavior view</td>
<td>Resequencing</td>
<td>Task relocation to the proper areas</td>
<td>+</td>
<td>+</td>
<td>□</td>
<td>□</td>
<td>Klein (Kettinger et al., 1997)</td>
</tr>
<tr>
<td></td>
<td>Knock-out</td>
<td>Recognizing the knock-out sections and maintaining them</td>
<td>+</td>
<td>−</td>
<td>□</td>
<td>□</td>
<td>van der Aalst (Seidmann and Sundararajan, 1997)</td>
</tr>
<tr>
<td></td>
<td>Parallelism</td>
<td>Considering whether tasks can be done in a process in parallel</td>
<td>−</td>
<td>+</td>
<td>□</td>
<td>□</td>
<td>van der Aalst (Berio and Vernadat, 2001; Belmiro and Rents, 2000; Ranganathan and Dhamiwal, 2001; Seidmann and Sundararajan, 1997)</td>
</tr>
<tr>
<td></td>
<td>Exception</td>
<td>Business process designing for typical orders and separating the exception orders from the normal flow</td>
<td>□</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>Poyssick and Hannaford – Hammer and Champy (Guimaraes and Bond, 1996; Peppard and Rowland, 1995)</td>
</tr>
<tr>
<td>Organization structure</td>
<td>Order assignment</td>
<td>Letting the employees do the stages of single orders themselves if they have the required ability</td>
<td>□</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>Rupp and Russell-van der Aalst and van Hee-Hammer and Champy – Reijers and Goverde (Guimaraes and Bond, 1996; Ranganathan and Dhamiwal, 2001; Sarmad et al., 1998; Poyssick and Hannaford, 1996)</td>
</tr>
<tr>
<td></td>
<td>Flexible assignment</td>
<td>Resource assignment in a way that maximizes the flexibility for the near future</td>
<td>□</td>
<td>+</td>
<td>+</td>
<td>□</td>
<td>van der Aalst and van Hee (Sarmad et al., 1998)</td>
</tr>
<tr>
<td></td>
<td>Centralization</td>
<td>Dispersing the resources if they are geographically centralized.</td>
<td>−</td>
<td>+</td>
<td>□</td>
<td>+</td>
<td>van der Aalst and van Hee (Sarmad et al., 1998)</td>
</tr>
<tr>
<td></td>
<td>Split responsibilities</td>
<td>Avoiding submitting the tasks to the individuals of other units</td>
<td>□</td>
<td>□</td>
<td>+</td>
<td>−</td>
<td>Rupp and Russell – Berg and Pottjewijd (Belmiro and Rents, 2000; Ranganathan and Dhamiwal, 2001)</td>
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<th>Time</th>
<th>Quality</th>
<th>Flexibility</th>
<th>Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer teams</td>
<td>Employing teams except departmental workers to completely handle special orders</td>
<td>□</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>Hammer and Champy – Peppard and Rowland, Berg and Pottjewijd (Guimaraes and Bond, 1996; Maull et al., 2003; Belmiro and Rents, 2000)</td>
<td></td>
</tr>
<tr>
<td>Numerical involvement or participation</td>
<td>Minimizing the number of units, groups and individuals involved in a business process</td>
<td>-</td>
<td>□</td>
<td>+</td>
<td>-</td>
<td>Rupp and Russell – Berg and Pottjewijd – Hammer and Champy (Guimaraes and Bond, 1996; Belmiro and Rents, 2000; Ranganathan and Dhaliwal, 2001)</td>
<td></td>
</tr>
<tr>
<td>Case manager</td>
<td>Employing a responsible person for handling any order (this person is process manager)</td>
<td>-</td>
<td>□</td>
<td>+</td>
<td>□</td>
<td>van der Aalst and van Hee – Hammer and Champy – Buzzacott (Berio and Vernadat, 2001; Guimaraes and Bond, 1996; Sarmad et al., 1998)</td>
<td></td>
</tr>
<tr>
<td>Organization population</td>
<td>Extra resources</td>
<td>Increasing the resources, if the capacity is not enough</td>
<td>-</td>
<td>+</td>
<td>□</td>
<td>+</td>
<td>Berg and Pottjewijd – van Hee et al. (Belmiro and Rents, 2000; Tinnila, 1995)</td>
</tr>
<tr>
<td>Specialization generalization</td>
<td>Providing many general and professional resources</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>Rupp and Russell Seidmann &amp; Sundararajan (Ranganathan and Dhaliwal, 2001; Reijers and Goverde, 1998)</td>
<td></td>
</tr>
<tr>
<td>Empower</td>
<td>Entrusting most decision-makings to employees and reducing the middle management</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>□</td>
<td>Rupp and Russell Hammer and Champy Seidmann and Sundararajan (Guimaraes and Bond, 1996; Ranganathan and Dhaliwal, 2001; Peppard and Rowland, 1995; Reijers and Goverde, 1998)</td>
<td></td>
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</table>

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<th>Time</th>
<th>Quality</th>
<th>Flexibility</th>
<th>Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Control addition</td>
<td>Controlling the completeness (entirety) and accuracy of inputs and controlling the outputs before distributing to customers</td>
<td>+</td>
<td>−</td>
<td>+</td>
<td></td>
<td>Poyssick and Hannaford, Hammer and Champy, Buzacott (Berio and Vernadat, 2001; Guimaraes and Bond, 1996; Peppard and Rowland, 1995)</td>
</tr>
<tr>
<td></td>
<td>Buffering</td>
<td>Instead of receiving information from an external resource, make it safe by up-dating</td>
<td>−</td>
<td>+</td>
<td></td>
<td></td>
<td>Reijers and Mansar (Mansar and Reijers, 2007)</td>
</tr>
<tr>
<td>Technology</td>
<td>Task automation</td>
<td>Automating the tasks will increase the speed of handling the orders with lower cost and better result</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td></td>
<td>Hammer and Champy, Peppard and Rowland, Berg and Pottjewijd (Guimaraes and Bond, 1996; Maull et al., 2003; Belmiro and Rents, 2000)</td>
</tr>
<tr>
<td></td>
<td>Integral technology</td>
<td>Efforts to omit physical constraints on a process by applying new technologies</td>
<td>−</td>
<td>+</td>
<td></td>
<td></td>
<td>Peppard and Rowland, Berg and Pottjewijd, van der Aalst and van Hee (Maull et al., 2003; Belmiro and Rents, 2000; Sarmad et al., 1998)</td>
</tr>
<tr>
<td></td>
<td>External environment</td>
<td>Instead of making decisions based on your own information, use the results obtained by creditable sections</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td></td>
<td>Reijers and Mansar (Mansar and Reijers, 2007)</td>
</tr>
<tr>
<td></td>
<td>Outsourcing</td>
<td>Outsourcing a part of or the whole of a business process</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>Hammer and Champy (Kettinger, 1997; Guimaraes and Bond, 1996; Peppard and Rowland, 1995)</td>
</tr>
<tr>
<td></td>
<td>Interfacing</td>
<td>Standardized relations with customers and partners</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td>Poyssick and Hannaford (Guimaraes and Bond, 1996; Peppard and Rowland, 1995)</td>
</tr>
</tbody>
</table>

**Notes:** +, Positive effect; □, neutral effect; −, negative effect
scores are added up. Then, positive scores are ranked from high to low. In the next step, best practices are categorized. Table IV indicates the alignment rate between best indicators and strategies using core indicators.

4.3 Third step
Making the ideal subsidiary model of strategies using indicators mentioned earlier shows the ideal situation after satisfying the main wants of strategies. For example, after meeting its needs of decreasing production time and increasing the flexibility in organization system, the prompt response strategy is desired to have the best quality and least cost. Table V indicates the subsidiary selective indicators.

4.4 Fourth step
In this step, the alignment of best practices with subsidiary ideal model is assessed and similar measures as in the second step are taken. Table VI demonstrates the alignment rate again between the six best practices and strategies using subsidiary indicators.

### Table III.
Core selective indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Strategy</th>
<th>Cost</th>
<th>Time</th>
<th>Quality</th>
<th>Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost leadership</td>
<td>↓</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Prompt response</td>
<td>–</td>
<td>↓</td>
<td>–</td>
<td>↑</td>
</tr>
<tr>
<td></td>
<td>Differentiation</td>
<td>–</td>
<td>↓</td>
<td>↑</td>
<td>–</td>
</tr>
</tbody>
</table>

**Notes:** ↑, increase; ↓, decrease; –, neutral

### Table IV.
Alignment rate between best practices and strategies using core indicators in six best practices as examples

<table>
<thead>
<tr>
<th>Best practice</th>
<th>Contact reduction</th>
<th>Exception</th>
<th>Outsourcing</th>
<th>Task elimination</th>
<th>Centralization</th>
<th>Knock-out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost leadership</td>
<td>–1</td>
<td>---</td>
<td>+1</td>
<td>+1</td>
<td>–1</td>
<td>+1</td>
</tr>
<tr>
<td>Prompt response</td>
<td>---</td>
<td>---</td>
<td>+1</td>
<td>+2</td>
<td>–1</td>
<td>---</td>
</tr>
<tr>
<td>Differentiation</td>
<td>+2</td>
<td>+2</td>
<td>---</td>
<td>+1</td>
<td>–1</td>
<td>---</td>
</tr>
</tbody>
</table>

### Table V.
Subsidiary selective indicators

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Cost</th>
<th>Time</th>
<th>Quality</th>
<th>Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost leadership</td>
<td>–</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Prompt response</td>
<td>↓</td>
<td>–</td>
<td>↑</td>
<td>–</td>
</tr>
<tr>
<td>Differentiation</td>
<td>↓</td>
<td>–</td>
<td>–</td>
<td>↑</td>
</tr>
</tbody>
</table>

**Business process redesign**
4.5 Fifth step

Last but not the least, given the results of the second step, best practices with positive scores are ranked from high to low and the results of the third step (the biggest positive number of subsidiary score) is used to prioritize the best practices when the scores are equal.

Considering above evaluations, best practices’ prioritization is as follows:

- Cost leadership: tasks elimination → outsourcing → knock-out.
- Prompt response: centralization → tasks elimination.
- Differentiation: contact reduction → exception → centralization.

Using the above algorithm, best strategic practices are categorized into three categories and then into three priorities based on the alignment rate in Figure 4.

5. Case study

Using obtained results, the registration process at the Azad University of Qazvin is evaluated according to the stages indicated in Figure 5. It is noteworthy that a cross-functional team was formed and the registration process, based on evaluation done, was identified as one of the most critical processes; therefore, it was chosen to be redesigned.

5.1 Data collection method

As mentioned in previous stages, library study was used to collect the best practices; to model and to recognize the process, the techniques of observation and interview with education administrators and staff of the university were used.

5.2 Data collection tools

The tool utilized in this research is System Flowchart that is used due to its simplicity in indicating the process. Figure 5 illustrates process redesign methodology.

5.3 Organization strategy

Surveys showed that the main strategy of the Azad University of Qazvin is differentiation.

5.4 Collecting and categorizing best strategic practices

Considering the Section 3 of this research, 29 best practices were evaluated. These practices had been collected from studies and were related to the general strategies of the organization. Finally, 12 best practices were selected for each strategy.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Contact reduction</th>
<th>Exception</th>
<th>Outsourcing</th>
<th>Task elimination</th>
<th>Centralization</th>
<th>Knock-out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost leadership</td>
<td>+1</td>
<td>+1</td>
<td>-1</td>
<td>-</td>
<td>+2</td>
<td>-1</td>
</tr>
<tr>
<td>Prompt response</td>
<td>-</td>
<td>+1</td>
<td>-</td>
<td>-</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>Differentiation</td>
<td>-1</td>
<td>-1</td>
<td>-</td>
<td>+1</td>
<td>-</td>
<td>+1</td>
</tr>
</tbody>
</table>
5.5 Current situation recognition

The registration process at the Azad University of Qazvin is evaluated in Figure 6 and all its stages are defined. In brief, the main problems of the registration process are as follows:

- The registration process takes a long time, so that non-local students waste at least a workday on it.
- The registration fee must be paid at some places located at the university. Thus, it causes long lines and takes a long time to pay the fee.
The students are exhausted by walking the long distances and locations at
between different parts of university.

The costs of the university go up because the university has to prepare special
places for registration and to pay a salary increment to the personnel.

The possibility of committing errors in the selection system of credit courses is
heightened because they are selected by operators.

5.6 Selecting best strategic practices
Considering the problems of current process and also the university strategy, the best
strategic practices for process redesign are shown in Figure 7.

Therefore, after expert evaluations of each problem, following decisions were made:

- Since the registration process is time-consuming and is done during the vacation
  between two terms, there should be a decrease in students’ visit to the university
  in person (contact reduction).
- For students’ convenience, the number of banks should be increased so that they
  could pay the fee in desired regions (external resources, and centralization).
- Course selection by operators is one of the main causes of errors, thus, students
  should be allowed to choose their courses by themselves (control relocation).
Generally, other best practices that could help the registration process are: (task automation, exception and task composition).

Therefore, process redesign work team decided to design a web site (a web-based information system) through which the students could do the entire registration process. So, the contact with the university and the registration period were reduced. Before redesigning the process, students usually needed to take 3-4 hours to complete their registration process (if they were locals), but when the process was redesigned, process time was reduced to around 1-2 hours.

Before redesigning the process, students usually needed to take 3-4 hours to complete their registration process (if they were locals), but when the process was redesigned, process time was reduced to around 1-2 hours.
the registration time was reduced to less than 1 hour. Meanwhile, the students themselves select the courses, which put them in control. Furthermore, in cooperation with one of the national banks, students can now pay their tuition fee anytime, everywhere and with the least wasted time, when compared with that of paying fee at the university (Figure 7).

6. Conclusion
In this research, a methodology was proposed to recognize the best strategic practices in BPR. This methodology uses TOPSIS philosophy in recognizing the alignment of practices with the strategy. The indicators of cost, time, quality and flexibility were used as the criteria to select best strategic practice. Also, using the proposed methodology, the best strategic practices for three strategies of cost leadership, prompt response and differentiation were identified from among 29 best practices. The proposed method was tested in a case study of the registration process at a university. It was indicated that the process redesign fulfill organization strategies through recognizing and implementing the best strategic practices. In this paper, to identify the effects of implementing the best practices on organization, four indicators with three spectrums were used, but other indicators such as trustworthiness complexity, etc. with a wide range of spectrums can be employed to analyze the method. As suggestions for further research, the degree of changes which can be caused by each and every of the best practices in the organization, measuring these the degree of changes and the organization processes’ capability of can be taken into account.

References


BPMJ
15,4


Further reading


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