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ScienceDirect

Procedia Computer Science 121 (2017) 439–445

Procedia Computer Science

www.elsevier.com/locate/procedia

CENTERIS - International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANagement / HCist - International Conference on Health and Social Care Information Systems and Technologies, CENTERIS / ProjMAN / HCist 2017, 8-10 November 2017, Barcelona, Spain

Success Factors for Business Process Improvement Projects in Small and Medium Sized Enterprises – Empirical Evidence

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Abstract

This paper uses an innovative research method for identifying success factors of project management projects. It reports the empirical results of a world café workshop conducted with 31 practitioners in Business Process Management (BPM) projects from small and medium sized enterprises (SME). Informed by the existing studies on critical success factors in BPM and projects in general, the authors planned and conducted a practitioner workshop and were able to identify 117 single impact factor items that were subsequently summarized to 64 success factors and mapped along 9 project management knowledge areas. The most important issue areas were found to be project integration, project controlling and stakeholder management, followed by factors of risk management, HR-management and organizational culture. The identified factors provide a preliminary insight into what enables the success of BPM-projects in SMEs and they may serve as a starting point for further.

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Peer-review under responsibility of the scientific committee of the CENTERIS - International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANagement / HCist - International Conference on Health and Social Care Information Systems and Technologies.

Keywords: BPM projects; SMEs; Success Factors

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1877-0509 © 2017 The Authors. Published by Elsevier B.V.
Peer-review under responsibility of the scientific committee of the CENTERIS - International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANagement / HCist - International Conference on Health and Social Care Information Systems and Technologies.
10.1016/j.procs.2017.11.059

1. Problem Statement

Small and medium sized enterprises (SME) in Germany are often characterized by a strong product orientation, technical expertise and an underexposure of process orientation and project management capabilities. Problem solving often occurs by focusing on technical aspects of the product, not by assessing the process or projects behind these products.

This is problematic because most often the reason for product failure, be it in product development or process improvement, lies within the softer factors such as communication, stakeholder or customer engagement.[3, 19, 20, 21] Due to larger knowledge gaps these softer factors become more important for companies offering technically advanced products or solutions. This study therefore examines success factors of business process improvement projects in SMEs.

The research question for this study is therefore: Which factors impact the success of business process improvement projects in small and medium sized enterprises?

For answering this question, the following section will shortly review the existing knowledge in the concerned areas, before the subsequent section 3 shall outline the methodology that was used for the empirical part of the study. Section 4 will present and discuss the empirical findings and the final section aims at summarizing the results and delivering an outlook on potential further research.

2. Theoretical Background

The theory for the question at hand originates in three scientific areas. Project management (PM) and its success factors, Business Process Management (BMP) and its success factors, and the management of SMEs. The following will therefore review recent contributions to these areas.

Project Management and Success Factors:

The Project Management Institute (PMI) defines project management as "... the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements" and, in continuation, that it is "…accomplished through the appropriate application and integration of 47 logically grouped project management processes, which are categorized into five Process Groups".[1] This definition is complemented by Kerzner's definition of project management, which emphasizes the company perspective. Project management, in this context is "… planning, organizing, directing and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives." [2] In summary, project management shall therefore be defined as applying skills and methods to planning organizing, directing, and controlling of company resources to meet the projects objectives.

Success factors in project management have been subject to many publications. Most famously Cooke-Davis (2002) identified 12 'real' success factors for project success listed in Table 1.[3] These success factors aim at providing a guiding framework for project managers in general. They are not specific to BPM projects or to projects in SMEs. In order to identify impact factors for BPM and BPM projects the following paragraph will review existing factors in this area.

Business Process Management and Success Factors:

According to Hammer (2015) BPM gradually emerged from the two approaches Business Process Reengineering (BPR) and Statistical Process Control (SPC). He defines BPM as "… an integrated system for managing business performance by managing end-to-end business processes" [4]

Critical Elements to BPM, and hence essential success factors, are strategic alignment and governance of BPM projects, modelling and management methods, information technology, human factors (skills, knowledge, education, collaboration), and cultural aspects.[5] This list can be complemented with a list of critical success factors that Trkmann (2010) elaborated and tested in a case study publication.[6] This longer listing of success factors is represented in Table 1.

Table 1. Success Factors for Project and Process Management Success

Project Management Success Factors (Cooke-Davies; 2002)	Critical Success Factors in BPM (Trkmann, 2010)	Critical Success Factors of Process Management in SMEs (various studies)
1 Adequate company risk management education	1 Strategic alignment of BPM efforts to core-customer processes	1 Management and leadership support
2 Maturity of assigning risk process	2 Level of IT investment contingent to company's strategy and resources	2 Aspects of organizational and professional culture
3 Adequate maintenance of visible risk register	3 Performance measurement at activity/process level ensuring speed and quality customer processes	3 Alignment with strategic company goals
4 Up-to-date risk management plan	4 Finding balance between specialized employees and generalists	4 Availability of enough financial resources
5 Adequate documentation of organizational responsibilities on the project	5 Organizational change through implementation of business process office	5 Availability and quality of human resources involved in project
6 Project duration smaller than three years	6 Appointment of process owners to improve buy-in and support from middle mgt.	6 Motivation, training and education of employees
7 Allow scope changes only through mature change process	7 quick implementation and generation of results	7 Employee empowerment and involvement
8 Maintain integrity of performance measurement baseline	8 Continuous improvement in both formal and informal ways	8 Support and use of information technology
9 Existence benefits delivery and management process	9 Standardizing processes whist preserving of needed flexibility	9 Process quality and benchmarking
10 Portfolio and program management that allows for projects matching corporate strategy and business objectives	10 Automation where human interaction is not required anymore	10 Customer orientation and customer relationships
11 Project, program and portfolio metrics allowing for tracking project performance and anticipating project success	11 Training and empowerment to solve problems on lowest hierarchical level possible	11 Supplier management and relationships
12 Effectively and continuously learning from project experience		12 Customer value orientation
		13 Continuous Improvement capabilities
		14 Performance measurement and appraisal

Source: own compilation based on literature review

Process Management and Success Factors in SMEs:

One learning from the literature review that accompanies this study was that there is little published research on success factors for BPM projects in SMEs. Considering the above definition of BPM, as emerging from BPR and SPC, the literature search was extended to include three critical areas for project and process success in SMEs, (1) lean management, (2) knowledge management, and (3) Total Quality Management. Searching for publications in these, more established, areas yielded better results, but requires merging into one consistent set of success factors.

Critical success factors (CSF) for lean management in SMEs can be divided into critical and supportive elements. Critical for lean management implementation are a supportive leadership, a corporate strategy that is compatible with

lean principles and a long-term vision for continuous improvement. Supportive elements are sufficient project funding, a supportive organizational culture, adequate skills, expertise and people issues.[7]

Knowledge management is essential for any kind of projects because ultimately the success of any project depends on successfully transferring know-how among stakeholders. CSFs for knowledge management include management and leadership support, cultural aspects, organizational infrastructure and employee related issues.[8] Wong (2005) ranked these factors in function of their importance in the following order: (1) management and leadership support, (2) cultural aspects, (3) strategy and purpose, (4) resources, (5) process and activities, (6) training and education, (7) HRM, (8) IT, (9) motivational aids, (10) organizational infrastructure, and (11) measurement.[9]

The third success factor category of BPM in SMEs is Total Quality Management (TQM). Critical success factors for quality management in SMEs can conceived as strategic, tactical, and operational. Strategic factors are leadership, organizational culture, top management support, continuous improvement, benchmarking, and setting quality goals and policy. Tactical goals encompass team building, employee involvement, empowerment and training, IT usage, supplier relationship and quality, and performance assessment. Operational success factors for TQM are product and service design, quality performance metrics, customer orientation, a realistic TQM implementation schedule, customer/market knowledge, resource utilization and inspection.[10]

The above three areas of BPM project success factors (lean, TQM and knowledge management), show several similar factors and are complementary regarding others. Table 1 shows a summary of the three areas in the third column. This summary could be a good indicator for success factors of BPM projects in SMEs. To verify these factors further empirical evidence is needed.

3. Methodology

Considering the above implications, the authors decided to conduct a qualitative empirical study in order to find out whether the initial findings can be corroborated. A qualitative research design was preferred since the focus must be on better understanding success factors before a quantitative study can validate these factors.[11]

The practical orientation of this inquiry requires a research instrument that considers and supports practical expertise. The authors chose the world café method, which is a special form of focus group[12] that aims at engaging the respondents into a constructive dialogue.[13] The method has been applied to a number of different problems including supply and risk management[14], logistics costs[15] and purchasing costs[16], among others. The authors applied this methodology to 31 German BPM practitioners from 23 organizations in a variety of fields including, IT-services and consulting, wholesale and retail, production, and education. The participants were invited for an afternoon workshop under the heading ‘get your processes running’. During the workshop the participants were presented five perspectives of how BPM projects could be conceived, as a hurdle race, a sprint, a marathon, a relay race, and through the eyes of the race organizers. Each of these topics were located at one designated discussion table. In five discussion rounds of 15 minutes each, the groups were asked different questions to trigger a discussion. Here some examples:

- If you think of your BPM as [e.g. a hurdle race], what would you consider to be the most important success factors?’
- Considering the race organizers, i.e. the organizations leadership, which success factors do you see for BPM your organization?
- Each BPM project has phases in which you must sprint, which success factors do you see as crucial during these phases?
- Taking the marathon perspective, what do you think are long term success factors for BPM projects?
- When passing on the project results to the operations, like in a relay race, what do you see as success factors?

Each participant joined each workshop table in a pre-established order, so that the group compositions did not repeat itself. Before each discussion, the moderators introduced the perspective and question and then summarized the previous results to enable a constructive discussion. Pin-boards and moderation cards were used for documentation purposes. The groups results were presented in front of the whole group by the moderators after the discussions. This allowed to highlight the key factors identified during the discussions. For a final validation purpose, the participants

were given the opportunity to provide feedback.[13, 14] In summary, the participants and moderators were able to identify 117 distinct success factors for BPM projects in SMEs.

It is important to recognize that all discussion tables, except for the 'race organizers' perspective, provide perspectives on the same success factors of BPM projects. Therefore, it was allowable to collect all identified factors in search of a new structure that allows systemizing the identified factors. Initially PMIs knowledge areas of project management[1] were proposed as such structure, where appropriate. The knowledge areas were complemented with organizational culture[17] as indicated already by the success factors listed in Table 1.

4. Empirical Findings

The initially identified success factors could be summarized into nine success factor clusters, which are represented in Table 2 and Table 3. Eight of the nine clusters are labelled with PMI knowledge area names, the ninth is organizational culture.

The project integration column in Table 2 collects all those success factors that concern project management and leadership. These success factors, hence, enable the effective project governance, goal setting, and senior management support. Also project organization and the usage of project management standards contribute to BPM project success from this perspective. In terms of monitoring and controlling, success factors are effective schedule performance measures like deadline/deliverable performance, consistent schedule and budget KPI systems, and the ability to react swiftly if the actual performance deviates from the plan.

Table 2. Summary Success Factors I

Project Integration	Monitoring & Controlling	Risk Management	Stakeholder Management	Human Resource Management
Installation of steering committee	Controlling deadline performance	Regular and routine risk management meetings	Work for project acceptance	Identification of training requirements
Goal setting	Controlling stage gates	Short feedback loops	Visibility of successes	Teambuilding activities
Goal operationalization	Milestones delivery	Effective mitigation measures	Early employee involvement	Effective monetary and non-monetary incentives
Early and congruent role definitions	Consistent KPI controlling	Establishment of early warning systems	Transparent communication	Project planning involving the team
Assurance of Management support	Fast reaction and mitigation capability	Transparency of interdependencies	Communication of goals and benefits	Enhancing strengths & neutralizing weaknesses
Assurance of financial resources	Controlling budgetary performance	Interdependencies during implementation	Early involvement of specialists	Adjust job descriptions for BPM
Assurance of human resources	Scope controlling	Definition of 'devil's advocate'	Awareness of the risks of status quo	Involve specialists for BPM
Definition of PM standards	Verification of deliverables		Creation of enthusiasm	
Adjustment of standards			Creation of goal congruence	
Definition of notation			Striving for win-win situations/solutions	

Source: own compilation

The third column covers risk management success factors. Here it is important to regularly address risk items in meetings, maintaining short feedback and controlling loops, establishing an effective early warning system[18], considering interdependencies and appointing a 'devil's advocate' during meetings to cover various perspectives.

Project stakeholders are addressed in column four and five of Table 2 because it makes sense to distinguish between stakeholders in general and team members in particular.[1] For stakeholders in general the participants reported that it is important to work for project acceptance regarding the new processes. Key stakeholders need to be involved early

during the project in order to ensure visibility and transparency. Project goals, benefits and early successes need to be highlighted to the stakeholders as early as possible. Goal congruence can be achieved by striving for win-win solutions. Specialist knowledge can help to improve the results. The risks of the status quo should be acknowledged to all involved stakeholders in order to increase support.

In BPM projects the project team needs to be assessed regarding existing capabilities and training requirements. Among other things, training and team building activities, that enhance strengths and make weaknesses irrelevant, can work as incentives for the team members. Adjusting the job descriptions and hiring specialist knowhow might also increase identification with the team and motivation.

Table 3 summarizes the remaining four success factor categories. In BPM projects the quality of the process is often critical to project success. So, quality refers more often to the project outcome, than to the quality of project management. In this sense effective quality circles, robust continuous improvement processes, quality ownership, and scalable quality approaches have been identified as critical success factors in terms of quality. Designing processes according to these requirements will enable reliable project benefits.

Table 3. Summary Success Factors II

Quality Management	Project Communication	Scope Management	Organizational Culture
Effective quality circles	Structured feedback	Low hanging fruits first	'Can-do' attitude
Quality Benchmarking	Existence of knowledge base	Not too many improvements at once	Creation safe and secure environment for change
Scalable quality processes	Effective use of visualization	Lowering process complexity	Delegation and employee empowerment
Robust continuous improvement processes	Communication of quick-wins		Honesty/transparency regarding changes ahead
Designated quality ownership	Maintaining an engaging narrative		Celebrate achievements
IT-support			Process orientation
Employee involvement in quality			Creative freedom

Source: own compilation

Project communication should enable structured and constructive feedback in order to improve collaboration. Knowledge sharing and the utilization of a BPM knowledge data base were identified as success factors. Throughout the project, it was seen as critical to maintain an engaging project narrative, communicating quick wins and effectively visualizing project achievements and concepts. Success factors in scope management were concerned with prioritizing those in-scope items that offered 'low hanging fruits' and lowering complexity to the manageable minimum wherever possible.

Eventually also cultural aspects were identified as success factors for BPM projects. This is the only category that does not correspond to PMI knowledge areas. Organizational culture can support BPM project success if people describe their organization as exhibiting a 'can-do' attitude towards process management. A supportive organizational culture should provide creative freedom and a safe and secure environment of for change and experimentation. Respondents also reported that employees should be empowered and responsibility should be delegated. An honest and transparent communication of the changes ahead is therefore very important. Overall, participants identified process and customer orientation in the organization as a success factor for BPM projects.

5. Discussion & Outlook

The above summary of the success factors of BPM projects was informed by those success factors in Table 1 that were collected from various sources. The success factors identified in the world café workshop, and reported in tables 1 and 2, corroborate the factors previously proposed for projects, BPM and process management in SMEs. This paper

contributes to a better understanding of BPM project success by applying specifically to SMEs and by providing an additional level of detail, summarizing 117 workshop items in 64 distinguishable factors along 9 knowledge areas. The separation of these factors into PMI knowledge areas makes them accessible for professional project managers and allows to connect these factors to tangible project management processes.

Future research should be dedicated towards using the PMI process group framework to allocate these success factors to process groups and the project management life cycle. This would further increase the applicability and practical use of the identified success factors. Furthermore, it would allow to empirically validate these factors with SME process owners and project managers and to eventually elaborate a model for BPM project management.

The presented study reports the results of one qualitative empirical workshop using the world-café methodology. Whilst this method delivers a high level of detail and understanding, it is also limited in terms of generalizability and representation. The involved participants were process owners and project managers from German SMEs and the results are qualitative in nature. This requires additional quantitative validation and needs to be considered when embarking on further empirical research. The identified factors offer a valid insight into success factors for BPM project, however, and are therefore a valuable empirical result for those involved in this line of business.

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