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Analysis for the Implementation of the Business Process Management in Selected Turkish Enterprises

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ABSTRACT: While the demands of changed market conditions and evolving customer needs threatening the existence of the firms in the market today, it requires a fast-oriented transformation to maintain the presence. Changing institutional and environmental factors, by following closely the technological developments and innovations, give an impetus to the process of new and strategic solutions. In long term, it creates a necessity to businesses, which targets sustainable and profitable acquisitions, a unique opportunity to leave behind its competitors by making a difference for more benefits. In this sense, it is possible with the global market with innovation and dynamic alignment with market conditions and a successful integration of a holistic process management. The top target of the process orientation is to improve the quality and efficiency with the continuous improvements (Cebeci, 2009).

Keywords: Business Process Management, implementation; Simulation, Modelling
JEL Classifications: M10; M11

1. Introduction

Modelling and documentation, which support the curve of process of life, are the reasonable starting point for process management. Here the processes are systematically configured, interpreted and created in the best way. Different modelling methods and notations are dedicated here. These are varying in terms of symbolic, semantic and syntax. While modeled processes documenting the business processes, it allows the continued use of information. On the basis of documented processes the design of these processes occurs. With the design of processes, it is aimed the efficient use of resources and continuous flow. Process analysis especially process modelling is required to identify which activity areas are indicative for potential optimization; expectation of fast success and direct intervention is necessary. Through simulation, the effect of the planned change process is determined. In the process model, various scenarios performed with the help of simulation. The resource deficit or decrease and the sudden rise in demand are examples of this. Simulation gives examples to whether or not a company is equipped to meet such situations, which should be adapted to the other processes or which is necessary to the realization of operations. Simulation results are carried out estimates about the effects of the use of capacity and resources. Actually simulation results are important to conduct the estimates close to the reality, in terms of frequency, distribution and realization (Spath et al., 2011).

Simulation is a method for designing processes respectively. For example, workflow analysis, design and control are required to resolve the causes of the deficiencies that occur in Logistics. Simulation has a great importance in analysis and design of logistic processes, because of logistic systems are complex, dynamic structure and cannot be expressed in simple formulas (Helbig, 2003).

Simulations of business processes and the dynamic movement of business processes are analyzed under different conditions. While ensuring business processes, simulation determines weak points and problematic parts. Since it provides a precise quantitative assessment by the possibility of dynamic processes, simulation supports the BPM's (Business Process Management) required applications (Jochem et al., 2010).

The concept of simulation is the process of imitating the reality. In other words, it is to constitute the data in order to achieve the transfer of dynamic process. The simulation of a process is directly based on its modelling. In the process of simulation, with the help of model, time, costs and resources comparison is provided. While organizational methods are supported by application of simulation programs, on the other hand, numerically presented model's optimal solution is expected. Before the implementation of the processes, so many alternatives are compared via the use of simulation, for instance; weak points and problematic sides are observed. Here, the requirement of software expert comes to the mind for crating the simulation model.

Especially, special advantages can be acquired by simulation research and observations. Process simulation, which is identified as dynamic process analysis, helps as dynamic process analysis in the organizational work process solutions research. Generally, complex or united program concepts are seen in the simulations. Here, process model is applied as one of limited models. In accordance with the composition of process model, the effect of the change at model parameters are observed. If complex decision models and known analytic methods do not create a solution, simulation is considered as an applicable method for the solution of organizational problems. While possible scenarios are seen with the computer based simulation methods, the possibility of comparison may arise. For instance, while actual-state is formed, together with the control of weak problem points, implementation and efficiency of alternative target state concepts are analyzed. As a result, operational problems and the needs of process requirements are taken into consideration. In relation with the work process optimization, the implementation of simulation methods gives opportunity for analyzing the aimed organizational results. Simulation method gives opportunity to analyze the relation between inputs of a business and the relation of their effects.

Process simulation comes to the front line as the third competent together with process modelling and process analysis in the work process management. Alternative scenarios are widely tested for the process optimization. For instance, a company at the automotive sector can apply a software program for process modelling and analysis. In this context, automatical diagram, modelling functions and methods make possible to plan and simulate ideal processes (Trautner, 2004).

Process simulation is an important phase in BPM and can be useful to evaluate the BPM results. Before the implementation, some sort of information is supposed to be used to conduct the simulation and assess the BPO consequences (Mahmoodzadeh et al., 2009).

2. Research Methodology

In 2012, a thesis project is made in Kassel titled, "the analysis of implementation of the process management in the Turkish enterprises." The focus of the investigation is on the Turkish market, accordingly, only Turkish SMEs and large companies were surveyed. As a design in this work the comparative target group was selected.

This empirical work is an investigation process which interprets the basis of the results to be obtained, such as the interactions between the determinants of success and the level of implementation of the process management. Thus, the study is a targeted investigation process, which contributes to an expansion of the existing insights from the perspective of the target group. For a new perspective, the importance of process management of Turkish entrepreneurs view is created.

After the presentation of the research design, in this section the participants are analyzed, closer parties and the object of the study are presented. During the investigation, more than 10,000 Turkish companies of all sizes in the Turkish market were interviewed. The response rate ranged from 1.9 to 2.5%. In addition, a total of 190 SMEs and large enterprises have been involved in various industries and sectors in the survey. The dominant part of the questionnaire was answered by more than 40% of the managers or top managers, 38.9% of middle managers and 8.4% of the lower managers. Other items under other division and departments have participated with 6.8% in the survey. Table 1 shows a heterogeneous distribution of the participating locations, taking into account the total number of participating companies. The survey results can be a clear indication of the positions of the participants derived. It can be stated that most competent employees, who are familiar with the subject area, responded to the questionnaire.

As part, empirical work has been selected as the data collection instrument in the form of online surveys. The questionnaire is designed mainly for the standardized research questions and continues to plausible theoretical considerations.

Table 1. Participating in total consideration of SMEs and big companies

		Frequency	Percent	Cumulated Percentages
Valid	Top Manager (CEO, CFO, COO)	79	41,6	43,4
	Middle Managers	74	38,9	84,1
	Lower Managers	16	8,4	92,9
	Other Position	13	6,8	100,0
	Total	182	95,8	
not specified		8	4,2	
Total		190	100,0	

With 25 closed questions in different subject areas, the questionnaire covers the wide range of subjects. To increase the involvement of the participants, the questionnaire with the help of the so-called Limesurvey[1] service platform is designed so that the parties involved in about 10 minutes in a position to answer the question groups with different items. To provide an overview of the content of the survey, an appropriate letter was formulated. In contrast to traditional postal survey using the online survey, the quantitative and qualitative survey is greatly simplified. It offers a large sample size of data and standardized data allows a flexible design of the questionnaires. It serves as a benchmark to allow for proper and systematic survey (Kuckartz and Radiker, 2009).

For this purpose, the compositions of completed questionnaires are from opinion polls and trivia questions. The questions are structured in different ways, depending on the subject area in which process and quality management has been used. All questions are designed with different predetermined answers. The focus of the investigation is on the Turkish market, accordingly, Turkish SMEs and large companies surveyed. As a design study, in this work the comparative target group was selected. After the presentation of the research design in this section, participants received in the analysis and the object of study is represented.

3. Results and Analysis

Customizing is a critical process of the advertising the projects. In this sense, a special planning in line with the concept and analysis is needed, which requires the process. In the application of (Enterprise Resource Planning) ERP projects, estimated developments of the parameters are tested reliably, with the help of logistical process simulation. For instance, reliably and strong principal development in coverage under the SAP system. Generally, the application of process simulation is not a rule to introduce the ERP systems and their application. According to BPM&O's research results, while the 34 % of the companies were using BPM tools, more than half of the companies IT supported BPM, 74% of them are using process modelling in specialization side. Here, only 29 % uses process simulation. Because, simulation causes to the process modelling by increasing the costs (Knuppertz et al., 2011).

The success of the Companies generally depends on the ability to design and operate complex, highly interconnected processes that are profitable and that meet quality, safety, environmental and other standards. To achieve this goal, the software tools for the process simulation increasingly used in industry (Jana, 2012). Through the more technical application such as software development, the use of process simulation has become widespread in many sectors (Recker, 2010).

The supportive function of software tools depends on process management solutions offered by elementary functions and finally a successful implementation of the work process management. In this context, analysis and simulation feature`s effect come into force in connection with the software license costs, consulting and training services, existing operating system, compatibility of hardware and data base, safety, reliability, performing the processes, development rate and service suitability.

[1] LimeService belongs to the service platform of Carsten Schmitz - LimeSurvey.com and is called the poll-service platform for the preparation, implementation and evaluation of online surveys. In the Following https://www.limeservice.com/de/wies-funktioniert/16 (accessed on 13.05.2012).

According to research done in this thesis, while examining software functions and usage, Simulation facilities, effective analysis and reporting have been taken into account by the %41 of Turkish enterprises. In terms of 29 % of SMEs (Small and Medium-sized Enterprises), it has been an important software function. Furthermore, in the second phase of the researches, the question on how the analyzed parameters meet the expectations of software functions, while the 76 % of large enterprises meet the expectations, 54 % of SMEs successfully implemented the preferred software (Kol, 2012).

According to, BPM-Trends and Business Process Modelling 2010 and Fraunhofer IAO 2001, 2008 and 2011 BPMT researches, 78 different tools were analyzed. In software tools category, Visualization, Modeling, Simulation and Workflow Management, Also Computer Aided Software Engineering (CASE) have been researched (Spath et al., 2011).

The necessity of creating the restructuring the aims, generally because of the poor performance of the enterprises. With the help of Actual – state, the weak and problematic points of the enterprises, annual balance sheet income level and market share have been determined (Lay and Mies, 1997).

One of the most important issues here is taking measures to improve the economic status of entity. However, the importance of process management and an integrated organization come to front in the crisis situations. Specific structural changes and innovations need to crisis environment for the transformations and developments (Binner, 1997).

Analysis required by the process management and thought models in order to improve the efficiency of the services, also supportive factors, motivate the large scale enterprises and SMEs to take measures. A research at this point, gives us important clues. The majority of two groups in the analysis, enterprises give importance to different conjunctures preferably process management applications. Especially, while every conjunctural situation was activating the 31 % of SMEs, 18,4 % of SME perceive process management as a factor that triggers. Indicators draws attention that the period of crisis and in times of economic recovery, 14 % of participant SMEs takes measures to better their work processes. Majority of the large enterprises in Turkey show positive correlation with SMEs in every conjunture period. 18,4 % large enterprises, apply for acquiring new advantages and for realisation of basic success factors.

- BPM&O Acedemy`s 2011 dated survey with the enterprises questioned the importance of process management. More than 80 % of the enterprises stated that process management is an important factor in the success of business (Knuppertz et al., 2011).
- According to 1998 IAO research results, while the 20 % of participants taking measures in the crisis period, they achieved the Business Process Reengineering (Hohberger, 1998).

Results show that the applications of the process management and quality management. Decisions carried out independently of the current economic indicators.

In the light of integrated process management tools, Binner (1997) argues that competition creates advantages to supply-way purchase, with the higher sales prices in market direction and accessibility by a unique range of products way. This perspective is conditional on the observed market to be competitive environment. From this point, optimization is gained in competitive advantages realized by value-creating processes. This advantages are being configured the integration of suppliers' know-how by using personal`s know how (Binner, 1997).

Information obtained from research shows that process management is clearly reflects the potential for further economic and high benefit. In this sense, the importance of process management will continue (Jochem et al., 2010).

While researches show that 46% of SMEs are applying the process management, large enterprises with 74 % rates came into front by process management implementation and integration. 8 % of large enterprises does not have initiative related to the process management, 26,3 % of 133 SMEs have no attempt about the process management. Most significant factors can be shown as financial inability, missing senior management support, corporate and commercial structure is not suitable for applications. In particular, concrete actions were not detected. Other factors that stand out the most obvious are competitive advantages that process management brings, not having sufficient information on the opportunities and failure to prefer counseling services. In this direction, one of the important factors that found external consultancy costs was elevated in both groups. When the planning stage of the process management is tested, closely proportional results were obtained for

each set of two organizations. Thus, the result of analysis shows a positive correlation between the two groups.

Within the scope of the research on Turkish market, QM (Quality Management) Instruments and BPM Tools, supportive software solutions were analyzed. In this context, which level of process management implementation and the relation of factors that relate each other have been analyzed. Information is provided with the BPM Methods and preferred specific software solutions are included. In order to optimization of business processes, which solutions had the opportunity to use and because of this advantages and disadvantages, applicability and the frequency of operation parameters were examined. The main purpose, what extent and for what reasons preferred software solutions are investigated at home and abroad. For Turkish enterprises, to what extent Software solutions are the important factor determining BPM applications and decision-makers varies by firm size.

Based on the analysis results, 60 % of large enterprises compared to 45 % of SMEs preferred the software solutions. Results show that Software solutions, which were produced abroad luring the large scale enterprises (34 %) compared to SMEs (79 %) noting that it meets the expectations of the solutions offered in the country. As a result, each two groups` preference of alternative software solutions available in the country with the above-average share of the contribution indicates a positive correlation between businesses.

While highlighting the importance of an optimal functioning of the software solution, process management tools, depending on the suitability of a certain condition is detected. Here, the condition is that BPM instruments can meet the demands of a specific business process (Zähringer, 2008). In the research process, while the functionality of Software solutions is tested, in which extend a successful implementation of the work provided by the BPM examined. According to the results, software Components – simulations, Effective Analysis and Reporting – stand out as the most important competent at the large scale enterprises (41 %), ease of use software for SMEs get the 1st line, effective simulation analysis and reporting functions 2nd, ease use of service 3rd. In general, according to the scale of each enterprise the main use of these three functions of Software stands out as a force multiplier by creating an advantage.

4. Conclusion

The present empirical analysis findings show the effect of relationships between performance drivers relevant to success and the implementation of process management in the juxtaposition of Turkish SMEs and large companies. For this purpose, the effect of relationship between the implementation of process management and additional management tools and their potential income effects were analyzed.

Based on the test results, it can be seen that the majority of the two sizes of companies making the implementation of process management to optimize business processes or drives. With regard to applied BPM tools and targeted performance benchmarks, corporate goals and expectations, the spread in SMEs tends to be below average. This shows that the process-oriented approach is in major Turkish companies rather anchored. For both sizes of business but the business expectations are not met.

Based on these findings, the reasons may be the lack of information on a comprehensive, integrated, holistic process management, which covers the needs of integrated management thinking and trafficking on the strategy, target, field and commercial model. This link allows particularly competent introduction, recording all claims strategy and objectives of the focus on customers, employees, process and success.

For this broader view, they can wrap a coherent response to the business needs and generate sustainable competitive advantages. It seems the reasons for the marked differences being dependent on which targeted decisions about the company's strategic goals, vision, strategic guidance and effective and efficient core competencies are met. So that the enforcement of the derived components of success on the condition of accessible resources will allow capabilities (Binner, 2010).

Based on the underlying indicators of results, SMEs can be the cause of negative trends and issues related to these decisions. Looking at the company-external dynamics and complexity requires a large extent of the mid-sized companies an efficient and flexible corporate structure and business processes (Fuhrmann, 1998) and the development of the potential for success, which are recognized in the company's policy and developed by the company's strategy for success (Bührens, 1997).

Accordingly, it is important to anchor this business philosophy in the company in order to maintain the competitive advantage and expandıng projections.

Because of the empirical study is a self-selected sample, it is assumed that due to the lack of significance of the differences of any importance should not be given. This is based on the fact that the differences in the sample are randomly selected and the groups do not differ. Consequently, under the assumptions of proved that different performance measures, objectives and success factors in the context of the objectives of process management in terms of company sizes do not differ statistically significantly from each other.

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