The Selection and Training Framework (STF) for Managers in (e-)Business Innovation Transformation Projects - Managerial Recommendations

Antoine Trad\textsuperscript{a,}*\textsuperscript{a}, Damir Kalpić\textsuperscript{b}

\textsuperscript{a}IBISM (Switzerland) – Chemin des clairières 20, 1066 Epalinges, Switzerland
\textsuperscript{b}University of Zagreb Faculty of electrical engineering and computing, Unska 3, 10000, Zagreb, Croatia

Abstract

The riskiest factor in the business transformation process of a traditional business environment (BE) into an electronic and automated (ELBE) one [1] is the role of the profile and educational background of the business and (e-)business transformation managers (BTM); the influence they have on the concrete implementation phase of business transformation projects (BTP). The basic profile and managerial aspects of such a business transformation manager has not been sufficiently researched in a holistic manner in order to hammer the BTM’s profile and to propose the related managerial recommendations, as a conclusion to this research project; and that is the main goal of the authors’ research topic [2][27][28][29]. In fact, currently there are no managerial recommendations and educational curriculum for such BTM profiles at hand [42]. This research paper deals with the managerial recommendations for the BTM selection and education. The BTM who has to manage the technical implementation phase of complex business transformation projects; knowing that the BTP’s implementation phase is the major cause of very high failure rates [17][18]. The implementation of such business transformation projects require a specific knowledge of enterprise business architecture. The authors have based their research on the main fact that only around 12% of business organizations successfully terminate innovation-related business transformations projects [7]. “We know that those organizations that are consistently successful at managing innovation-related changes, outperform their peers in terms of growth and financial performance” [6][7]. Therefore, there is an essential need for more research on the BTMs’ profiles and a necessity to propose the related set of managerial recommendations.

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* Corresponding author. Tel.: +0-000-000-0000; fax: +0-000-000-0000.
E-mail address: antoine.e.trad@gmail.com
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1. Introduction

The characteristics of a suitable BTM profile and his or her (for simplicity reasons, "his" will be used in further text) educational background is the main goal of the authors’ selection and training framework (STF) research project, which started in year 2010. In this research paper, the authors will try to present the managerial recommendations for such a BTM selection and education process.

Fig. 1. The conclusion and managerial recommendations finalization of the current research phase [27][28][29].

As shown in Fig. 1., this research’s final phase and the managerial recommendations hammering uses the theory based hyper-heuristics reasoning model [29][32]. This reasoning model offers the optimal BTM profile and managerial recommendations that are adapted to complex and lean BTPs [1]. These managerial recommendations are fed in the form of factors into the framework’s reasoning model, which will deliver the most important BTM characteristics [39].

2. Research methodology and design

2.1. The research question and knowledge gap

In this article the authors will not present the whole research methodology, because it was already the subject of many articles and are used as references in the current article. The research project’s question is: “Which business transformation managers’ characteristics are optimal for the implementation phase of (e-)business transformation projects?” [1][36]. The gap was acknowledged, mainly due to the fact that the existing literature, failure rates and various methodologies treating BTP offer practically no insight into the profile of the BTM as an architect of adaptive business information systems (AofABIS) who proposes a set of managerial recommendations and who can manage the implementation phase of BTPs [33][25].
2.2. The literature review and research methodology

The literature review has shown that the BTM’s optimal characteristic is to be an AofABIS; and an important part of that phase was dedicated to the finding of factors that influence the BTMs’ selection and education [28][29]. The authors based their research on a mixed method, that uses the applicative action research (AAR), that is mainly based on a hyper-heuristics approach [19][35]; that is similar to some existing measurement frameworks [4]. The authors have implemented the STF research methodology, design and prototype [2][36], to support the selection of the optimal BTM profile [25][26]. Such selections can be only evaluated with the help of mixed-models, that are a combination of quantitative and qualitative research [37][38][36]. The STF’s qualitative reasoning process model [40] uses the recommendations and factors to give the BTPs a possibility to tune the details of the BTM’s profile [9][41].

2.3. The survey and proof of concept

The survey is the quantitative part of the mixed method that is based on a set of resulting factors and hence the questions, stemming from the literature review [12][44]. This research process and the executed survey have also shown that the BTM is an AofABIS [29]. The qualitative hyper-heuristics qualitative part can be used to tune the STF factors. A concrete STF environment was built; and is considered as the STF’s proof of concept (PoC) and the final interviews have delivered the research managerial recommendations on how to select and train the right BTM profiles and to define his educational curriculum. The educational curriculum is essential for such a BTM [42][43].

3. Managerial recommendations

As shown in Fig. 2., the STF research offers a set of BTM profile’s selection and education related managerial recommendations; that are supported by a real world software framework. This framework also includes a BTM and BTP knowledge database.

![Fig. 2. A view on the STF’s and its knowledge based system.](image-url)
The STF’s research list of managerial recommendations and corresponding factors, that are sorted by importance:

1. The BTM must be an AofABIS (related factor: _STF_AofABIS_). BTMs who basically technocrats, proactive project managers and advanced knowledge workers should be capable of supporting and designing the transformation process of the (e-)business environment in a proactive manner [44][28]. In fact, BTMs must be an excellent AofABIS [29][49].

2. The BTM must have extensive experience in business transformation projects (related factor: _STF_EXP_). The BTP's implementation phase is the main cause of high failure rates [14][17][18]; that is why BTMs need empirical hands-on skills that encompass the following fields: 1) knowledge of business architectures (BA) and business process management methods (BPM) [11], 2) automated business environments [46], 3) agile BTP management, 4) knowledge management & integration, 5) organizational concepts, 6) management sciences methodologies and 7) enterprise architecture and other concrete BTP implementation artefacts [48][50]. Therefore, the researchers recommend experienced technocrats profile [13] for such BTPs with an acceptable educational curriculum [42].

3. The BTM must be an avant-garde innovation manager (related factor: _STF_PM_), in fact he must be an excellent agile project manager, who is capable of implementing a “very light version” of the open group architecture framework TOGAF, Service Oriented Architecture blueprint and a BPM based business information system [10]. The use of BPM will enhance the management of knowledge and help in the selection of a BTM [30][31].

4. The BTM must be an avant-garde innovation project manager (related factor: _STF_EDU_). The BTMs’ skills and their educational curriculum must comprise the knowledge of: 1) business and enterprise architecture, 2) automated real-time business process environments, 3) agile project management, 4) organizational behavior, 5) management sciences methodologies and 6) concrete know-how for business information system (BIS) implementation phase.

5. The BTM requires a holistic profile (related factor: _STF_HOL_). This research shows that the BTM is an AofABIS with holistic cross-functional skills (The Economist, E-management, 2000); based on a business engineering education [46]. The basic profile is a flexible and intelligent person that has cross-functional capacities. Transformed organizations and BTMs need more than basic BISs knowledge and educational techniques to exploit the inter-related avant-garde technologies in order to successfully conduct BTPs. Managing complexity skills and educational concepts, require a mixed method that is mainly based on action research; therefore, a hyper-heuristics model [10][48][50].

6. The STF is an applicable framework (related factor: _STF_DSS_); where the BTM selection depends on the BTP’s and company’s special context. The BTM should be supported with a configurable decision making system like the STF [15]. Such BTMs selection and education needs holistic just-in-time (JIT) frameworks that are easily integrated with BTM or TOGAF [10]. The STF is a JIT systems managerial framework. The authors’ aim is to convert their relevant research outcomes into a managerially useful framework and pattern [23][24], and using the hyper-heuristics tree that is suitable for a wide class of problem instances. The authors regard this as a major business and educational benefit [41]. The STF's decision tree results in a set of possible solutions that determine BTM’s skills. This tree can be also represented as an implementation of business processes modelling (BPM). Such a solution is optimal, because the STF knowledge is stored in the business information system [4][39].

7. The BTM profile definition, managerial recommendations, educational curriculum and a real-world STF framework, round up the STF for business transformation managers’ selection pattern (related factor: _STF_BTMP_). This pattern helps the BTM to adapt the enterprise architecture methodology and give priority to the implementation phase.
4. Conclusion

This is another article in a long series of articles related to the STF research, which is based on the action research mixed method; where the STF factors and managerial recommendations, are motivated to try to decrease the high failure rates. These managerial recommendations are a result of the literature review, surveys outputs and interviews. The already published research papers have presented the following research achievements:

- **Knowledge gap**: The literature review proved the existence of a knowledge gap that exists between the traditional management skills and the STF’s managerial recommendations for BTP [28][29].
- **Evolutionary Mixed Method**: This research uses an evolutionary research model in order to create the initial BTM profile that is based on the managerial recommendations [39].
- **BTM Profile as an AofABIS**: Actual environments produce general profiles that can hardly cope with heterogeneous complexity and fast changes. These high frequency changes are mainly due to the hyper-evolution of technology. The research proposes that the BTM is an AofABIS.

These factors and managerial recommendations are the base of the STF’s hyper-heuristics research model. In this article, the focus is on the STF’s managerial recommendations, which are needed for finding the optimal BTMs’ profiles to holistically manage the implementation phase of a BTP.

There has been a lot developed and written on enabling success in transformation projects, but the authors propose to inspect why BTMs fail in the implementation phase of a BTP. That is mainly due to the BTM’s lack of knowledge in managing business integration and implementation and the non-existence of adequate managerial recommendations for such a research question. This phase’s most important findings are:

- **The STF proof of concept (PoC)**: The PoC and interviews proved the research approach and delivered the recommendations on how to select and educate BTMs [46].
- **Managerial recommendations, benefits and framework**: The qualitative hyper-heuristics model confirmed the survey outcomes; and delivered the managerial recommendations and benefits. The STF research project proposes a concrete framework on how to select, train and evaluate a BTM.
- **The STFBTMP pattern**: The STF’s research defines the BTM profile and managerial recommendations that round up the BTM selection and educational pattern (STFBTMP).

**References**


