

INVESTIGATING ON THE ROLE OF EA MANAGEMENT IN MERGERS & ACQUISITIONS

Initial findings from a literature analysis and an expert survey

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Abstract: Mergers and Acquisitions (M&A) lead to substantial changes for the companies involved. The resulting enterprise transformation is challenging as it includes, among others, elements like business processes, organizational units, applications, data, and infrastructure components. Enabling the alignment of business and information technology (IT), the discipline of Enterprise Architecture (EA) management provides a holistic perspective on those elements as well as their relationships. Moreover, EA management fosters communication and provides a consistent information base and therefore is able to contribute to the success of M&A. However, currently there exists only little work investigating on the role, benefit, and usage of EA management in M&A. In this paper, we therefore peruse EA management literature to identify tasks and artifacts beneficial for this type of enterprise transformation. Furthermore, we compare these findings with the results of a survey conducted among experts at three European EA management conferences. Both, literature analysis and expert survey help to build a basis for further research regarding the application of EA management during M&A.

1 MOTIVATION

Over the past century, the appearance of Mergers & Acquisitions (M&A) remained remarkably high. As an ongoing trend, enterprises increasingly establish M&A as a strategic management instrument (Gerds & Schewe 2009; Jansen 2008). Regarding the future, analysts likewise predict a high level of M&A activities (Capital 2011). Consequently, for many enterprises M&A are not considered as individual events, but rather represent common instruments of modern business strategies.

M&A affect the whole enterprise and result in a multitude of complex transformation projects (Gerds & Schewe 2009; Jansen 2008; Penzel 1999). The transformation includes the majority of an enterprise's domains, among others, elements like business strategy, financials, law, products, processes, applications, and infrastructure. Figure 1 depicts a typical M&A process which consists of three phases: merger planning, transaction, and post-merger integration (PMI). Along this way, it includes activities relating to different interdependent management disciplines involving a

variety of special experts as well as internal and external stakeholders (Jansen 2008; Picot 2008).

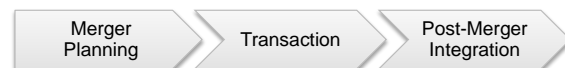


Figure 1: M&A process.

The merger planning phase typically includes strategic planning of M&A activities, analysis of the environment, identification of candidates, and a high-level valuation of possible target scenarios. The transaction phase starts with the initial contact and negotiations with a target enterprise. This phase includes financial planning, due diligence, pre-closing integration planning, and corporate valuation. It ends with the official announcement of the merger, contract signing, antitrust clearance and is completed with the final closing that includes the payment. At this time the formerly independent enterprises close their deal and legally become one single company. During the PMI phase, a post-closing integration plan is worked out allowing to implement the integration of strategy, organization, business processes, systems, administration,

operations, culture, and external relationships of the enterprise. Further activities include monitoring of progress, a formal post-merger audit, and a possible follow-up restructuring (Jansen 2008; Picot 2008).

Enterprise Architecture (EA) management is an approach for analyzing, planning, and controlling as-is and target states of the enterprise in terms of business, information systems, and technology architecture, based on an overarching EA model (Aier, Riege & Winter 2008; Buckl & Schweda 2011). Thereby, the main benefits EA management offers are (cf. (Aier, Riege & Winter 2008; Buckl & Schweda 2011; The Open Group 2009)):

- Creation of a holistic perspective on the enterprise, comprising business & IT elements
- Foster communication by defining a common language for multidisciplinary stakeholders
- Gathering information from differing sources and provisioning of consistent decision base

These aspects are considered as challenges enterprises are confronted with during M&A (Gerds & Schewe 2009; Picot 2008; Penzel 1999). By contrast, different authors (e.g., van den Berg & van Steenbergen 2010; Ross, Weil & Robertson 2006) explicitly propose EA management as a holistic approach for enterprise transformation. However, the application of EA management methods and models in enterprise transformations like M&A has not been subject to in-depth research yet. In this paper we therefore address five central questions detailing the role of EA management in M&A from a literature and industry perspective. Thereby, the questions range from general to specific:

- Is there a general reference to M&A in EA management literature?
- For which phases of an M&A process is EA management relevant?
- Which are typical EA management tasks carried out during M&A?
- Which EA management artifacts are used to perform these tasks?
- Have these artifacts been designed and/or evaluated by empirical means?

To answer these questions we follow a three-fold approach. In the first step, we conducted a literature analysis covering current EA management books. Secondly, we captured the opinion of experts attending three leading European practitioner conferences for EA management with the help of a survey. Lastly, we compared their experience with our findings originating from literature.

The remainder of this article is structured as follows: Section 2 describes the results gained by means of the literature study. Section 3 documents

planning and execution of the expert survey and compares its results with those from the literature study. Finally, Section 4 concludes with a summary complemented by a critical reflection and indications on future research topics in this area.

2 LITERATURE ANALYSIS

2.1 Focus and method

Over the last years, the body of knowledge with regards to EA management matured steadily (Aier, Riege & Winter 2008). However, the application of this knowledge in the light of an enterprise transformation such as M&A just starts to be subject of research (Freitag, Matthes & Schulz, 2010; Ross, Weill & Robertson 2006). We conducted a literature study comprising 13 recent English and German EA management books published between 2005 and 2011, focusing on their contribution towards M&A. We focused our literature study on EA management books, as they summarize findings of continuous and quality-assured research work being gained throughout years of research and knowledge accumulation. Thereby, we build a solid foundation to complement our literature study with journals and conference papers in a next research step.

We studied EA management literature in five stages ranging from the relationship to concrete EA management tasks and artifacts. In Step 1 we examined the general relationship between EA management and M&A, i.e., if the books refer to M&A at all, e.g., as an application domain, a use case, or a driver. In the course of Step 2 we worked out if the author(s) refer(s) to a distinct phase of the M&A process in which EA management can be applied. In Step 3 we investigated if the author(s) address(es) a concrete M&A task being supported by EA management. During Step 4 we identified details on the specific artifact in terms of concrete methods, models, or visualizations. Finally, in Step 5 we examined the sources regarding the usage of empirical means, e.g., interviews, case studies, or surveys.

2.2 Analysis results

Five EA management books, Bernard (2005), Johnson and Ekstedt (2007), Niemann (2006), Schekkerman (2008), Wagter et al. (2005) do not refer to M&A at all. A second group of books refers to M&A but does not explicitly dwell on this topic. Proper et al. (2008, p. 6) mention M&A as one

driver for change, while Hanschke (2009, p. 328) provides a definition of the term as part of her book's glossary.

Two books speak of the PMI phase as an application domain for EA management and list corresponding tasks (Engels et al. 2008, p. 84-86, 169, 232, 277; Keller 2006, p. 98). Engels et al. (2008) list consolidation of business processes and the application landscape as EA management tasks. Additionally, they mention M&A as a reason for data redundancies. Keller (2006, p. 98) considers application and infrastructure consolidation as EA management tasks during the PMI phase and proposes patterns for application consolidation including influence factors and risks.

Besides integration, Ross et al. (2006, p. 176-181) mention knowledge transfer and provision of standardized best practices as relevant EA management tasks. The authors describe the effects of M&A on the enterprise's foundation for execution and the influence of different architecture maturity levels at the acquirer and seller company side. They propose architectural approaches like unification, replication, coordination that can be applied in M&A situation. Additionally, the authors illustrate these strategies by means of three case studies (UPS, CEMEX, and 7eleven Japan).

In addition to the PMI phase, Schwarzer (2009, p. 85-86) also refers to the merger planning phase, in which EA management provides information about necessary measures that have to be prepared and implemented. The author points out that IT plays an important role during M&A since it provides the basis for the future integration of the business processes. Furthermore, she emphasizes that EA management helps to consolidate of IT organization and IT landscape in the PMI phase by as-is and target architecture planning.

The work of Lankhorst et al. (2005, p. 108-110) focuses on EA modeling. The authors name modeling of processes, organizational structure, business functions, IT, applications, and services, as well as the creation of a common understanding among stakeholders and application consolidation as EA management tasks during M&A. The authors include a PMI example from the insurance industry

to demonstrate the applicability of their EA models.

Berg and Steenbergen (2010, p. 4, 25, 27, 37, 50, 134, 137) refer to M&A, including all phases, as one application domain for EA management. Based on a fictitious M&A example from the banking industry, the authors motivate the importance of EA management and the implementation of an EA framework. The researchers propose EA management in order to achieve synergies between both companies being one key goal of M&A. The EA framework can be applied to map the architectural landscape, detect overlaps, and identify what needs to be changed and what needs to continue. As concrete tasks, they mention the homogenization of infrastructure and processes and the support of standardization.

2.3 Summary

Five authors do not bring up M&A at all, while eight publications at least mention the topic. However, these EA management books do not elaborate on M&A in detail, the description of tasks remains vague. If M&A is addressed, authors dedicate a maximum of five pages. Most contributions are limited to the PMI phase. EA tasks mentioned are mostly focused on IT consolidation and integration work as well as support of communication and modeling. The authors do not provide concrete EA artifacts explicitly addressing the challenges of M&A. When it comes to empirical means, the authors stick to fictitious examples or case studies.

3 EA MANAGEMENT SURVEY

After shedding light on the role of M&A in EA management from a literature point of view, this section presents the key results of a survey conducted among EA management practitioners. In line with the literature analysis, the survey centered on how EA management is contributing to M&A today as well as expectations regarding its future role. Subsequently, we summarize the results from the survey and compare them to the literature.

Table 1: EA management survey and participation details.

Conference name	Location / Date	Issued	Returned
EAM Forum 2011	Frankfurt, Germany; Feb 2011	50	14 (28%)
The Open Group Architecture Practitioners Conference	London, UK; May 2011	50	16 (32%)
EAMKON 2011	Stuttgart, Germany; May 2011	35	14 (40%)

3.1 Survey setup

In terms of the survey setup we followed the questionnaire design process suggested by Frazer and Lawley (2000). Aiming at a high return rate and completeness of the answers, the survey was limited to one page, containing 15 concise questions. The distributed sheet was subdivided into three main parts: participant’s background, questions about the company’s EA management, and questions referring to M&A. The survey was conducted at three European EA management conferences between February and May 2011 (cf. Table 1). We selected these conferences on purpose as their audience represents a homogenous sample of EA practitioners in Europe. However, the survey sample cannot be considered to be formally representative (cf. Mayer 2008). In total, 44 of 135 participants returned the fully completed survey, resulting in a response rate of 33%.

3.2 Practitioners’ perspective and comparison to literature

The first questions addressed the company’s industry sector and the individual role of the survey participant. From their industry background, the participants represent a homogenous group. Regarding their roles, the majority of participants follow an EA management profession. Domain architect subsumes different roles that focus on one architecture domain (e.g. business, application, and technology). In both charts (cf. Figure 2, 3), all responses mentioned only once have been assigned to the category ‘other’.

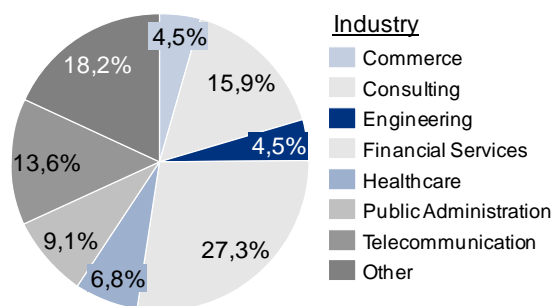


Figure 2: Participants’ background (1).

With respect to the overall relevance of M&A, 63.6 % of the participant’s companies have been involved in M&A in the past, while 56.8 % expect M&A to be relevant for their company in future.

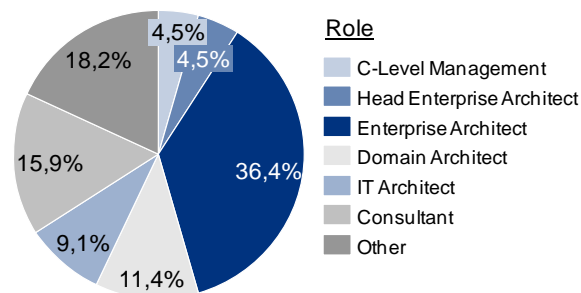


Figure 3: Participants’ background (2).

With a group of four questions, we addressed the current role of EA management during M&A. The support of M&A projects is seen as a responsibility for EA management in 29.6 % of the participant’s companies (47.7 % no, 22.7 % not specified). Looking back, 23.3 % of the participants indicated that in their companies, enterprise architects have been engaged in M&A projects in the past (62.8 % no, 13.9 % not specified). While for current literature, M&A is considered as application domain for EA management, the topic has still not found its way into the minds of the practitioners.

To go into more detail regarding the role of EA management, we asked those participants whose companies did engage enterprise architects in M&A, to indicate the respective process phase. As Figure 3 displays, enterprise architects mainly contribute to the PMI phase with minor involvement in the merger planning and transaction phase. This situation is accounted for in current EA management literature, where the majority of publications refer to the PMI phase while only a small number mentions earlier process phases.

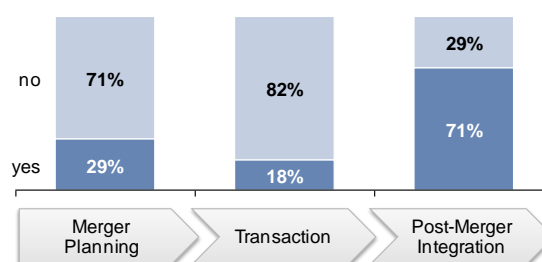


Figure 3: EA management support per M&A phase.

In the survey we offered an additional free text field to collect those tasks which are assigned to enterprise architects during M&A today. The tasks mentioned by the survey participants are mainly part of the PMI phase or general EA management tasks, with one exception. Regarding the PMI phase, subsequent tasks were mentioned: integration

planning, consolidation or respectively integration of IT and processes, business and IT integration, migration of applications and data, and software selection. General EA management tasks included scoping, providing transparency, IT master planning, target architecture design, governance, and project management. One participant brought up due diligence as an activity performed during the transaction phase.

Complementary, we offered a free text field to find out how enterprise architects could support M&A projects in the future. Some of the tasks mentioned here as future EA management responsibilities have also been stated as tasks performed today, namely: due diligence, target architecture design, consolidation of IT and processes, providing transparency, and project management. In addition, the participants mentioned the review of a target enterprise's as-is architecture and support of C-level management (e.g., CIO, CTO) in decision making (e.g. by pointing out costs of integration) which are part of the merger planning phase. Furthermore, they stated the following general EA management tasks: development of integration scenarios, preparation of a business capability roadmap, dependency analysis, providing a consolidated information base, and mapping of business and IT capabilities.

Similar to the asked experts, literature considers

- consolidation of organization and business process, applications, and infrastructure,
- dependency and redundancy analysis,
- identification of focus areas (scoping) and measures required, and
- as-is and target-architecture planning

as tasks which should be performed in the course of the PMI phase. However, instead of providing in-depth details perused sources solely lists those tasks.

Standardization of best-practices as well as knowledge transfer are considered as being general EA tasks from both, literature and participants. Additionally, literature proposes EA modeling and the creation of a common understanding. Both tasks were not mentioned by the participants. In turn, participants considered governance, project management, due diligence, application and data migration, preparation of business capability roadmap, and support of management decision making as essential EA task during M&A. Remarkably, these activities were not addressed by examined EA management literature.

Finally, we approached the participants with our central question straightforward. We asked for their opinion on the potential of EA management to

contribute to the success of M&A as a special type of enterprise transformation. In retrospective, 60.0 % of our survey participants stated that EA management would have made an M&A in their company more successful, while only a very small percentage of 2.5 % did not see any value in applying EA management (37.5 % not specified). These figures show that practitioners see a real value of EA management in the context of M&A. Certainly, the outcome for this last question is biased, as the majority of participants (61.4 %) were enterprise architects who work in this management discipline. The literature analyzed does not explicitly confirm that the application of EA management improves the success rate of M&A.

3.3 Summary

The survey revealed that the majority of practitioners think that in retrospective EA management would have made M&A more successful. However, today only one out of three practitioners sees support of M&A as a responsibility of EA management while even a smaller number was actively involved in enterprise transformations. Nonetheless, the survey participants pointed out several EA management tasks they consider beneficial for M&A. These tasks were not limited to the PMI phase. Furthermore, practitioners stated that today EA management mainly contributes to the PMI phase with minor involvement in the merger planning and transaction phase.

4 CONCLUSION

As one special type of enterprise transformation, M&A often struggle to capitalize the initially expected benefits. EA management is promoted as an approach of enterprise transformation. Given that only minor research has been conducted regarding the role of EA management in M&A, this paper investigates on the topic. We perused 13 current EA management books focusing on their contribution towards M&A. Afterwards, findings were compared with results from an expert survey conducted at three European EA practitioner conferences.

As we found out in our studies, examined literature discusses the role of EA management in M&A only on a very general level. While current EA practitioners consider M&A as one of their application domains, their actual degree of involvement was low at the time we conducted the survey.

We are aware of the introductory character of our results researching on EA management in the context M&A. Our primary goal is to provide a starting point by incorporating findings from the literature analysis as well as from a practitioner survey. For this reason and the page limit constraint of six pages, the analyzed literature was limited to recent EA management books. An extension of literature analysis during further research steps could include other publication types and sources from related research domains. Regarding the expert survey, further work should increase the sample size, be extended to groups other than enterprise architects, and could be enhanced with complementary questions detailing on specific aspects in more detail.

In all, the expected applicability of EA management has to be proven in practice. Therefore, enterprise transformation and in particular M&A remain an important research field for EA management. Besides the communication of empirically gained experience and lessons learned, future research should include the design and evaluation of concrete EA management artifacts that can be applied during M&A.

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