A method for valuing architecture-based business transformation and measuring the value of solutions architecture
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Preface

History
When does one decide to undertake something like a PhD study? I remember when I graduated with my MSc in January '84, that I had a notion that I would ‘ever’ get a PhD. At that point in time, I was eager to start with a job, after 7½ years university study. My first attempt came in '85 when I drafted a research proposal. I don’t remember the subject of the proposal anymore, but it didn’t lead to a study.

Fourteen years later, I was busy in the area of business and IT architecture. At that time, there was not that much research known about the benefits and quantification of architecture. In a discussion with a number of architects, the idea came to me to choose the subject business value of architecture as the subject for my study. This discussion must have taken place somewhere in 1999.

This led to a research proposal, which I discussed with several professors. Rik Maes and I got together in early 2000 and decided that this would be a good study to start at the University of Amsterdam. Guido Dedene also became involved and thanks to their support, I was able to take some steps in the following years. After testing several approaches, which were discarded for various reasons, by the end of 2003, I was out of options. I decided to stop for a few months and reflect on what I had done, while looking for other ways to achieve the desired results.

The next step came when Mathieu Hagen and I met, early 2004. I was facilitating an architecture course in Les Fontaines* and Mathieu was facilitating a Six Sigma course during the same week. Coincidentally, we sat next to each other during a dinner and he was so kind to explain Six Sigma to me. It dawned to me that this was the approach were I was looking for. This encounter led to a joint research proposal, which was honored by Tonny Wildvank and Ger Donners and because of their support, we were able to start a Six Sigma pilot study and a follow-up, full-fledged project-success study, named Arjuna. Conducting the pilot and the follow-up study took about two years and by May 2006, I had become Six Sigma Black Belt and we had the results of the Arjuna study available. With this, one piece of the puzzle was complete; I was able to determine the value of Solutions Architecture.

* Les Fontaines (Chantilly, France) is an international training centre.
The next question was how to determine the value of enterprise architecture, or – more precisely – the value of architecture-based business transformation. It was clear to me that I had to define a new way of measuring the value of architecture-based on business transformation. In the literature, several approaches for determining the value of business transformation are described. There are the purely financial methods, which use ROI and NPV approach and there are architecture-specific approaches available like CBAM*. However, none of these approaches was satisfactory for me. There are two reasons for this. Investments in enterprise architecture are always linked to many uncertainties and they do not incorporate this uncertainty aspect. Besides, the investment process in enterprise architecture is not an ‘all or nothing’ initiative. Implementing enterprise architecture takes many years and is a phased approach. Managers responsible for the implementation of enterprise architecture, adapt the planning continuously to take care for changed circumstances and to include learning experiences from previous phases. These adaptation and learning effects are also not valued in these valuation methods.

Hence, I looked around for another approach. A casual remark of a colleague put me on the track of Real Options Analysis. ROA looked promising and I used the next year to dive into this theory and to see how it could be used to value the investments in enterprise architecture. By the summer of 2007, I had worked out an approach for applying ROA to value architecture-based business transformation. At that point in time, I met with Ton Hardeman and Wouter Schmitz who allowed me to apply this approach in their company and this took place in the second half of 2007. By the end of that year all the pieces of the puzzle were available and I was able to start writing the chapters of this thesis. This writing process took about a year; I was able to finish it in the spring of 2009. Looking back, I discovered many new things in this learning adventure and I am thankful that I am able to finish it with positive results. It took a lot of time (my first planning aimed for an end date of 2005) but it is very satisfying to finish this initiative and adding some value to the field of business and IT architecture.

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* Cost Benefit Analysis Method (Asundi, et al., 2001)
young when I started, but at the end, they were aiming for a bachelor or masters degrees themselves and I thank them for their support.

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