Chapter 6
The Enterprise Architect

6.1 Introduction

In the previous Chapters we have discussed the concept of enterprise architecture, the deliverables produced during enterprise architecting, as well as the processes involved. We have not yet discussed the person who needs to execute these tasks; *The Enterprise Architect*. In this Chapter, which is largely based on [130], we aim to discuss the competencies, attitudes, and abilities needed by an enterprise architect to best conduct their tasks.

One only needs to look at one of the many job-ads to see that an enterprise architect needs to have a wide range of competencies. Consider for example:

> *Assist the Enterprise Architecture team to develop a Target EA, Transition Plan and EA governance strategies. Work with lead to develop all stages of enterprise architecture, information engineering, system development methodologies, EA strategic planning, business process re-engineering, workflow processing, requirements analysis, prototyping, system testing, major system and database implementation. Assist in the development of an EA roadmap and strategy, current architecture assessment, architecture tools and repository evaluation and approach, development of EA governance, communication, metrics, investment management, modelling of current and target architecture views, gap analysis, and migration plan to integrate their IT efforts with mission goals.*
>
> From: http://hotjobs.yahoo.com/jobseeker/jobsearch/job_detail.html?job_id=JVVWL53A4E1

This example shows that the role of enterprise architect demands leadership qualities, a deep knowledge of IT and business domains as well as ample communication skills. Clearly not a starter's position.

In randomly chosen job ads for enterprise architects, the following tasks and responsibilities are asked for:

- *Responsible for executing the architectural vision for IT systems within the organisation including those that support Internet applications, ensuring that architecture conforms to enterprise standards.*
- *Provide technical and architectural direction to the software and infrastructure team.*

- *Stay constantly attuned to emerging technologies and recommend business direction based on those technologies.*
- *Provides technical expertise to peers and associates on overall distributed enterprise architecture and design.*
- *Assist in developing and maintaining strategies that result in efficient and effective use of enterprise core services.*
- *Strong conceptual and analytical skills.*
- *Experience in creating and defining new technology concepts and solutions.*
- *Java development experience preferably in SAP Enterprise Portal environment.*
- *Experience in development of Segment Architectures that align with and enable agency strategic goals and business requirements.*

The requirements put on an enterprise architect seem to range from very specific programming skills to broad leadership qualities as well as the ability to develop a business strategy. Tasks and responsibilities differ per job add: there is no one set of tasks and responsibilities for the role of enterprise architect.

Besides an *enterprise architect*, there are many other types of architects, such as business architects, information architects, IT architects, domain architects or solution architects. The difference between these types of architects and the enterprise architect is that the enterprise architect covers the breadth of business and IT, while domain architects focus on one aspect of the enterprise (business, IT, information) and solution architects on one small part of the implementation of the architecture (applications, software, business processes).

Some initial work has already been done regarding the abilities and competencies that should be met by enterprise architects. For instance, organisations such as TOGAF [139] and the Netherlands Architecture Forum [131] have created frameworks of competencies for architects. Some organisations have created their own competencies frameworks [2, 150], or have even introduced their own certification programs (for example: IBM, HP, Capgemini, Federal Enterprise Architecture Certification Institute, and TOGAF).

Standard guidelines regarding the competencies of an enterprise architect still lack. Responsibilities differ per company/assignment and research showed that architects themselves expect to have to have a variety of competencies [145]. Using pre-existing frameworks for competencies and abilities [16, 26, 2, 29, 131, 139, 145, 150] as a starting point, this Chapter provides a competency framework for enterprise architects which is geared towards the responsibilities of enterprise architects. The latter responsibilities are derived from the enterprise architecting processes (and associated tasks) discussed in the previous Chapter.

This Chapter is structured as follows. In Section 6.2 we discuss the basic competencies which an enterprise architect is expected to have. Section 6.3 summarises the responsibilities of enterprise architects based on the processes discussed in the previous Chapter. Section 6.4 then continues by discussing the personality types needed to meet these responsibilities. Since enterprise architects are likely to operate in teams, Section 6.5 considers competencies related to working in teams. Finally, before concluding this Chapter, we will briefly visit the topic of professional

development of the enterprise architect, which is about cooperation and sharing best practices and certification.

6.2 Relevant competencies

In this Section we look at the competencies that are relevant to the work of enterprise architects. As we will see in the next Section, not all of these competencies are relevant to each of the roles played by architects.

According to a survey among architects, one has to be a jack-of-all-trades to be a good architect [145]. Even more, job ads for enterprise architects typically claim at least five years of experience, profound domain expertise, specific knowledge about networks, applications, operating systems, etc, communication skills and proven success in implementation. Providing a complete list of competencies of the enterprise architect is therefore also hardly possible. We will limit ourselves by introducing the essential competencies on the different fields which are needed. In doing so, we distinguish two kinds of competencies:

Professional competencies – Competencies dealing with knowledge, attitude and skills necessary to a successful performance in a specific function or role [17].

Personal competencies – Competencies that can be used in several functions or roles (i.e. communication skills) and personality characteristics.

6.2.1 Professional competencies

The professional competencies comprise the knowledge, attitude and skills to perform successfully in a specific function [131]. The enterprise architect should be able to understand and have knowledge of all four areas (business, information, information systems and infrastructure), while he needs to be an expert in at least one area [2]. TOGAF divides the professional competencies in their Architecture skills framework in business skills and methods, enterprise architecture skills, programme or project management skills, IT general knowledge skills, technical IT skills, and legal environment [139].

When looking at the competence model of a standardisation effort such as TOGAF as well as the competence model of an architecture society such as NAF, one can conclude that architects need to have knowledge about the different domains they act in. In addition, knowledge about architecture principles, architecture frameworks and governance is most important, while keeping informed about new developments is also necessary.

6.2.2 Personal competencies

For the personal competencies we do not distinguish between different types of architects. Even stronger, it seems those competencies are quite close to adjacent professions such as strategists, process developers and system developers. The personal competencies can be divided in intermediary competencies, values, norms and ethics and personality characteristics [131]. This last group contains natural abilities of a person and these are therefore hard to be learned. One of these is persuasiveness, which is recognised by [26] as an important characteristic of an architect. Others are independence, persistence, initiative, etc [131]. Values, norms and ethics differ per person and organisation. Intermediary competencies are the ones mostly mentioned in literature and job ads. A short comparison between four sources [14, 131, 139, 151] showed the following top five intermediary competencies for the architect, according to the naming conventions of [131]:

- Analytical skills.
- Communication skills.
- Negotiation.
- Abstraction capacity.
- Sensitivity and empathy.

Besides those, creativity and leadership appear to be essential for the enterprise architect, especially because (s)he needs to cover the whole spectrum of business and ICT and often operates in a leadership role in close collaboration with other architects. Based upon [131] and extended with some competencies concerning change management from [29], we identify the following personal competencies:

Abstraction capacity – The ability to learn in new situations and to adapt acquired knowledge and facts, rules, principles to new domains.
Accurateness – Working neatly and precise.
Analytical skills – The ability to identify a concept or problem, to dissect or isolate its components, to organise information for decision making, to establish criteria for evaluation, and to draw appropriate conclusions.
Authenticity – Being true to one's own personality, spirit, or character.
Consulting – Being able to give recommendations on a certain case.
Creativity – To be able to generate creative ideas and solutions, invent new ways of doing business, and be open to new information.
Decisiveness – To be able to take decisions after having enough or complete information and act towards these decisions.
Dedication – Driven to accomplish their goals.
Didactical skills – The ability to transfer complex knowledge to other people.
Diplomacy – Ability to communicate about sensitive issues without arousing hostility.
Flexibility – Ability to deal with changed conditions, assumptions, environment, etc.
In-dependency – To be able to act without being influenced by others.

Initiative – Readiness to act on opportunities.
Integrity – Moral soundness.
Leadership – Inspiring and guiding groups and people.
Listening – Listen actively to understand information or directions and be able to provide relevant feedback.
Loyalty – Faithful to the key stakeholders.
Negotiation – To be able to maintain a position in conversation with others and improve this position.
Openness – Open to alternative directions, solutions and opinions.
Opinion forming – Being able to make a judgement about a certain case.
Organisational awareness – To understand the inner working of the organisation; to estimate the value of the own influence and consequences of decisions or activities.
Persistence – Being determined to do or achieve something
Persuasiveness – To be able to convince others of a certain opinion
Plan and organise – Making objectives and take actions to reach these objectives in an effective way.
Result driven – To be able to realise objectives and results
Self-confident – Confident about (and familiar with) their own (in)abilities.
Self-development – Reflect on your performance and goals, identify learning needs and development options, and develop knowledge and skills
Sensitivity and empathy – Sensing others' feelings and perspective, and taking an active interest in their concerns.
Stability – Has a stable character and mood.
Teamwork – Working with others towards shared goals and creating group synergy in pursuing these goals.
Verbal communication skills – Use appropriate technical or business vocabulary to be able to express thoughts and feelings in a concise way and to respond adequately to others.
Working systematically – Be able to execute the work in a prescribed way.
Written communication skills – Write clear and accurate reports, letters and documents.

To this list we will add two competencies based upon our own experiences, namely:

Facilitation skills – Be able to facilitate workshops.
Visualisation skills – Be able to visualize architecture results.

6.3 Responsibilities of an enterprise architect

According to [151] an enterprise architect's job can involve governance committees, architecture review boards, technology life cycles, portfolio management, architecture strategy and strategic project support. [26] show that enterprise architecture has

broadened its scope from just an IT issue to the enterprise wide IT architecture and business architecture, with as goal to increase enterprise agility and alignment with business strategy.

Based on the previous Chapter, we identified a number of different responsibilities for the enterprise architect. In meeting these responsibilities, the enterprise architect needs certain personal competencies. Table 6.1 provides a mapping from the responsibilities to the competencies discerned in the previous Section based upon our own experience. We have not mapped the professional competences to the responsibilities, this needs further research.

6.4 Personality types

Strano et al. [132] report on a survey conducted among enterprise architects of the federal government of the United States of America, and concluded that an enterprise architect can have the roles of a *change agent*, *communicator*, *leader*, *manager*, and *modeller*. In [132] these roles are defined as:

Change agent – "*As a change agent, the enterprise architect supports enterprise leaders in establishing and promoting the best strategy to accomplish business goals and objectives.*"

Communicator – "*As a communicator, he assists managers, analysts, systems architects and engineers in understanding the details of the strategy sufficiently well to make decisions and execute the plan that leads to realisation of the shared vision.*"

Leader – "*As a leader, the enterprise architect participates in creating a shared vision, motivating members of the enterprise to aspire to achieving the vision, and providing clear direction regarding what is required to execute a strategy to accomplish goals and objectives that result in performance improvements.*"

Manager – "*As a manager, he organises the architecture team and ensures that adequate resources are secured to perform the architecture process.*"

Modeller – "*As a modeller, the enterprise architect provides a representation of the relationships of enterprise components with sufficient detail and in the format needed to enable making necessary decisions to execute the strategic plan.*"

As an alternative to these roles, [26] suggests four competency areas: credible expert, strategist, politician and leadership. In this Chapter we adapt the roles of [132] since they are based on a documented empirical study.

In [29] five stereotypical styles of thinking about change are identified. Each style is typed by its own-colour:

Yellowprint-thinking – Focuses on bringing interests together, stimulating stakeholders to formulate opinions, creating win-win situations and forming coalitions.

Architecture Process / Competences	Written Communication	Working Systematically	Visualisation skills	Verbal Communication	Teamwork	Stability	Sensitivity And Empathy	Self-confidence	Self Development	Result Driven	Plan And Organize	Persuasiveness	Persistence	Organisational Awareness	Opinion Forming	Openness	Negotiation	Loyalty	Listening	Leadership	Integrity	Initiative	Independency	Flexibility	Facilitation skills	Diplomacy	Didactical Skills	Dedication	Decisiveness	Creativity	Consulting	Authenticity	Analytical Skills	Accurateness	Abstraction Capacity
Create																																			
Understand purpose and context		×		×	×		×		×	×				×	×	×			×	×	×	×	×		×	×			×		×		×	×	×
Determine deliverables	×	×		×	×	×				×	×	×	×		×					×	×	×					×	×	×	×	×		×	×	
Monitor context and stakeholders	×	×		×	×		×						×	×	×		×	×	×	×	×		×	×		×	×	×	×		×		×		
Create shared conceptualisation	×		×	×	×	×	×	×		×		×	×			×	×		×	×	×		×	×	×	×		×	×	×	×	×	×	×	×
Design creation process		×	×		×	×				×	×	×		×						×		×		×					×	×	×	×		×	×
Determine impacts	×	×				×		×						×																	×		×	×	×
Communicate	×		×	×		×	×	×				×	×	×	×	×	×		×		×	×			×	×	×			×	×	×			
Apply																																			
Inform	×			×			×	×						×		×						×	×			×	×				×	×		×	
Support decision-making	×	×	×	×	×	×	×	×		×				×		×	×		×	×	×	×	×		×	×			×	×	×	×	×	×	×
Ensure compliance		×		×		×	×	×				×	×	×	×	×	×	×	×	×	×	×	×		×	×			×		×		×	×	×
Make results available	×	×	×	×				×		×	×					×						×			×		×	×						×	
(Re-)communicate	×		×	×			×	×		×				×					×			×			×	×	×	×		×	×	×			
Maintain																																			
Monitor context & stakeholders		×		×										×	×	×			×			×	×		×			×			×		×		
Assess drivers for change		×											×	×	×							×	×					×	×				×	×	
Update & Communicate	×	×	×	×						×										×		×			×			×			×		×	×	
Organise																																			
Organise team					×	×	×	×		×	×	×		×		×	×	×		×		×		×	×				×		×	×			
Select framework, tools & tricks		×						×		×					×					×		×							×	×	×		×		×
Communicate about EA	×			×	×	×	×	×				×	×	×		×			×	×		×			×	×	×			×	×	×			
Embed EA in Governance	×			×		×	×			×	×	×	×	×			×			×	×	×			×	×				×	×		×		
Monitor maturity					×	×			×		×		×	×	×						×	×	×				×	×							
Manage quality	×	×		×		×	×			×	×		×	×	×		×			×	×	×	×					×	×					×	
Establish leadership	×			×	×	×	×	×			×	×		×				×	×	×	×	×		×		×	×		×		×	×			
Innovate	×		×	×	×			×	×		×				×							×	×							×			×		

Table 6.1 Competencies mapped upon responsibilities

Blueprint-thinking – Focuses on the formulation of unambiguous objectives, development of a plan of action, monitoring and adjusting the change process accordingly.

Redprint-thinking – Focuses on stimulation of people, and implementing sophisticated HRM-instruments.

Greenprint-thinking – Focuses on ensuring that people are aware of new perspectives and personal shortcomings, while motivating them to see, learn, do new things, and create suitable shared learning experiences.

Whiteprint-thinking – Focuses on the natural flow of people's processes, interests and energies, and is concerned with the removal of blockades.

Each of these "colours" of thinking about change has their own merits. Depending on the organisational culture and architectural maturity in which an enterprise architect needs to operate, a different prevailing style will be needed.

The five roles from [132] can be mapped upon the competencies mentioned in Section 6.2. In most of these roles, communication, negotiation and sensitivity and empathy play a large role. Analytical skills and abstraction capacity are definitely needed for the modeller, but are also important to fulfil such a multidimensional role as enterprise architect. Using the competencies of enterprise architects as discussed in the previous Section, these roles can be made more specific as shown in Table 6.2. Note that we have treated the roles as "extremes" or "caricatures" when mapping the competencies. For example, to be a leader, an architect will also need some abstraction capacity. Nevertheless, the ability to abstract is really the core of their role as modeller. Conversely, when modelling, an architect also needs to be able to listen, which is a key trait for the communicator role.

In Table 6.2, the *change agent* role has been refined to include the colours of thinking about change discussed in [29]. In this table, we can see that the first four roles have many competencies in common, while the modeller is a complete different role.

Combining Table 6.1 with Table 6.2, results in Table 6.3. When examining this table, it is most striking to see that responsibilities and roles are not aligned to each other. Some responsibilities are attached to no role at all, while others are a combination of all roles. This really calls for future research. We have made some statements based upon this table, which of course need further research:

- No justice is done to the responsibilities involved in the maintanance of architectures. At the moment, only the modeller and blue change agent role are important for these.
- The communicator role seems less necessary than expected.

6.5 Enterprise architecture teams

Since enterprise architects are likely to operate in teams, it is not necessary to find a single person who fulfils all competencies. To combine a team of architects it is not

Competencies \ Roles	Communicator	Leader	Manager	Modeller	Change Agent				
					Yellow Change Agent	Blue Change Agent	Red Change Agent	Green Change Agent	White Change Agent
Abstraction Capacity				x					
Accurateness			x	x		x			
Analytical Skills				x		x			
Authenticity		x							
Consulting	x	x							
Creativity		x		x				x	
Decisiveness		x	x			x	x		
Dedication		x		x		x	x		
Didactical Skills	x	x	x					x	
Diplomacy			x		x				
Facilitation skills	x		x						
Flexibility		x			x		x	x	x
Independency		x	x		x	x			x
Initiative		x	x						
Integrity		x	x				x		
Leadership		x	x		x				
Listening	x			x				x	
Loyalty									
Negotiation	x		x		x				
Openness									
Opinion Forming		x							x
Organisational Awareness			x		x	x	x	x	x
Persistence		x	x		x				
Persuasiveness	x	x			x		x		
Plan And Organize			x			x			
Result Driven			x						
Self Development		x						x	
Self-confidence		x			x			x	x
Sensitivity And Empathy		x	x				x	x	x
Stability		x	x		x				
Teamwork	x	x	x				x		
Verbal Communication	x	x	x	x	x	x	x	x	x
Visualisation skills	x			x					
Working Systematically			x	x		x			
Written Communication	x	x	x	x		x			

Table 6.2 Mapping competencies to roles and change colours

only necessary to find a good coverage of the competencies defined in Section 6.2, but also to ensure the group of selected architects indeed operates as a team. It is therefore also relevant to consider models for the abilities of people to work in teams. In [16] a number of roles of members in teams are identified:

Implementer – Well-organised and predictable. Takes basic ideas and makes them work in practice. Can be slow.

Shaper – Lots of energy and action, challenging others to move forwards. Can be insensitive.

Role / Architecture process (Ch. 5)	Communicator	Leader	Manager	Modeller	Change Agent: Yellow	Blue	Red	Green	White
Create									
Understand purpose and context			x	x		x	x		x
Determine deliverables	x	x	x	x		x	x		
Monitor context and stakeholders	x	x	x	x	x	x	x	x	x
Create shared conceptualisation	x	x	x	x	x	x	x	x	x
Design creation process									
Determine impacts									
Communicate	x	x	x		x			x	x
Apply									
Inform									x
Support decision-making	x	x	x	x	x	x	x	x	x
Ensure compliance	x	x	x	x	x	x	x		x
Make results available				x		x			
(Re-)communicate	x			x				x	
Maintain									
Monitor context & stakeholders						x			
Assess drivers for change						x			
Update & Communicate				x		x			
Organise									
Organise team					x		x		
Select framework, tools & tricks									
Communicate about EA	x	x	x		x			x	
Embed EA in Governance	x		x		x				
Monitor maturity									
Manage quality			x		x	x	x		x
Establish leadership	x	x	x		x		x	x	x
Innovate									

Table 6.3 Relating process and responsibilities to roles

Completer/Finisher – Reliably sees things through to the end, ironing out the wrinkles and ensuring everything works well. Can worry too much and not trust others.

Plant – Solves difficult problems with original and creative ideas. Can be poor communicator and may ignore the details.

Monitor/Evaluator – Sees the big picture. Thinks carefully and accurately about things. May lack energy or ability to inspire others.

Specialist – Has expert knowledge/skills in key areas and will solve many problems here. Can be disinterested in all other areas.

Coordinator – Respected leader who helps everyone focus on their task. Can be seen as excessively controlling.

Team worker – Cares for individuals and the team. Good listener and works to resolve social problems. Can have problems making difficult decisions.

Resource/investigator – Explores new ideas and possibilities with energy and with others. Good networker. Can be too optimistic and lose energy after the initial flush.

Within a team of enterprise architects there should be a balance between each of these roles. When considering the responsibilities identified in the previous Chapter, one can identify shifts in the priority that should be given to each of the involvement roles. We have made an attempt to achieve a mapping between the team involvement roles and the responsibilities of an enterprise architect (team), by comparing the competencies attached to a team role [16] with the competencies from Table 6.1. In creating the table, all role/responsibility combinations were selected were the team role had at least 60% of their underlying competencies in common with the competencies required by the responsibility. The result of this are shown in Table 6.4.

Architecture process \ Belbin-role	Completer	Coordinator	Implementer	Monitor	Plant	Resource investigator	Shaper	Teamworker
Create								
Understand purpose and context				x				
Determine deliverables	x					x	x	
Monitor context and stakeholders	x	x	x				x	
Create shared conceptualisation	x	x		x	x	x	x	x
Design creation process					x			
Determine impacts	x		x	x				
Communicate						x		x
Apply								
Inform								
Support decision-making	x	x	x	x	x	x		x
Ensure compliance	x	x	x	x				x
Make results available	x		x			x		
(Re-)communicate						x		x
Maintain								
Monitor context & stakeholders			x			x		
Assess drivers for change	x		x					
Update & Communicate	x		x					
Organise								
Organise team		x						
Select framework, tools & tricks								
Communicate about EA		x				x		x
Embed EA in Governance				x	x	x	x	
Monitor maturity	x		x					
Manage quality	x		x					
Establish leadership		x						x
Innovate								

Table 6.4 Belbin roles and the architecture process

The specialist is left out of scope for the comparison, because this is the person who is needed for expert roles, and less for his personal competencies. While

all roles are assigned to at least one responsibility, there are many responsibilities which are assigned to more than one role. Therefore, there seems to be no direct link between the roles and the responsibilities. An enterprise architect seems to be able to fulfill multiple roles for executing one responsibility. It is also striking to see that not all responsibilities are mapped to these roles. The "Inform" responsibility somehow is not mapped to Belbin-roles.

6.6 Professional development

Enterprise architecture is a field which is still developing. Is it already a profession? Or what should be done to become one? Finn defined six characteristics for a profession, namely [40]:

1. An intellectual technique.
2. An application of that technique to the practical affairs of man.
3. A period of long training necessary before entering into the profession.
4. An association of members of the profession into a closely-knit group with a high quality of communication between members.
5. A series of standards and a statement of ethics which is enforced.
6. An organised body of intellectual theory constantly expanding by research.

For each characteristic we will evaluate the state of enterprise architecture:

An intellectual technique – To be able to create a shared conceptualisation and to design the architecture, the enterprise architect needs to think reflectively, as well as to able to analyse and visualise results. Enterprise architects do own an intellectual technique to execute these tasks.

Practical application of that technique – Enterprise architectures are implemented in many enterprises.

Long period of training – A good enterprise architect needs a wide repertoire of professional and personal competencies.
Experience is one way of acquiring these competencies, while education is another. There are some Universities who offer programs for aspiring enterprise architects. Besides professional competencies, also the personal competencies are addressed in workshops. In addition to Universities, there are several training institutes who provide architectural courses with or without certification possibilities. For example:

- The Federal Enterprise Architect Certification Institute (FEACI) educates and certifies enterprise architects in terms of three distinct certification programmes, which are based on the Zachman Framework. These programmes are aimed at the professional competences of the architect.
- The Open Group has its own certification programme, referred to as ITAC (IT Architect certification programme), which is an independent and industry wide standard for IT Architects. At present this certification has no specific

requirements for enterprise architecture, but this is expected to be remedied in the near future. This certification is aimed at both professional as personal competencies.
- ERIA, the European Register for Information Architects, has its own certification programme called RACK (Regulation, Affection, Cognition and Knowledge). Besides taking the accrued experience into consideration, the ERIA certification program also uses assessments of both professional as personal competencies.
- Some large IT service companies have their own certification programmes, including Capgemini, HP and IBM.

While there are several certification programmes, all having their merits, there is not yet a widely accepted standard certification program. This makes certification and professional development of architects still rather fragmented.

Association and communication between members – There are some professional associations in the field of architecture, such as the Open Group, and the Netherlands Architecture Forum (NAF). However both recognize the field of enterprise architecture, they do not distinguish between types of architects yet.

Code of ethics and standards – There is not yet a code of ethics for enterprise architects. ACM has defined a code of ethics for business and IT professionals, and there are also associations within business professions who have these kinds of codes (such as doctors, lawyers, stockbrokers, consultants). The enforcement of some of these codes is very powerful, while for IT and consultancy codes, there are not yet many options for enforcement.

Standardisation is already a bit further in its development. There are architecture languages, styles and frameworks (see Chapter 4). Focussed on enterprise architecture specific, ArchiMate provides a powerful language, which is already embedded in some architecture tools.

Intellectual theory and research – Measuring enterprise architecture to this criterion, it can be concluded that the intellectual theory is still lacking. There are many practical implications, but often these are not underpinned on scientific literature.

In conclusion we can say that enterprise architecture is far in its practical use, however, lacks scientific sources. Therefore, enterprise architecture is not yet a profession, but it is well on its way to become one.

6.7 Summary

In this Chapter we discussed the basic competencies which an enterprise architect is expected to have, and tied these to the personality types needed to meet the responsibilities of architects as discussed in the previous Chapter. Though this match provides insight into the responsibilities, roles and competencies of architects, further research is needed. The alignment between roles and responsibilities was not

what we had expected. Some responsibilities are attached to no role at all, while others are a combination of all roles. Since enterprise architects are likely to operate in teams we also discussed the competencies needed to effectively work in teams.

We also discussed professional development of the enterprise architect. While there are several certification programmes, all having their merits, there is not yet a widely accepted standard certification program. This makes certification and professional development of architects still rather fragmented.

6.8 Discussion statements

1. An enterprise architect is far more important than the resulting enterprise architecture.
2. The programme manager and enterprise architect should bond together (be partners in crime)
3. An enterprise is better of hiring an external architect than employing one's own.
4. Communication about architecture is a profession of its own. An enterprise architect therefore does not have to worry about it.
5. An enterprise architect is only needed in the case of large scale changes in an enterprise. In any other case, an enterprise architect is just a burden.