A blueprint for the short-term insurance industry to anticipate, accommodate and implement the ACORD data standards, and STRIDE data converter into their existing business environments.

By

MARISKA VAN HEERDEN

29270112

Submitted in partial fulfilment of the requirements for the degree of

BACHELORS OF INDUSTRIAL ENGINEERING

In the

FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

UNIVERSITY OF PRETORIA

PRETORIA

October 2012

Acknowledgements

Without the help and guidance of several people, this project would not have been possible. Hereby I would like to thank the following people whom contributed their respected assistance and support in the preparation and completion of this project:

First and foremost, a special thanks to Marius Jooste, cofounder of QuinXi for the continuous support, effort and patience throughout the execution of the project.

Jenny Theunissen, operations & marketing manager at STRIDE SA, for the valuable insight around the processes involved.

Skip Swanepoel, a business analyst at Absa, for the better understanding of the ABSA sales process.

Suné Vermeulen, my study leader, for all her support during the year.

My family, for their complete support and motivation.

Executive Summary

The Short-term insurance (STI) industry in South Africa is a multi-billion Rand industry, and despite economic conditions it is still growing year-on-year. There are currently 22 million short-term policy holders in South Africa (SA), responsible for a R80 Billion gross written premium (GWP). The GWP represents the total premium before commissions for reinsurance and resigning are subtracted. These policy holders are serviced by roughly 19,000 intermediaries (advisers and agents) representing the insurance providers (insurance companies) and insurance underwriters (assessing the risks of the clients) across SA and internationally.

Due to the expansion and growth in the STI industry, governance and legislation have followed suit and stricter measures are put in place to protect all stakeholders in the value chain. This includes the clients, the advisors, the intermediaries and eventually the insurers or product providers. One such legislative measure was put in place to ensure that client data is freely shared between insurers and intermediaries / brokers.

Short-term insurance companies in South Africa need to exchange customer information between different insurance companies whenever a customer requests it, or as per legislation prescription (monthly, quarterly, etc.). This is not always possible because of the various processes and systems each insurance company uses.

Due to complex and non-integrated systems and user-defined formats that are not compatible between all stakeholders, data is sometimes lost or incorrectly transferred between parties.

Each insurance company (i.e. Santam, Absa, etc.) rely on a specific standard or data format that allows their client and product data to be translated in between their front-end (quoting) and back-end (administration) systems. This is in most cases unique to a specific company, and would greatly differ between company 1 and company 2. In short this makes any form of data standardization and conversion almost impossible. With the emergence of 3rd party administration software has this been reduced slightly but still requires the insurer or intermediary to migrate all data to this 3rd party system.

In the Life and/or Long-term Insurance (LTI) Industry, a similar concern had been addressed many years ago with the establishment of the Astute service. Astute is also an exchange

service for information that's done electronically to improve the distribution of data between the relevant parties involved (Astute, 2012). This allowed long-term providers to standardize data so that a uniform lookup could be done across the industry.

To solve this problem, ACORD, a data standard for insurance companies were designed to help companies standardize their systems in order to simplify the exchange of data. To implement the ACORD data standard in South Africa, a data transformer entity called STRIDE was created. STRIDE was established to customize the international ACORD standards for use in the South African STI industry. STRIDE was also established to ensure the technology platforms and interchange engines in order to facilitate data transfer between various parties in the STI industry. And lastly STRIDE manages the membership, the standards and the processes behind STI data sharing in the industry.

This in itself a daunting situation and many short-term insurance providers are not really sure how to embrace these changes and new technologies.

During the execution of this project a blueprint will be designed for companies to clearly understand the consequences and benefits of such a data transformer. The insurer or the intermediaries will be able to use the blueprint to identify a more simple way between the As-Is position and the To-Be states.

Table of Contents

List of Figures

List of Tables

List of Acronyms

ACORD: Association for Cooperative Operations Research and Development

ADM: Architecture Development Method

AIC: Absa Insurance Company

FEA: Federal Enterprise Architecture

FIA: Financial Intermediaries Association

FSB: Financial Services Board

GWP: Gross written premium

ILAA: Insurance Laws Amendment Act

LTI: Long-term Insurance

SA: South Africa

SAIA: South African Insurance Association

STI: Short-term insurance

STRIDE: Short Term Industry Data Exchange

TCF: Treating Customers Fairly

TOGAF: The Open Group Architecture Framework

Chapter 1

Introduction and Background

Data and information belonging to customers of short-term insurance companies in South Africa need to be safe and protected, not only because data can easily be lost or mixed up due to a lack of control in a specific system, but also because of laws and legislation now protecting the customers. Legislation in South Africa is also continuously being changed to ensure that the information is kept safe. On any of the roleplayers' request (Customer, Insurance Company or Broker), it is required that any of the other roleplayers share their data freely with one another. The sharing of data can be complicated due to the fact that the data from different companies gets stored in different formats on different, non-integrated systems.

To simplify the problem mentioned above, the Association for Cooperative Operations Research and Development (ACORD), made a data standard or data dictionary for the international insurance industry available to guarantee mutual terminologies and definitions are used or put in place between the owner of the policy (insurer) and the brokers and agents whom are selling the policy.

To implement the ACORD data standard in South Africa, STRIDE (Short Term Industry Data Exchange), which is a data conversion entity was created. STRIDE is used to shift the data between the parties according to the ACORD standards.

However, the use and impact of both these new methods are unclear to South African short-term insurance companies. Therefore a consulting firm based in Gauteng, South Africa, QuinXi decided to analyse this unknown environment by developing a blueprint to help short-term insurance companies to understand the concept and effects. The insurer or the intermediaries will be able to use the framework to identify a more simple way between the As-Is position and the To-Be states.

This project is more academically based and involves a lot of research and understanding about the mentioned standards, but its outcome will be used in a workable solution with the

use of best-practice methods. The end result will be an informative assembly in the form of a blueprint to guide short-term insurance companies through the STRIDE data converting process.

1.1. Problem Statement

Short-term insurance companies have been dealing with the problem and the unnecessary risk of data transfer for many years now. This includes the transfer data of customers from one company to another. The reason that this is problematic is that not all companies' data systems correspond to one another. Once all the systems are set to a mutual standard, there will be no way for the data to get mixed up or get lost (either really lost or lost in translation).

ACORD is an international data standard that was designed to eliminate this problem. For companies who are willing to try the ACORD standards, it costs a lot of money, and takes a lot of time and knowledge to chance their existing systems to the ACORD standard. This is where STRIDE will be implemented. STRIDE now becomes a standard in South Africa, built on the concepts of the ACORD standards, but becomes a service provider in South Africa. STRIDE act both as the consulting and information body for ACORD, but also as the data converter to interested insurance industry role players. The data from different short-term insurance companies will be sent to STRIDE where their formats will be converted into the generalized STRIDE converter.

Because of short-term insurance companies' lack of knowledge around the STRIDE project a blueprint will be designed to describe this whole method of data and to explain all the benefits STRIDE can offer them, while not actually changing the data. It will clarify the data converter and hopefully motivate short-term insurance companies to use the STRIDE system.

1.2. Project Aim

The aim of this project is to initiate, analyze, design, build and implement a blueprint, using the appropriate engineering tools and techniques, which will introduce the STRIDE data

converter that is developed to implement the ACORD data standard, to short-term insurance companies in order for them to trade data between one another on a customer's request.

1.3. Project Scope

In order to fulfill the project aim mentioned above, the project can be divided into different phases. These phases do not necessarily follow on each other and can therefore be divided as seen in Figure 1:
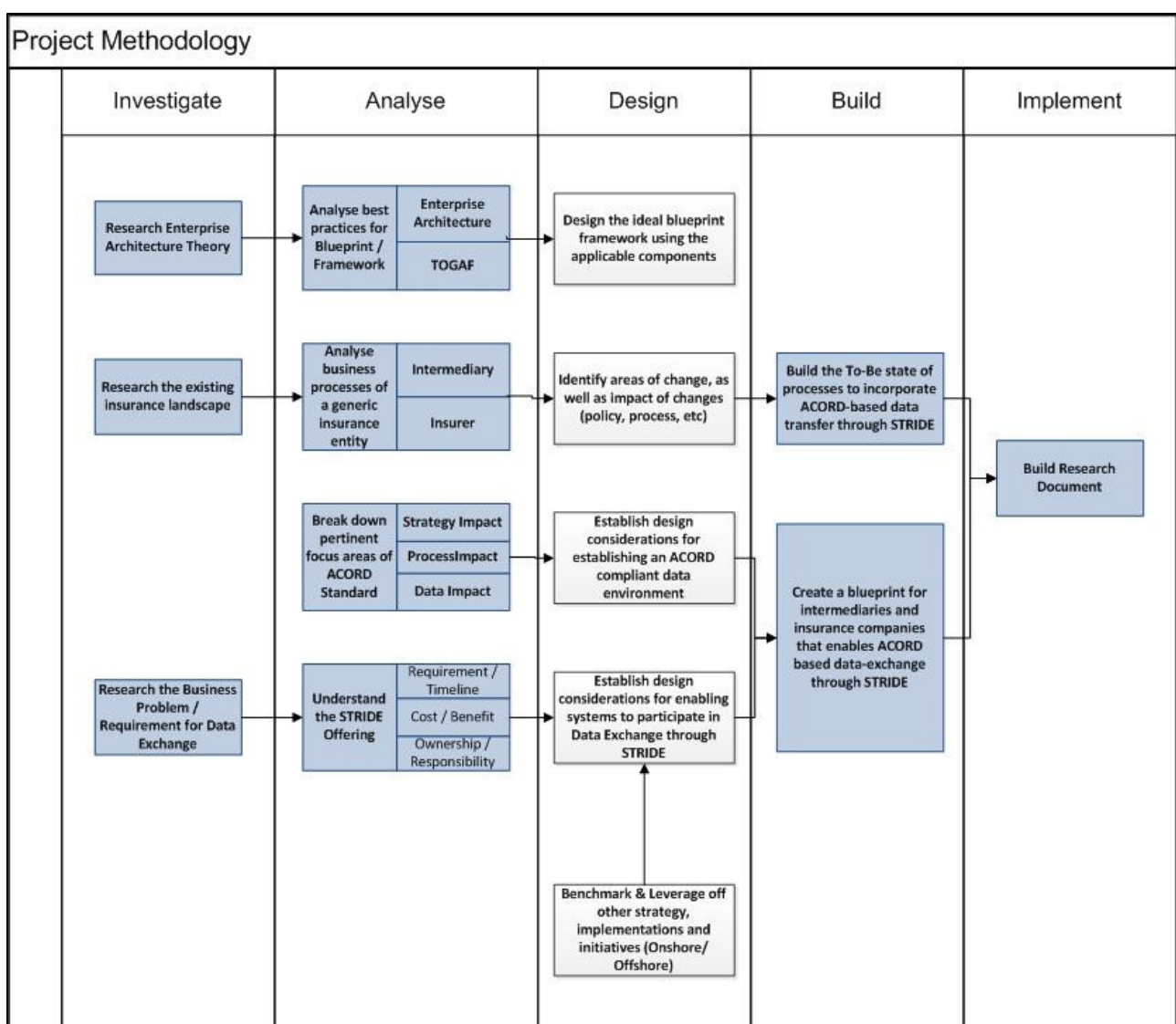

Figure 1: The methodology of the project

1.3.1. Initiation

During the initiation state a proper investigation and thorough research should be done into the present short-term insurance environment. ACORD and STRIDE should also be defined and researched in full to completely understand what both offer and how they integrate with each other. More research is necessary regarding Enterprise Architecture to explain the industry's best practices methods.

1.3.2. Analysis

Make a clear but thorough summary about the requirements of both ACORD and STRIDE which can be used by all the parties involved in this specific industry. Analyze the insurer's and intermediary's point of view from the present process being used in the industry. Calculating and recording the full picture of the business architecture methods and comparing them with one another. This might include a functional-, process- and system view.

1.3.3. Design

This is the phase where all the information gathered is being put together. It includes the identification of the As-Is state, and designing a relevant To-Be model to represent the new improved standards. Find and describe the scope of changes found in the industry, and identifying the complexity of each components of the project to use in the final framework.

1.3.4. Develop/Build

After collecting all the required information, a model will be defined to support the business strategy. The blueprint and To-Be state models will be developed here, which is based on the defined objectives and measures.

1.3.5. Conclude/Implement

In this phase the actual blueprint will be sent to all the role players in the short-term insurance industry that will be using the STRIDE system. This is also the step where the project will be documented and handed in.

1.4. Deliverables

To clearly understand and summarize the problem visually, different flowcharts such as As-Is and To-Be state diagrams should be constructed. To explain the Architecture Blueprint Standards, the different Engineering Architecture Frameworks will be defined and compared to choose the most appropriate one for this project. One of this frameworks or a combination of them will be used. In the design phase the As-Is and To-Be state diagrams will be designed to easily identify the difference and improvements between the two comparisons.

To complete the project a blueprint of the STIDE system will be developed to completely explain the concept.

1.5. Document Structure

Chapter 1 of this document clearly states the problem identified for this project and the deliverables to be expected in the solution of the problem. In Chapter 2 a detailed explanation about the three components of this project can be found. This includes the current short-term insurance industry, the STRIDE project in association with the ACORD data standard and finally an explanation of the different engineering frameworks. Chapter 3 identifies the information being used in the design phase reflecting on the STRIDE project, as well as a complete comparison of the three Engineering Frameworks identified in the literature study. The design phase can be found in Chapter 4 where the areas of change in the insurance industry will be identified to finally develop the To-Be state. The final Chapter includes the To-Be state and the actual development of the blueprint.

Chapter 2

Problem Analysis (Literature Study)

This literature study is a complete analysis of information gathered concerning the scope of this project. It will also highlight the understanding around all the different aspects of the problem and how they relate to one another.

This project can be divided into three main components:
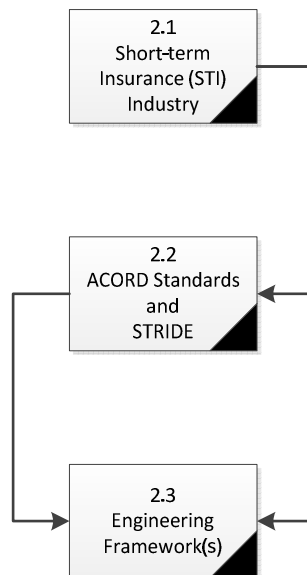
Figure 2: The three components for this project

- The first component represents the current existing short-term insurance industry process that has to be identified and analysed.
- The second component will include a detailed study around the new established company named STRIDE, which will provide an entity to exchange data between the different parties in the short-term insurance industry.
- The last component will contain the different engineering tools and techniques that will be considered in solving this project. This last component will be used to connect the first two components which form part of the solution.

2.1　Current Short-Term Insurance (STI) Industry

In South Africa, insurance companies deal with numerous financial transactions on a daily basis. By making use of the appropriate technologies, they manage these financial processes such as the collection of premiums and claims payments effectively.

South Africa's legislation is being changed frequently in order to protect the customers. This includes the requirement to share various data among the customers and the insurance companies involved on either of these parties' request.

2.1.1.Size and Growth of the STI

According to a survey done by Pricewaterhousecoopers Inc. in 2008, about 18 companies believed that the governance legislations prevent customer growths (Metcalfe, 2008). These statistics are indicated in figure 3 below.
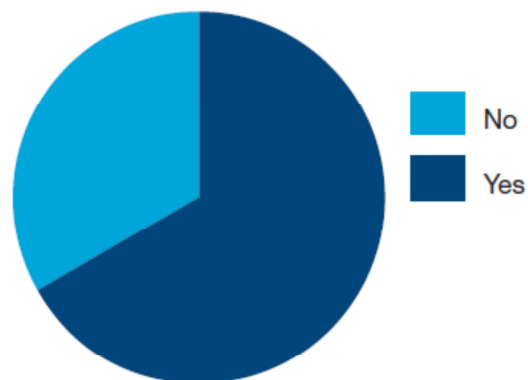
Based on responses from 27 companies

Figure 3: Is legislations preventing customer growths?

Due to increased interest rates, costs of energy and inflation rates the growth expectation of new businesses has been affected dramatically. The result of these increases mean reduced income, which in turn means customers, cannot afford insurance. However within South

Africa the financial services industry and specifically the insurance industry has still shown growth despite all the negative factors.

The following table was obtained by the survey relating to existing short-term insurance companies (Metcalfe, 2008). This clearly reveals that the gross premium income was expected to increase with nearly 67% from 2008 to 2011.

This indicates the large number of players in the market, and indicates the opportunity of optimization. If everyone is threatened by increasing legislation, and sales is perceived to be hampered by such legislation but still the market is growing, then a large growth opportunity exists if more optimal ways can be found to comply to all the laws.

Table 1: Change in statistics for short-term companies from 2008 - 2011

Short-term companies

	2008	2011	Change	% Change
Branches in South Africa	187	304	117	62.5
Brokers/Intermediaries*	20,341	19,435	-906	-4.45
Full-time employees in SA**	14,154	15,025	871	6.2
Gross premium income Rbn	51.39	85.9	34.5	67.15
Policyholders in millions ***	14.55	22.67	8.12	55.85

2.1.2. Recent Changes in the Short-Term Insurance Market

a) Customer Changes

Companies in the short-term insurance industry are being targeted by cutomers / clients who are more informed, and who constantly want to be sure that they have the best products. In order to ease the process of selling insurance. The brokers and advisers (intermediaries) are adjusting to the circumstances and dealing with the customers they get. An increase in the middle class income market was also noticed, which again means a growing and different requirement.

b) e-Business Development

An increase in e-business development is expected due to the internet being used more often by more users daily. The internet can increase speed and reduce complexity and effort.

c) First-time Customers

Several changes in the short-term insurance industry, for example cheaper and simpler products have resulted in a series of new customers, where they are not aware of how the original processes operate.

d) Consumer Protection

According to the survey from Pricewaterhousecoopers Inc. customer protection requires increased special attention. This can be identified as one of the most important changes that are currently occurring in the South African insurance industry.

e) Continued Regulative Pressure

The Financial Services Board (FSB) have enforced stricter regulations to Insurers in both the way they treat their clients (TCF: Treating Customers Fairly) and in the Solvency of their books. This means that insurers must focus on their Capital Adequacy rather than on Premium Volume alone. This means that access to data is critical. (Marsh Africa, 2012).

f) Other Pertinent Changes

A few extra changes identified are as follows:

- The focus on protecting of customer data and information were increased.
- The advisors are better qualified than in the past.
- New capital requests

2.1.3. The Need for Change

The sharing of a client's data can be a complex process where data has to travel between the different systems of all parties involved in the short-term insurance industry (Both brokers and insurance companies). The reason for this is because of the unique processes and data formats being used by different insurance companies. Not all companies use the same terminologies or definitions to describe items. Because of the Insurance Laws Amendment Act (ILAA) the stakeholders of the industry were required to reconsider the way they transfer this data (Stokes, 2012).

From 1 January 2013, insurers must be able to have access to the data about the client and his policy. This can be seen as a concern because these specific data belongs to the broker and binder holders, and therefore they should frequently update the insurer with the data. This causes that insurers will no longer be able to work with brokers that cannot provide these data to them on regular intervals.

2.2. The New Short-Term Insurance Data Exchange (STRIDE)

The STRIDE project was introduced in 2009 by the Financial Intermediaries Association (FIA) and the South African Insurance Association (SAIA). Their main purpose was to solve the communication problem and to deliver a safe platform from which to transfer data between the insurers and the file holders (van der Linde & Theunissen, 2011). It will provide a standard that is open to all operators and will allow diversity. The system will focus on collecting the information only once.

The technicians at STRIDE work voluntarily and in their own personal time to ensure the best possible working model for data to be converted between different insurance companies. These experts operate in a way that is compatible to general business strategies combined with the technical elements to foresee future opportunities that can help build up the company. They also have experts with about ten years' experience in the life assurance environment to help them build the converter.

In association with ACORD, STRIDE aims to generate a format that is generalized and according to standards to maintain an efficient data sharing entity. Therefore all the users will have access to the exact same standard.

2.2.1. ACORD data standard

The ACORD framework is only a few years old now and therefore unknown to most companies. Therefore a brief introduction to their five facets is mentioned below (McCullough, 2011):

- ACORD can be described as a business dictionary to define all the terms and explanation of the standards which ACORD stand for. This is specifically related to the insurance industry.
- A competence model to explain the insurance industry including all the business aspects.
- A model built to define and explain all the insurance concepts such as policy, claims, party etc. The model also explains how these concepts are related to one another.
- From the information model a data model is formed into an entity-relationship setup.
- Using components already used to define the gap between data collected and the business strategies revolving around them.

According to ACORD's website (ACORD, 2002) their mission is to simplify the arrangement between different insurance companies by creating general forms. Their objective is to manage the communication between the various roleplayers involved in the insurance process and to make this communication better.

Shane McCullough, a chief enterprise architect at ACORD (McCullough, 2011) stated: "The ACORD framework is the future. It's how we'll be able to improve service to members and to the industry as a whole." It also gives companies the opportunity to create their own architecture developments and then comparing it to ACORD's model.

2.2.2. Ownership

After being introduced by the FIA and SAIA, STRIDE has gained a few shareholders that support the process. Because the STRIDE Company's motive is to obtain a profit, the shareholders will receive repayment on their investments. They do not expect a major profit at the beginning, but they at least expect the starting income to cover their expenses and repayments of the shareholders investments.

The cost of shares is being determined so that no one will gain control over other shareholders, and therefore any insurer and even any intermediary may buy shares (van der Linde & Theunissen, 2011). Any individuals and/or companies involved in the short-term insurance industry should consider membership.

2.2.3. Benefits of STRIDE

According to Me. Jenny Theunissen, program manager at STRIDE (van der Linde & Theunissen, 2011) a few benefits are as follows:

- Empowers agreement according to the law
- Care for profitability and sustainability in the long term
- Saves time
- Reduces duplications that may also save money
- Control cost
- Share information in real-life

2.2.4. Understanding the STRIDE data converter

In an attempt to gain a better understanding of the STRIDE process, an interview was arranged with Me. Jenny Theunissen, Programme Manager at STRIDE (Theunissen, 2012). She briefly described the general insurance process and how STRIDE can help generalise the transfer of data to benefit the insurance companies involved in the exchange for the future. The different phases of the converter were also mentioned, and with that one can conclude that STRIDE is still just starting to implement the converter. For this specific reason

short-term insurance companies are not aware of what the converter can offer them and therefore a blueprint will be designed to introduce them to it.

In the interview, Me. Theunissen explained that the ownership of the data that needs to be transferred is still a mystery. To determine this, the customer's data must be delivered to either the broker or the insurer. The problem arises when the data has to be transferred between these two role players.

Short-term insurance companies try to manage their data with as little as possible information. This will become problematic, because specific items will not be described completely and can therefore become mixed up with another completely different item. The insurer carries a risk and wants to share this risk by insuring at one or more insurance company. It is therefore the insurer's responsibility to describe the items he / she would like to have covered.

The brokers then become pro-active. Each company has different naming systems to define their data. The codes etc. vary which makes the system more complex. All data from these companies won't work, where the STRIDE converter will come in as a general form to file the various formats of these data. The combination of the FIA and SAIA cared for developing the STRIDE converter. The two associations mentioned above are responsible for insurance and financial support.

Me. Theunissen briefly mentioned that when a sufficient amount of members are to join STRIDE, then the ACORD system will be implemented in South Africa. The US version of ACORD is not ideal for South African companies because of the different zip-codes, states, suburbs etc. Due to of the current lack of members with STRIDE they are only testing the converter at present. Non-members will only be able to use the plain converter, where members will receive benefits from STRIDE which include files, help files and access to the ACORD standard expertise.

The basic technology behind the STRIDE converter is that each short-term insurance company provide their data to STRIDE and they then use the converter to transform these data into the general form. Once this conversion is done, the insurer will not have to collate many different data sets, but only one. The intermediaries or brokers can then have the same access as the insurers in the exact same format.

The mapping process of STRIDE will be done over a period of six months where the converter will be tested to receive the necessary certification. The possible testers will

include Mutual & Federal and Santam. Me. Theunissen mentioned that the current scope of STRIDE is implemented in the short-term insurance industry but wants to extend their coverage to crop yields such as AGRI and then later to the Mining and Engineering industries.

2.2.5. STRIDE timeline

After initiation of the STRIDE project in 2009, lots of progress was made involving several elements around the success of the project. Different groups working on the project has shown great dedication and they have also seen an increase of possible future members. A solution was provided during December 2010. The process of working with ACORD in order to build and use the project according to South African standards is progressing well, and the first test for aspects such as polices and claims information was done by the end of the first quarter of the year 2011 (Insurance Gateway, 2010).

During March 2011 STRIDE handled the last part of the preliminary project stage, which will be followed by the detailed planning phase (Insurance Gateway, 2011). They started working with the claims information in May 2011. Various committees were appointed and worked with, including Astute, to decide on the final decisions about STRIDE during June 2011, where a detailed delivery proposal have been finalized and delivered (Insurance Gateway, 2011).

In a publication in Insurance Gateway on the 15th of March 2012, it was announced that the company STRIDE has officially been launched. They started testing the data transferring entity and according to the Chairman of the interim Board of STRIDE, Arnold van der Linde: "Testing is going well with data being switched seamlessly and securely." (Insurance Gateway, 2012). The need for the STRIDE data converter has become even more important as binder holders has to obey new regulations (mentioned earlier) by 1 January 2013.

The different stages of STRIDE are as follows:

- Phase 1:   The synchronisation of policies and claims. This is called the Batch phase and was launched on 21 April 2012

- Phase 2:   During this phase they will focus to implement the converter online. Another part is to attract banks to use this standard. The preliminary launch date for phase 2 is December 2012.

2.2.6. Relating the information to the project

By applying the ACORD standards by using the STRIDE data converter, short-term insurance companies can save a lot of money, time and effort to transfer their customer's information safely when requested by the insurer. Companies that will gain from this system are:

- Mutual & Federal
- Santam
- Alexander Forbes
- Auto & General
- Emerald
- Hollard and
- ABSA

2.3. Engineering Frameworks (Enterprise Architecture)

The engineering frameworks considered in this project will be Enterprise Architecture Frameworks since they provide a graphical view of processes in any business situation. This also defines the different processes' interactions among each other and in what way they are related, which will be ideal to introduce the short-term insurance industry to the STRIDE data switch entity. It can help organisations identify and study weaknesses in the system.

According to (Urbaczewski & Mrdalj, 2006) "Enterprise architecture serves as the blueprint for the system and the project that develops it." These frameworks can explain the arrangement of processes, and can therefore provide a foundation for all the functions working together (networks, hardware, software etc.). There are various frameworks available, which was each uniquely designed to satisfy specific deliverables according to

various projects and enterprises. Some of the views of the different frameworks can be identical and others can be combined to form one concept. These frameworks should be compared and the comparison used to decide on the most appropriate individual or mix of frameworks to be used in this specific project (will be discussed in later chapters).

Infosys did a survey in 2007 to determine the top three drivers for Enterprise Architecture (Infosys Limited, 2011) in which they discovered that (1) the flexibility of business and processes, (2) the control of complexity and (3) improved alignment in IT-development were crucial. This project will focus on the (2) control of complexity by applying the frameworks to combine the current short-term insurance processes with the new data transferring switch entity named STRIDE.

They are generally high-level views of the process or system, and may include a picture of the current situation (As-Is), an image of the future (To-Be) and then a method of how to get to the future.

A brief description and possible examples of the three most used methodologies follows:

2.3.1. Zachman Framework

The Zachman Framework can be seen as the utmost referred and possibly the best framework of all the Enterprise Architecture Frameworks, thus having the basis for comparison of any other framework to determine their successive implementation (Fatolahi & Shams, 2006). According to a description (Urbaczewski & Mrdalj, 2006) "The Zachman Framework is based around the principles of classical architecture that establish a common vocabulary and set of perspectives for describing complex enterprise systems."

The framework can be viewed by means of the different players involved (Collins, 2008). This approach is used rather than explaining it by steps. The different players are as follows: (1) The person who is interested in doing business, (2) the persons who in in charge of running the business, (3) the analyst who will form the diagram, (4) the designer who will apply different strategies to solve difficulties, (5) the builder of the framework and (6) the system as a whole.

2.3.1.1.   The Framework explained

	What (Data)	How (Function)	Where (Locations)	Who (People)	When (Time)	Why (Motivation)
Scope {contextual} **Planner**	List of things important to the business	List of processes that the business performs	List of locations in which the business operatses	List of organizations important to the business	List of events/ cycles important to the business	List of business goals/strategies
Enterprise Model {conceptual} **Business Owner**	e.g. Semantic Model	e.g. Business Process Model	e.g. Business Logistics System	e.g. Workflow Model	e.g. Master Schedule	e.g. Business Plan
System Model {logical} **Designer**	e.g. Logical Data Model	e.g. Application Architecture	e.g. Distributed System Architecture	e.g. Human Interface Architecture	e.g. Process Structure	e.g. Business Rule Model
Technology Model {physical} **Implementer**	e.g. Physical Data Model	e.g. System Design	e.g. Technology Architecture	e.g. Presentation Architecture	e.g. Control Structure	e.g. Rule Design
Detailed Representation {out-of-context} **Subcontractor**	e.g. Data Definition	e.g. Program	e.g. Network Architecture	e.g. Security Architecture	e.g. Timing Definition	e.g. Rule Definition
Functioning System	e.g. Data	e.g. Function	e.g. Network	e.g. Organization	e.g. Schedule	e.g. Strategy

Figure 4: Example of Zachman Framework for explanatory purposes

As seen in the Figure 4, the Zachman framework consists of 36 cells which are developed by six rows and six columns, each representing its own unique process or definitions. The six rows or viewpoints, as described by Patti Reilly (Reilly, 2009) are from top to bottom:

1. The Scope: containing all the planning elements (with help of lists). For the use of the *planner*.
2. The Business model: provide more detail to lists. For the use of the *owner*.
3. The System Model: explains the business model. For the use of the *designer*.
4. The Technology Model: control the application systems. For the use of the *builder*.
5. The Detailed Representations: For the use of the *subcontractor*.
6. The Functioning System: For the *user* of the system.

The six columns or aspects (ways to describe each row) as explained by Chris Collins (Collins, 2008) are from left to right:

1. The <u>Data</u> column: to explain the understanding of data (Why?)
2. The <u>Function</u> column: translating the mission (How?)
3. The <u>Network</u> column: explains the geographical distribution in which the enterprise operates (Where?)
4. The <u>People</u> column: defines the people affected in different departments and jobs (Who?)
5. The <u>Time</u> column: consist of the business events (When?)
6. The <u>Motivation</u> column: defines the goals and strategies of the business (Why?)

The framework functions on some basic rules to assure the best possible results (Fatolahi & Shams, 2006):

- There is no order required in the columns
- A unique basic model is obtained by each column
- A unique view must be visible to each row
- Each cell in the matrix is completely unique
- The combination of all the cells in one row forms a unity in the row
- The logic around the framework is recursive

Advantages of the Zachman Framework:

- Ensuring the communication is improved in a professional manner
- Analyzing the details and risks for developing a mixture of frameworks
- Defines the relationship of various tools and techniques being used
- Building improved tactics for solving problems.

**Disadvantages of the Zachman Framework:**

- It can contain excessive documentation from 36 cells
- It can contain a lot of different processes which increases the complexity

- It is not as popular in the development industry
- May seem to have a top-down approach which is not always the case
- It can appear as if the framework is against traditional methods.

2.3.2. The Open Group Architecture Framework (TOGAF)

TOGAF can be defined as a framework that approaches the design, planning, application and domination of information in a detailed manner by using the applicable architecture tools and techniques. As illustrated in Figure 5, TOGAF contains four domains as explained below (Reilly, 2009):

1. <u>Business Architecture</u>: this includes the business processes such as approaches being followed.
2. <u>Application Architecture</u>: Explains the interactions between the application and the principal processes.
3. <u>Data Architecture</u>: Defines the structure and organization of information.
4. <u>Technology Architecture</u>: Includes all the networking aspects such as hardware and software in the organization to deliver the principal applications.
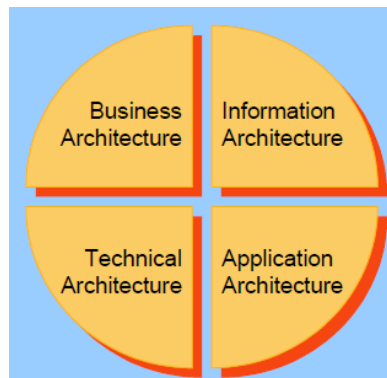

Figure 5: Business Reference Model of TOGAF

In order to assist in visualizing the present and future phases, a number of aspects were defined (Reilly, 2009). These include the definition of building blocks used in the information arrangement, and the way in which these blocks relate to one another. A set of tools should also be included to assist in the development of the framework. The suggested standards

per project and a list of products in order to apply the building blocks will form part of the aspects that should be included. Common terminology will ease the communication between various players.

TOGAF is a general, flexible framework that is driven by a specific process. It contains a set of abstract tools that can be used in any organization. TOGAF is not specified according to an organization's size and can't force a set of methods on an organization. To develop this framework, one must use specific tools, but the framework itself can't be classified as a tool.

Three concepts are identified in TOGAF. They are design, evaluate and build. In order to assist with the building concept, a method was created named Architecture Development Method (ADM). This method is a process that contains of 8 steps as seen in Figure 6. It can be defined as a method and process into developing an Enterprise Architecture.
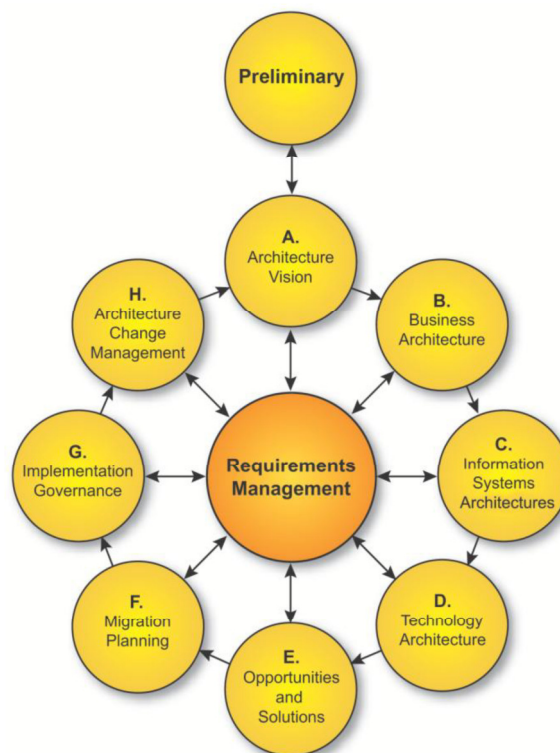
Figure 6: TOGAF Architecture Development Method

Benefits of TOGAF as by Intelligile (Intelligile, 2008)**:**

- Provides an efficient technology process,
- Securing lower costs,
- Better management for the network
- Ability to better handle problems
- Simplify complexity
- Increase the return on investments
- Decreases the chances of risks involving investments
- Easier and faster procurement processes
- Professional Architecture
-

2.3.3. The Federal Enterprise Architecture (FEA)

The FEA is the most complete methodology as it can be used in developing a framework and applying those strategies to a system (Roger Sessions ObjectWatch, Inc., 2007).

The basic design of the Federal Enterprise Architecture includes five different viewpoints. These viewpoints are (1) business, (2) service, (3) components, (4) technical and (5) data. It may seem very similar to the TOGAF, but in the FEA it has to be explained in even more detail. The complete process has to be seen in the bigger picture by determining how the specific process should be viewed. It explains from which angles it should be analysed and then specifying the scope of the project. Then the five viewpoints should be described in full, by also including a process for the development of the framework. A complete method to indicate the path from the pre-framework until the post-framework should be included, as well as a classification of the assets. Finally a method to determine the level of success should be implemented.

The high level process can be explained in the following four steps (Roger Sessions ObjectWatch, Inc., 2007):

1. Architectural Analysis: Introduce an image for the section.
2. Architectural Definition: Defining the section by including the objectives, substituting ideas and frameworks.

3. <u>Investments and Funding</u>: Determine where the funding will be obtained.
4. <u>Plan for Management</u>: The plan must include milestones and techniques to rate success.

2.4. Conclusion

This chapter described the overall problem of this project involving the short-term insurance industry, the STRIDE project and the different Enterprise Architecture Frameworks to consider for the final solution. The main problem was identified as the exchange of customers' data to and from different short-term insurance companies and between customers. A clear need for a benefit was identified in the short-term insurance industry. To better understand the STRIDE project, the benefits, timeline and ownership was also included. To conclude the purpose of the architecture frameworks, it is designed to analyse and model a business in an understandable way and to represent the different levels and complexity in a structured way.

Chapter 3

Solution Investigation

This chapter will consist of the considerations relevant to the STRIDE project that will be used to build the blueprint. A complete comparison between the three Engineering Frameworks is also included in this chapter to select the most appropriate method that will be used in building the blueprint.

3.1   The STRIDE project

The main problem that STRIDE has to deal with is the fact that it is a completely new process that has not yet been fully implemented. This can therefore be identified as a risk for the short-term insurance industry because of the lack of knowledge about STRIDE. The process is also complex and very technical and not necessarily something insurance companies deal with on a daily basis. This defines the whole purpose of this project.

a) Solution considerations : Relative to the business or users :

The brokers have another concern namely that private information will be shared and made public. This concern also proves the lack of knowledge the users of STRIDE has, and proves the point of the project even more. STRIDE is simply a data "switch. This means that data will enter the system, get beaten into shape by the data switch entity, and exit the system towards the intended receiver. No data will however be stored and no database will be created. A very good security structure will also be built into the system, which Sensepost (Insurance consultancy) is currently directing an inspection on to ensure that the data can't be lost within the system at any stage. There will also be a service that enables only binding and valid users to use the system (Stokes, 2012).

The transferring process will be completed in only seconds, which also saves companies using it money, time and effort.

STRIDE's purpose statement according to (Stokes, 2012) is "we simplify insurance". Therefore they strive to deliver the process so that it will satisfy communication on a real time, well-organized and cost effective manner. Their revenue will come from a small fee charged every time data comes into the system.

STRIDE can be divided into two components:

1. <u>Data standards</u>: In association with ACORD, an international data standards organization, to help create a standard for the data in the local short term industry.
2. <u>The data switch entity</u>: In association with Astute, who will help plan and implement a data "switch" similar to their already existing life insurance data "switch".

b) Solution considerations : Relative to the technical aspects of STRIDE

The system will be a combination of the following two step process (Stokes, 2012):

3. <u>Technology Integration</u>: to guarantee that the interrelated system can communicate with each other.
4. <u>Process mapping</u>: will include a data translation for the different insurers' items.

As mentioned in the previous chapter the data will never be saved and no database will be developed. The information will simply enter the system, be transferred into the correct language and exit the system.

3.2   Engineering Frameworks

The decision of choosing the most appropriate framework to use in a certain project can be influenced by a number of aspects. Because there are so many to choose from, it will be time consuming to study each one of them separately. Most of the frameworks are very generic and can be transformed according to the required standards of a specific project.

Various factors in determining whether to choose a framework or create a unique one includes that most Enterprise Architecture Frameworks have different opinions, evolutions, purposes, scopes, principles, structures and approaches.

According to Urbaczewski and Mrdalj (Urbaczewski & Mrdalj, 2006), a comparison can be made with respect to the different frameworks' views, abstractions and System Development Life Cycle to overcome certain aspects. For this specific project only the views and abstractions will be compared to be able to make a decision on which framework to choose.

3.2.1. Comparison by views and abstractions

This method is more measurable than any other. Because the Zachman framework' views are the most complete, the other frameworks will be compared to it. This comparison can be seen in Table 2. The comparison by abstraction is less measurable but shown in Table 3.

After analyzing the two tables, it can be seen that the FEA's first three columns matches those of the Zachman Framework. In the abstraction table it can be noted that the FEA is missing out on the development approaches, unlike the Zachman. In studying the TOGAF methodology, it is clear that there is a definite focus on the Technical and Business aspects, rather than the planning and maintenance.

Table 2: Comparison by views

Framework	Planner	Owner	Designer	Builder	Sub-contractor	User
Zachman	Scope	Business model	System model	Technology model	Detailed representations	Functioning system
TOGAF		Business Architecture view	Technical Architecture views			
FEA	Objectives/ Scope	Enterprise model	Information systems model	Technology model	Detailed specifications	

Table 3: Comparison by Abstractions

Framework	What	How	Where	Who	When	Why
Zachman	Data	Function	Network	People	Time	Motivation
TOGAF		Decision-making guidance		IT resource guidance		
FEA	Data Architecture	Applications Architecture	Technology Architecture			

3.2.2. Comparison by Processes

In the literature study where the different Enterprise Architecture Frameworks were described, it could be seen that each frameworks' approach differs. This can be helpful in deciding on a specific framework that fits a specific project the best.

In comparing the frameworks according to their processes, it was revealed that (YouSigma, n.d.):

- The Zachman framework can better be described as a *taxonomy*, rather than a framework. This term is used to describe that the different artifacts involved can be organized in different categories. The taxonomy indicates the targets and issues related to a project, for example the owner of the business and data respectively.
- TOGAF makes use of a unique Architecture Development Method (ADM) which can be seen as a recipe being followed. Therefore the TOGAF model can rather be identified as a *process* than a framework.
- The FEA Process can be seen as a combination of the two frameworks mentioned above. It contains both a taxonomy and a process, and can be seen as either a methodology or a result for the analysis of an enterprise.

3.2.3. Comparison by Reference-model guidance

Another comparison that can be made between the three most used methodologies is their ability to form a set of reference specimen. From a paper written by Roger Sessions the FEA

does a very good job in delivering a reference model, while TOGAF is also providing a suitable model for this purpose (Roger Sessions, 2007). The Zachman is not delivering a good job at this criterion of frameworks.

3.2.4. Comparison by Maturity model

Finally the maturity models of the three frameworks were compared and found that the FEA model once again reflects the best deliverable for this criterion. This means that FEA guides an organization in an acceptable way in order to determine the effectiveness of that specific organization. The Zachman and TOGAF do not do a good job at all in order of maturity modeling.

3.3   Conclusion

This chapter identified the appropriate information to be used in the further study of this project regarding the STRIDE project. Concerning the engineering frameworks identified in this project, this chapter compares them with one another in order to choose the most appropriate framework to use in the solution.

After a careful comparison, the FEA Process seems to be the best-fit, but the FEA Process is considered more for federation problems and therefore the Zachman framework is possibly the best-fit for this problem, because our main user will be the user itself (insurers and intermediaries). It is the easiest to explain and communicate to users, and the definitions (what, where, why) is simple to understand. Zachman is also good for managerial purposes to test or manage progress against the framework and the list of deliverables.

The Zachman framework has been written in 1987, which means it has been in practice for 25 years now. It is used internationally and describes only the obvious and related assumptions, while it also combines all these aspects together in order to form an overview of the whole business. It is a simple model that can be used by anyone, even people without technological experience. This model is very flexible and can be modified to fit the current project at hand.

Another benefit is also that the Zachman framework clearly defines the guidelines to document the entire enterprise's architecture, and hence can be customized to fit a specific part of the business, and be gradually expanded to represent the entire business. However the list of deliverables to be completed remains fairly constant and therefore the business can iteratively document their business in all its aspects, and control change over time.

The framework doesn't define a methodology that should be used for documentation, and it does not define the set of specific, mandatory deliverables within each cell or methodologies to generate them. It defines the questions that should be answered and the documentation gaps that exist in an enterprise. The business user / architect are free to choose the best methodologies to answer those questions and fill those gaps.

Chapter 4

Design Blueprint

4.1. Designing the Engineering Framework

As discussed in the literature study, and after a complete comparison between the different Enterprise Architecture Frameworks, the Zachman framework posed as the best versatile engineering framework which could be used to guide businesses in terms of preparing for the STRIDE/ACORD data sharing requirement. Therefore for this project the Zachman framework was chosen to be used as a basis for creating a unique framework for the specific project.

The framework ensures that the business users represent their business in terms of all dimensions and at various levels of detail (As shown in the table below)

Table 4: The original Zachman Framework

	What	How	Where	Who	When	Why
Objective / Scope	List of things important to business	List of processes that business performs	List of locations that business operates in	List of organisastions important to the business , or departments	List of important cycles and events	List of Business Goals and Strategies
Enterprise Model (Conceptual)	Conceptual Data / Object model	Business process model	Business Logistics System	Workflow model	Master Schedule	Business Plan
System Model (Logical)	Logical Data Model	System Architecture Model	Distributed System Architecture	Human Interface Architecture	Processing Schedule	Business Rule Model
Technology Model (Physical)	Physical Data Model	Technology Design Model	Technology Architecture	Presentation Architecture	Control Schedule	Rule Design
Detailed Representation	Data Definitions	Programs	Network Architecture	Security Architecture	Timing Definitions	Rule Specification
Functioning System (Where can you see this in business)	Usable Data	Working Functions	Usable Network	Functioning Organisation	Implemented Schedule	Working Strategy

a) Populating the Framework

This is however a fairly comprehensive exercise and based on discussions with the business and business analysts, it was decided to only focus on specific areas within the framework to adequately represent areas of change.

It was clear that not all 36 cells will be applicable in this project and therefore only a selected amount of cells will be used.

The Zachman framework allows us the flexibility of a framework that represents the entire business, but the framework consists of multiple components, which can be addressed or focused on in an iterative fashion, or piece by piece. In this scenario only the business processes and data files were really applicable and not the rest of the organization.

The highlighted areas (as shown in the table below) would be analyzed in terms of their As-Is and To-Be state.

Table 5: The analysed Zachman Framework

	What	How	Where	Who	When	Why
Objective / Scope	List of things important to business	List of processes that business performs	List of locations that business operates in	List of organisastions important to the business , or departments	List of important cycles and events	List of Business Goals and Strategies
Enterprise Model (Conceptual)	Conceptual Data / Object model	Business process model	Business Logistics System	Workflow model	Master Schedule	Business Plan
System Model (Logical)	Logical Data Model	System Architecture Model	Distributed System Architecture	Human Interface Architecture	Processing Schedule	Business Rule Model
Technology Model (Physical)	Physical Data Model	Technology Design Model	Technology Architecture	Presentation Architecture	Control Schedule	Rule Design
Detailed Representation	Data Definitions	Programs	Network Architecture	Security Architecture	Timing Definitions	Rule Specification
Functioning System (Where can you see this in business)	Usable Data	Working Functions	Usable Network	Functioning Organisation	Implemented Schedule	Working Strategy

The eventual design would not impact any systems, but rather their data and data formats, and for this reason the framework was even further simplified. This resulted in a list of deliverables that need to be produced by the business to finalize their As-Is state. (As shown in the table 5).

b) Rationalising the Framework

In order to make the framework presentable to business it was recommended that the different viewpoints (What, How, Where, Who, When, Why) remained intact, but that the levels be rationalized to make it more understandable and re-usable by business for the purposes of data exchanging.

If business later wants to address other parts of their business, they can use the original framework and re-use the existing documentation and models, but create new ones for the intersections (viewpoints vs. levels) where the framework is still blank.

After consultation with the consultants from QuinXi it was decided that we needed simpler levels and the Zachman levels were consolidated as shown below.

Table 6: The merged Zachman Framework

	What	How	Where	Who	When	Why
Business Level *(Scope & Enterprise)*	1. List of Functions (Functional decomposition)	3. List of Business Processes mapped to Functions	4. List of Locations (Check if process differs)	5. Only Face to Face advisers are applicable	6. Data sharing should happen at each quote / policy	1. List of Functions (Functional decomposition)
Process Level *(Enterprise & System)*	2. Business Processes (Mapped to list of functions)	2. Business Processes (Activity and flow diagrams)	2. Business Processes (Locality modelled on flow)	2. Business Processes (Role modelled in swimlanes)	2. Business Processes (Timing modelled on flow)	3. List of Business Processes mapped to Functions
Technology & Infrastructure Level *(System, Technology & Detail)*	7. List of ACORD / STRIDE Tables that need to be populated	8. Data definition for each table	N/A	N/A	N/A	N/A

- Business Level: Is a summary of the Zachman Objective / Scope and Enterprise Model / Conceptual level. This represents all the business' functionality, strategy across all viewpoints.
- Process Level: Is a summary of the Zachman Enterprise Model / Conceptual level and the System Model / Logical level. This represents all the business processes at a high-level and detailed level across all viewpoints
- Technology & Infrastructure layer: Is a summary of the Zachman System Model / Logical level, Technical Model and Representation level. This represents their systems, data, and infrastructure (people, tools, etc) across all viewpoints.

This rationalization confirms that the Zachman framework can be used as a good baseline business engineering method, but is also flexible enough to align to modern methodologies. This rationalized view was ratified and can be underwritten by QuinXi

who have built their methodologies on the Infomet Methodology (Infomet Business and Information Systems Methodology), which has been a reputable and reliable business and systems engineering method from the late 1980's, constantly evolving and maturing and is still being used in major South African companies to date.

4.2. Designing the Insurance Process

During my project I engaged with QuinXi (as mentioned, a business engineering consulting firm) and their client Absa Insurance and Absa Brokers. Through interviews and project sessions with the project manager and business analyst the processes and constraints were discussed so that a better understanding of the Insurance Sales Process of Absa could be achieved (Swanepoel, 2012). They use a web-based system that manages all processes during the sales transactions for short-term insurance.

A screenshot of their front-end system is shown in Figure 7.

Figure 7: Advisor portal of Absa's Insurance Sales Process

Their system allows users to easily and seamlessly execute all the steps in the sales process, from interviewing the client, to obtaining quotes, to producing documents to eventually updating internal and 3rd party providers with the quote and policy data.

From a problem statement point of view they have two user groups:

- A blend of internal products (Absa based) and external products (I.e. Santam, Hollard, Mutual & Federal, etc.)
- A blend of internal sales channels (Absa broker based) and external sales channels (non Absa brokers)

This means that data sharing and switching is important as they are not only dealing with their own information but also that of external / 3rd parties.

Guided by the enhanced framework (Table 6) the business now needs to start putting their documentation together to be able to gain control over their business environment and prepare for changes that will result in an enhanced To-Be view.

Table 7: Different phases of detail

1	List of Business Functions *(As represented in a Functional Decomposition Diagram)*
2	List of Business Processes and Detailed Business Process Models *(As modelled through Activity Diagrams, Flow Diagrams and various levels of process modelling detail)*
3	List of Business Processes, mapped to the Functional Model *(to ensure thoroughness)*
4	List of Locations *(mostly limited to bank branches which all behave the same, using the same process)*
5	Organisational structure (*only limited to face-to-face advisers, whom are all executing the same process*)
6	Timing / Position where Data sharing will be applicable , this has been pinned
7	List of ACORD / STRIDE tables that need to be populated and mapped

In completing the project, I was exposed to various phases of detail and based a lot of my findings on the business process re-engineering step (Number 2 above), as well as the timing and position where data sharing will be applicable (Number 6 above). As the purpose of this document is to establish a workable blueprint, and not necessarily to contain all the detail, the deliverables from the business process engineering step (Number 2 above) will be explained

a) As-Is

The business process was analyzed and the various sub-components were modeled. The detailed modeling of all the underlying processes were completed by QuinXi staff (as part of their own project), and the resultant business process models and detailed findings were shared with me for the purposes of the project.

The process in short starts with a logon to the system. A username and password are required to gain access to the system. The advisers can create a new customer record, or receive a lead record to process. After the customer's personal information is completed, a lead can be created. To do this, the necessary information regarding that lead should be completed. Mandatory compliance checks are done before a risk profile step ensures that the client is financially viable to conduct business with. In the advice scope different processes are identified for the customer to choose from, but for the purpose of this project only the short term process will be used. After selecting the short term process option one can proceed to the next step.

Certain support functions (icons displayed on the left hand side of the main screen) can be used as required. These can be extra notes or an attachment.

One of the biggest and most important steps in this process is the needs analysis step. This is where the customer mention all the items he/she wants to insure. A lot of forms need to be filled out at this step to clearly define the items. After all the items are filled in, different quotes can be obtained to choose from. Customers can study and eventually choose the most appropriate quote to best suite their budget and lifestyle. Then a few questions can be answered at the underwriting page and as soon as it is answered a proposal button appears.
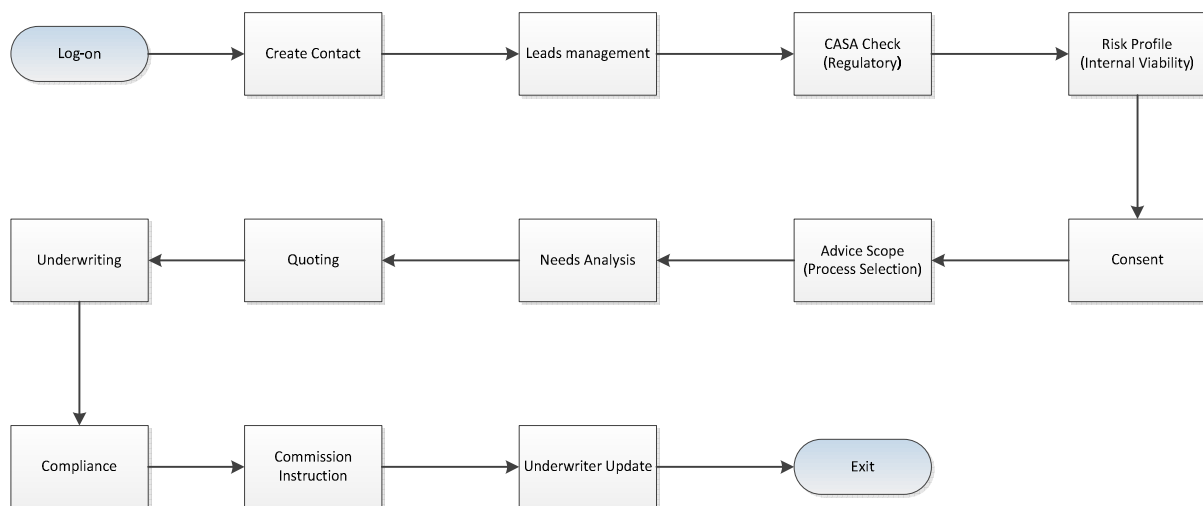
Figure 8: As-Is Process Flow of Absa's Insurance Sales Process

By clicking on the button the certain policy is opened to determine if all the information is correct. The second last step is the commission instruction where the underwriter is submitted. From here the underwriter update page will open where the final button named DONE is select to accept the policy created. Every policy differs from the previous one, which explains the complicated systems implemented by insurance companies. The whole process explained above is summarized in figure 8.

b) Burning Points and Design Considerations

The areas that have to change in order to improve the current As-Is state of the ABSA Sales Process will include most of the steps that include the handling of data. Because the purpose of the STRIDE data converter is to create a general language to fit all the other intermediaries in the short-term insurance industry, the data related steps can be replaced with the STRIDE process. This can save the company lots of money, time and effort.

Using my rationalized framework (Zachman rationalized) it gave us guidelines into which viewpoints and detailed levels needed to be completed to understand and manage change in the business. The processes were analyzed, as well as the data capture / switching points.
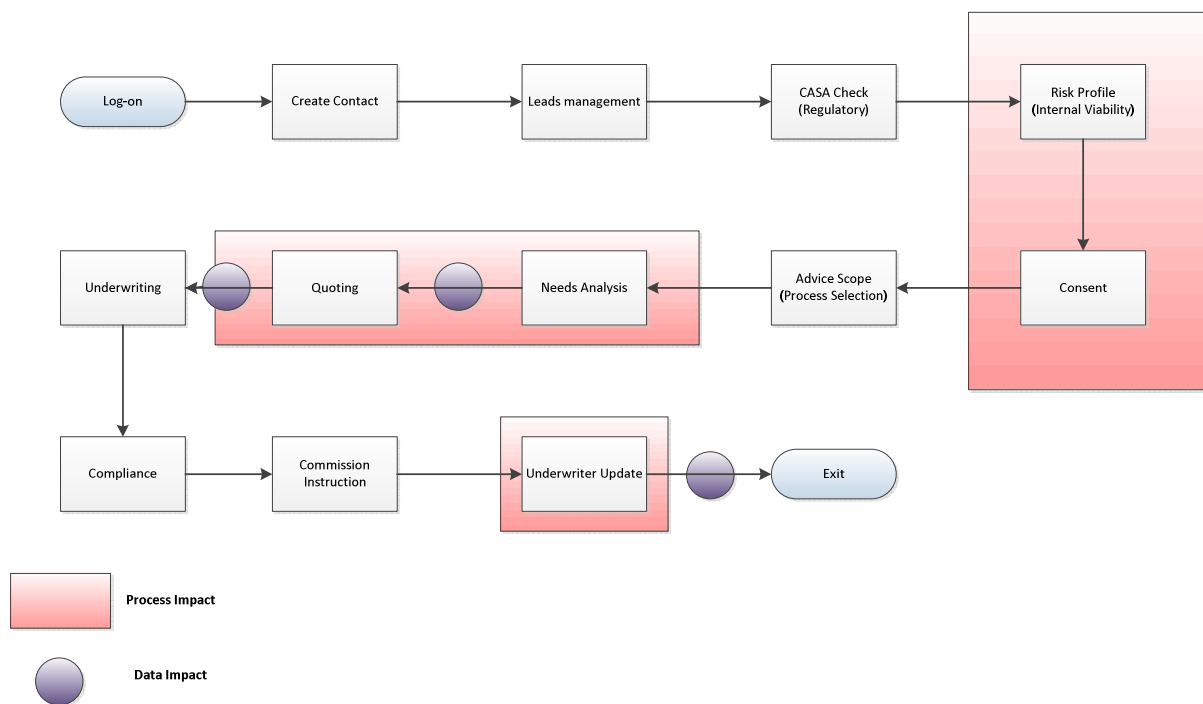
Figure 9: Possible changes in the ABSA Sales process

From a Process point of view : An extra step or two needs to be considered in the process that allows for switching of data as well as the return of the switched data, from the internal format (used by the company), to the STRIDE compliant format (used by the industry). This means that sharing of data with all parties can happen in a common/uniform format, whilst allowing the internal systems to be used without too much change.

From a Data point of view : During these extra steps, existing data files need to be switched to STRIDE compliant data files, so that the data can be stored (internally) and shared (externally).

Some of the possible steps that can be considered to be replaced are indicated in the red block on Figure 9 (above). By amending these steps and enhancing them with the STRIDE data converter, it will result in a different To-Be state that will be documented in the following chapter.

c) Populating the framework

As discussed in the previous section, the As-Is environment was assessed and some changes were made, based on the minimum number of dimensions needed by our framework (again a dimension equals the intersection of a level and a viewpoint)

The detailed process models were done using a notation that represents flow, represents responsibility / role, represents sequence, represents locality (where), and represents time (when). This means that by drawing the process models at the right level of detail, one packet of business process models can represent an entire layer of our framework, across all viewpoints. (Process Layer)

By drawing the models and analyzing the content, we can also identify points where data files are being created, and we can assess how these data files would be changed to accommodate switching of data. This in turn helps us to understand the data changes, and also the systems that need to be changed. Luckily the systems are located in one central place and the responsibilities are fairly easy so the information needed to populate our framework was not very difficult to find.

Table 8: The new improved Zachman Framework

	What	How	Where	Who	When	Why
Business Level *(Scope & Enterprise)*	* New business sales transaction * Re-quote or amendment * Renewals	* Quote * Underwriting * Underwriter Update	* On the financial adviser's system (web-based)	* Financial advisers executing a business transaction	* With each transaction	* To ensure STRIDE compatibility and sharing * To preserve internal data
Process Level *(Enterprise & System)*	* Quote * Underwriting * Underwriter Update	* Automatically by quote system and policy admin system (Built into workflow)	* On the financial adviser's system (web-based)	* Financial advisers executing a business transaction	* With each transaction	* To ensure STRIDE compatibility and sharing * To preserve internal data
Technology & Infrastructure Level *(System, Technology & Detail)*	* Quote Data Table * Policy Data Table	* Upon doing every single quote (per transaction) * Upon finalising every single policy (per transaction)	* Central quote system * Central policy admin system	* Automatically built into system workflow	* With each transaction	* To ensure STRIDE compatibility and sharing * To preserve internal data

4.3. Conclusion

The design phase has identified the possible areas where changes can be made in the Short-term Insurance Sales Process in order to improve the As-Is state and therefore create a To-Be state model as described in the following chapter. The format and mechanism of the data converter to STRIDE project was also explained here. An example of how the Zachman framework can be used, adapted and implemented in this project (and future applications) is was also included to define the design.

Chapter 5

Build the Framework

5.1. To-Be state

Using the desired framework and following the required steps, we were able to analyze the problem and come up with specific change areas that would be changed in a specific way. This ensured that the client had to address the least number of areas in their business to ensure the most value is delivered.
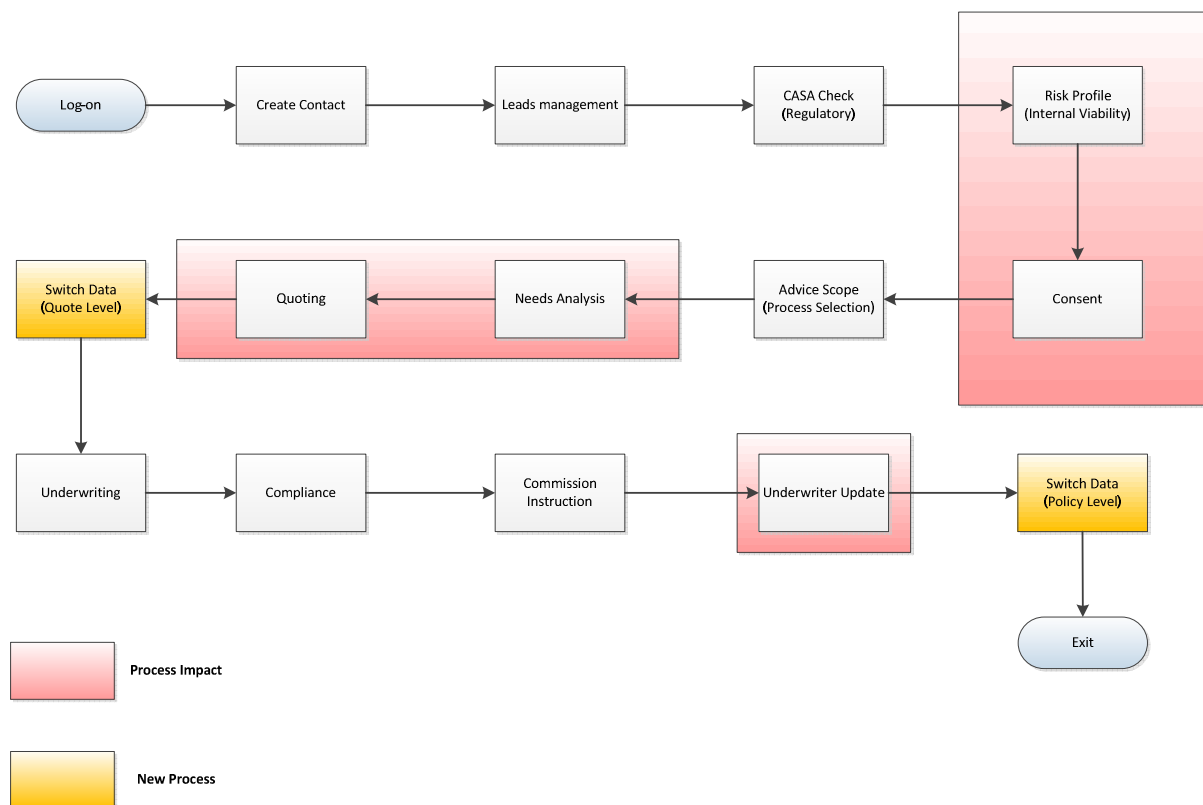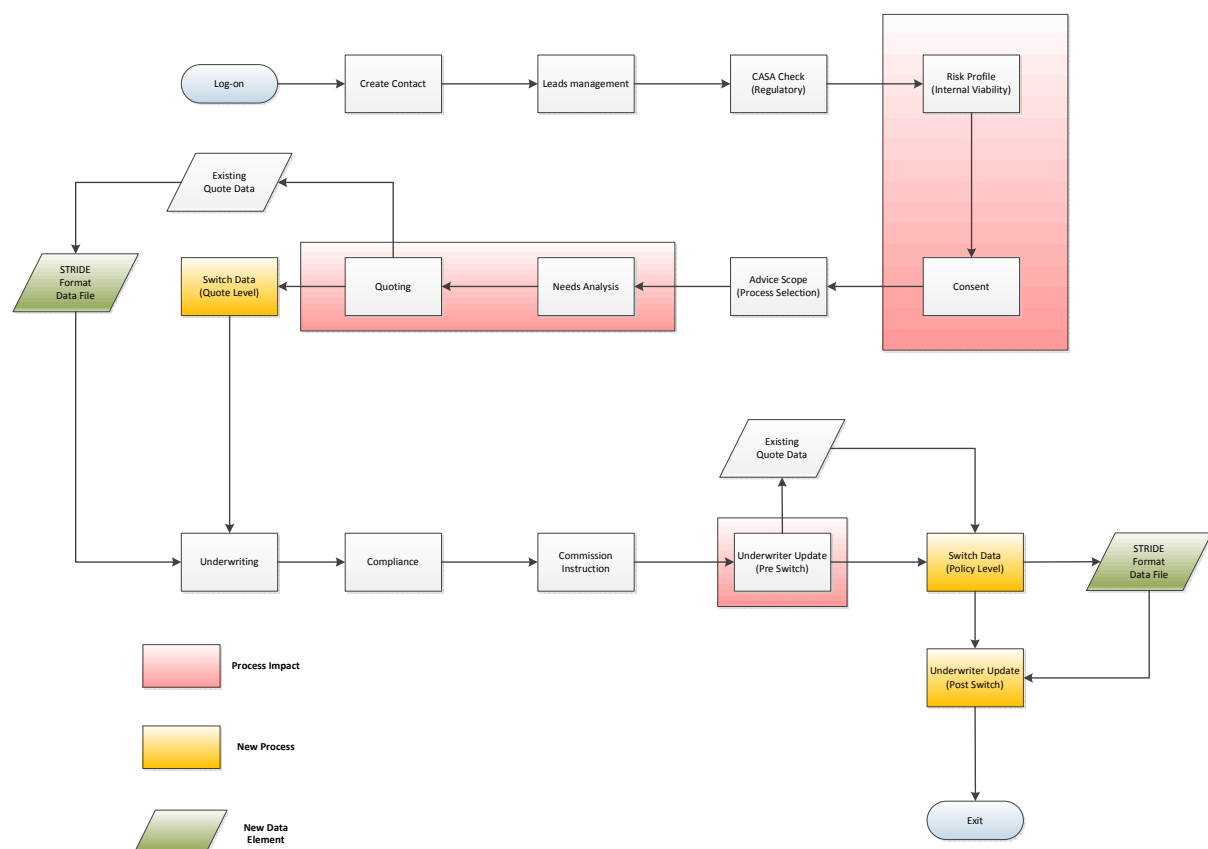

Figure 10: Possible changes in the ABSA Sales process without data

Therefore certain steps in the ABSA sales process were identified, and these steps would possibly be enhanced through integration of STRIDE data converter and data conversion process. This new To-Be diagram will be developed and shown in high-level in this document.

The following diagrams show the recommendations that were made regarding first the process changes (As-Is moving to To-Be) and will mention changes to the data file creation (As-Is moving to To-Be)

This involved the minimum changes to the existing business processes that could allow them to incorporate the STRIDE standards and share data with the STRIDE data converter.

Each of these process changes (shown by a yellow block in Figure 10) involves a detailed business process that has to be drawn to show all viewpoints required to update the framework, Flow & Sequence (How), Role & Responsibility (Who), Timing (When), Locality (Where), Data Tables (What).

Figure 11: Possible changes in the ABSA Sales process with data

Each of these data changes (shown by a green block in Figure 11) involves a detailed database model or data file that has to be created to show all viewpoints required to update the framework, Mapping of STRIDE data tables to internal data tables (How), Database details (Where), Tables & Table Names & Table Data (What).

5.2. Blueprint for insurance companies and intermediaries

The chosen Zachman Framework will be used to completely define the process of STRIDE being implemented into the short-term insurance industry, and the usage of the framework will then reflect as a blueprint which companies can use to explain the complex process to them in a common language and by use of a simple model.

	What	How	Where	Who	When	Why
Business Level *(Scope & Enterprise)*	1. List of Functions (Functional decomposition)	3. List of Business Processes mapped to Functions	4. List of Locations (Check if process differs)	5. Only Face to Face advisers are applicable	6. Data sharing should happen at each quote / policy	1. List of Functions (Functional decomposition)
Process Level *(Enterprise & System)*	2. Business Processes (Mapped to list of functions)	2. Business Processes (Activity and flow diagrams)	2. Business Processes (Locality modelled on flow)	2. Business Processes (Role modelled in swimlanes)	2. Business Processes (Timing modelled on flow)	3. List of Business Processes mapped to Functions
Technology & Infrastructure Level *(System, Technology & Detail)*	7. List of ACORD / STRIDE Tables that need to be populated	8. Data definition for each table	N/A	N/A	N/A	N/A

The benefit of a blueprint is that it shows business owners exactly where to focus and what is needed to complete, as well as giving them a tool to measure against. Also a blueprint is a good starting point from which to manage change and make improvements. As shown above, each business can select the items they would want to focus on, but within the required framework.

This blueprint can be used by various insurance companies and feedback can be obtained from them over time to determine whether the framework/blueprint is successful. The blueprint can also be grown and matured over time so that it caters for specific and unique things in various insurance companies.

5.3. Validation of the Framework and Blueprint Concept

The Zachman framework has been used as an industry standard for business engineering and business architecture for over 25 years. Many consulting companies, such as Discon Specialists; Modus BPS; Systems Logic; QuinXi etc., have built their own internal methodologies around concepts originating in the Zachman framework or related applications.

This specific framework (and derivations thereof) is currently being used by a consulting company (QuinXi) to implement STRIDE requirements into the short-term insurance industry, and a specific project within Absa Insurance Company (AIC) is currently underway. This specific framework was very useful due to the clarity it provided business users with no formal background in engineering, business architecture or data sharing.

Bibliography

ACORD, 2002. *About ACORD.* [Online]
Available at: http://www.acord.org/about/Pages/default.aspx
[Accessed May 2012].

Astute, 2012. *Astute – The Financial Services Exchange.* [Online]
Available at: https://www.astutefse.com/Astute/MoreAboutUs.aspx
[Accessed October 2012].

Collins, C., 2008. *Introduction to the Zachman Framework.* [Online]
Available at: ccollins.wordpress.com/2008/02/16/introduction-to-the-zachman-framework
[Accessed September 2012].

Fatolahi, A. & Shams, F., 2006. An investigation into applying UMLto the Zachman framework. *Information Systems Frontiers,* VIII(2), pp. 133-135.

Infosys Limited, 2011. *Enterprise Architecture.* [Online]
Available at: http://www.infosys.com/consulting/architecture-services/Documents/enterprise-architecture.pdf
[Accessed September 2012].

Insurance Gateway, 2010. *Short-term Insurance Data Exchange (STRIDE).* [Online]
Available at:
www.insurancegateway.co.za/ShorttermProfessionals/PressRoom/ViewPress/Irn=3354&URL=Shortterm+Insurance+Data+Exchange+STRIDE
[Accessed August 2012].

Insurance Gateway, 2011. *Short-term Insurance Data Exchange (STRIDE).* [Online]
Available at:
www.insurancegateway.co.za/ShorttermProfessionals/PressRoom/ViewPress/Irn=4031&URL=Shortterm+Insurance+Data+Exchange+STRIDE+2
[Accessed August 2012].

Insurance Gateway, 2011. *Short-term Insurance Data Exchange (STRIDE).* [Online]
Available at:
www.insurancegateway.co.za/ShorttermProfessionals/PressRoom/ViewPress/URL=Short+T

erm+Insurance+Data+Exchange+STRIDE
[Accessed August 2012].

Insurance Gateway, 2012. *It is official STRIDE PTY LTD is here.* [Online]
Available   at:
www.insurancegateway.co.za/ShorttermProfessionals/PressRoom/ViewPress/Irn=4887&UR
L=It+is+official++STRIDE+PTY+LTD+is+here
[Accessed August 2012].

Intelligile, 2008. *The Open Group Architecture Framework.* [Online]
Available   at: www.intelligile.com/TOGAF.htm
[Accessed August 2012].

Marsh Africa, 2012. *Changing landscape of the South African Short Term Insurance Market,*
s.l.: FAnews.

Marsh Africa, 2012. *Marsh Africa - About Us.* [Online]
Available   at: http://www.marsh-africa.com/marshafrica/index.php
[Accessed May 2012].

McCullough, S., 2011. ACORD Framework: Concept to Reality. *ACORD 2011 Solution
Provider Member Directory*, pp. A5-A6.

Metcalfe, B., 2008. *Emerging Trends and Strategic Issues in South African Insurance,*
Johannesburg: PricewaterhouseCoopers Inc..

Reilly, P., 2009. *Similarities of Zachman's Framework and The Open Group Architecture
Framework (TOGAF).* [Online]
Available at: pattireilly.blogspot.com/2009/03/preillyzachmantogafstrayercis-512.html
[Accessed August 2012].

Roger Sessions ObjectWatch, Inc., 2007. *A Comparison of the Top Four Enterprise-
Architecture Methodologies.* [Online]
Available   at: http://msdn.microsoft.com/en-us/library/bb466232
[Accessed August 2012].

Roger Sessions, 2007. *A Comparison of the Top Four Enterprise-Architecture
Methodologies.* s.l.:s.n.

Stokes, G., 2012. *Short-term insurance data sharing like it was meant to be,* s.l.: FAnews.

Swanepoel, D. S., 2012. *Explanation of ABSA's Sales Process* [Interview] (17 April 2012).

Theunissen, J., 2012. *What is STRIDE?* [Interview] (5 April 2012).

Urbaczewski, L. & Mrdalj, S., 2006. A Comparison of Enterprise Architecture Frameworks. *Issues in Information Systems,* VII(2), pp. 18-22.

van der Linde, A. & Theunissen, J., 2011. Secure customer and underwriting datatransfer. *Enterprise Risk,* V(1), p. 10.

YouSigma, n.d. *Enterprise Architecture Methodologies and Comparisons.* [Online] Available   at: http://yousigma.com/technologyandarchitectures/enterprisearchitecturemethodologiesandco mparisons.html
[Accessed October 2012].