

Position paper on the promotion of actuaries in risk management

Version	Date	Author	Reviewer	Comment
C0.1	16 August 2017	Kartina Thomson		Initial draft for comment
C0.2	21 August 2017	Daphné de Leval		Incl. preliminary pension topics and link with the AAE position paper on required skills to be a good risk manager
C0.3 C0.4	4 September 2017	Loes de Boer	Kartina, Daphné, Frank	Merger of SWOT analysis and stakeholder's needs
C0.5	8 September 2017	Daphné de Leval	Kartina, Loes, Frank	Adapt the skills section, implement some corrections
C0.6	11 September 2017	Frank Schiller	Daphné, Kartina, Loes	Several changes as discussed in our call 8 th September 2017
C0.7	15 September 2017	Loes de Boer	Daphné, Kartina, Frank	Minor final changes
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C0.9	14 March 2018	Daphné de Leval	Loes, Frank	Minor suggested changes
C1.0	18 July 2018	Roberto Muscoguri	Daphné	Introducing value dimension
C1.1	26 July 2018	Daphné de Leval		Further extend value dimension
C1.2	29 August 2018	Frank Schiller	Daphné	Several changes as discussed in our call 29 th August 2018
C1.3	12 September 2018	Zana Kraucenkiene, Daphné de Leval, Roberto Muscoguri, Frank Schiller		Final changes as discussed in our call 11 th September 2018

Introduction

This position paper intends to provide input for the European actuarial associations to further strengthen the role of the actuary as risk manager and to support the communication and marketing of actuaries in such roles on a European level.

In the last meeting of the AAE Risk Management Task Force (RMTF) in 2017 we decided as a starting point to focus on the insurance industry: how to promote actuaries in risk management and the related value creation to the different stakeholders. It is possible to extend in a second stage the work on other industries. Hence, where already feasible we provide already a broader approach (e.g. in the self-assessment) but limited ourselves to insurance and pensions for the stakeholders' assessment.

The structure of this document is as follows:

- Self-assessment: what are our main strengths, weaknesses, opportunities and threats?
- Stakeholders' assessment: what are the needs and expectations of our stakeholders?
- Evaluation of results: how do our main strengths, weaknesses, opportunities and threats relate to the needs and expectations of our stakeholders?
- Proposed strategy: how can we best move forward and derive a specific marketing and communication plan and further develop skills of actuaries?

This paper is a general blueprint to open discussions with the RMC in order to test our "proposed strategy" on key situations and define next steps to support the promotion and development of actuaries in risk management. Some of the statements made could be perceived as provocative. They are left in intentionally to add fuel to these discussions.

Self-assessment

SWOT analysis

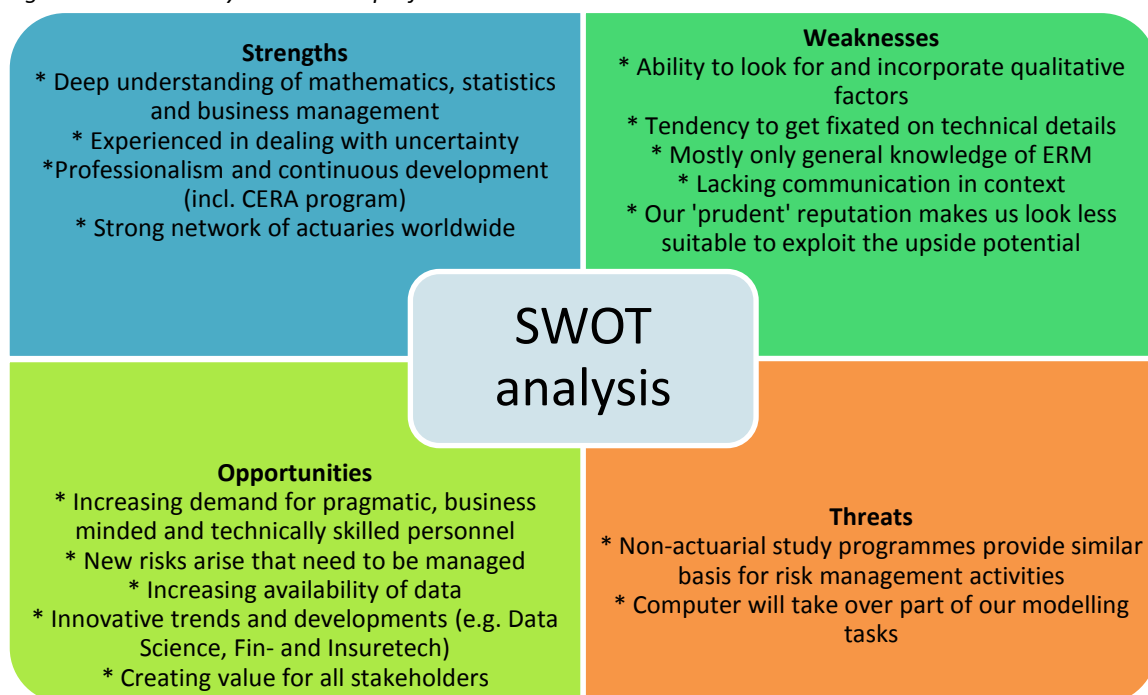
Actuaries deal with risk. It is what we do best. Our goal is to be and stay the natural candidate for all kinds of roles in assessing, measuring and managing risk. Different competencies and skills are required to secure our leading risk management position in a rapidly changing world of society and work. However, we believe we can easily tailor our approach to a wide range of contexts and promote our agile risk management discipline in many private and public sector organisations.

A SWOT analysis is performed with the aim of identifying the key internal and external factors seen as important to achieving our goal. It is based on a representative actuary with several years of experience still close to the models but facing an increasing amount of interactions with the management and board level. This is where actuaries link models output with operational, management and strategic decisions.

Deep understanding of our strengths and weaknesses (internal perspective), and the opportunities and threats that we face (external perspective), will help us achieve our goal by focusing on our strengths, minimise the threats we face, and to take the greatest possible advantage of opportunities available to us. Our strengths and weaknesses are defined as characteristics of the actuarial professional that give an advantage or disadvantage relative to others. Opportunities are elements in the environment of the actuarial professional that could be exploited to use in its advantage. Threats are elements in the environment that could cause trouble.

Figure 1 provides an overview of the strengths, weaknesses, opportunities and threats for the actuarial professional. It should be noted that this overview is intended to capture the main overall characteristics of 'the' actuarial professional; it is not meant to be seen as an exhaustive personal profile.

Figure 1: SWOT analysis actuarial professional.



Strengths

Deep understanding of mathematics, statistics and business management clearly is a strength for the actuarial profession. Furthermore, we are experienced in dealing with uncertainty, including the analysis of (quantitative) future projections. Professionalism in the form of strong values as accountability, objectivity and integrity is part of our DNA. Indeed, we quickly adapt to new requirements and learn how to consider new topics in our assessments and analysis. CERA as a specific training for actuaries in risk management provides an outstanding and globally standardized fundament for our work in that area. The strong network of actuaries worldwide gives us a great advantage relative to others as it provides for example clear and high professional standards and a wide basis for retrieving information.

Weaknesses

The (non-)ability to look for and incorporate qualitative factors into forward looking (risk) assessments could be seen as a weakness of the actuarial professional. An example would be the calculation and publication of mortality tables, without taking into account latest developments of gene therapy, bioprinting, synthetic biology and nanotechnology. The tendency to get fixated on technical details and downside risk, preferably in our 'own' comfortable space (e.g. the pension and insurance industry) could be seen as other weaknesses. A further weakness might be to have sometimes only a too general knowledge of the ERM framework and process. To foster the risk culture and allow the whole entity to live risk with purpose, we need to learn to communicate adequately up to the management but also down to the front lines taking the risks.

Opportunities

The actuarial professional faces multiple opportunities. Among others, there is an increasing demand for technical skilled personnel with a pragmatic and business approach, as businesses and the public sector face multiple increased challenges and greater uncertainty in a world that is rapidly changing. Furthermore, new risks arise in a rapidly changing environment that need to be managed. Also, innovative trends and developments (e.g. Data Science, Fin- and Insuretech) are great opportunities for the actuarial professional as they understand current business models in a quantitative way. To summarize, a proper risk management creates value for the different stakeholders in line with the risk-return paradigm. The "various value objectives" pursued by insurers in the broad sense of the term¹ get an increasing attention and need to be balanced following the strategy and management policies where skilled and agile actuaries in risk management² have a major role to play.

Threats

Non-actuarial study programmes provide similar basis for risk management activities. This means other risk professionals could perform similar tasks than the actuarial professional. Not only other risk professionals could take over our tasks, also computer could take over *part of* our modelling tasks (e.g. automation). Interpretation and analysis becomes more and more important over time. It

¹ E.g.: ensuring beneficiaries' payments, generating return to shareholders, contributing to the solvency and financial stability, further supporting the economy as institutional investor and being a partner of our society in evolution.

² The recent EIOPA publication on failures and near misses in the insurance sector further evidences the importance of skills, experience or professional qualities of management and staff.

should be noted that this could also be seen as an opportunity. Furthermore, due to consolidations there is a substantial decline in employment in our traditional sectors.

Confrontation matrix

In this paragraph, the SWOT analysis is further elaborated on by filling a confrontation matrix. In a confrontation matrix the strengths and weaknesses (internal perspective) and opportunities and threats (external perspective) are compared in order to see how they affect each other. At the same time, you see which elements have big influence and which have less influence by the number of pluses and minuses you see at the end of each row or column. The confrontation matrix is intended to identify strategic themes and answer the following questions:

- Can we use our existing strengths to take advantage of the opportunities?
- Can we work on our weaknesses to prevent us from missing out on opportunities?
- Can we use our existing strengths to reduce likelihood and impact of the threats?
- Can we work on our weaknesses to prevent threats to become reality?

Figure 2: Confrontation matrix

	O1 Increased demand for technical skilled personnel	O2 New risks	O3 Availability of data / data analytics	O4 Innovative trends and developments	T1 Non-actuarial study programmes	T2 Jobs lost due to consolidations and automation	T3 Our 'prudent' reputation	Total
S1 Deep understanding of mathematics, statistics and business management	+	++	++	+	+			7+
S2 Experienced in dealing with uncertainty	+	++			+			4+
S3 Professionalism						-		0
S4 Strong network of actuaries worldwide	++	++			+		+	6+
W1 Ability to identify and incorporate qualitative factors into (risk) assessments	--	-			-			4-
W2 Tendency to get fixated on the technical details	-				-			3-
W3 Tendency to focus on downside risk (in the pension and insurance sector)	-	+			-			2-
Total +	4	7	2	1	2	2	1	19+
Total -	4	1	0	1	3	0	3	12-

Can we use our existing strengths to take advantage of the opportunities?

Looking at our main strengths and opportunities, our strengths seems to provide a solid basis for picking up on opportunities, although it should be noted that the pension and insurance industry still is the environment we feel most comfortable in. To take full advantage of O1-O4 we need to broaden our horizon. There seems to be a mismatch between the 'general' demand for technical skilled personnel and the limited scope of the actuarial education programmes.

Can we work on our weaknesses to prevent us of missing out on opportunities?

Our weaknesses do form a serious obstacle in taking advantage of O1-O4. The world is not in need of mathematical correctness, but good old common sense. Economic and financial crises of the past have proven that models and reality are two different things. To take the full advantage of the opportunities, actuaries have to learn to grasp the bigger picture, in which not only quantifiable elements play a crucial role.

Can we use our existing strengths to reduce likelihood and impact of the threats?

Our main threats (competing study programmes, consolidations, automation, and reputation) are not easy to deal with; dealing with them more or less means we have to change our culture and behaviour. The limited effect of 'professionalism' on the identified opportunities and threats is notable. Our strong worldwide network does give us a strong advantage.

Can we work on our weaknesses to prevent threats to become reality?

To prevent threats to become reality, we need to change our culture and behaviour, ultimately leading to a changing reputation. Integrating other disciplines into our actuarial societies and education programmes could be helpful in this. Moreover, working together in diversified teams of more quantitative and qualitative actuaries on different subjects, will reduce the impact of our weaknesses.

Stakeholders' assessment

Traditionally, the risk management was seen just as a control function where it is regulatory in nature. It is now fairly norm and accepted (and even expected) that risk managers play an important role in strategic decision making. Also the recent update of COSO Framework recognizes the assessment and the evaluation of risks as a preliminary and essential activity to derive a business strategy, associated with an appropriate level of reward, aimed to capitalize skills and abilities of a firm, its risk appetite, its ability to attract investments.

According to Anette Mikes³, a Harvard Business School professor of risk management, involvement of CRO in board-level strategic decision-making depends on the quality and credibility of their insights. Typically, CROs fall into one of two categories: 'strategic controllers', who used the output of sophisticated risk models as their input to strategic issues or 'strategic adviser', who use risk management as trend indicators and use models as part of their judgement but do not let it drive it and draw on their business experience and knowledge of danger signs to anticipate emerging risks.

We think that this statement can also be extended generally to any risk management function. Risk functions and risk management roles in financial services firms have grown in importance in recent years, due in part to regulatory requirements such as Basel III, Solvency II and IORP II. However, risk management comes in different forms and there is lack of uniformity to the risk management role. Insight into the needs and expectations of our stakeholders gives us important information about the skill set required to be a good risk manager.

The following stakeholders are included in the assessment:

- Board of Directors
- Executive team
- Regulators
- Customers / insureds
- Rating agencies
- Shareholders
- Employers (IORPs)

³ <http://www.theactuary.com/features/2012/02/risk-management-actuaries-as-cros/>

Figure 3: Overview stakeholders' needs and expectations

Stakeholders	Needs/Requirements	Expectations	Current Appraisal of actuaries in risk management role
Board of Directors	<p>Board of Directors requires the risk manager to:</p> <ul style="list-style-type: none"> • Be the second line of defence and ensure that the risk management system is appropriate and effective. • Ensure that the risks undertaken by the firm is understood, managed and mitigated. • Ensure that regulatory requirements pertaining to risks are adhered to. • Ensure that her management and communication of risks enables the Directors to meet their regulatory obligations. 	<ul style="list-style-type: none"> • No surprises. • Open and honest communication between Board and risk manager. • Deep understanding of risk. • Analytical. • Ability to challenge across a wide spectrum of activities. 	<ul style="list-style-type: none"> • Good at technical challenge, analytical and critical thinking. • Depending on individual, good communicators but this is not universal. Linking to this is relationship building. • Reliance on professionalism.
Executive team – CEO, CFO, etc.	<p>The CEO and the rest of the Executive team require a risk manager who:</p> <ul style="list-style-type: none"> • Understands and manages risk in the context of business strategy and plan. • Is able to look at risks holistically and highlight issues and threats to decisions made. 	<ul style="list-style-type: none"> • Consider downside as well as upside risks. • Pragmatic. • Agile. • Commercial. • Strategic. • Deep understanding of risk. • Analytical. 	<ul style="list-style-type: none"> • Good at technical challenge and critical thinking. • Good holistic view and understanding of insurance operations. • May be more of a strategic controller than adviser where may over-rely on quantitative analysis to make a decision.
Regulators	<p>Risk manager who is 'fit and proper' to have responsibility for overall management of the risk management system in the firm. When considering a risk managers' fitness and propriety, the regulator takes into account (bearing in mind proportionality principle) and be satisfied of the candidate's:</p>	<ul style="list-style-type: none"> • Open and honest relationship with the regulator. • Early notification of issues that could breach regulatory requirement and meeting the regulator's objectives. • Deep understanding of risk. • Analytical. 	<ul style="list-style-type: none"> • Good at technical challenge and critical thinking. • Good holistic view and understanding of insurance operations. • Professional code can make thoughtful risk managers.

Stakeholders	Needs/Requirements	Expectations	Current Appraisal of actuaries in risk management role
	<ul style="list-style-type: none"> honestly, integrity and reputation, i.e. that they will be open and honest in their dealings and able to comply with the requirements imposed on them; competence and capability, i.e. that they have the necessary skills to carry on the function they are to perform; and financial soundness. 		
Customers / insureds	Customers/insureds want a risk manager to ensure that their needs are defended and they are treated fairly.	<ul style="list-style-type: none"> Integrity and principled. Social awareness. Deep understanding of risk. Analytical. 	<ul style="list-style-type: none"> Professional code and societal awareness can make thoughtful risk managers.
Rating agencies	Rating agencies require an honest representation of the state of risk management in the firm so that they are able to accurately evaluate the financial health and management of the firm.	<ul style="list-style-type: none"> Open and honest. Deep understanding of risk. Analytical. 	<ul style="list-style-type: none"> Technical strength. Holistic understanding of insurance operations. Professional code can make more thoughtful risk managers.
Shareholders	Shareholders require a risk manager who will manage the risk management process effectively and control and mitigate risks in order to protect and enhance the value of the firm.	<ul style="list-style-type: none"> Diligent. Deep understanding of risk. Analytical. 	<ul style="list-style-type: none"> Technical strength. Reliance on professional code may make a diligent risk manager.
Employers (IORPs)	Employers require the risk management function to control and mitigate risks in order to protect properly the beneficiaries while limiting the sponsor support.	<ul style="list-style-type: none"> Diligent. Deep understanding of risk. Analytical. 	<ul style="list-style-type: none"> Technical strength. Holistic understanding of pension operations. Professional code can make more thoughtful risk managers.

The above analysis shows that, if there is no unique role definition for the risk manager, there is however a general skill set requirement to allow him to perform well towards his different stakeholders:

- Good communicator
- Analytical
- Robust and able to challenge
- Pragmatic and have an open mind
- Being business minded
- Good listener
- Relationship builder
- Critical thinking
- Ability to distil complex topics and issues into relatable and simpler term

Please refer to the AAE paper “Required skills to be a good risk manager” for an overview on the requirements needed to be effective and efficient as a risk manager.

When looking at the answer of the Executive Team (Figure 3, second line), it might be noted that they rather want risk managers to “look at risks holistically and highlight issues and threats to decisions made” rather than be a relevant part in the decision making process itself. This can either reflect the understanding of risk managers acting as second line and hence not being directly involved in the decision. However, in an effective risk governance, risk managers need to be an integrated part of the business decision process.

Evaluation of results

Combining our self-assessment with the stakeholders' assessment reveals that actuaries are strongly placed to take ownership and responsibility of the risk function in insurance and pensions. Their natural strength including technical capability, professional conduct and understanding of the business operations make very compelling arguments for having actuaries as risk manager. To enhance this skillset, actuaries are encouraged to develop their communication and relationship building skills. Whilst some actuaries do have highly honed skills in these areas, it should be highlighted as something that they should all continuously develop on to ensure that they remain in a strong position to grow in the risk area.

Whilst our stakeholders' assessment only delivered current stakeholders within insurance and pensions, the SWOT analysis provides broader insights into our possible future stakeholders. These possible future stakeholders are in need of more general technical skilled personnel with a pragmatic and strategic business approach. They must be willing and able to grasp the bigger picture and difference between main and minor issues. To underline these aspects we might think of further extending the above analysis to other stakeholders to widen the perspective of actuaries in risk management. This might be done at a later stage after actuaries have already established a closer link to other industries:

- Financial market and there especially banks
- Consumer organizations
- Sales forces
- Politics and other institutional stakeholders
- etc.

Professionalism and an outstanding training (e.g. CERA) are great assets and provide stakeholders of actuaries with a well-understood profile strengths to rely on. If we want to broaden our horizon to take a step into new opportunities and other industries, we might have to consider extending our skills, expertise and perhaps even values to match the requirements of these new stakeholders.

Proposed strategy

In order to effectively position actuaries as excellent risk managers we propose to focus on our strengths – without any arrogance – and prove this by examples from the past and elaborate in future value that could be added based on the opportunities.

Communication

The attached communication strategy clusters potential stakeholders into four levels of difficulty and based on that also provides a prioritization for the approach of these four groups, the easiest accessible first. For all target groups, potential channels for the communication and main messages derived out of the strengths and opportunities above are defined.

We need to discuss, extent (at least over time) and prioritize this list jointly in the Risk Management Committee. Hence, this strategy will be a living document of planned initiatives which have to be adapted based on the learnings made on earlier communication efforts and the received feedback and success.

Qualification and Continuous Development

In the SWOT analysis we identified certain areas where we need to improve our skillset, e.g., communication especially with non-actuaries to remedy one of our weaknesses and experience on data science to tackle one of the opportunities.

We need to liaise with the Education Committee to potentially extent the already existing training program to further improve the qualification of actuaries for risk management.