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BWV Bildungsverband

Study: Competence laboratory 2016

Which competencies will the insurance industry need in the future?

Eine Branche macht Bildung

Study:
„Competence laboratory – Which competencies will the insurance industry need in the future?“

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Management Summary

The aim of the project „Competence Laboratory 2016 – Which competencies will the insurance industry need in the future?“ of the Berufsbildungswerk der Deutschen Versicherungswirtschaft (BWV) e. V., with the scientific support of the research institute for vocational training (f-bb) is to investigate change scenarios within the insurance industry and the probability of occurrence, and on the basis of these insights to judge their effects on the activities and the competency profiles of those employed.

It was on this basis, with the focus on the training of qualified insurance and finance specialists (VF), that the extent to which current qualification profiles cover future competency requirements was examined.

Beginning with research in the literature on the subject, the current trends and challenges for the insurance industry were worked out, questionnaires developed with which experts in the field were confronted face to face, on the telephone or in writing by means of an online survey. The questions related to the relevance of the trends that had been identified and the challenges posed by information technology, customer behaviour and requirements, as well as products and product innovations. The most important findings from the three areas can be summarized as follows:

Experts identify big data analysis and the internet of things as being not only the greatest challenges, but also the fields with the greatest potential. With respect to customer service, multi-channel competence and fast reaction time are becoming particularly important. At the same time the offer of traditional products or product groups has to be increasingly customized. These products are characterized by a high degree of flexibility and adaptability. There is, furthermore, a development in the direction of holistic customer service. The requirements for technical knowledge, communicative competence and flexible product development are increasing accordingly.

Are future trainees adequately prepared for this? Which specialist/procedural or personal and social competencies should be conveyed by the training and/or which must they already possess, in order to prepare the trainee optimally for the future requirements in the industry and to ensure that the industry can maintain its competitiveness in the future.

Using the information from a survey to specialists and two specialist workshops competency clusters were created and competency requirements described based on a definition of a future employee profile.

Finally, a coverage analysis was used to establish how far the profile and the competence requirements as described in the profiles and skills required are reflected in the current training regulations for an insurance and financial specialist (KVF). The analysis showed

that 42 of the future 48 partial competencies that will be required in the future are covered in the current training regulations and can be further developed by appropriate adjustment of priorities. Five further IT related competence requirements are at present absent from the job description: the current need is covered by the relevant IT occupations. The training to KVF as stipulated in the current training regulations or the current training curriculum allows the development of competencies needed for the job profiles identified. However, a precondition is a form of training at the places of learning that has a prospective orientation (e.g. a closer involvement of digital learning and communication media and new learning formats in the training) and that already in the recruitment process there is a stronger weighting of generic and social-communicative competencies together with a concept for the development of IT competencies not found in the training regulations.

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1. Initial Position and Problem Statement

The dynamic technological, social and economic change processes have already led to social structural change in the last quarter of a century, which among other things is characterized by the notions of an information, service and knowledge-based society, in contrast to the preceding industrial production society. The backkground to this are structural, economic, social and technological developmental tendencies, labelled „megatrends", such as globalization and computerization. These have led to an economic and market transformation as well as to the integration of information and communication technologies in all company processes. The general effect has been to make the provision of benefits more complex, with the result that companies have reacted by reorganizing their production, service, organization of work and management processes.

This development has continued to accelerate due to increasing digitalization and the interlinking of all areas of life and work. This has put many companies and economic sectors under even greater pressure to change, and although social and economic trends are visible and predictable, there are as yet no clear strategies as to how to deal with them. Individual studies assume there will be a massive cutback of staff in the insurance industry, of up to a quarter according to McKinsey (2016), and the end of insurers' classical business model to the benefit of FinTechs. There are, those, however, who think that there will still be a need for personal counselling and the pursuance of traditional insurance business in the future (cf. Müller 2016).

All things considered, such is the general view of studies submitted up to now, although the topics digitalization, automation, the internet of things, big data, mobility, etc. entail risks for the sector (e.g. with regard to the ability to innovate and the speed of change in comparison to FinTechs or InsurTechs), they also offer clear opportunities for further development (c.f. i.a. 2b AHEAD Think Tank o. J., Bain & Company 2013, I.VW-HSG/Adcubum 2015, Pietsch/Trost 2015, and Richter 2015). Even if we do not yet have a clear idea of what the result will be, the transformation processes in the insurance industry will lead to changes in the business processes and operational and organizational structures in the insurance companies and the sales units. These again will result in changes to work tasks, in the general conditions as well as to performance and qualification requirements for those employed in the insurance sector.

2. Examination Design

2.1 Setting the Target and Research Questions

The aim of the study of the Berufsbildungswerk der Deutschen Versicherungswirtschaft (BWV) e.V. and the Forschungsinstitut Betriebliche Bildung (f-bb) was to describe the change scenarios in the insurance sector, to assess the probability that they would occur and finally to judge the effects on employment, actitivies and job profiles. Using the example of the dual training to qualify as a specialist for insurance and finance a coverage analysis should clarify the extent to which the present job description matches the competencies needed in the future.

The following questions were examined in the study:

1. How do various factors such as the trend towards increasing automation and digitalization together with big data/smart data affect the insurance industry? How can the individual factors be identified, weighted and delineated for their influence on the insurance sector?
2. What will be the effects of the identified factors on the insurance industry over the next five years?
3. Which business processes in insurance companies and sales units will be affected by the identified factors?
4. How can the relevant fields of activity be identified, in which activities will cease, increase or be shifted because of trends in the direction of digitalization?
5. With regard to the identified changes, which competencies will be needed to carry out future activities, and how can they be defined?
6. To what extent do the current competencies described in the professional profile of an expert for insurance and finance correspond to tomorrow's competence profile (coverage analysis)?

2.2 Method of Procedure

Using a literature and document analysis (May – July 2016) the main challenges, trends and their effects on the sector were identified and an interview guideline developed as the basis for an expert survey (July – September 2016) by means of interviews, as well as a standard online supported survey and a group discussion. The aim of this survey was to estimate the relevance of the identified factors from the perspective of the individual expertise of various people in the insurance industry and to have their probability of occurrence and effects estimated, as well as to name competencies needed for future training and the (partly) new fields of work in the job descriptions of experts for insurance and finance. Finally, these future fields of activity and the competency profiles as formulated were evaluated and validated in several expert workshops (i.a. with strategic decision-makers , personnel and training managers from insurance companies) and served as the basis for a coverage analysis of future professional requirements with the current job description for the ‚expert for insurance and finance' (November/December 2016). Finally, the results were evaluated and recommendations for action formulated on the basis of the coverage analysis.

3 Findings of the Literature and Dokument analysis

> *„In markets, in which the … trends have been suspended for longer than in Germany it can be seen that companies that stick to business models that were successful in the past rapidly perform much worse and are finally pushed out of the market." (Stange/Reich 2015, 6)*

The social and technological developments such as globalization, automation, digitalization or big data, known as „megatrends", influence all areas of the economy and thus also the insurance industry. Data networks and complex data analytical procedures, changes in customer behaviour, mobilization by end devices, sensor networks or new business models are some of the main challenges for the insurance sector. The increasing relevance of these factors often influences company culture and thus affects the whole company (cf. 2b AHEAD ThinkTank o.J., Wissmann et al. 2016). In this way digitalization offers opportunties, but it also contains risks, such as disruptive startups, ephemeral business models, investment risks or the devaluation of expertise.

The insurance industry, which might be described as an innovation grouch (Lucke/Heinze 2015, 247), is under many forms of pressure to change because of the developments just named. The current developments are visible, but at the same time it is not clear what specific effects they will have on the insurance industry. Current forecasts on the subject come to very different conclusions. While some studies assume the end of the classical insurance business model to the advantage of InsurTechs and reckon with massive staff cutbacks of up to 25% (McKinsey & Company, 2016), others believe in the continued existence of classical business models and a constantly remaining need for personal counselling (see Müller 2016).

For insurers globalization and digitalization are new hurdles that come on top of the current challenges from the fields of financial policy and the capital market, such as the low interest phase or the increase in regulation. To cope with this a new entrepreneurial strategy may be needed to promote changes and shifts in business activity, that generates new requirements and competency profiles (cf. Stange/Reich 2015, 3 f.).

There follows a summary of the main factors of influence selected, which could be identified by means of a literature and document analysis.

3.1 Trends und Challenges

The following sections deal with the most important trends and challenges, especially digitalization. In addition, the possible effects on the insurance sector are explained.

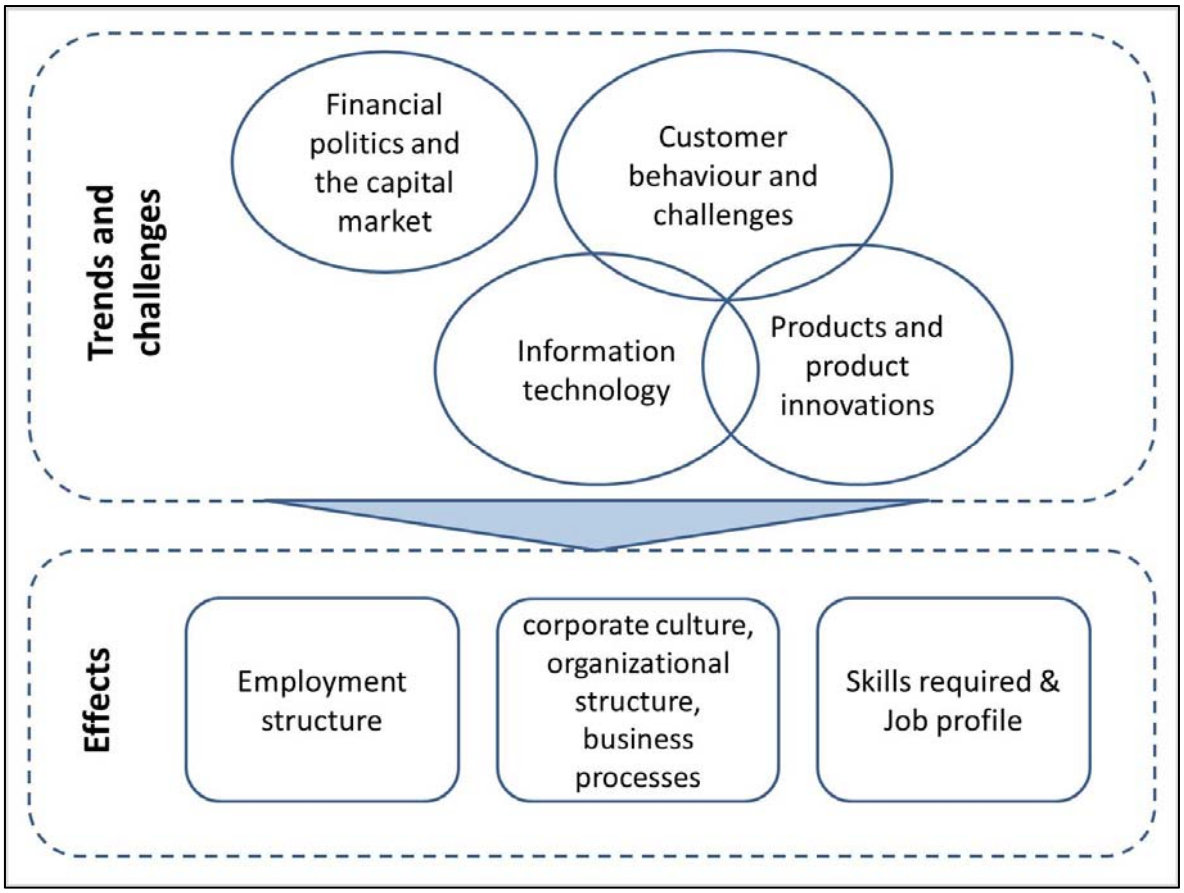

Figure 1: Structural Overview (own presentation)

3.1.1 Challenges due to Financial Policy and the Capital Market

> *„We can say in short that German insurance companies have clear growth opportunities, on the one hand, but fundamental threats to their existence on the other. The resulting pressure to change has a hitherto unknown dimension and leads to growing insecurity in many boards of management." (Stange/Reich 2015, 6)*

After many years of stability in the insurance industry the sector faces dramatic changes to the economic basics, changes in capital market conditions and increasing regulation. It not only has to cope with these, but also massive changes in customer behaviour and disruptive competitors. (cf. Stange/Reich 2015, 3).

In the field of financial policy the buzz words **„drop in yield"** and **„low interest environment"** encapsulate the current challenges. Capital market interest rates will remain, in the middle term at least, at a low level. Furthermore, private households find it increasingly difficult to achieve their savings targets because of the limited access to alternative forms of investment, but one can assume an increasing need for retirement provision due to demographic development (cf. Stange/Reich 2015, 4 f.; Wissmann et al. 2016, 22 ff.).

„Regulation, which in the last few years has greatly intensified, acts as a catalyst for falling yields due to a greater need for risk capital (supervisory system Solvency II), coupled with falling sales productivity and higher liability risks for intermediaries and insurers (IMD2, PRIIPs, commission cap)." (Stange/Reich 2015, 5, Hervorhebung T. S.; cf. Wissmann et al. 2016, 24). Stange und Reich (2015, 5) do not exclude the possibility that in the long-term commission will be forbidden and that there will be standard products, also for the German market, such as in the Netherlands, Austalia, India or China..

In the perception of customers, which is more and more quickly and comprehensively influenced by the internet, the **sense and justification of insurance products** – with the support of the media – is being comprehensively called in quesion (Stange/Reich 2015, 5).

The risk that new, **possibly disruptive competitors** enter the market is leading to a reduction of the classical insurers' traditional profit pool. Alongside Fin-/InsureTechs the entry into the market of internet giants such as Google, Amazon and Co., is being repeatedly discussed. These companies make massive use of digitalization innovations and have a clear advantage over the traditional insurance industry, especially due to their superior knowledge of Data-Mining und Social Media (cf. Stange/Reich 2015, 6).

3.1.2 Challenges due to Customer Behaviour and Customer Requirements

> *„The digitally network-linked customer is already a reality – and extremely demanding. He expects fairness and respect, high quality service and a reasonable price-benefit ratio. He wants to receive personalized, customized offers and expects a short response times in the communication – and all this independent of time, space, channels and end devices (Cebulsky/Günther 2015, 141).*

In the insurance industry the customer behaviour to obtain information, take out policies and report claims has changed, because more and more policyholders make use of digital offers (cf. Cebulsky/Günther 2015, 141; Pietsch/Trost 2016, 10). They use search engines, comparison sites and social networks, as well – if offered – apps from insurance companies and so-called InsureTechs (e.g. AppSichern, G24 BergWinter, BeRelaxed). To be able to react to this development adequately and in a customer friendly way there have to be structural changes in the business processes and in the product and service area. This involves additional expenditure for investment and organization. At the same time the use of digital technologies facilitates process optimization and an increase in efficiency. A potential for cost reduction is thought to be fast claims reporting using app transmission (cf. Pietsch/Trost 2016, 10).

It is becoming ever more important to make the **customer relationships** and **communication interactive.** In the context of **multi-channel access** „a suitable channel must be made available for every customer within every link of the value chain if no customer is to be lost“ (Cebulsky/Günther 2015, 143). Besides multi-channel access, customers expect **fast response times** as well as **fast processing**.

To transfer communication completely to digital channels would be to reach the wrong conclusion, however. Digital and analogue channels must merge into an „**omni-channel**“, since customers continue to want to use all the means of communication available (ibid., 145 f.).

For customers it is particularly important to have data transparency, data security as well as control over their own data. At the same time, customers (especially younger ones) demonstrate an increasing willingness to freely reveal **personal information** if this results in a better price or a unique benefit. (ibid., 144).

3.1.3 Trends and Challenges due to Information Technology

> *"In the future whoever has the data defines the rules." (2b AHEAD ThinkTank o.J., 16)*

To respond appropriately to key issues like data collection and utilization, data protection, the further development of standardizing and automation processes, mobilization („mobile first") or cyber security it is necessary to invest heavily in **IT infrastructure**. At the same time there is permanent competition with innovative or disruptive startups (FinTechs, InsurTechs) that are speedy, agile and innovative.

With regard to a big data strategy, it will make sense for the insurance sector to work with unified platforms and databases in administration and distribution, in order to interlink data and information expediently. The recruitment of external talents as well as learning from and co-operating with other sectors (e.g. banks, e-commerce) could offer strategic value-added benefits (2b AHEAD ThinkTank, o.J.; Pietsch/Trost 2015, 14 ff.).

„The digital revolution makes great demands on providers' IT systems and business processes: the multitude of **smart sensors and and devices** must be correctly integrated and administered; traditional communication channels have to be extended to the new social media channels, and the continually increasing volume of data must be transported, stored and analyzed profitably. The integration of modern technologies such as cloud services, in-memory-databases und big data applications in the existing IT infrastructures will create the preconditions for the development of such innovative digital customer services" (Schneider 2015, 12).

In the context of data collection it makes sense to use postings in social networks, online purchases, the use of apps and gadgets as triggers, in order to recognize and respond to the customer's need for insurance at an early stage. If the law is observed, there is no legal hindrance to prevent insurance companies as well as sales units from making use of data. Data that is already present in a company's own portfolios, that was often stored without much thought in so-called data silos, is a valuable asset. Yet a KPMG study (Cebulsky/Günther 2015, 144) estimates that the main part (85%) remain unused. A key digitalization topic is not only the storage of unimaginably large amounts of data, but also their evaluation, so that they can be used. This is discussed under the notions **big data, data-mining & advanced analytics**.

In using digital channels particularly great care must be taken with regard to **data security** and **data protection**, since customers distrust not only hackers and cyber criminals, but also companies and states.

Mobile digital assistance systems with various app possibilities will take over portable devices. „The assistance systems are basically used to make the ‚multi-optional lack of orientation' of a volume of data , which no-one can any longer process himself into information, knowledge or recommendations for action [and/or, T.S.], manageable, and to enrich or question decisions that are made or suggested by experts" (2b AHEAD ThinkTank, o.J., 12). The internet of things could deliver the necessary user-produced decision data for these systems transmitted from fitness data and health apps (health and fitness) or tachographs and drivers' logbook apps (GPS data) (2b AHEAD ThinkTank o.J.).

In the course of the digitalization the organization's **knowledge management** has to be extended and cultivated, especially with respect to the new key issues. The aim must be to share knowledge (in the sense of interpreted or evaluated information) more quickly, more transparently, and in a more agile and flexible way (Pietsch/Trost 2015, 22).

3.1.4 Product Changes and Product Innovations

Product changes and the increasing speed of innovation can be observed in all lines of business, but especially in property insurance, in retail as well as commercial business. The concept of products for **multi-access distribution** is considered to be necessary, whereby the focus is on digital sales channels (cf. Pietsch/Trost 2015, 11). Simply transferring conventional products to the digital sales channels would hardly be expedient. Until now those products on mobile media work well that only need a short contractual text. On a small smartphone screen no-one wants to read confusing small print. Also problematic are products for which it is impossible to judge the quality of the purchase decision or that involve a great deal of work. In this respect, responsibility and transparency play a central role if one wants to bring these products to the mobile market (cf. Heinze/Thomann 2015, 150).

The **adaptability** of technology and products is regarded as being the main guarantee of success. Especially the immediate prognosis of customer wishes based on data from social media platforms is considered to be a competitive advantage (2b AHEAD ThinkTank o.J., 20). In this way it possible to have better defined target groups and customized needs for the marketing, which is particularly suitable for **micro and short-term policies (situational insurance)** (Wissmann et al. 2016, 25). These are increasingly required by the younger generation. „The insuring of a newly acquired smartphone on the spur of the moment and

quickly taking out a health policy for a spontaneous weekend jaunt or ski trip with an app are only two examples which show the need and the opportunities for the future“ (Guß 2015, 39).

The „**internet of things**“, i.e. the communication of devices among themselves over the internet, in connection with the generous provision of data is also increasingly important for product development. These include, for example, the use of fitness or log book apps linked to smart watches, smartphones or armbands as well as the installation of tachographs in motor vehicles (cf. das Produkt „Drive like a girl“ of the telematic insurer *Insure The Box*; Cebulsky/Günther 2015, 142). Thus telematic systems the tariff make possible models ‚pay as you use‘ or ‚pay how you drive‘ based on the individual driving profile. (Schneider 2015, 12).

Also **new products** must be created for the changes that digitalization involves. These include cyber policies to insure the risks in connection with digitalization.

Due to the speed of innovation and the flexibility of startups insurers have to increase the **speed of development** of customer optimized products. This should be achievable by establishing a suitabe IT infrastructure and the utilization of the data available. At the same time customers increasingly demand **a voice** (2b AHEAD ThinkTank o.J., 14). They would like, for example, to be able to bring their **own ideas into the product and service development** (cf. 2b AHEAD ThinkTank, o.J. 14 ff.).

3.2 Main Impacts of the Trends and Challenges

3.2.1 Effects on Employment Patterns

„Every fourth insurance job is at risk.“ (Hecking 2016)

According to a McKinsey study, in the next ten years **every fourth job is at risk** due to digitalization and the automation that is bound up with it. (Hecking 2016; Johansson & Vogelsang 2016).

Especially vulnerable are jobs in the operational business, i.a. in the administration (ca. 50%) and in claims handling (ca. 30%). New product development, marketing and sales support are likely to be the least affected (ca. 1%) (ebd.). Gold, too (2016, 20), points out that a disproportionate number of jobs involving simpler tasks will be lost (niche jobs). There will be more skilled employees and specialists, however. There are, in addition, problems in connection with „older“ members of staff and the lack of trainees. Estimates are mainly based on the opinions of experts – there are at present no specific, robust statistics. Furthermore, estimates have to be qualified, because although digitalization could

reduce the number of intermediaries in distribution, at the same time the need for the digital presence of intermediaries would increase (cf. Hopfner/Gold/Hohenadl/Schikora 2016, 6). Furthermore, new activities will arise in the field of agile software development (for example, automatic fraud detection), internet security and data protection , „connectivity“ as well as „advanced analytics“ (Big Data; Data-Mining).

In addition, **the importance of project** work should continue to increase in importance, so that the 2b AHEADThinkTank (o.J., 3 ff.) foresees that an increasing number of people could change the project and the company every two to three years. As a result, the subject of employer attractiveness, recruitment and staff retention becomes more important. The organization of staff in projects would enable companies to react more flexibly to trends that are to some extent ephemeral (cf. Hopfner/Gold/Hohenadl/Schikora 2016, 6 ff.).

Furthermore, **making working times more flexible** will have to be reconsidered in view of legal stipulations. „Especially staff who belong to the younger generation expect a high degree of flexibility from their employer, so that private affairs can be completed at work and official duties at home. Nowadays most employees are actively looking for flexibility and want individual solutions“ (Hopfner/Gold/Hohenadl/Schikora 2016, 10). This includes the option to work in a mobile way (teleworking).

3.2.2 Changes to the business culture, the organizational structure and the business processes.

> *„Technological change accelerates all processes from new product development over distributioin to the handling. Digitalization puts a question mark against all business models and puts insurance companies under massive innovative pressure.“ (Cebulsky/Günther 2015, 141)*

Conservative organizational structures, signified by traditional cultures, a lack of attention to customer needs, a lack of or insufficient expert knowledge as well as an inadequate IT structure are seen as the main obstacles for digitalization (Pietsch/Trost 2015, 13). The challenges mentioned so far also change organizational structures and processes or require the further development of organizations to maintain their competitiveness. Digitalization offers various ways to support and speed up the changes and to drive on the downsizing and automation of the company (cf. Hopfner/Gold/Hohenadl/Schikora 2016, 5).

An **optimization of business processes** can be regarded „as an important success factor of the insurance industry, since the customer only experiences the product when there is a claim“ (Rischave & Buck-Emden 2015, 434). It follows that the main focus must be on the quality of service, the speed and the interaction with the insurer (cf. ebd.).

General recommendations for action for management can be summarized as follows (2b AHEAD ThinkTank o.J., 21 f.; Cebulsky/Günther 2015, 147; Pietsch/Trost 2015, 30):

- Open for new challenges
- Innovation by inspiraion using many formal and informal sources
- Decision to establish responsibility (for example, by „Chief Digital Officers“)
- Co-operation and collaboration with relevant partners, in order to increase the value added for customers (provide attractive holistic solutions)
- Take action – Construct and use of „Fast Track“-options for economical and parallel testing and the evaluation of ideas
- Create data transparency and data sovereignty for the customer,
- Develop adaptive products and services using management systems for innovations (multi-dimensional innovation approach)
- Become an attractive employer for innovative people
- Create value with data (unique selling proposition, genuine customer usefulness).

3.2.3 Changed skills requirements and job profiles

> *„It is highly likely that in industry 4.0 the work will pose much greater complexity, abstraction and problem solving requirements for all employees. Furthermore, they will be expected to demonstrate a high degree of independent action, communicative competence and the ability to organize themselves.“ (Promotorengruppe 015 quotation from Uni Bremen 2016, 25)*

For **employees in the insurance sector** in future the focus will be progressively less on knowledge-based and routine work and much more on the comprehensive ability to take action and problem solving competencies. Since digital interlinking is fairly intangible and invisible, it requires a high degee of abstract thought and background knowledge, in order to be able to grasp the processes and thus control and create them independently (Uni Bremen 2016, 25 f.).

Because there is interlinking in all areas, the possibility for specialists to have a say and share responsibility will continue to grow. Furthermore, the continuous development in competencies makes it possible to counteract the devaluation of expertise (cf. Hopfner/Gold/Hohenadl/Schikora 2016, 7 f.).

In the study about industry 4.0 (Uni Bremen 2016, 86 f.) compentency requirements could be identified, and of these particularly the general, work-related and information-technical competencies are also relevant for other sectors:

- Process optimization
- Reading and evaluation of data
- Utilization of data security when processes are running
- Utilization of data to optimize process flows
- Utilization of knowledge and documentation systems
- Team co-operation and communication
- Utilization of system expertise for the optimization of processes
- Taking decisions, taking responsibility
- Utilization of databases
- Utilization of digitalized networks
- Participation in programming procedures
- Utilization of cloud computing

> *„Tomorrow's insurance manager will need expertise in big data and mobile technology, multi-access competency and an understanding of connectivity, as well as enthusiasm for new technologies." (Pietsch/Trost 2015, 8)*

From Pietsch and Trost's survey (2015, 18 ff.) it emerges that the new requirements for **executives** are openness and the willingness to experiment for innovations, readiness to risk changes, a close affinity with technologies of the future and experience of mulitichannel strategies. Also required is a consistent orientation towards dealing with customer wishes and needs, coupled with visionary thinking and analytical abilities. Because of the importance of social networks the competencies for purposeful communication, for the building and sustainable maintenance of networks are regarded as further key factors.

3.3 Interim result

There is a great deal of interconnection between the various trends and challenges that are currently affecting the insurance industry. Thus the change in customer behaviour exerts an influence on products and product innovation as well as on business processes. Solution approaches in one area open up opportunities in other fields in which there is a need for development. For example, if the IT infrastructure is being extended and data collection and analysis carried out, this supports the optimization of business processes as well as the generation of product innovations for customized insurance solutions. The actions that are actually taken depend on the individual company goals.

Until now there have been no substantiated findings and estimates from experts as to the specific effects on the skills required and the job profiles in the insurance industry. The aim of the fieldwork phase described below was, therefore, to describe changes in the course of relevant developments, such as digitalization, automation or process optimization for the insurance industry and together with experts in this sector to evaluate their effects on the business areas and the job specifications of future employees.

4 Findings of the Fieldwork Phase

4.1 Expert Survey

Following the research in the literature as preparation for the contents for the planned expert workshops 31 persons were consulted during the project (board members, top managers, training and personnel managers, owners of insurance agencies and those dedicated to future studies). The aim of this expert survey was to estimate the relevance of the factors that had been identified and quantify their probability of occurrence and their effects. The results provided the basis for the development of possible scenarios (about the future).

For this purpose the experts were interviewed, both on the telephone and face to face (N=5). There was an online survey (N = 17) as well as a group discussion (N = 9).[1]

Among the main topics were trends and challenges with regard to information technology, customer behaviour and requirements, products and product innovations.

The results can be described as follows:

The relevance of the **challenges in the field of information technology** is already estimated as being high. However, the „internet of things“ and „big data analysis“ record the highest growth, or here is the greatest potential for development. When asked, one expert replied, „The greatest potential for the insurance industry is with big data, because theoretically we have information from an unbelievably large amount of exciting customer data. However, at present we do very little with it.“

[1] The interviews were recorded digitally and subsequently transcribed. The data storage was pyeudonymisiert, i.e. the name of the expert could not be related to the data. The anonymizing of the data was carried out after the transcription (deletion of interview recording, transcription with naming names and organizations).

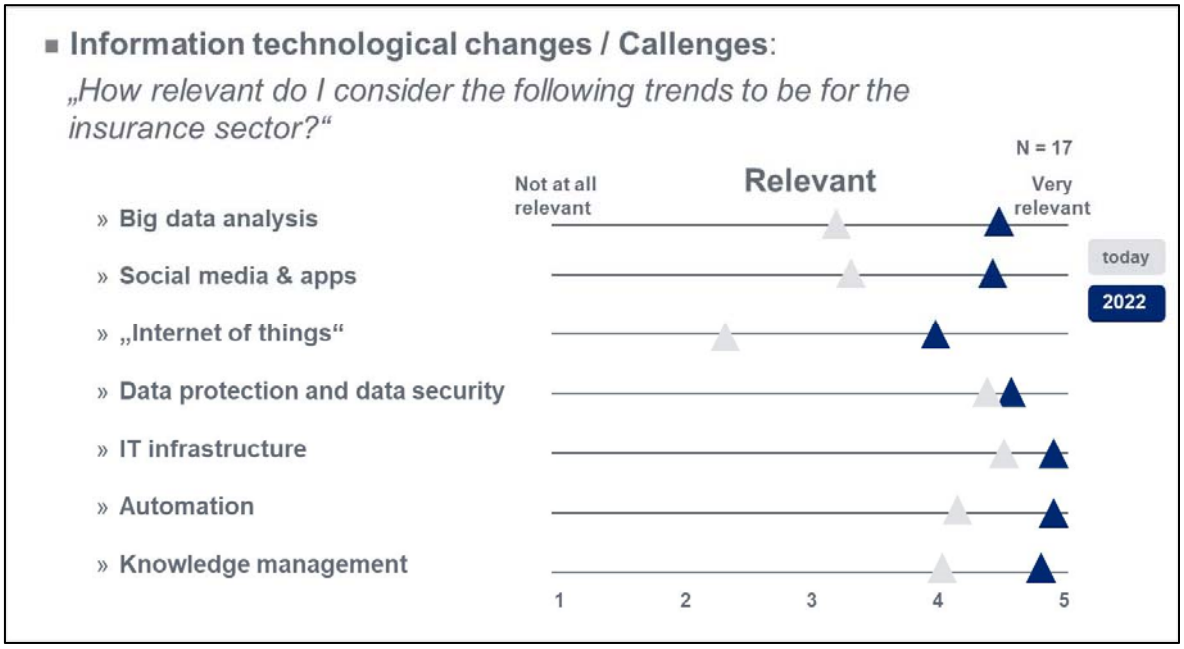

Figure 2: Relevance of changes due to information technology (own presentation)

If the **changes in customer behaviour and requirements** are taken into account, the changes of greatest relevance are response time and multi-channel access. On being asked, one expert voiced the opinion, „Multi-channel is our future. Everything has go be quick, error-free and simple.“

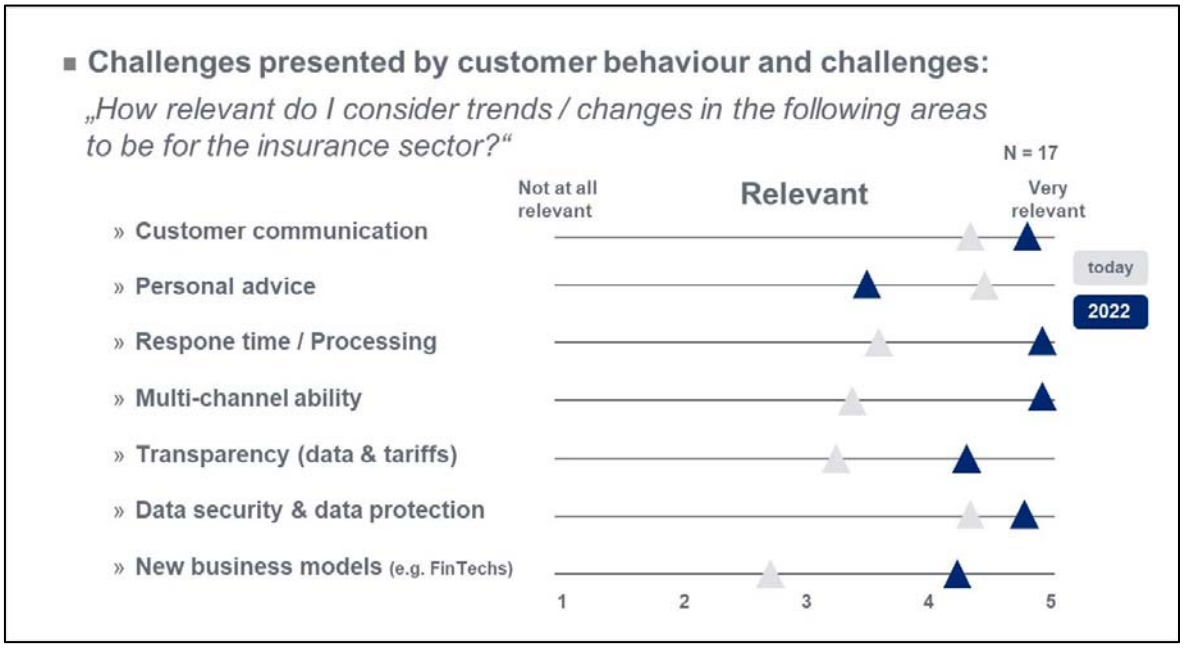

Figure 3: Relevance of the challenges for customer behaviour/requirements (own presentation)

In **products and product innovations** the greatest changes are in tariffs that depend on customer behaviour. One of those questioned considered this to be the approach „accom-

pany the customer for the whole of his life and work together positively." The product range will change and grow, and in this connection, „We need a new **flexibility** in individual products, because the course of a life is not as fixed as in the past."

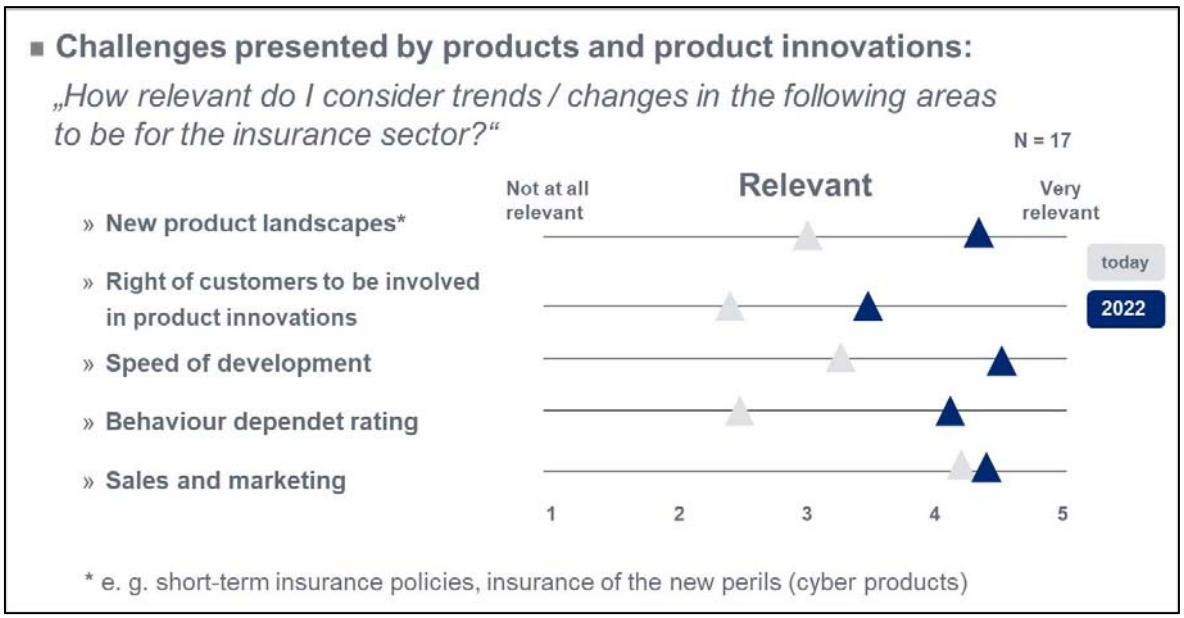

Figure 4: Relevance of the challenges for products / product innovations (own presentation)

4.2 Expert Workshops

Based on the evaluations outlined above the question was raised in two expert workshops as to what identified developments mean as well as their future relevance. Furthermore, the effects of these developments on the activities in the sector were also discussed and the competencies worked out that the employees of tomorrow will need.

The result was **a scenario of the insurance industry 2030** that served as the basis for further considerations about the design of the dual training.[2] Then with the focus on the year 2022 new job profiles were described, to which were allocated **48 competencies that would be needed in the future**.

[2] In order to take changes in the long-term sector into account as well as those in the middle-term (scenarios for the year 2022 from the expert survey) and so that variation in scenarios would not be restricted, it was decided to make a projection to the year 2030. For the job descriptions and the skills required a middle term timescale was chosen, which is already the case in trainings and recruitment.

4.2.1 Scenario: Insurance Industry in 2030

- The focus is no longer on insurance products but on „worlds of experience“ for the customer. These will be offered by the players in the insurance industry or by competitors from other sectors (e.g. providers of IT platforms, such as Amazon, Google, Facebook). The „worlds of experience“ will be increasingly offered digitally, with the help of various platforms and will develop thematically round areas that are relevant to insurance, such as mobility, health, retirement provision or smart home.
- The form of distribution in the future depends on the business models that are fixed in the future. Should, for example, competitors from other sectors take on insurance business and become the main providers of the „world of experience“, there will be no alternative but to provide the insurance benefits. In this constellation the distribution for insurers would develop more strongly in the direction of B2B business.
- Should insurers continue to occupy the interface to customers and offer platforms with worlds of experience themselves, the current B2C model will stay in the distribution.
- Tangible insurance services, which cover motor vehicles, for example, as well as short-term situational policies do not usually need advice and can be obtained in the internet or in other channels. Less tangible, more abstract insurance protection, such as retirement benefits or income protection require counselling, which should encourage customers to take precautions. Advice that is completely calibrated to customer needs (quick, holistic and above all media controlled, which means that the IT area is subject to great changes) is needs oriented, computerized – as far as possible – personal, then motivated and complete. Assistance systems or in certain circumstances robot counsellors could gain in importance and support the counselling process.
- Customer data will play an important role. This will become a most important asset for insurance companies and facilitate the development of new services, such as customized customer communication and hypothesis driven data analysis for situationally tied services and cross selling. The data analysis could be done in the middle and long-term by KI driven self-learning systems.

- The importance of data protection is still unclear. Scenarios with stricter data protection rules are conceivable, as also scenarios geared to customer wishes, with few requirements.
- Insurance company structures will change. Hierarchies will be abolished, leadership will become coaching. Regarding the changes already described, it will be necessary to work more in networks and with partners (internally as well as externally). There will be fewer line management tasks, with more projects and agile organization. Exployees will work flexibly in terms of time in interdisciplinary teams.

4.2.2 Job profiles in 2022

Following the scenario outlined above, job profiles were developed for insurance employees in the year 2022. The focus was on the activities of insurance and finance specialists.

Profiles	Descriptions
System administrator	The system administrator works at the interface between technical departments/customers and IT. He knows the requirements of the technical departments and the customers and communicates these in a well-balanced way in the information technology. And so he initiates e.g. automation processes for his department, works with IT on the development of automation systems, tests them, takes them away and develops them further. He must, therefore, have a close affinity to IT and needs a certain IT competence. At the same time he understands business processes well and is knowledgeable about insurance. It is estimated that there will be a great demand for this job profile.
Specialist	In the future the specialist will be responsible for demanding non-automated cases. The profile requires considerable specialist skills. The dual training must continue to be highly practical with intensive coaching. It is also necessary to specialize in the relevant business area.
Account manager	The account manager is responsible for customer service. The profile requires a wide training, good communicative ability and pleasure in dealing with people. The core competencies are in addition multi-channel access and media affinity. The scenarios of future activities – whether simple or complex – could depend on the company and then they determine the requirements for special knowledge.
Customer adviser Distribution (B2C)	The customer adviser provides advice about important aspects of life (health, security, etc.) and takes on the role of a life coach. He has mastered all the counselling channels, using the right channel to match the customer's needs. Furthermore, he co-ordinates the range of services and works in networks. By networking with other service providers he can cover the full range of services without needing to have all the expertise himself. It is expected that there will continue to be a great need for professionals such as commercial / industrial brokers, specialists for corporate customers, whereas there will be less demand for part-time insurance intermediaries, lateral entrants without adequate training and insurance brokers with little customer contact.

Table 1: Job profile 2022 of the specialist for insurance and finance

4.2.3 Skills required in 2022

Besides the formulation of new fields of activity or profiles it was the aim of both expert workships to define the future competencies needed for the profiles described. This was based on the competency descriptions worked out in the development project „Competency based training regulations“, along the lines of the spheres of action at that time for the profession ‚expert for insurance and finance‘ (cf. o. V. 2011).[3] So a total of 48 competencies could be assigned to the four future job profiles that require training:

Competency dimension		Tätigkeitsprofile			
		S	K	V	F
Specialist competencies (knowledg)					
A1.	Can understand the logic of technical systems and describe how they function	x			
A2.	Can explain how algorithms function	x			
A3.	Knows about IT basics, understands the composition and functioning of IT architecture	x			
A4.	Knows about the weighting, availability and types of data	x			
A5.	Can explain the requirements of data protection and data security (e.g. in connection with the social media) and their importance for the sector	x	x	x	
A6.	Can identify the whole data situation of the customer and analyze his need		x	x	
A7.	Can describe possible loss occurrences in connection with industry 4.0 and the consequences (technical knowledge)				x
A8.	Can draw on a wide knowledge of products: - Product knowledge, service worlds - Sales knowledge (knows distribution channels)		x	x	
A9.	Can draw on a deeper knowledge of insurance (profound expertise, also in special cases and especially in commercial business)				x
A10.	Knows and understands various special areas, functions, processes	x		x	

[3] The spheres of action in the occupation ‚expert for insurance and finance‘ were worked out in the development project „competency oriented training“ by representatives of the BWV training association, social partners and the BIBB.

Competency dimension	Tätigkeitsprofile			
	S	K	V	F
Special competencies (skills)				
B1. Can react to technical systems intelligently and utilize new technologies	x	x	x	
B2. Can understand, use and control automated processes (for example, causes of error)	x		x	
B3. Applies data protection rules and evaluates the sensitivity of the data available		x	x	
B4. Has a commercial way of thinking, understands the implications for key figures, has a knowledge of accounting	x		x	x
B5. Knows contract management, legal basis		x	x	
B6. „Sales compentency“		x	x	
Social competency				
C1. Provides services and advises competently	x	x	x	x
C2. Can put himself in the customer’s position, communicate empathy, demonstrate respect for the customer	x	x	x	x
C3. Focus on the customer in thought and deed	x	x	x	
C4. Advises holistically, without silos for the lines of business, for example		x	x	
C5. Communicates and argues appropriately and according to the situation		x	x	x
C6. Uses (new) media in a responsible way, that fits the situation and the target group, in order to use appropriately all channels of communication that the customer wants (by telephonr, chat, in social networks, with video counselling)		x	x	
C7. Works together cross functionally, with a team orientation and less hierarchically in heterogenous groups, is aware of and integrates networks and interfaces	x			
C8. Analyzes and understands complex procedures, presents them clearly and comprehensibly and stands up for them argumentatively	x	x	x	x
Methodological competencies				
D1. Can use instruments to procure information independently and appropriately for indepedent investigations	x	x	x	x
D2. Can analyse a mass of available information, evaluate it critically and utilize it appropriately.	x	x	x	x

Competency dimension		Tätigkeitsprofile			
		S	K	V	F
D3.	Uses new working methods and models	x	x		
D4.	Plans, implements, controls and manages processes	x		x	
D5.	Helps design and manage projects	x			
D6.	Deals with complex situations	x	x	x	x
D7.	Analyzes and evaluates data and recognizes the connections	x		x	
D8.	Analyzes and solves problems	x	x	x	x
D9.	Develops customized solutions that exactly match customer requirements		x	x	x
Personal competence					
E1.	Thinks and acts in an agile way in the business organization	x			x
E2.	Thinks strategically	x			
E3.	Is flexible and mobile (mentally, temporally, spacially)	x	x	x	
E4.	Is ready to change	x	x	x	x
E5.	Sees the connections quickly	x	x	x	x
E6.	Can make own decisions quickly and also disruptively; under certain circumstances questions the rules		x	x	x
E7.	Is open and willing to experiment	x	x		
E8.	Gives and allows feedback	x	x	x	x
E9.	Is creative, develops new ideas	x		x	x
E10.	Is motivated	x	x	x	x
E11.	Is courageous and curious (also about new technical developments)	x		x	
E12.	Can cope with stress		x	x	x
E13.	Plans own further training and carries it out	x	x	x	x
E14.	Reflects on results achieved and under certain circumstances looks for solutions	x	x	x	x
E15.	Is independent, takes the initiative and demonstrates individual responsibility	x	x	x	x

S = System administrator
K = Account manager
V = Customer adviser distribution (B2C)
F = Specialist

Table 2: Skills required according to job profiles 2022

5 Evaluation of Results and Recommendations

5.1 Coverage Analysis

Following the research work and the expert workshops described above the project team analyzed the extent to which the competencies needed in the future are covered by the current training regulations for the occupation ‚expert for insurance and finance'. The analysis revealed that 42 of the 48 competencies that are considered to be relevant are already included in the current training regulations and can be updated by topics with a changed prioritization. Five further required competencies that are currently not in the training regulations (AO) are IT specific and the sixth is in the area of personal competencies. t[4]:

New IT-specific Competencies	Current AO	Job Profiles			
		S	K	V	F
IT1. Be able to understand the logic of technical systems and describe how they function	-	x			
IT2. Can explain how algorithms function (A2)	-	x			
IT3. Knows about IT basics, understands the composition and functioning of IT architecture	-	x			
IT4. Knows about the weighting, availability and types of data	-	x			
IT5. Can understand, use and control automated processes (for example, causes of error)	-	x		x	

S = System administrator
K = Account manager
V = Customer adviser distribution (B2C)
F = Specialist

Table 3: IT-specific skills required in accordance with job profiles 2022 (not embedded in the current AO for the occupation specialist for insurance and finance)

These IT specific competencies can be covered in insurance companies by various action strategies. These include on the job training in IT occupations, IT specific additional qualifications for trainees in the training for specialist for insurance and finance or the training of academic specialists by means of tailor-made (dual) courses or the recruitment on the labour market.

[4] Competency E11: be courageous and curious (also about new technical developments)

5.2 Recommendations

The structure and content of the current training regulations for insurance and finance specialist provide a good preparation for current and future job profiles in the insurance industry. A radical change of the job description does not seem to be absolutely necessary. At the same time some areas were identified in the competency laboratory which need some attention:

- Digitalization causes shifts to the prioritized activities and working methods: data linkage and analysis at all levels, multi-channel customer contact, collaborative and interdisciplinary project work as well as solid knowledge management will be essential in the insurance sector. To prepare trainees adequately new forms of teaching and learning are needed, which take digital developments into account and concentrate even more on competencies for methodological, social and personal competencies. To this end under certain circumstances additional investments in IT infrastructure and medial development as well as well-trained and experienced training personnel are needed. Supporting materials, recommendations for action as well as offers for qualifications for the trainers could support the use of new teaching and learning media in the training routine.
- The competencies that have been identified as necessary for part of the future job profiles are not depicted in the current training regulations and refer mainly to specific IT skills. The dissemination of IT content is currently covered by various ad hoc solutions, depending on the need in the particular company. Coverage by additional IT modules or something similar is one option. Under certain circumstances this solution requires a restructuring of individual training components, the creation of additional qualifications or perhaps the communication of the contents subsequent to training. A sustainable solution for the whole industry could be to offer modular qualifications that depend on the demand. From a temporal, content or organizational perspective, the form they take depends on the demand and should be realized in co-ordination with the sector.
- The findings of the project indicate that personal competencies are increasing in importance. They cannot be ignored or only be part of a vocational training. Since their development is restricted in the actual training, these competencies should be borne in mind at the recruitment stage, for specialists as well as for trainees. Suitably adjusted assessment procedures (also online assessments with recruitment elements) could help to identify and assess these competencies in the selection process. Recommendations about the recruitment procedure or the development

and utilization of suitable recruitment tools can help companies to find and retain suitable trainees.

The spheres of action identified above provide the basis for measures and qualification schemes that the BWV's training association has conceived and implemented with the sector, in order to guarantee an appropriate, modern and future oriented dual training for the insurance industry.

Bibliography

Sources quoted:

2b AHEAD ThinkTank (o. J.): Handout: Digitalisierung in der Versicherungswirtschaft.

Ambacher, N., Knapp, D. & Jánszky, S. G. (2014): Trendstudie Versicherungen 2020: Kunden, Werte, Produktchancen. Trendstudie des 2b AHEAD ThinkTanks. Leipzig, published 14.4.2014. Online: http://www.2bahead.com/studien/trendstudie/detail/trendstudie-versicherungen-2020/ (15.6.2016).

Cebulsky, M. & Günther, J. (2015): Der digitale Versicherungskunde: anspruchsvoll, vernetzt und mobil. . In: C. Linnhoff-Popien, M. Zaddach, A. Grahl (Hg.): Marktplätze im Umbruch. Digitale Strategien für Services im Mobilen Internet. (Springer) Berlin & Heidelberg, 141-148.

Gold, M. (2016): Fachkräfte auf dem Prüfstand. Die neue Verantwortung des unternehmerischen Mittelbaus bei den Versicherern. Versicherungswirtschaft Nr. 1, Januar.

Goram, M. (2015): Strategischer Nutzen der automatisierten Auswertung von Kundenmeinungen in der Versicherungswirtschaft. HMD Praxis der Wirtschaftsinformatik 52(2), 277–287. DOI 10.1365/s40702-015-0127-3.

Guß, D. (2015): Zum Geleit: Dem Kundenverhalten angepasste Verkaufswege. In: C. Linnhoff-Popien, M. Zaddach, A. Grahl (Hg.): Marktplätze im Umbruch. Digitale Strategien für Services im Mobilen Internet. (Springer) Berlin & Heidelberg, 37-41. DOI 10.1007/978-3-662-43782-7_6.

Hecking, M. (2016): Jeder vierte Versicherungsjob steht auf der Kippe. Manager magazin. Online: http://www.manager-magazin.de/unternehmen/it/mckinsey-jeder-vierte-versicherungsjob-steht-auf-der-kippe-a-1073797.html (25.1.2016).

Heinze, J. & Thomann, M. (2015): Wenn der Versicherer mitreist – Die Barrieren des digitalen Handels über mobile Endgeräte und Wege zur Steigerung der Konsumentenakzeptanz. In: C. Linnhoff-Popien, M. Zaddach, A. Grahl (Hg.): Marktplätze im Umbruch. Digitale Strategien für Services im Mobilen Internet. (Springer) Berlin & Heidelberg, 149-160.

Hopfner, S., Gold, M., Hohenadl, T. & Schikora, P. (2016): Grünbuch „Arbeiten 4.0“ des Bundesministeriums für Arbeit und Soziales. (AGV Arbeitgeberverband der Versicherungsunternehmen in Deutschland) München.

Lucke, S. & Heinze, J. (2015): Kaufanreize durch Nachhaltigkeit schaffen – Potentialanalyse von Cause-Related Marketing für Versicherungs-Apps. In: C. Linnhoff-Popien,

M. Zaddach, A. Grahl (Hg.): Marktplätze im Umbruch. Digitale Strategien für Services im Mobilen Internet. (Springer) Berlin & Heidelberg, 247-254.

McKinsey & Company (Hg.) (2016): Automating the insurance industry. Online: http://www.mckinsey.com/industries/financial-services/our-insights/automating-the-insurance-industry (21.5.2016).

Müller, R. (2016): Digitalisierung erfordert eine gute Außendienstorganisation. In: VersichungsJournal Deutschland 2016. Nachricht aus Vertrieb und Marketing vom 7.4.2016.
Online: www.versicherungsjournal.de/artikel_druckversion.php?Nummer=125367 (7.4.2016).

ohne Verfasser (2011): Handlungsfelder im Beruf Kaufmann/-frau für Versicherungen und Finanzen. Unveröffentlichtes Manuskript.

Pietsch, C./Trost, M. (2015): Digitalisierung in der Versicherungswirtschaft - Auswirkungen der Digitalisierung/Industrie 4.0 auf die Profile von Führungskräften in der Versicherungsbranche.

Richter, C. (2015): Digitalisierung und Kundenzentrierung in der Versicherungswirtschaft – Was Kunden wollen, was Versicherte tun und warum das noch nicht zusammenpasst! Vortrag auf dem SAP Forum für Versicherer am 20. April 2015 in Bonn. Online: www.sapevent.de/landingpagesfr/Manager/uploads/1441/FS01_ Richter_Accenture_d1.pdf (23.5.2016).

Rischave, R. & Buck-Emden, R. (2015): Process-Mining in der Assekuranz. HMD Praxis der Wirtschaftsinformatik 52(3), 433–443. DOI 10.1365/s40702-015-0137-1.

Schneider, R. (2015): Finanzindustrie im Umbruch: Digitalisierte Services für Versicherungskunden. In: C. Linnhoff-Popien, M. Zaddach, A. Grahl (Hg.): Marktplätze im Umbruch. Digitale Strategien für Services im Mobilen Internet. (Springer) Berlin & Heidelberg, 11-15.

Stange, A. & Reich, N. (2015): Die Zukunft der deutschen Assekuranz: chancenreich und doch ungewiss. In: Zimmermann G. (Hg.): Change Management in Versicherungsunternehmen. (Springer) Wiesbaden, 3-9.

Uni Bremen (2016): Industrie 4.0 – Auswirkungen auf Aus- und Weiterbildung in der M+E Industrie. Eine bayme vbm Studie.
Online: https://www.baymevbm.de/Redaktion/Frei-zugaengliche-Medien/Abteilungen-GS/Bildung/2016/Downloads/baymevbm_Studie_Industrie-4-0.pdf (7.4.2016).

Wissmann, M., Knipper, M., Tillmann, U., Mittelbach, K., Wiechers, R., Genth, S. & Wiener, K. (2016): Die Erwartungen der Wirtschaft für 2016. Zeitgespräch. In: Wirtschaftsdienst 96(1), 7-25. DOI: 10.1007/s10273-016-1920-5.

Further Literature und Documents

Althuntas, M. & Uhl, P. (2015): Industrielle Exzellenz in der Versicherungswirtschaft. Bestimmung der Industrialisierungsreife in einer zunehmend digitalisierten Welt. (Springer Gabler) Wiesbaden. DOI 10.1007/978-3-658-12033-7.

Ambacher, N., Knapp, D. & Jánszky, S. G. (2014): Trendstudie Versicherungen 2020: Kunden, Makler, Changeprozesse. Trendstudie des 2b AHEAD ThinkTanks. Leipzig, veröffentlicht am 14.4.2014.
Online: http://www.2bahead.com/studien/trendstudie/detail/trendstudie-versicherungen-2020/ (15.6.2016).

Bain & Company (Hg.) (2013): Versicherungen: Die digitale Herausforderung, München.
Online: http://www.bain.de/Images/BainBrief_Versicherungen_Die-digitale-Herausforderung_FINAL.pdf (19.5.2016).

BWV (2004a): Zukunftswerkstatt Versicherung - Die Versicherungswirtschaft im Jahr 2010. Ein Szenario aus dem Jahr 2004. Präsentation.

BWV (2004b): Zukunftswerkstatt Versicherung 2004. Dokumentation der Ergebnisse.

BWV (2004c): Zukunftswerkstatt Versicherung 2004. Präsentation.

Diehl, J. (2016): Digitalisierung in der Versicherungswirtschaft. Präsentation an der Fachlehrertagung am 27.4.2016.

Linnhoff-Popien, C., Zaddach, M. & Grahl A. (2015): Marktplätze im Umbruch. Digitale Strategien für Services im Mobilen Internet. (Springer) Berlin & Heidelberg.

Pfeiffer, S., Lee, H., Zirnig, C. & Suphan, A. (2016): Industrie 4.0 – Qualifizierung 2025. (VDMA) Frankfurt am Main.

PwC (2015a): Insurance 2020 & beyond: Necessity is the mother of reinvention. Online: http://www.pwc.com/gx/en/insurance/publications/assets/pwc-insurance-2020-and-beyond.pdf (23.6.2016).

PwC (2015b): Insurance 2020 & beyond: Reaping the dividends of cyber resilience. Online: http://www.pwc.com/gx/en/insurance/publications/assets/reaping-dividends-cyber-resilience.pdf (23.6.2016).

Spatz, G. & Paul, U. (2015a): Die Zukunft der Vermittlerschaft in der digitalisierten Welt - aus Sicht der Versicherungsunternehmen. Einführungsvortrag an der agv Personalleiter Tagung 2015.

Spatz, G. & Paul, U. (2015b): Die Zukunft der Vermittlerschaft in der digitalisierten Welt - aus Sicht der Versicherungsunternehmen. Ergebnisse der Arbeitsgruppe. agv Personalleiter Tagung 2015.

Stettes, O. (2015): Fachkräftesicherung in der digitalisierten Wirtschaft Auswirkungen auf Kompetenzprofile, berufliche Bildung und Personalentwicklung. Präsentation. Institut der deutschen Wirtschaft Köln.

Swiss Re (2014): Digitaler Vertrieb von Versicherungen: Eine stille Revolution. Sigma Nr. 2/2014.

Telekom Shareground (2015): Arbeit 4.0: Megatrends digitaler Arbeit der Zukunft – 25 Thesen. Ergebnisse eines Projekts von Shareground und der Universität St. Gallen. Online: https://www.telekom.com/static/-/285820/1/150902-Studie-St.-Gallen-si (23.6.2016).

Uni St. Gallen (2015): Industrialisierung der Assekuranz in einer digitalen Welt. Herausgegeben vom Institut für Versicherungswirtschaft I.VW-HSG, St. Gallen.

Versicherungsjournal (2016): Digitalisierung erfordert eine gute Außendienst-Organisation. Online: http://www.versicherungsjournal.de/artikel_druckversion.php?Nummer=125367 (7.4.2016).

Vogeno, T. & Czaya, D. (2015a): Digitalisierung im Vertrieb aus Sicht der Vermittler. Einführungsvortrag an der agv Personalleiter Tagung 2015.

Vogeno, T. & Czaya, D. (2015b): Digitalisierung im Vertrieb aus Sicht der Vermittler. Ergebnisse der Arbeitsgruppe. agv Personalleiter Tagung 2015.

Wolter, M. I., Mönnig, A., Hummel, M. u. a. (2015): Industrie 4.0 und die Folgen für Arbeitsmarkt und Wirtschaft Szenario-Rechnungen im Rahmen der BIBB-IAB-Qualifikations- und Berufsfeldprojektionen. IAB Forschungsbericht 8/2015. Online: http://doku.iab.de/forschungsbericht/2015/fb0815.pdf (23.6.2016).

Zimmermann, G. (2015): Change Management in Versicherungsunternehmen. (Springer) Wiesbaden. DOI 10.1007/978-3-658-05974-3. DOI 10.1007/978-3-662-43782-7.

Unpublished document (2011): Handlungsfelder im Beruf Kaufmann/-frau für Versicherungen und Finanzen.