



# DOCTORAL (PhD) DISSERTATION

GERRIET HINRICHS

HUNGARIAN UNIVERSITY OF AGRICULTURE AND  
LIFE SCIENCES

KAPOSVÁR CAMPUS

Institute of Economic Sciences

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HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES  
Kaposvár Campus

Institute of Economic Sciences  
Department of Leadership and Management

Head of the Doctoral (PhD) School  
Prof. Dr. IMRE FERTO DSc

Supervisor  
Dr. GÁBOR SZABÓ-SZENTGRÓTI PhD  
Associate Professor

**Determinants of Retention among Occupational  
Changers: Evidence from Insurance Sales**

Written by  
GERRIET HINRICHS  
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## LIST OF ABBREVIATIONS

AME	Average Marginal Effect
AUC	Area Under ROC Curve
c.p.	ceteris paribus
DOT	Dictionary of Occupational Titles
e.g.	exempli gratia
EQF	European Qualifications Framework
i.e.	id est
ILO	International Labour Organization
ISCO	International Standard Classification of Occupations
KldB	Klassifikation der Berufe
KSA	Knowledge, Skills and Abilities
PRISMA	Preferred Reporting Items for Systematic reviews and Meta-Analyses
Resp.	Respectively
RJP	Realistic Job Previews
ROC	Receiver Operating Characteristic





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# 1 INTRODUCTION

Most employees change their occupation at least once in the course of their working life, as has been seen in the USA (Moscarini & Thomsson, 2007), Germany (Geel & Backes-Gellner, 2011), Britain (Rhein & Trübswetter, 2012), or Switzerland (Müller & Schweri, 2015). The selection of untrained personnel from outside an occupation thus places greater—or at least different—demands on recruiting. On the one hand, there may not be reliable information available about an applicant's relevant experience or cognitive aptitude. On the other hand, the applicant has only a vague idea of the prospective occupation, and standard questions designed to evaluate trained applicants would test and evaluate imagination rather than actual behavior.

Especially in the domain of insurance sales, hiring occupational changers has been common practice, at least in Germany. Here, modern sales has emerged from a professionalization of part-time sales structures, especially among mutual insurance companies. It was not until 2007 that insurance sales in Germany became subject to licensing with the requirement of a certification of competence. The large number of occupational changers—6,807 corresponding examinations (Berufsbildungswerk der Deutschen Versicherungswirtschaft e.V [BWV], 2020) in 2018 compared to 4,480 examinations for vocational trainees (Bundesinstitut für Berufsbildung [BIBB], 2020)—may be a reason for high perceived turnover rates of new salespersons within the first few months. Current employee turnover rates for sales, however, can only be found in gray literature, ranging from 22–44% within one year and 81% over a four-year period; however, these cannot be further discussed here due to insufficient data, documentation, or both.

This dissertation aims to reveal the determinants of success in the case of an occupational change, specifically exemplified by a change into insurance sales. In this study, success is defined as retention after 12 months from the start of employment. Turnover within 12 months will be defined as failure. Factors influencing retention or turnover on the candidate's part, such as personality, occupational interests, human capital, family obligations, and informational prerequisites, are placed within an overall context, and their respective levels of influence are compared.



## 2 LITERATURE REVIEW

To conduct a systematic literature search and analysis, keywords had to first be identified. ECONBIZ was selected as the basic economic database, including the databases ECONIS and RePEc. The search string applied was the following:

*quereinsteiger OR quereinstieg OR “lateral entry” OR “occupational change” OR “vocational change”*

Although the keywords were already broadly defined, the search in the extensive database resulted in only 640 titles. Of these, 146 were duplicates or were not written in English or German. In Stage 1, all papers whose titles were already off-topic were excluded. Furthermore, articles from off-topic journals were excluded. In Stage 2, the abstracts of the papers were evaluated according to their contributions to answering the following questions:

- To what extent is occupational change taking place?
- What are the reasons for occupational change?
- What are the success factors for occupational change?
- Which factors facilitate or hinder occupational changes?

Additional conditions for inclusion took into account were a sample size appropriate to the problem and a clear description of the indices and measures used.

An analysis of the bibliography of the resulting relevant papers led to the inclusion of frequently cited papers. These papers were found by searching the following databases:

- GoogleScholar
- Research Gate

- SCOPUS
- Science Direct
- Emerald Insight
- Wiley Online

The full texts were partly found using Subito e.V., a non-profit document delivery service for scientific libraries from Germany, Austria, and Switzerland.

A framework for the systematization of literature reviews is the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) (Moher et al., 2009). Figure 1 shows the according flow diagram.

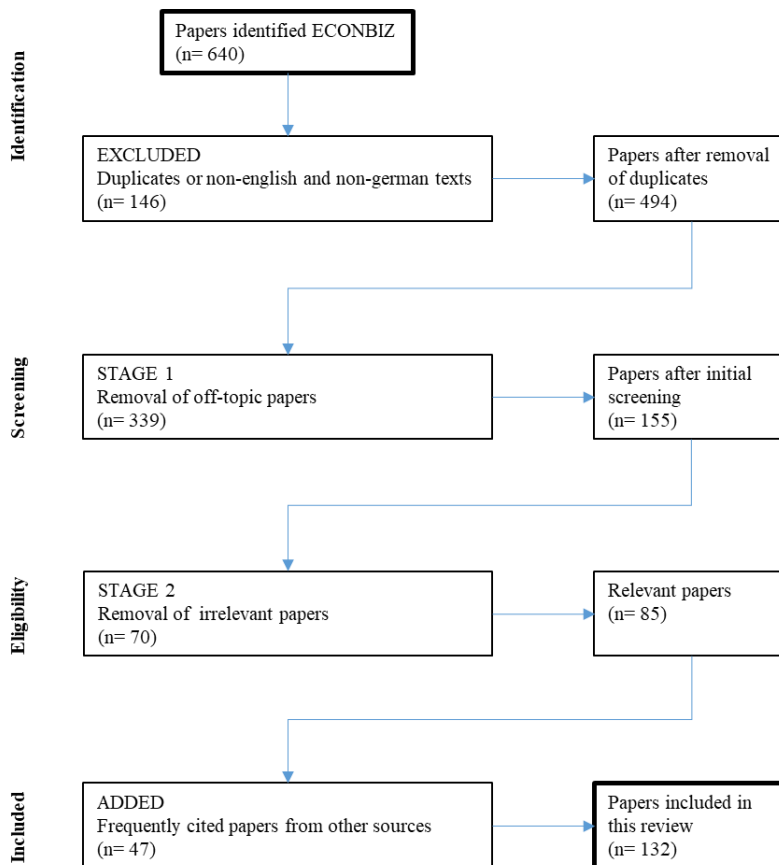


Figure 1: PRISMA flow diagram

### 2.1 Definitions

To understand the success or failure of an occupational change into insurance sales, the fundamental terms, reasons, and success factors must first be examined.

#### 2.1.1 Occupational Terms

What is an occupation? The answer to this question is not only to be found on many levels but is also complicated by terms that are often used synonymously: job, career, occupation, profession, and vocation are the terms most frequently used in research when it comes to analyzing activities for generating income. To provide greater clarity, it is worthwhile to first explore the derivation of these terms.

The term “vocation,” often also referred to as “calling,” is derived from the Latin *vocare*, which means to call. Originally, in the clerical context, clergy were “called” to an official position, but today, the term vocation is used almost exclusively in the context of vocational training (referring to a vocational school, training, or teacher). Dik and Duffy (2009, p. 428) define the term vocation as follows: “*A vocation is an approach to a particular life role that is oriented toward demonstrating or deriving a sense of purpose or meaningfulness and that holds other-oriented values and goals as primary sources of motivation.*” The term vocation thus refers to a life role and can—but does not have to—be an activity to generate income. The decisive factor is meaningfulness in the sense of an activity that benefits the “common good” or at least seems to benefit the individual. The major difference between vocation and the term calling is marked by Dik and Duffy

(2009) in that in vocation, one's designated life role is not necessarily a transcendent summons from an external source.

“Occupation” is derived from the Latin *occupare*, which means “to occupy, to occupy with.” In the active past participle form used, the closest translation is “I have occupied myself (with).” According to this derivation, the word meaning is therefore basically an unemotional engagement with a subject. After an analysis of turnover rates, Miller (1984) identified related jobs and defined different job types as occupations in the sense of sharing a lifelong socioeconomic characteristic and membership in a group. In the socioeconomic context, occupation is also a status variable, which is, today, used as a proxy for the previously dominant variables of “income” and “education” (Hoffmeyer-Zlotnik & Geis, 2003).

The Dictionary of Occupational Titles (DOT) shows a significant amount of information for many kinds of jobs, including the importance of tasks, required skills, knowledge and abilities, tools used, personality of the current workforce, and wages. In recent studies, the DOT has been the basis of factor analyses conducted to identify major occupation groups. By running a factor analysis of DOT information, Robinson (2018) defines an occupation through a characteristic vector of necessary skills, otherwise referred to as a task portfolio. In occupational research, skill is often referred to as an educational qualification due to its high degree of operationalizability (Acemoglu & Autor, 2011). The term occupation, however, goes well beyond a formal qualification. On the supply side, workers are equipped with different knowledge, skills, and abilities (KSA) in different quantities. On the demand side, jobs are defined by activities that require specific KSA. Lazear (2009) calls occupation a proxy for such a certain required skill-

weight. Overall, therefore, the focus of the term occupation is on market-oriented usability.

The term “profession” is derived from the Latin *professio*, which can be translated as “(public) announcement or profession, occupation, field of activity, subject.” One can therefore assume a public announcement of a skillset, abilities, values, or a combination of these. In this context, Heidenreich (1999) emphasized the orientation of professional action to universally valid scientific principles, detached from personal relationships, likes, or dislikes. Cruess et al. (2004, p. 74) defined the complex construct of ‘profession’ very concisely as

“An occupation whose core element is work based upon the mastery of a complex body of knowledge and skills. It is a vocation in which knowledge of some department of science or learning or the practice of an art founded upon it is used in the service of others. Its members are governed by codes of ethics and profess a commitment to competence, integrity and morality, altruism, and the promotion of the public good within their domain. These commitments form the basis of a social contract between a profession and society, which in return grants the profession a monopoly over the use of its knowledge base, the right to considerable autonomy in practice and the privilege of self-regulation. Professions and their members are accountable to those served and to society.”

Therefore, profession not only is the phenotype of a mostly academic professional education with corresponding duties and privileges, but also involves a valid social contract. If this is not given because of lack of recognition, one can no longer speak of profession.

If vocation is to be described as an extreme case of paid employment, the term “job” is the corresponding antithesis (Dostal, 2002). Although often used without reflection, this concept refers to activities which can be learned very quickly in a highly labor-dividing society and which, due to the lack of opportunity to identify with the activity, also serve purely to generate income.

The term “career” comes from the Latin word *carrus*, which means “cart, wagon”. The idea of mobility has been preserved since it usually refers to a sequence of occupational activities of a person. Since it is desirable to be able to plan, according to Coupland (2004), but not concretely possible (Mitchell et al., 1999), this term must be understood as retrospective in examining work history. In the context of change, this term was introduced with a corresponding model by Rhodes and Doering (1983) and has been used, in particular, in the *Journal of Vocational Behavior*, which published this model, as well as in a few other journals that address psychology. One reason for this may be that many approaches to personnel assessment and selection have resulted from collaboration between psychological research and public service, particularly the military, due to the availability of data and very high response rates. However, such predictability in career paths is not transferable to the private sector.

In summary, the term vocation is defined by an affective connection between individuals and their work; the term occupation is defined by the existence of certain competencies, membership in a category of workers, and a clear market orientation; and the term profession describes a professional group that is not only highly specialized but also receives special prestige and trust due to a self-

imposed obligation recognized by society. The terms job and career each constitute rather simplistic descriptions of one dimension of paid work.

Due to the market-oriented approach of this dissertation, I refer to the term occupation in the following sections.

### **2.1.2 Occupational Change**

From the previous section, it can be deduced that research on occupations can only succeed if there is a unified understanding of the term. This is also the case for the term “occupational change”. It therefore makes sense to first gain an overview of the most common perceptions of occupational change.

The largest share of literature referring to “occupational change” in economics refers to macroeconomic developments that have a background in labor market or education policy. Occupational change is understood here as “occupational shift” or “occupational mobility” in the employment figures of occupational groups, such as in the study by Rhein et al. (2013). Rhein and Trübswetter (2012, p. 654) define gross mobility as “the number of occupational movers as a percentage of all persons working in two consecutive years”. They additionally define net mobility as “flows between occupations that do not cancel each other out” (Rhein & Trübswetter, 2012, p. 655). In a similar way to other studies, Oesch (2013) understands occupational change as a progressive labor market segmentation into a labor market for high-skilled and low-skilled workers. Acemoglu (2001) calls this somewhat more striking “good jobs”/“high road” or “bad jobs”/“low road,” concerning wage-, skill- and productivity-level. Hardy et al. (2018) found a growing intensity of non-routine cognitive tasks accompanied by a decline in the intensity of manual tasks in 24 European countries. A distinction is also

made between intergenerational mobility, a change in occupational groups caused by a change of generation, and intragenerational mobility, in which individuals change occupations during their working lives (Oesch, 2013).

At the micro level, the actual mobility and the effects of occupational mobility on individual employees are examined. For this purpose, a classification of occupations is first needed. Since there is an almost unmanageable number of classifications depending on country and purpose, I provide only an overview of the most commonly used categories that demonstrate the greatest relevance to the topic of this dissertation.

As an agency of the United Nations, the International Labour Organization (ILO) has developed the International Standard Classification of Occupations (ISCO), the current form of which is referred to as ISCO-08. The aim of this classification is to make international labor market research, in particular, comparable. Based on the required skill levels of the International Standard Classification of Education (ISCED), occupations are initially classified into Major Groups 2 to 8 (first digit). The major groups can be found in Table 1. Groups 0 and 1 are not directly linked to a skill level. Then, based on the degree of skill specialization, a sub-major group (43, second digit), a minor group (130, third digit), and a unit group (435, fourth digit) are assigned.



## 2 LITERATURE REVIEW

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Table 1: ISCO-08 major groups defined by ILO

1	Managers
2	Professional
3	Technicians and associate professionals
4	Clerical support workers
5	Service and sales workers
6	Skilled agricultural, forestry and fishery workers
7	Craft and related trades workers
8	Plant and machine operators, and assemblers
9	Elementary occupations
0	Armed forces occupations

Longhi and Taylor (2013) used the UK-specific SOC2000, which is a four-digit classification with nine major groups, leaving armed forces on the outside. The basic order is again an assumed skill level, ranked from 9 to 1. Since this classification was compiled by the Office for National Statistics (GB), the coding for the occupational group “senior officials in national government” with 1111 does not lack a certain sense of humor.

German studies have generally used the Classification of Occupations (KldB), currently employing version KldB 2010 in a revision from 2020. This is necessary because of the diversity of vocational training and qualification forms in Germany—in particular, dual vocational training and official further education certificates, which are difficult or impossible to represent using the ISCO system (Bundesagentur für Arbeit, 2021). Unlike ISCO, this classification is not based on skill levels but on the similarity of activities. The first four levels of this classification reflect this similarity. Only the fifth and final level is classified according to the skill level. An overview of the first level, occupational areas, can be seen in Table 2.

Table 2: Occupational areas of KldB 2010, version from 2020

1	Agriculture, forestry, animal husbandry and horticulture
2	Raw material extraction, production, and manufacturing
3	Construction, architecture, surveying and building services engineering
4	Natural science, geography, and computer science
5	Transport, logistics, protection, and security
6	Commercial services, goods trade, distribution, hotel, and tourism
7	Business organization, accounting, law, and administration
8	Health, social affairs, teaching and education
9	Linguistics, literature, humanities, social and economic sciences, media, art, culture, and design
0	Armed forces

The question of the point at which a change in the occupational classification of an employment biography is to be considered an occupational change has been answered differently in the literature. McCall (1990) defines a change in the one-digit ISCO code as occupational change because he considers a three-digit difference to be a “stepping stone” change (i.e., a normal career path). Sicherman and Galor (1990) use the terms “occupational mobility” and “job transition” to define changes of occupation or firm. Their regressions are based on two-digit ISCO codes. Neal (1999) combines two approaches and only assumes a real occupational change if both the three-digit occupational code according to ISCO and the one-digit industrial code have changed. Pavan (2011) loosens this method somewhat by measuring a three-digit change in both indices. The advantage of this approach is that normal career jumps within an occupation are not mistakenly evaluated as occupation change and the tolerance for coding errors is greater. Parrado et al. (2007) use both the one-digit ISCO-68 code and the three-digit ISCO-08 code as benchmarks for occupational change. The differences in the results are limited. Moscarini and Thompson (2007) indicate a

large systematic overestimation of occupational change rates in the exclusive use of three-digit ISCO codes and speak here of “job-to-job transitions” or “employer-to-employer-transitions” as Burdett (1978) already did. Hess et al. (2012) delimit employer change and “career change” in such a way that some organizational or occupational boundaries that were addressed may or may not have been abandoned. Velling and Bender (1994) distinguish between “job mobility” and “occupational mobility” but do not require a change of employer for the latter. Accordingly, career development has also been considered occupational mobility here even though the occupational framework has not been abandoned in principle.

In addition to industry and occupation codes, Poletaev and Robinson (2008) used the deviation of skillsets according to DOT codes for their research on occupational change. Accordingly, they differentiated between industrial, occupational, and skill portfolio switches. The latter factor dominates their regressions. Slay Ferraro et al. (2018) speak of occupational change and “career transition” when asking workers to change their “field of career”.

In psychology, it is more popular to ask individuals directly about a perceived occupational change. For example, Carless and Arnup (2011) use the term “career change,” which, however, again leads to a susceptibility to errors in terms of selectivity for promotion. In the method of direct questioning of employees, Sala and Lynn (2006, p. 507) see the problem that “the more difficult it is to describe a particular characteristic of a job, the more likely it is that it will be described inconsistently in two survey interviews some time apart”.

Matthes et al. (2008) consider any research based on ISCO or the German Classification of Occupations (KldB) to be open to

criticism, as the actual mobility between occupations has not been sufficiently considered and small changes or even promotions could thus lead to a classification in another code group on a one-digit level. They therefore develop so-called job segments with the help of a similarity matrix, which is also based on completed occupational changes. With potential and realized mobility, segmentation of the three-digit KldB-88 creates almost twice the selectivity of the two-digit level.

Additionally, (2007) question, in particular, the use of three-digit codes, whether ISCO or industry codes, as manual coding by different employees would likely be very inconsistent. In addition, the exclusive use of ISCO codes leads to an overestimation in occupational change figures, as 40% of the cases coded as occupational change in their extensive study do not involve a change of employer and one-third of the cases do not report a changed activity.

All in all, it can be seen that not only do official classifications have to be regularly adapted to occupational reality, but also the optimal structure for establishing such classification has not yet been found. This has also resulted in an unsatisfactory, discriminatory power in the recognition of real occupational changes.

### **2.1.3 The Occupation of an Insurance Salesperson**

In this dissertation, I examine the success factors in an occupational change using the occupation of insurance agent as an example. Insurance sales is a nearly 200-year-old occupation that hardly anyone knows objectively, but which has been burdened with many prejudices (N. Lee et al., 2007). First, therefore, it must be clarified what the occupation of insurance agent constitutes. Information on this can be found on official websites in Germany as well as in the USA. The

occupation of insurance sales agent is assigned the code 3321 (insurance sales agent) in ISCO-08 in Major Group 3 (Technicians and Associate Professionals), Sub-Major Group 33 (Business and Administration Associate Professionals), and Minor Group 332 (Sales and Purchasing Agents and Brokers). This coding is already an improvement compared to ISCO-88, in which this occupation was still to be found under several different categories. However, confusion has arisen from the fact that this occupation cannot be found in Major Group 5 (Services and Sales Workers) and, if the agent operates an office, code 1346 (Financial and Insurance Services Branch Managers) can also be assigned, as the activity is largely the same. The German labor office's website (BERUFENET, 2021) presents the tasks and activities of an insurance salesperson, as denoted in Table 3, under the occupational code 6864 and the classification number 72132-108.

Table 3: Tasks of an insurance salesperson according to (BERUFENET 2021)

Tasks	Activity
<u>Inform and advise</u>	customers about pension options and insurance products <ul style="list-style-type: none"> <li>• Identify needs and gaps in coverage</li> <li>• Examine risks</li> <li>• Present insurance products</li> <li>• Plan customer-oriented pension options and insurance solutions</li> </ul>
<u>Process</u>	offers and contracts for insurance and pension options <ul style="list-style-type: none"> <li>• Provide quotes for insurance products</li> <li>• Arrange and close contracts for insurance and pension plans</li> <li>• Capture insurance proposals</li> </ul>
<u>Determine</u>	payment of insurance coverage, process compensation for policyholders
<u>Sell</u>	additional asset and investment products as well as real estate, if applicable
<u>Serve</u>	customer base, <u>acquire</u> new customers

Accordingly, the main task of an insurance sales agent is to advise customers by analyzing their insurance situation and coverage needs as well as to cover or handle these needs. Interestingly, the occupation is not listed under the main group of sales (these begin with a 6), but under business organization, accounting, law, and administration. This could also be a reason why the focus in the description of the occupation is on consulting and administration, and actual sales are presented as a minor matter. The Occupational Information Network of the U.S. Department of Labor (National Center for O\*NET Development, 2021) is a system for classifying occupational skills and requirements as well as describing occupations (N. G. Peterson et al., 2001). Occupation ID 41-3021.00 describes the eight most common tasks of an insurance salesperson, as can be noted in Table 4.

Table 4: Tasks of an insurance salesperson according to (O\*NET 2021)

<b>Task</b>	<b>Details</b>
<i>Customize</i>	insurance programs to suit individual customers, often covering a variety of risks
<i>Sell</i>	various types of insurance policies to businesses and individuals
<i>Explain</i>	features, advantages, and disadvantages of various policies to promote sales
<i>Perform</i>	administrative tasks, such as maintaining records and handling policy renewals
<i>Seek out</i>	new clients and develop clientele by networking to find new customers
<i>Call on</i>	policyholders to deliver and explain policy, to analyze insurance program and suggest additions or changes, or to change beneficiaries
<i>Confer</i>	with clients to obtain and provide information when claims are made on a policy
<i>Interview</i>	prospective clients to obtain data about their financial resources and needs, the physical condition of the person or property to be insured, and to discuss any existing coverage

Here, too, the focus is on advising customers and adapting insurance products to their needs. However, the importance of the factor of sales has also become clear here, which can be reflected in the points “sell,” “seek out,” and “call on.” Additionally, science fortunately deals with occupations in sales. Moncrief et al. (2006) found 12 factors from which a sales job is composed by questioning salespeople about 105 activities. Table 5 shows these factors in descending complexity.

Table 5: Tasks of a salesperson according to Moncrief et al. (2006)

Factor	Tasks
1 Relationship selling	Build trust, “Read the customer,” close the sale, plan and call
2 Promotion and Sales Service	Advertising, familiar with product, handle passive orders
3 Entertain customers	Invite customers into a relaxed environment
4 Prospecting	Call on potential accounts, acquire new customers
5 Computer	Apply latest technology, use databases, create presentations
6 Travel	Spend nights on the road, travel out of town
7 Training / Recruiting	Recruit and train new sales representatives
8 Delivery	Deliver products or samples (esp. in retail and wholesale)
9 Product Support	Check functions of products for customers and adjust if necessary
10 Educational Activities	Gain further education, attend meetings and trainings
11 Office	Generate reports, conduct general correspondence
12 Channel support	Establish relationships with distributors, train middlemen

Hain et al. (2019) recently conducted a similar factor analysis on this basis with 161 activities and defined only six factors. However, the previously performed qualitative analysis to determine the activities led to some less concrete expressions. Furthermore, the aggregation of the activities to only six factors results in generic terms, which may seem

difficult to summarize for a practitioner. For example, the first factor consists of the activities “maintain marketing displays” as well as “train new sales reps,” with similar factor loadings. These are activities, which only with a lot of good will show a commonality.

Using the example of a life insurance agent, Duska (2005) states that it is the task of an insurance professional to educate and persuade people that their families or others need some security in case of premature death. Referring to the requirements for the professionalization of this occupation formulated in 1915 by Solomon Huebner, formerly dean of the American College of Life Underwriters, Duska also mentioned the requirement of expert knowledge for the salesperson. Expert knowledge should offer the customer clear added value, especially in the form of its up-to-dateness. By focusing completely on customer benefits, the “strictly selfish commercial view” (Duska, 2005, p. 48) should be abandoned, and loyalty should also be shown to competitors as part of the same industry. The positive correlation between product and procedural knowledge for sales success was demonstrated by Leigh et al. (2014) and Mariadoss et al. (2014). Jasmand et al. (2012) showed that ambidextrous behavior in the sense of a balanced relationship between service and sales comes at the expense of efficiency but has an overall positive effect on performance. Long-term success is usually the result of a good customer relationship. Dominique-Ferreira (2018) demonstrated the immense influence of the insurance intermediary on a customer’s decision-making process when purchasing insurance. Che et al. (2018) illustrated that the strength of the tie between a salesperson and a customer has a positive effect of on both sales effectiveness and sales revenue. This tie is mediated by the amount of information the seller has about the customer, the degree of



persuasiveness, and the network benefits resulting from this kind of commercial friendship. Boles et al. (2000) have already proven in the context of relationship selling that interaction intensity and mutual disclosure of seller and buyer were decisive for sales performance with a sample of 487 insurance salespeople. Thus, if salespeople succeed in changing the general perception of their activities as occupations to a perception of a profession through their relationships with their customers, it can also be financially rewarding for the salespeople themselves. Bergeron and Vachon (2008) even found that the sense of humor of a financial advisor can have a positive effect on the customer's perceived satisfaction, purchase intentions, and willingness to recommend. In addition to the activities shown in Tables 3 to 5, the scientific analysis by Moncrief et al. (2006) reveals that the use of the latest technology and thus new forms of communication are of great importance. Since sales is a critical component of any company's success (Williams et al., 2009), salesforces have always been equipped with new technology very early on—if not first—for reasons of efficiency. Christ and Anderson (2011) indicated that creative early adoption of the latest technology and adaptations to selling have been the essence of the sales occupation since the 1850s. The reason for this is not only a more efficient way of working but also the creation of value for customers through conducting a better analysis of their needs, better presentation of information, or simplified buying processes (Singh et al., 2019).

Now that the elementary contents of the occupation of the insurance agent have been presented, the definitional part of this dissertation can be concluded. The following section, after clarifying the

relevance of the topic of occupational change, summarizes the current state of research on the reasons why individuals change their occupation.

## **2.2 General Reasons for Occupational Change**

Is occupational change a relevant topic at all? Depending on one's interpretation of occupational change, there are different numbers: In a cohort study, Parrado et al. (2007) found an increase in the mobility frequency both at the occupational level and at the industrial level from 1969–1993. After analyzing a Swiss employment panel, Müller and Schweri (2015) showed that directly after apprenticeship training, only 51% of the trainees stayed in their occupation as well as in their company, while 42% changed employers within the occupation, and 7% changed employers as well as two-digit occupation. In a representative German panel used by Geel and Backes-Gellner (2011), 58% had an occupational change background (defined by the training occupation as a reference), 21% within a skill cluster, and 37% outside a skill cluster. According to the study by Franz and Zimmermann (1999) in Germany, the branches of industry with the highest turnover probability or hazard rate after initial vocational training included handicrafts and trade. After five years, only 32% and 37%, respectively, were still in these occupations. Moscarini and Thomsson (2007) determined that in the USA, 3.5% of all workers change jobs at a three-digit ISCO level per month. Poletaev and Robinson (2008) compared the number of occupational changes when using different codes in the period 1984–2000. While 64% changed occupations when using a three-digit industry code, 67.8% changed occupations when using three-digit ISCO code, 49.22% changed occupations when aggregating three-digit ISCO code

to 13 groups, and “only” 39.59% changed occupations when taking their four simple factors, headwork or handiwork, as a basis. Furthermore, there are large differences in the mobility rates of states. For example, according to Rhein and Trübswetter (2012), three times as much gross mobility is found in Britain as in Germany. Rhein et al. (2013) largely attributed these considerable differences in mobility rates to different levels of unemployment protection. The less frequently an involuntary occupational change occurs, the longer a phase of unemployment can be endured. Recent data from Germany, based on a representative survey of 6,555 persons with vocational training, showed that only 25.7% still work in their original occupation (Hall et al., 2020). While 34% are working in an occupation related to their trained occupation, 40.3% have completely changed their occupation. It is therefore evident that occupational change should not be regarded as a trivial issue. The following section explores a variety of approaches to understanding why occupational change takes place.

### **2.2.1 Macroeconomic Arguments**

In macroeconomics, the phenomenon of occupational mobility has been examined in the context of the economic cycle. In a comprehensive, good, and relatively uncited paper for its contributing authors, Akerlof et al. (1988) developed the concept of a vacancy chain. A thick labor market where many jobs are available would lead to better matches between workers and jobs. In this situation, workers would be in a position to improve the fit between their needs and the pecuniary as well as nonpecuniary rewards of certain jobs through occupational change. If a new job is created and this position is occupied by a worker who was previously employed, a chain of vacancies then takes place until the last

is filled by an unemployed worker. This is why Akerlof et al. (1988) state that job switching enhances welfare to a larger extent. In times of high unemployment, occupational mobility declines even with mismatches because of rising search costs for rare better jobs and a short vacancy chain due to high probability of recruiting an unemployed worker and thus completing the chain faster. Thus, they proved that occupational change is procyclic. This has been confirmed several times, including in studies by Mortensen (1994), Moscarini and Thomsson (2007) and Shimer (2005). Pissaridēs (1994) emphasized the two-tier labor market in the context of procyclicality of job-to-job movements since the jobs created during a boom in the higher segment tend to be filled by employees in the lower segment. In line with this, Carrillo-Tudela et al. (2016) found a decrease in occupational change during recessions. Roosaar et al. (2014) added to these findings that education is positively related to occupational mobility during recessions.

### **2.2.2 Skill Approaches**

Education and its corresponding productivity, however, also affect the probability of an occupational change regardless of the economic cycle. In principle, “skills” and “tasks” face each other on the labor market. Do different skill levels affect the frequency of changing one’s occupation? A general connection between cognitive ability and occupational change could not be confirmed in a meta-analysis by Griffeth et al. (2000). However, they found a link between effectiveness and turnover, making a clear statement: “High performers are less likely to quit than low performers” (Griffeth et al., 2000, p. 480). Nevertheless, they immediately restricted this statement. A condition for the probability of

lower turnover is a reward system that also compensates for high performance. If this is not available, the probability of turnover taking place would likely increase above the level of the low performers. Skuterud (2005) found, however, a significantly higher probability of job searching, the higher the educational attainment is. The results of Yamaguchi (2007) showed that search can be broader since the better the level of education, the greater the occupational distance of an occupational change tends to be.

According to Sicherman and Galor (1990), an investment in human capital by the individual is followed by an expectation of either receiving a higher wage or being promoted. They found that employees with a higher probability of promotion (according to education, ability and experience) were therefore more likely to change companies for this reason (e.g., because their expectations were not fulfilled).

In the “Stepping Stone” model by Jovanovic (1997), experience in certain tasks builds skills that are partially transferable to other occupations. Occupations, where information about how a task must be performed overlap, form a ladder. According to the model, the transition is from simple, unrisky jobs for employees and employers to more complex occupations with increasing financial variance in output, again for both employees and employers. Occupational changes are thus planned, meaningful career steps in the sense of a selection process in which both sides learn from each other step by step and thus minimize the financial risk of a mismatch. This is supported by the results of Bublitz (2018) on “occupational intensity” (see Chapter 2.2.3) and Yamaguchi (2007).

The Stepping Stone model emerged from the “Bandit” model (Johnson, 1978), which postulates exactly the opposite: Younger or

inexperienced entrants in the labor market would first choose risky jobs and then, through trial and error, find themselves in safe and stable occupations for the long term. Additionally, Miller (1984) recognizes in a transition matrix rather an “experimenting” from insecure to safe occupations. Jovanovic (1997), nevertheless, offered the possibility of making both models sequentially compatible with each other. Lazear (2009) and Yamaguchi (2010) considered the topic of “skills” but from the demand side: Wages are determined not only by the characteristics of an individual, but particularly by the skill requirements of the occupation, by which occupations can be horizontally differentiated. Individuals, in turn, choose or change professions according to their comparative advantages. Because “cognitive skill-intensive occupations offer higher returns to educated and experienced individuals” (Yamaguchi, 2010, p. 688), the corresponding (higher) wage structure sorts employees vertically into occupations with different skill requirements. The results of Nedelkoska and Neffke (2010) were consistent with this finding, showing that individuals minimize the amount of excess or absent human capital in the case of occupational change. Fedorets (2011) also found the strongest explanatory power for occupational change’s wage effects in the distance between task and skill composition. Gathmann and Schönberg (2010) applied Lazear’s skill-weights approach to three task groups to measure the transferability of human capital: analytical, manual, and interactive tasks. They showed that most occupational changes have a small distance in task composition and that the distance of the changes decreases over time within the current occupation. Geel and Backes-Gellner (2011) clustered the skill-weights of 71 occupations (KldB 1990) and found six groups of comparable skillsets, calling them labor market segments. They

proved a wage surplus in the case of an occupational change within a skill cluster and a wage discount when changing between two clusters. The general specificity of the individuals' skillsets is decisive for the probability and even the possibility of changing within or between clusters: The more specific the skillset of an apprenticeship, the more likely it is that an occupational change will take place within the skill cluster rather than outside it. A wage increase of 6.8% shows that a former investment in human capital is by no means lost in the event of a change within the cluster, but is possibly even optimized for fixed effects. On the other hand, a very specific skillset may be destroyed by a change of cluster, causing these individuals to become trapped within their occupation. This raises the question of whether expert knowledge may lead to a situation in which pleasant working conditions do not lead to occupational change. In this context, Fitzenberger and Spitz-Oener (2004) showed that the wage effect is more pronounced if a training occupation is taken as the basis instead of the previously exercised occupation. Accordingly, one can assume adjustments if the choice of the training occupation was not optimal. Nedelkoska (2010) found that the more explicit or codifiable (explainable) the task, the higher the risk of turnover. The more cognitive tasks to be performed, the lower the risk of turnover.

Acemoglu and Autor (2011) extended the canonical model, in which two skill-groups (college degree or not) were confronted with two imperfectly substitutable occupations with further factors and determined that the allocation from skills to tasks took place endogenously through the comparative advantages of the individuals. Since tasks are often subject to volatile market prices (e.g., due to technology), workers with a comparatively advantageous skill vector

tend to switch to a task with higher prices. According to Acemoglu (2001), minimum wage creates efficiency pressure, which, through the introduction of new technologies, can also change the market prices of tasks, which are not actually affected by minimum wage. This, in turn, leads to higher occupational change and welfare.

The influence of transferability of skills on occupational change in the context of age has already been investigated by Shaw, who found that “a 25% increase in skill transferability will increase occupational change for a young man of 29 by 11%, while increasing the probability of change for a 40 year old man by about 23%” (Shaw, 1987, p. 712). Bublitz (2018) showed that in the employing company, a larger group of employees in the same occupational group is advantageous when forming one’s own skill vector. A change to another company or industry would then lead to a higher uniqueness for one’s own skill vector, which can justify a higher salary, as more knowledge can be transferred.

### **2.2.3 Tenure and Organizational Factors**

Thus, does a match between a worker’s skillset and the tasks required for an occupation create conditions for retention, or could the match to a specific company also be a reason? Additionally, at what point is a mismatch revealed as such? Pavan (2011) developed a model with an effective graphical display to explain occupational change depending on firm match and occupation match (which he refers to as “career”). Occupational match is therefore much more decisive in the probability of an occupational change than firm match. This was also reflected in the figures for the effect of firm and career tenure on the probability of occupational change taking place: In contrast to career tenure, firm



tenure is almost irrelevant. Furthermore, Bublitz (2018) found that a good occupational match is twice as important as a good firm match. Jovanovic (1979) had previously discovered that the probability of an occupational change can at least partly be explained by tenure. If workers can only determine how suitable they are for an occupation through experience in that occupation (i.e., ex post), then the hazard rate (i.e. the probability of a renewed change) must decrease with increasing tenure since after some time, no new negative information should emerge. A change, therefore, makes a renewed change more probable since the value of tenure is set to 0. At the same time, however, the match may have improved, thus leading to an increase in efficiency in the overall labor market. Stevens (2003) used a supply function of wages to demonstrate that tenure can only be wage-increasing and thus binding for the employee if company-specific human capital is present in the worker. A general wage advantage of tenure would be considerably lower if the “job match” factor, which can only be observed by the employer and not by the employee, was used as a moderator.

Tenure is strongly moderated by employee age according to the results of Griffeth et al. (2000), which is why tenure-turnover correlation may be slightly overrated. Carless and Arnup (2011), on the other hand, find both factors negatively correlated and significant at the 1% level when age and logarithmized occupational tenure were analyzed. However, the coefficient of age was negligible, and occupational tenure was the second best predictor of occupational change in their model. According to Lazear (2009), with tenure, the skillset of the worker adapts more and more to the company or occupation and thus becomes more and more specific. The employee’s investment decision can be described as follows: Whoever wants to leave the company creates a

broader skillset, while whoever wants to stay invests in very idiosyncratic skillsets. According to the Fedorets (2011) study, investment in human capital is a condition for wage increases, even without occupational change: Since the contents of occupations (task composition) are time-variant, skill adjustment must actively take place, and an increase in productivity through routine cannot be expected in the long term. Fedorets empirically proved that the more the occupation has changed over time, the greater wage increases may be. From this, it can be deduced that an omitted investment can lead to a better match after occupational change.

On the other hand, there are companies and industries that have an interest in employee retention and thus the tenure of qualified employees. In a study by Göggel and Zwick (2009), the mobility of apprentices in different occupational groups was investigated. They found that industrial companies impart a very specific skillset and thus hinder mobility, while also offering optimal working conditions, which makes a change of occupation unattractive. Bublit (2018) developed the concept of “occupational intensity,” in which companies have varying degrees of diversification in occupations they employ. People start their career in companies that have a relatively high occupational intensity (i.e., with a high proportion of employees in the same occupational group). Over the course of their career, however, this occupational intensity of the employing companies demonstrably decreases, which, in turn, has the effect of increasing salary and suggests an increase in responsibility. According to Velling and Bender (1994), the greater the size of the employing firm, the lower the risk of unemployment. This may be the reason why the probability of a worker

undergoing an occupational change decreases with the size of the employing company.

### **2.2.4 Job Satisfaction**

“I changed my job because I was not satisfied”. A sentiment such as this one can easily be imagined. Although the term “job satisfaction” is certainly difficult to quantify objectively, there is plenty of literature on this subject. In a meta-analysis, Griffeth et al. (2000) observed a correlation between job satisfaction and turnover of  $-0.19$ . Boswell et al. (2006) linked a higher level of job satisfaction to the voluntary condition of an occupational change. They also showed that a certain degree of dissatisfaction in a job increased the probability of an occupational change. The longer the dissatisfaction phase in a previous job lasted, the more job satisfaction increased with a job change. Carless and Arnup (2011) confirmed Boswell et al.’s hypothesis that an additional occupational change raises the job satisfaction to a higher level than a previous occupational change. Boswell et al. (2006) demonstrated a “honeymoon-hangover effect”, according to which an increase in job satisfaction is followed by a disillusionment after an occupational change. Zhou et al. (2017) built upon this study and demonstrated that both honeymoon and hangover effects are higher in an occupational change than in an employer change. They proved that after six years, intrinsic satisfaction after an occupational change can even be below the previous level of satisfaction, while in the case of pure employer changes, the original level of satisfaction would not be undercut. The values of extrinsic satisfaction (wages), however, are higher for those who undergo occupational changes. From this, one can already deduce

that information asymmetries regarding occupations are likely to have a decisive influence on the hangover effect.

Bui (2017) investigated the interaction between job satisfaction and the Big5 personality traits and found a significant positive correlation between agreeableness and conscientiousness as well as a significant negative correlation between neuroticism and openness. Extraversion was not significant in this study. Openness, however, according to Carless and Arnup (2011), was a strong and highly significant predictor for occupational change.

### **2.2.5 Wage**

When writing about reasons for and consequences of an occupational change, it is essential not to overlook the salary component. Although Jovanovic (1979) argued that assuming a functioning market, wages would not necessarily be determined by output, in economics, wage dynamics as a result of an occupational change are regularly examined. In the previous section, arguments against a purely monetary motivated occupational change have already been summarized. However, Parrado et al. (2007) demonstrated that people with higher wages have a significant lower probability of changing occupations than people with lower wages.

Furthermore, Pavan (2011) found that by far the strongest reason for an occupational change was wages. Yamaguchi (2007) proved the significance of wages for cognitive skill-intensive jobs: According to her study, a higher wage outweighed the disutility individuals drew from these jobs. Fedorets (2016) confirmed higher wages for non-routine cognitive occupations. How carefully and precisely variables have to be used, added, and read was illustrated in Parrado et al. (2007): For men

and women alike, there was significantly higher growth in hourly wages for those who underwent occupational changes than for those who stayed. At the same time, they found a negative effect on monthly wages for men who change occupations.

Skuterud (2005, p. 10) found evidence that “workers paid on an hourly basis are significantly more likely to be searching, while union members appear, if anything, only marginally less likely to search”. Furthermore, the desire to work more hours significantly increases the likelihood of looking for a new job. However, part-time employees were also included in this study, which makes the study’s transferability to full-time employment somewhat difficult.

However, there is also a number of researchers who have proven that an occupational change often has a also negative effect on salary. Bublitz (2018) stated unambiguously that the occupational distance of a move decreases the current wage. Poletaev and Robinson (2008) calculated wage losses by occupational change using industry code, ISCO, and their own skill vector of 9–16%. Here, however, it must be taken into account that dismissed workers were examined, and workers who did not undergo an occupational change also suffered a risk loss of 4.7–6%. Thus, one can assume that this finding applies to a selection of workers determined for this study. Kambourov and Manovskii (2009) also researched occupational change of displaced workers and found a positive tenure effect of 12% in the wages of those who stayed within their occupation. Industry tenure has little effect on payment. Lazear (2009) theoretically deduced that a change from a large to a small firm would produce a large wage loss, while a change from a small to a large firm would produce only a small wage loss.

According to Gibbons and Katz (1991), asymmetric information was the reason for a wage reduction due to occupational changes that do not correspond to productivity. These asymmetries were significant and large in their switch-industry dummy, but would diminish over time. Dummy variables indicate the state of a categorical variable with the values 1 (characteristic is present) and 0 (characteristic is not present). Yamaguchi (2010) found substantially large occupation entry costs in the form of disutility (wages, time, stress), which need to be raised in order to take on a more demanding occupation. Lazear (2009) postulated that a possible risk loss in an involuntary occupational change in a thin labor market may be due to the fact that workers accept employment where skillset requirements are met but where the full potential of the human capital may not be exploited. In a good (thick, low search cost) market, workers can choose offers that best fit their previous investment strategy. Additionally, Bougheas and Georgellis (2004) proved an initial wage loss and showed that incomes after a change, however, have a higher growth rate than that of those that remain within the same occupation. They attributed this to increased experience, which cannot be achieved to the same extent without a change of employer due to occupation specificity. Wiederhold et al. (2013) investigated occupational changes of displaced workers, finding that after their dismissal, workers who switched to other occupations for which they were actually underqualified eventually compensated for the loss of wages in the short term and even increased their wages in the long term through that occupational change. On the other hand, workers who changed to an occupation for which they were actually overqualified had an average wage loss of 4.6%, which is still considerably less than those remaining in the same occupation who experience a 15% wage loss.

Occupational change is therefore also advantageous in occupations that are supposedly below one's own level.

### **2.2.6 Discussion About Voluntariness**

Especially in the context of displaced workers, the question of whether an occupational change is voluntary or forced by financial necessities has been repeatedly raised. In an early work, Burdett (1978), mainly addressing wages, demonstrated that unemployed workers accept a job if the wage is near a lower bound, a kind of reservation wage. An employed worker will only accept another job if the conditions are better than the current one. Thus, no one is forced to change occupations. Acemoglu (2001) found evidence that with the existence of unemployment insurance, employees are less quickly driven into bad jobs and can therefore wait longer for good jobs. This reinforces the voluntary nature of an occupational change. Carrillo-Tudela et al. (2016) utilized data from the UK to illustrate that upward movements in skill level are rather voluntary, while downward mobility generally occurs after spells of unemployment. Robinson (2018) determined that while general mobility has neutral or mildly positive effects on human capital and wages, wage losses occur in cases of involuntary occupation change; the higher the distance of required skills between old and new occupations and the resulting loss of specific human capital. According to Velling and Bender (1994), the probability of an occupational change increases the longer a phase of unemployment or the higher the risk of unemployment is. Longhi and Taylor (2013) used SOC2000 codes and determined that unemployed people have a 4.4% higher probability of making a major change in their working situation than employed workers. However, they did not find a difference in the minor changes.

In their observation of a vacancy chain, Akerlof et al. (1988) explained that the vast majority of occupational changes are voluntary. The study by Longhi and Brynin (2010) also supported the voluntary nature of occupational change, as person-specific factors, such as “ability” and “motivation” as proxies, tend to be more decisive for occupational change than changes in the labor market.

Sicherman and Galor (1990) distinguished between intra-firm and inter-firm mobility. Intra-firm mobility tends to be a decision of the employer, which is often a function of the employee’s education, ability, and experience. Inter-firm mobility tends to be the decision of an employee with the goal of optimizing expected lifetime earnings. Influential factors in this case here are investments in human capital and optimal quitting time. If this model is further considered, unemployment itself is not a reason for occupational change, but only a decision of the employee, so inter-firm mobility and occupational change remains a voluntary decision. Using a time-analysis and a measurement of organizational distances, Bublitx (2018) discovered a decline in firm distances in cases of occupational change coinciding with the rising experience of workers. There was, however, an exception between the second and the fourth years of one’s career, where distances tend to increase. One reason for this could be fixed-term employment contracts, which eventually lead to involuntary occupational change.

Wachter and Bender (2006) have accused previous studies about the income effects of occupational change of not distinguishing between voluntary and involuntary occupational changes, which, in their view, explains why the figures of these studies are heavily biased. Adverse selection and initial sorting led to overestimation of income losses in occupational change. Although many of these studies demonstrated a



sorting process of high and low ability workers into large and small companies as well as into sectors with high and low fluctuation rates, they unfortunately did not include figures on voluntariness.

It turns out that depending on the perspective, there are arguments in favor of voluntariness as well as, in part, in favor of forcedness. In my view, the arguments in favor of voluntary occupational changes predominate, especially at higher skill levels, while financial necessities often seem to be the decisive factor at lower skill levels.

### **2.3 Success Factors for an Occupational Change into Sales**

Now that the reasons for occupational change have been described in detail, the question of which factors promote a successful and thus lasting occupational change into insurance sales can be addressed. For this purpose, a framework is first presented and then the individual components are examined for their possible explanatory power. Since the success factors for occupational change—examining insurance sales as an example—are to be discovered within this work, the hypotheses to be tested have been derived from the existing literature.

#### **2.3.1 Job Choice Theory**

An appropriate framework to categorize the choice of an occupation by types of information and expectations has been provided through job choice theory (Behling et al., 1968). In this approach, the choice of an occupation is explained by the interaction of objective and subjective reasons as well as a critical contact with an occupation or company.

Researching the shortage of qualified candidates for the position of high school principal, Pounder and Merrill (2001) have reframed this theory into the context of attractiveness of occupations. Objective theory claims that occupational choice is based on objective, economic factors, especially return on investment of present and future Human Capital. Subjective theory explains occupational decisions more in terms of nonmonetary, psycho-social reasons. The concept of Critical Contact postulates that candidates are unable to differentiate between companies based on objective or subjective criteria. On the one hand, contact with the company during the information gathering process is limited; on the other hand, the candidate lacks the ability to objectively evaluate the information obtained. The tendency of companies to present the advantages of their own company and the disadvantages of their competitors in a tight labor market contributes to further difficulties. Therefore, the type and source of the information gathering process, summarized by the term “critical contact”, is of great importance for a worker’s job choice (Schwab et al., 1987). While job choice theory is concerned with heterogeneous companies, this can easily be transferred to the context of heterogeneous occupations and occupational change into sales. I have used these categories to elaborate the types of possible two-sided information asymmetries in detail and to extend the model in Figure 2 by adding the chance of a false choice that leads to turnover and a restarting of the process.

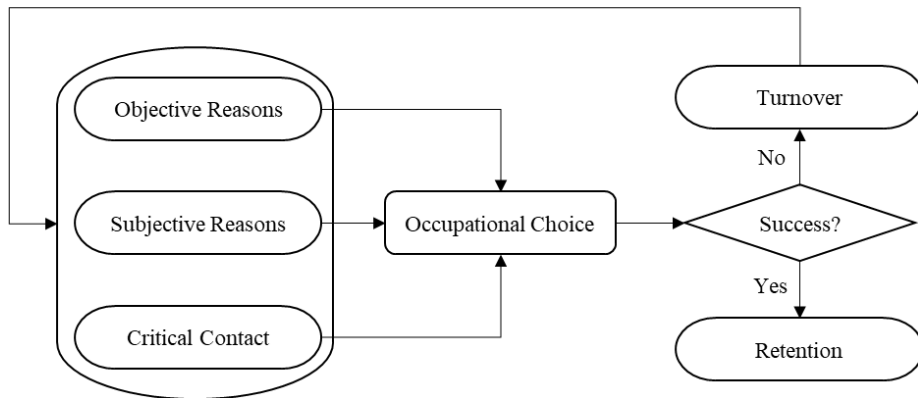


Figure 2: Extended Job Choice Theory, own illustration

### 2.3.2 Objective Determinants

In the category of objective reasons, it is important to first examine the monetary motivations behind occupational change. In one of the first studies that meaningfully referred to the change of occupation, empirical evidence that “individuals do appear to change occupations to maximize the present value of their returns to investment” was found Shaw (1987, p. 717), indicating investments in human capital. Yamaguchi (2007) demonstrated the significance of the wage through a study of cognitive skill-intensive jobs: According to her study, higher wages outweigh the nonmonetary disutility individuals draw from other jobs.

In the case of occupational changes into sales, there is the additional problem that workers may likely be confronted with output-based pay for the first time in their career. This means that not only does the employer bear the financial risk of misjudging candidates’ productivity, but also the candidates themselves can assess their own productivity and thus the expected salary to a limited extent. In the context of compensation, research on output-based compensation of CEOs can be applied. I rely upon the equations of Lazear (2004) and transfer them into the environment of occupational changes into sales.

New salespersons are imperfectly informed about their own productivity, as, for example, measured by sold insurance premiums. They may estimate their own productivity with

$$\hat{\pi} = \pi + v \quad (1)$$

where  $v$  represents the positive or negative deviation of the self-assessment from real productivity  $\pi$ . Thus, if  $v$  is positive, candidates overestimate their own productivity. Compensation follows the simple form

$$W = a + b\pi \quad (2)$$

where  $a$  represents the fixed and  $b$  the performance-based salary component.

The estimated compensation follows accordingly

$$\hat{W} = a + b\hat{\pi} \quad (3)$$

Assuming that newly hired salespersons voluntarily switch from another occupation (Longhi & Brynin, 2010), they have a reference respectively reservation wage  $W^R$ .

The risk-neutral agent accepts the job if

$$a + b\hat{\pi} > W^R \quad \text{or} \quad (4)$$

$$a > W^R - b(\pi + v) \quad (5)$$

is expected. The larger a positive misexpectation  $v$ , the higher the probability that the agent in the case of output-based pay will also accept a contract with ex post negative salary development. In this case, turnover is likely to occur because  $W < W^R$ . A negative  $v$  leads to some potentially productive candidates rejecting a job offer in sales, which means they have self-selected. In this study, only candidates who have

accepted the offer and therefore fulfill (4) are examined. From objective criteria, an offer  $a > W^R$  was always accepted, assuming an income maximizing agent. According to (5), the acceptance of an offer with  $a < W^R$  could have two possible explanations: Either candidates have a sufficiently high productivity  $\pi$  or they have been misinformed with correspondingly positive  $v$ . The former possibility is to be evaluated as a positive signal, while the latter should be seen as a negative one. In the following sections, the phenomena of the productive candidate type are examined in greater detail. Reasons and indications for misexpectations are highlighted in Chapter 2.3.4.

The better informed a candidate is, the smaller the absolute value of  $v$ . It may now be assumed that better-informed candidates can better assess their true productivity  $\pi$  and therefore ceteris paribus (c.p.) can accept a lower fixed salary  $a$ . In the paper and model of Lazear, this even constitutes a necessary part of the offer “to get informed managers to put their money where their mouths are” (Lazear, 2004, p. 3). Bearing a share of the risk thus sends out a positive signal that the candidate is informed and productive. This leads to the following hypothesis:

*H<sub>1</sub>: Candidates who accept a fixed salary below  $W^R$  signal positive productivity and therefore show a higher retention rate after making an occupational change into insurance sales.*

However, productivity tends to be signaled by school or vocational certificates. While it was once assumed that education served exclusively to satisfy various personal needs and was thus to be equated with consumption, Schultz (1961) first considered it an investment in human capital with the purpose of securing a higher future income, and Becker (1964) further integrated it into the neoclassical theory.

Moreover, the idea of vocational training as a prerequisite for occupational mobility due to a polyvalence of training courses is not new (Mertens & Kaiser, 1978). The aforementioned “Stepping Stone” model of Jovanovic (1997) is one example. Considering the transferability of acquired skills respectively human capital, Lazear (2009) developed the idea that human capital is basically general and that firm specificity on the demand side could be found in the form of a “firm-specific skillset”, which each employer has a different level of demand for on the labor market. From the different weighting of skills, the name “skill-weights approach” was derived. Since there was no specification that was company-specific for only a single company, an occupation-specific skillset seemed to be more probable, and in the case of an occupational change, the proximity of the candidate’s skill vector to the target vector would likely favor success. Additionally, Geel and Backes-Gellner (2011) proved a wage surplus in the case of an occupational change within a skill cluster and a wage discount when changing between two clusters respective labor market segments.

In scrutinizing whether the German dual apprenticeship system impeded occupational change, Rhein et al. (2013) found that dual vocational education resulted in lower information asymmetries with regard to the reality of an occupation. That is, the applicant can assess a vacant position better after training, as the employer can assess the performance of a candidate. This means that there are considerably fewer occupational changes, especially in occupations without academic entry requirements, compared with academic occupations or unskilled workers, where contact with the realities of the workplace only took place later or was less smooth. Surprisingly, Rhein et al. (2013) interpreted lower occupational change rates of the apprenticeship

system in a negative sense, as a barrier, not in a positive sense, as a form of transparency. With an apprenticeship similar to insurance sales, the absolute amount of  $v$  should be small, and the productivity should c.p. be higher if the contract is accepted. This leads to

*H<sub>2</sub>: The closer the skillset of a completed apprenticeship is to the target occupation of an insurance agent, the higher the retention rate after making an occupational change into insurance sales.*

Education is the result of a complementary relationship between insight and experience (Jongebloed, 1998). Indicators for high productivity in or suitability for sales can be found in both theoretical training and practical sales experience. However, vocational training can have different emphases within a single occupational group. For example, clerks and salespersons with vocational training at an insurance company may formally have the same certificate, but the content and practical nature of their activities and thus their experience would be quite different. Therefore, with the existence of education certificates, too, a differentiation between functions must be made. This leads to

*H<sub>3</sub>: Regardless of one's formal education, more experience in personal sales leads to a higher retention rate after making an occupational change into insurance sales.*

Although a significant correlation between levels of schooling and turnover has not yet been confirmed, Schmidt et al. (2016) found that the highest predictive value for future productivity and job-related learning was related to general mental ability. However, a notable significant correlation could be confirmed neither between cognitive

ability and objective sales performance (Vinchur et al., 1998) nor between cognitive ability and turnover (Griffeth et al., 2000). In the context of this paper, it is worthwhile to control for the level of education since an occupational change into sales does not formally require a specific education level and may therefore be more heterogeneous than the samples investigated in previous studies.

One facet of human capital that has not officially been documented is self-efficacy (i.e., the self-assessment of one's own aptitude with regard to solving a particular task). Peterson (2019) provided a comprehensive overview of the previously discovered correlation between self-efficacy and sales and attributes the range in the correlation of .05 and .77 to the existence of moderator variables. This dissertation attempts to identify these moderator variables. Furthermore, Carless and Arnup (2011) showed that general self-efficacy is not significantly related to occupational change. However, a correlation could be found in competitive advantages in specific occupations that were perceived, real, or both. Schyns (2004) showed that the degree of information about another occupation correlated positively with self-efficacy (i.e., the assessment of one's own performance). If a high occupation-specific self-efficacy is thus the phenomenon of a low value of  $v$ , the following would be valid if the contract is accepted:

*H4: A high self-efficacy in the sense of a perceived competitive advantage leads to a higher retention rate after making an occupational change into sales.*



### 2.3.3 Subjective Determinants

There are some arguments against a purely monetarily motivated occupational change, respectively success. According to the findings of Carless and Arnup (2011), salary only has an insignificant negative impact on turnover probability. Akerlof et al. (1988) had previously found clearly more significant reasons in nonpecuniary rather than in pecuniary rewards, both in employer change intentions and in the assessments conducted by those undergoing occupation change after an employer change. These nonpecuniary factors include “kind of work; ability or capacity to do the work; feeling that work is important, satisfying, or challenging; interesting work; being one's own boss, having responsibility; not having too much pressure or responsibility; congenial coworkers; hours; working conditions; supervision; company policy; good union; meeting interesting people” (Akerlof et al., 1988, p. 543). They further differentiate nonpecuniary rewards into general nonpecuniary rewards, which can be assigned to work in general or even occupations, and specific nonpecuniary rewards, which can be assigned to a specific employer. Thus, it can be deduced that an employer change is more likely to happen in the case of dissatisfaction with specific nonpecuniary reward and an occupational change in the case of dissatisfaction with general nonpecuniary reward. Hess et al. (2012) observed low motivation for an occupational change in the case of high affective and high normative organizational commitment. Hof et al. (2011) examined the expectations of occupational changers into the profession of teaching. None of the individuals expected a salary increase until retirement age, including training costs. They concluded that only nonmonetary factors were decisive. The assumption that the applicants were underachievers expecting a salary increase was offset

by showing that those who changed their occupation earned significantly more than the average for their occupational group before the change. They further perceived an exception in occupations which showed high wage differentials. In these occupations, most clearly in insurance and banking, wage elasticity was lowest, so that not the most talented candidates can be attracted. In all this, the findings of Yoo and Doiron (2013) that respondents have difficulties comparing money with nonpecuniary factors must be taken into account. To examine the nonpecuniary employee-occupation match, I examine the factors of personality traits, occupational interests, and personal circumstances more closely.

A widely accepted model of personality traits has been conceptualized by Costa and McCrae (1992). The so-called Big5 personality traits are Extraversion, Openness, Agreeableness, Conscientiousness, and Neuroticism. Here, Extraversion is an expression of sociability, agility, and assertiveness. Openness describes the degree of curiosity for experiences, while Agreeableness refers to adaptability in social contexts, and Neuroticism describes emotional instability. Conscientiousness requires no further explanation. Briggs Myers and Myers (1993) previously postulated in their basic work on personality types that working in an atypical field (i.e., occupations with a mismatch in required or desired personality traits) leads to a markedly higher probability of occupational change (i.e., turnover). Caplan (2003) confirmed this and argued that a rational, utility-maximizing individual with a choice would avoid such disadvantageous situations. He highlighted “Conscientiousness” as a dominant factor in occupational choices. Ham et al. (2009) found that personality factors can compete with the explanatory value of educational factors in some occupations.

The factor “Conscientiousness” would have as much explanatory power as the existence of a bachelor’s degree. Furthermore, Barrick and Mount (1991) confirmed in their meta-analysis a clearly positive relationship between “Conscientiousness” and productivity or salary. The interaction between job satisfaction and the Big5 personality traits has, in turn, been investigated by Bui (2017). She found a significant positive correlation between job satisfaction and “Agreeableness” as well as “Conscientiousness”. A significant negative correlation was found between job satisfaction and “Neuroticism” as well as “Openness.” Although “Extraversion” and “Emotional Stability” show a positive correlation with job performance across all professions, Barrick et al. (2001) only observed very weak or insignificant impacts in the area of sales. They were able to show a significant correlation between “Conscientiousness” and sales performance. Sitser et al. (2013) showed that in a sales context, although “Conscientiousness” was a good predictor of general job performance in supervisor ratings, “Openness” could predict success even better in terms of objective sales results, such as generating new customers. In sales, it could therefore be assumed that a greater probability of success outweighs the higher probability of turnover. To sum up, I expect the following:

*H<sub>5</sub>: Conscientiousness and Openness have a positive impact on retention after making an occupational change into insurance sales.*

Another branch of occupational issues researched by psychologists is that of vocational interests. In his seminal work, Holland (1973) analyzed the importance of congruence between vocational interests and vocational environment and developed the widely accepted and researched hexagon of vocational interests, the so-

called RIASEC Typology, in which vocational interests could be categorized as “realistic,” “investigative,” “artistic,” “social,” “enterprising,” and “conventional.” Despite a theoretical connection between the Big5 and RIASEC (Larson et al., 2002), it has been repeatedly proven that there is no reason to believe that one of these measures is an explanatory concept of the other (Gottfredson et al., 1993; Tokar & Swanson, 1995). Rather than substituting each other, they tend to complement each other since vocational interests indicate which environment is preferred, while personality measures indicate how an individual would behave within a particular environment (Furnham, 2001). By combining the Big5 and vocational interests according to RIASEC, Larson et al. (2007) were able to predict students’ choice of college major significantly better than the individual frameworks could. I did not find any studies about salespersons in which such a complementary relationship has been considered so far. Schmidt et al. (2016) noted that occupational interests have frequently been underestimated because they have not been examined in a job-specific manner. Corrected for this error, they find an operational validity of  $R = .31$  in their explanation of job performance.

In the context of this work, a relevant assumption is that person-environment congruence leads to a stable career choice and thus to lower levels of turnover. In accordance with the social cognitive career theory (Lent et al., 1994), this results from interest-driven career-related goals and corresponding actions, as well as performance. In a meta-analysis, van Iddekinge et al. (2011) showed a large and significant impact of vocational interests on turnover probability. This paper should also be recommended because of the extensive literature review of research about vocational interests it provides.

Holland (1985) called the three dominant vocational interests the summary code. The American Directory of Occupations O\*NET (National Center for O\*NET Development, 2021) issues the summary code *ECS* for insurance sales agent, referring to “enterprising,” “conventional,” and “social” interests. A discrepancy in the candidate’s interest profile from this code can be regarded as incongruence. This leads to the following hypothesis:

*H<sub>6</sub>: A mismatch of occupational interests and the new, unfamiliar occupational environment leads to a lower probability of retention after making an occupational change into insurance sales.*

Now, it is important to consider the area of family obligations. Köhler et al. (2004), as sociologists analyzing a large company panel, found motives for occupational mobility in so-called “selective factors”, which include health, personal, and family reasons (usually relocation or children). Marital status and children to be cared for tended to correlate negatively with turnover probability in macroeconomic studies (Griffeth et al., 2000; Moscarini & Vella, 2008). Researchers have examined reasons for this and observed a higher need for safety and therefore fewer occupational changes. Those who nevertheless change their occupation were likely to attach less importance to this argument. However, one must not ignore the fact that working hours in insurance sales and the initially uncertain income and social status may lead to tensions within families. According to the concept of work-family conflict, such tensions correlate positively with turnover intentions (Burke, 1988). These tensions are likely to be higher the younger the children living in the household since the amount of childcare required particularly increases in the first years of life and the fulfillment of

family obligations, especially in the evening hours, can only be satisfied on an unstable basis (Frone et al., 1997). This leads to the following hypothesis:

*H<sub>7</sub>: The younger any children living in the household are, the lower the probability of a successful occupational change into insurance sales.*

#### **2.3.4 Source of Information**

As mentioned above, according to Job Choice Theory, the part about Critical Contacts concerns a candidate's inability to objectively evaluate information about a company and, in the case of an occupational change, about a desired job. Therefore, the level of information depends on the sources of information about the person-job match. The met expectations hypothesis (Wanous et al., 1992) further suggests that too little or false information may lead to a discrepancy between expectations and reality and thus has a negative impact on distal (e.g., retention) or proximal (e.g., job satisfaction) post-hire outcomes (Moser, 2005). This is in line with the assumption of the realistic information hypothesis, which states that the recruitment source determines how accurately a candidate receives information about a job (Breugh & Starke, 2000). According to Cable and Turban (2001), the credibility of a source of information depends on one's experience in the profession or company. Zottoli and Wanous (2000) presented research results on recruitment sources in chronological order. It was already shown in Reid (1972) that access to more realistic information from internal respectively informal recruitment sources seems to be the main reason behind varying success and retention rates. The degree of personal relationship to a source of information pays on trustworthiness

according to the results of van Hoye and Lievens (2007). Internal recruitment sources, in accordance with the argument about information asymmetries, should therefore have more influence on the decision of the candidate and possibly a higher self-selection compared to the information provided by the employer. In a comprehensive review, Burks et al. (2015) revealed which referral model predictions already existed and have been confirmed in this context. Learning theories, as in Simon and Warner (1992) and more recently Brown et al. (2016), seem to be the most promising in terms of explanatory power in referral research. It is argued that a referral gives a signal about how well the other side, whether candidate or employer, could be informed about a possible mutual match. Brown et al. (2016) clearly demonstrated that referred workers have a higher retention rate.

This branch of research is founded on one of the pioneers in the field of occupational changes, Jovanovic, who assumed imperfect information as a main reason for turnover (Jovanovic, 1979). If workers can only determine how suitable they are for a particular job through experience on the job (i.e., *ex post*), then the hazard rate (i.e., the probability of a renewed change) must decrease with increasing tenure since after some time, no new negative information should emerge. McCall (1990) determined that the probability of undergoing an employer change after a completed change of employer is a function of tenure at the previous employer with a negative coefficient. The probability of occupational change also decreases because reduced information asymmetries about an occupation make it easier to decide whether a mismatch is due to the employer or the occupation. In this context, Neal (1999) was able to find only weak evidence for the

assumption that an employer change is generally not followed by an occupational change.

Even though the very different operationalization of this factor is appealed for, Griffeth et al. (2000) found a positive correlation between the fulfillment of expectations of the job and the probability of turnover. Thus, if expectations of an occupation or a job are not fulfilled, a new change becomes more likely. Borghans and Goldsteyn (2007) examined the effects on students who started working in another field after graduation, finding lower wages for those who switched occupations and attributing this to a loss of human capital and a “mismatch penalty”, which can be explained by a late realization of their occupational preferences and a lack of information in advance.

To investigate the probability of an occupational change in individuals who believe they are too old for a particular occupation, Slay Ferraro et al. (2018) deployed the concept of career youth norms. If it is assumed that young people are given preference when filling vacancies, self-censoring takes place, and individuals apply measurably less if they feel that they are above the average age of an occupation. However, individuals who apply for a different occupation despite high career youth norms, which may be unfavorable for them, show high resilience values.

The approach of Lazear (2009) is designed to solve investment problems for workers. Of course, this is only possible if workers know the skill-weights of the companies or professions they are interested in. According to the model of Yamaguchi (2007), workers do not know the match quality of a job until they start it. This is why productivity functions, as seen in Fedorets (2011), are theoretically derived excellently, but cannot be set up *ex ante* by the employee.



Longhi and Taylor (2013) found that a search period that is excessively short can be disadvantageous for male employed workers: If these workers search at least 3–12 months before accepting a new job, the probability of an upward occupational change is 5.7 percentage points higher. This can clearly be attributed to a reduction in information asymmetries.

The complexity of the insurance sales occupation, combined with the uncertainty of a company's information about a potential new employee, inevitably leads to information asymmetries. The problem of two-sided limited information has already been recognized by Carranza et al. (2020), who exclusively focused on the skills of the candidates, which, in the absence of formal qualifications, are only known to both sides to a limited extent. In their study, reducing these information frictions led to fewer mismatches between work seekers and job types. Due to the invisible variability of the candidate pool, companies were unable to make a fully informed assessment of whether a candidate was capable of performing a job and which one was the best. As an update to (Schmidt & Hunter, 1998), in an eminent review and meta-analysis of selection methods, Schmidt et al. (2016) elucidated the efforts and techniques used by companies and scientists to reduce such information asymmetries. This effort is made for a legitimate reason: The standard deviation of the output of a good or a bad hire was found to amount to a non-negligible size of about 40% of the mean salary (Schmidt & Hunter, 1983).

In the case of an occupational change, the main problem for candidates is a possible misjudgment of the prospective occupation and their own suitability for it. According to the model of Yamaguchi (2007), a worker does not know the match quality of a job until he starts

it. In a labor market, employers and employees face each other with incomplete information. To overcome this asymmetry, they send out appropriate signals of suitability according to Signaling Theory (Spence, 1973). Since employers want to gain a competitive advantage through hiring the best employees, they send persuasive signals under the term “recruitment” to attract applicants and influence job choice (Barber, 1998). Realistic job previews (RJP) constitute one of the three most intensively studied areas in recruitment research (Saks, 2005). RJP are based on the met expectations hypothesis (Wanous, 1973), according to which positive outcomes of an occupational choice are more likely to occur if the expectations of an occupation or job are fulfilled to a sufficient degree. An older but not outdated meta-analysis on this was offered by Wanous et al. (1992). Clear positive correlations can be found between met expectations and job satisfactions as well as organizational commitment. The reason for this is that unrealistically high expectations can be lowered when all relevant information—both positive and negative—is available to the candidate in a balanced manner. Under certain conditions, according to Meglino and DeNisi (1987), RJP may lead to a lower turnover of occupational changers. While the honest mention of negative information in the recruiting process may lead to higher costs in the form of fewer applicants, this does lead to early self-selection and some preparation for unpleasant experiences, which may then be perceived less negatively than affirmatively. The decisive factor in the effect of RJP is the commitment of the candidates to the organization, such as through psychological contracts or contractual obligations. RJP can drastically reduce turnover rate if employees have an above-average commitment to the company. Wanous et al. (1992) show that informing candidates systematically prevents new hires from

quitting early due to somewhat of an obligation to stay, while concealing critical information can lead to psychological contract violations (Rousseau, 1995) and thus turnover. Buckley et al. (2002) compared RJP with the more economical Expectation Lowering Procedures and found a similar effect on expectations but a higher retention rate. Barksdale et al. (2003) illustrated the positive influence of RJP on the sales success of newly hired salespeople. However, the company's influence on a candidate is likely to depend on what—and above all who—motivated the candidate to apply.

Having interviewed 990 insurance agents, Weitz and Nuckols (1955) identified a misrepresentation of the job and possibilities for advancement by an executive during hiring interviews as one of the largest differences in the statements of dissatisfaction of stayers and leavers. Breugh and Starke (2000) found the primary mechanisms of the frequently shown negative RJP-turnover correlation in met expectations, but also in role clarity, self-selection, perceptions of fit, and the organization's honesty.

Bretz and Judge (1998) analyzed the issue of self-selection. While the amount and type of information had a significant, positive influence on the attractiveness of a job, they showed that the amount of negative information could lead to the problem of adverse self-selection with a significant negative and superior coefficient. This problem that basically desirable contractors refrain from cooperation due to sufficient information asymmetries has arisen in several contexts, such as the famous market for lemons (Akerlof, 1978). Since no relevance for the attractiveness of the job was found in the source of negative information, they concluded that only the pure quantity seemed to be decisive. In distinguishing between quality and quantity of information at the hiring

stage, Pitt and Ramaseshan (1995) did not focus on the attractiveness of the job before starting it but on the propensity to leave after at least one year of experience being a salesperson. In their study, the items relevance and depth of information were rated significantly lower by those with an intention to leave, while quantity was also rated lower but to a lesser extent. As a result of their meta-analysis, Earnest et al. (2011) emphasized that RJP primarily positively influenced the perceptions of honesty of the company in providing information and thus the overall attractiveness of the company. Furthermore, they demonstrated a positive effect of this honesty on retention. Of course, this may also be due to the fact that there are indeed differences in the credibility of recruiters and companies.

The medium of the information offered also has a high value. For example, verbal RJP offer a scope for individual inquiries and an assessment of the credibility of the source due to the high degree of interaction. With written RJP, on the other hand, the advantage lies in the effectiveness and degree of standardization of the information (Allen et al., 2007). It may also be easy to comprehend that a pre-hire RJP has a stronger effect than a post-hire one.

The Recruitment Source concept and RJP are both based on a reduction of information asymmetries. Referral resp. internal recruitment source is a signal for a low level of information asymmetries, while RJP are a method that employers use. The methods of the employer will not be further examined here since they are unlikely to differ in the analysis of an individual company, and there are reasons to doubt whether such information can be fully received by all candidates (Phillips, 1998). Because the recruitment source, as one of the first factors in the recruitment process, is decisive for the population

of candidates (Barber, 1998), and with RJP, information exchange is usually only established after initial contact, I consider the recruitment source more appropriate to explain any differences in information. Due to the consensus that exists in science regarding the influence of internal recruitment sources, in particular, I control for this important factor, as it is a measure of both the objective and subjective level of information conveyed.

### 3 OBJECTIVES OF THE DISSERTATION

The approach of this dissertation is to explain the high turnover of occupational changers into insurance sales, despite the intensive use of psychological recruiting instruments, by the fact, that common assessment methods only reduce the information asymmetries of employers, but not of the candidate. Factors influencing turnover on the candidate's part, such as human capital, personality traits, occupational interests, family obligations, and informational prerequisites are situated within an overall context, and their respective influence is then compared.

My guiding research question is both simple and yet unanswered:

*In what factors, measurable in advance, do people who have made a successful occupational change into insurance sales differ from those who have failed?*

In this study, a successful occupational change into insurance sales is assumed if the new occupation is still being performed after 12 months (retention). turnover within 12 months will be defined as failure. To answer the research question, how the terms “occupation” and “occupational change” are used and defined in the existing literature was previously examined, and the relevance of this topic was clarified. This was followed by an overview of the reasons for occupational change from different research disciplines and viewpoints. Subsequently, the current state of research on success factors for a successful occupational change into sales was presented within the framework of the Job Choice Theory. Within this context, hypotheses were derived from the existing literature and were presented at the appropriate places within the

literature review. My hypotheses, as stated in Chapter 2.3, can be summarized as follows:

*H<sub>1</sub>: Candidates who accept a fixed salary below  $W^R$  signal positive productivity and therefore show a higher retention rate after making an occupational change into insurance sales.*

*H<sub>2</sub>: The closer the skillset of a completed apprenticeship is to the target occupation of an insurance agent, the higher the retention rate after making an occupational change into insurance sales.*

*H<sub>3</sub>: Regardless of one's formal education, more experience in personal sales leads to a higher retention rate after making an occupational change into insurance sales.*

*H<sub>4</sub>: A high self-efficacy in the sense of a perceived competitive advantage leads to a higher retention rate after making an occupational change into sales.*

*H<sub>5</sub>: Conscientiousness and Openness have a positive impact on retention after making an occupational change into insurance sales.*

*H<sub>6</sub>: A mismatch of occupational interests and the new, unfamiliar occupational environment leads to a lower probability of retention after making an occupational change into insurance sales.*

*H<sub>7</sub>: The younger any children living in the household are, the lower the probability of a successful occupational change into insurance sales.*

These hypotheses will be tested by using an interdisciplinary questionnaire to examine the differences between successful and unsuccessful occupational changers into insurance sales.



## **4 MATERIALS AND METHODS**

### **4.1 Research Design**

After defining the research question, the first step was to search for a suitable framework to categorize differences in occupational changers into insurance sales and thus to investigate them according to plan. This framework was ultimately found in Job Choice Theory. After obtaining an overview of measurable factors influencing occupational change and its success factors, the hypotheses were formulated. The pilot version of a questionnaire was developed in September 2018 and applied for the first time in October 2018. An addition and partial simplification of the questionnaire was made in December 2018. There was an opportunity to survey newly hired salespersons with backgrounds of occupational change in a mid-sized mutual insurance company during an initial training. These surveys were conducted on five dates between October 2018 to October 2019. Retention was checked after every 12 months. The final data were therefore available in October 2020. The crucial variables in each category of the Job Choice Theory were identified by stepwise forward inclusion to form the sub-models (objective, subjective, source). After the addition of variables of special interest, the respective influence of each sub-model on retention was calculated through a logistic regression using the delete-1 jackknife algorithm. The delete-1 jackknife algorithm was used to minimize possible weaknesses in the sample. Afterward, a final model was created through a combination of the variables from the sub-models. Again, a logistic regression using delete-1 jackknife algorithm was conducted to calculate odds ratios, average marginal effects, and Goodness-of-Fit values. In each case, the dependent variable was a retention dummy.

## 4.2 Sample and Procedure

### 4.2.1 Sample

To test the impacts of the different types of possible information asymmetries, I surveyed 217 newly hired insurance agents with a background of occupational change within a mid-sized German mutual insurance company. As described before, occupational change is defined very differently in research. Usually, ISCO or industrial codes are used (McCall, 1990; Pavan, 2011). In my case, the only decisive factor was that no candidate had ever sold insurances before. Insurance sales is often practiced as a secondary occupation to supplement an individual's primary income. Since this sales channel is only responsible for around 4% of new insurance premiums sold in Germany (GDV, 2020) and since in this work, I address a change (!) of occupation into insurance sales, it must be emphasized that only candidates who changed their occupation into full-time sales were surveyed. The selection decisions for these agents were made nationwide by 23 regional managers based on application documents and unstructured interviews. The survey was conducted in the period October 2018 to October 2019. In each quarter, 40–45 participants started their new occupation as insurance agents. The survey took place during a three-week introductory training (i.e., after they signed the employment contract but before they had to perform the job under real conditions). As 178 agents participated, the response rate was 82%. While 55% of the participants were male, 45% were female. The age of participants ranged from 19 to 57 years with a median age of 27 and a mean of 29.

The dependent variable, retention, was measured for each participant 12 months after the start of the employment by a dummy,

taking 1 in the case of retention and 0 in the case of a terminated employment contract within the 12-month observation period. Reasons for turnover were not queried since the credibility of exit interviews can be questionable (Hom et al., 2012). Retention after one year was seen as an indicator that the occupational change into insurance sales was successful.

### 4.2.2 Logistic Regression

Success in the form of retention or failure in the form of turnover is obviously a qualitative and binary independent variable. The influence of independent variables on such a dichotomous dependent variable tends to be calculated through logit or probit models although the results may be more difficult to interpret than with a linear probability model (Wooldridge, 2016). Both variants are very similar and show comparable quality criteria as well as almost identical estimation results with respect to the probability of  $y = 1$  (Best & Wolf, 2012). While probit models are based on a standard normal distribution of the error term, logit models are based on a standard logistic distribution. Due to the fact that the independent variables in my model are often binary coded, a logistic distribution is more likely. Since the coefficients are also somewhat easier to interpret, I decided to use a logit model. The name logit (for logistic regression) is derived from the interpretation of the regression coefficients. These indicate the impact of the change of the exogenous variable by one unit on the endogenous variable in the form of logarithmized odds (more on this later). The equations for this are not principally difficult to understand if they are presented in the correct order. The formulas for this have been taken from Wooldridge (2016) unless otherwise stated. In the present case, retention is the

endogenous variable that takes the value 1 if the new employee is still employed in the new occupation after 12 months and 0 if not. This endogenous variable  $y$  depends on several exogenous variables  $x$  with corresponding coefficients  $\beta$  and takes in the estimations the value 1 if the value of the latent, unobservable variable  $y^*$  is greater than a threshold value of 0. For each individual holds

$$y^* = \beta_0 + \mathbf{x}\boldsymbol{\beta} + e, \quad y = 1[y^* > 0]$$

with

$$\mathbf{x}\boldsymbol{\beta} = \beta_1 x_1 + \dots + \beta_k x_k$$

The probability function is then

$$P(y = 1|x) = G(\beta_0 + \beta_1 x_1 + \dots + \beta_k x_k) = G(\beta_0 + \mathbf{x}\boldsymbol{\beta})$$

The condition

$$0 < G(z) < 1$$

for all real numbers is ensured in the logistic model by

$$G(z) = \exp(z) / [1 + \exp(z)] \text{ respective } \frac{e^{Logit}}{1+e^{Logit}}$$

Figure 3 shows the graph of this function.

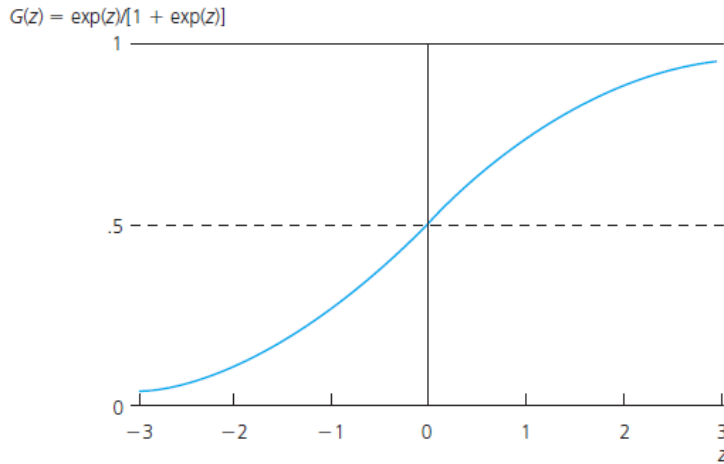


Figure 3: Graph of the logistic function; Source: Wooldridge 2016

The parameter values for this function are estimated using the maximum likelihood method respectively, for simplicity, a log-likelihood function.

### 4.2.3 Jackknife Algorithm

A minimization of the error rate in regression is one of the most desired performance parameters while predicting outcomes in statistical data analysis. For correcting the bias in error estimation due to sample size and possible outliers, I applied the Jackknife algorithm, which is a special case of a bootstrapping procedure. This method was introduced by M.H. Quenouille in 1949 and assigned its current name by John Tukey in 1956 (McIntosh, 2016). The purpose for developing this method was for correcting bias. The procedure creates “delete-1 Jackknife samples” from the original dataset by repeatedly deleting one observation from the set. Thus, in addition to the original dataset, there are “n-1” unique Jackknife samples. A logistic regression will be performed for every sample, followed by an averaging of the estimates.

#### 4.2.4 Stepwise Forward Inclusion

The selection of variables for the final model was conducted through a blockwise inclusion of the variables used from the three sub-models. First, the variables from the sub-models were identified by a forward-stepwise selection of a logistic regression for each sub-model. This procedure starts with an empty null model and adds step by step the variable which has the highest p-value or, in other words, the lowest significance level for the rejection of the null hypothesis. This is done until a stopping rule, which has been set at a significance level of 15% for addition to the respective sub-model according to the lower bound of the recommendations of in Lee and Koval (1997), takes effect. All variables measured can be found in Table 6 in Chapter 4.4. The variables included in the corresponding sub-models can be identified in Table 8 in Chapter 5.2 with their coefficients (logits) and corresponding indications of significance. This was done to show the explanatory power of the sub-models on the final model. Due to the topic of this dissertation being about occupations, after stepwise selection, I added the variables “Apprenticeship commercial” and “No apprenticeship” to the objective model. The variable “Young Child” was added to the subjective model for special interest resulting from my own experience as a manager in insurance sales. The source model was reduced by the variable ‘Walk-Ins’, due to the weak definition for this measure (see Chapter 4.3) and therefore the very low informational value of this criterion. From the variables of the sub-models, the final model was formed and calculated with a logistic regression, again with the delete-1 Jackknife algorithm.

#### 4.2.5 Odds Ratios and Average Marginal Effects

As mentioned in Wooldridge (2016), among others, the results of a logistic regression can be much more difficult to interpret than those of an ordinary least squares regression. Because  $y^*$  is linked in a nonlinear way to the probability of the event being observed, the  $\beta$  corresponding to an exogenous variable cannot simply be interpreted as  $y^*$  increasing by  $\beta$  units when  $x$  increases by one unit. This is because  $y^*$  is an expression of the log odds for  $y = 1$ . The odds represent the ratio of the probability for a realization of the event  $y = 1$  relative to the probability for a realization of the counter event  $y = 0$ . To make these odds reasonably interpretable, DeMaris (1992) suggests the interpretation of  $e^\beta$ , in which the change of the odds itself is not interpreted, but rather the factor by which they change with an increase of  $x$  by 1 unit. Formally, this can be expressed as follows:

$$\frac{P(y = 1|x)}{1 - P(y = 1|x)} = e^{\beta'x}$$

$$\ln \frac{P(y=1|x)}{1-p(y=1|x)} = \beta'x$$

This odds ratio is provided by standard statistical programs and is often interpreted as well. However, Wooldridge (2016) as well as Best and Wolf (2012) consider this misleading because of the nonlinearity. Both authors provide a good example of this criticism and suggest the interpretation of average marginal effects (AME). Due to the nonlinearity, the magnitude of the change in  $y^*$  additionally depends on the steepness of the distribution function of the logit distribution at the point  $\beta'x_t$ . The steeper the distribution function at a given level, the greater the effect of a change in the explanatory variable on the

probability of the event under consideration. This influence of a variable  $x_j$  in the respective variable space can be expressed by the partial derivations

$$\frac{\partial P(y = 1|x)}{\partial x_j} = g(x'\beta)\beta_j$$

where  $g(\cdot)$  is the density function of the logistic distribution (Best & Wolf, 2012). The average marginal effect of  $x_j$  across all units of observation can now be obtained by calculating the mean of  $g(x'\beta)$  as follows (Best & Wolf, 2012):

$$AME_j = \frac{\sum_{i=1}^N g(x'_i\beta)}{N} \beta_j$$

These AME can now be interpreted in such a way that the probability of  $y = 1$  increases on average by AME percentage points when  $x_j$  increases by one unit. This allows for a much more intuitive interpretation of the results even if this average effect adds another component of probability.

#### 4.2.6 Goodness-of-Fit

Wooldridge (2016, p. 530) cites the “percent correctly predicted” as a measure of the goodness-of-fit of logit models. This compares the true binary value of  $y_i$  with the predicted probability

$$\tilde{y}_i = 1 \text{ if } G(\hat{\beta}_0 + x_i\hat{\beta}) \geq .5 \text{ and } \tilde{y}_i = 0 \text{ if } G(\hat{\beta}_0 + x_i\hat{\beta}) < .5.$$

To predict success, a threshold value of .5 is usually used. The resulting four possible combinations of  $y_i$  and  $\tilde{y}_i$  are usually presented as a classification table. The aim is to achieve a high matching rate of the model. Here, a distinction must be made between sensitivity and specificity. Sensitivity measures the proportion of actual positive  $y_i$  that



are correctly predicted as such (Lalkhen & McCluskey, 2008). Accordingly, a sensitivity of 70% means that 70% of the successful candidates (true positive) were predicted to be successful, but 30% were mistakenly predicted to be unsuccessful (false negative). High sensitivity is particularly important in recruiting since potentially successful candidates ought to be hired rather than made available to the labor market as a result of erroneous judgments in the selection process. Specificity, in contrast, measures the proportion of truly unsuccessful candidates who are correctly identified as such. A model with a specificity of 70% predicts 70% of unsuccessful candidates as such (true negative), while 30% of unsuccessful candidates are incorrectly predicted to be successful (false positive). High values in specificity would therefore mean high values in the avoidance of poor hires and thus turnover in a model that addresses recruiting. Low values would indicate that variables other than the ones being studied have an influence on turnover. Although Wooldridge (2016) describes these measures as effective indicators of model performance, he notes that this classification can also be misleading and misinterpreted. Thus, in the case of  $y_i$  distributed very unevenly around 0 and 1, a high correctly classified rate can be achieved even if the model has poor prediction quality. On the other hand, due to the objective of the logit model, a higher sensitivity, specificity, or a combination of the two can be the aim. In recruiting, for example, it is important both to recognize high potentials and to avoid turnover. The overall quality of such a compromise can be represented graphically through a receiver operating characteristic (ROC) curve and also mathematically as area under ROC curve (AUC) (Hanley & McNeil, 1982). With these values, the true-positive rate (sensitivity) and false-positive rate (1-specificity) axes

show how well the model separates into 0 and 1. A worthless model, which would completely be based on chance, would map the diagonal and have an AUC value of 0.5, which corresponds to a 50% probability of correctly distinguishing between 0 and 1. Accordingly, a perfect model would have an AUC value of 1. Since the interpretation of the AUC depends strongly on the context and there are no comparative values for the topic of this dissertation, general guidelines must be used. These indicate, according to Hosmer et al. (2013), a value from 0.7 for acceptable discrimination, from 0.8 for excellent discrimination, and from 0.9 for outstanding discrimination.

As an additional goodness-of-fit measure for the model, I draw on McFadden's log-likelihood-based Pseudo  $R^2$  (McFadden, 1973). This has the function

$$R_{McFadden}^2 = 1 - \frac{\ln L_1}{\ln L_0}$$

with

$L_0$ : Nullmodel

$L_1$ : Model with explaining variables

$R_{McFadden}^2 \in [0,1]$

It measures the degree of improvement of the complete model compared to the null model. Values in a range of 0.2–0.4 are described as an excellent fit (McFadden, 1977), which corresponds to an equivalent of 0.7–0.9 of a linear function (Louviere et al., 2000).

In addition, I perform a Hosmer-Lemeshow test (Hosmer & Lemeshow, 1980), the performance of which has been controversially discussed but regularly confirmed for evaluating goodness-of-fit

(Canary et al., 2017). A link test (Pregibon, 1979) is then performed to check for specification errors in the final model.

In the following section, the measurements of the individual variables are derived and defined.

### 4.3 Measures

The salary of each participant in the sample was completely negotiable and included a fixed and a variable component. The last salary from an individual's previous job and the expected values in case of a good, normal, and bad course of the occupational change into sales were asked. In my sample, 86 of 178 participants accepted a lower fixed income than they had received in their previous job. The dummy for risk acceptance is 1 if the worst-case income expected by the participant is lower than the previous income. This ratio also eliminates a possible misinterpretation of gross and net income.

Based on the skill-weights theory (Lazear, 2009) and thus the relative importance of skills required in different occupations or companies, Geel and Backes-Gellner (2011) developed labor market segments that can be described as clusters of similar occupations. The occupation of insurance agent can be classified in one of these clusters, which allows for distinguishing between workers inside and outside of a commercial cluster and workers without any apprenticeship. To further differentiate within this obvious cluster, I separately code those with apprenticeships in the financial sector. This leads to four groups, which are expected to be closer to the occupation of an insurance agent in ascending order: "without any apprenticeship," "with apprenticeship outside the commercial cluster," "with apprenticeship within the cluster

but not in finance,” and “with apprenticeship within the cluster in finance.” Membership in a group was dummy-coded according to participation in an apprenticeship, as indicated by the participant.

School qualifications were coded according to the European Qualifications Framework for lifelong learning (EQF) (EUR-Lex, 2017), in which 1 represents the lowest and 8 the highest level. In this study, the levels of the participants were distributed across 2 (11%), 3 (55%) and 4 (34%). Experience in sales was measured by asking the number of buyers to whom the candidate has sold something they did not previously know they needed. This number was logarithmized due to right skewness.

A large number of self-efficacy scales requires the candidates to conduct a self-assessment of certain skills and tasks (R. A. Peterson, 2019). Since, as has been elaborated, the information about the reality of the task has only been available to a limited extent to occupational changers, candidates with a more accurate level of information are likely to report c.p. a lower value despite identical self-efficacy. This problem can be resolved by allowing candidates to evaluate themselves relative to others, rather than on absolute terms. On a 10-point Likert scale, candidates first evaluated the probability of a successful occupational change into insurance sales in general. Afterward, they were asked to estimate the personal probability of them themselves making a successful occupational change. To measure this sense of superiority in terms of a perceived competitive advantage, the first value was subtracted from the last.

To measure the Big5 personality traits, the short scale of 40 items defined by Weller and Matiaske (2009) based on Saucier’s “Mini-Markers” (Saucier, 1994) was chosen. This scale is an economical

instrument with good psychometric characteristics and has also been previously used in some research on occupational change (Carless & Arnup, 2011).

Vocational interests were assessed using the Situational Interest Test (SIT) Version 3.0 (Stangl, 2013; ZPID, 2020). The SIT is based on the Leisure Interest Test from the same author (Stangl, 1991). A special feature of this German-language vocational interest test is its preference-oriented survey of the interests opposing each other in the RIASEC hexagon through 30 forced-choice items with an even number scale. These 30 items result from the 15 possible pairs of interests and a mutual assessment of preferences for occupational situations. The dummy of a vocational interest (R, I, A, S, E and C) takes 1 if this orientation is part of the three dominant orientations of the candidate according to the “Summary Code” (Holland, 1985). The “realistic” orientation was evaluated as a reference dummy due to its probably largest distance to the sales job.

To determine their family obligations, candidates were asked whether they lived in a stable relationship and how old, if any, the youngest child living in the household was. The age of the youngest child was crucial because the more dependent the child was, the greater a candidate’s family obligations were likely to be. To create a factor that takes this into account, the dummy for existing children was divided by the age of the youngest child + 1. The younger the child, the larger the value. In the sample considered, no child was younger than one year of age. This resulted in a value range from 0 to 0.5 for this variable. In addition, age, age squared, and gender were controlled. Gender was coded by a dummy, which assigned the value 1 for males.

Recruitment sources have been well researched. Wanous (1992) has shown that these sources can be divided into three categories: internal, external, and walk-ins. In internal recruitment, a candidate becomes aware of an occupational opportunity from an employee of the company, a friend, or a family member. External sources refer to all of the company's media efforts to fill the vacant position, such as through online or offline job advertisements and social media activities. The term walk-ins is used as a catch-all for unsolicited applications for various reasons. These categories have been widely used in recruitment research, such as Moser (2005) and Zottoli and Wanous (2000), and indicate the source of motivation to become interested in a position and the extent to which a candidate has access to information about the company or occupation. Accordingly, candidates were asked how they became aware of the job opportunity and whether they had personal relationships with contact persons in insurance sales. Ten possible answers and a free response text option were offered. The answers were then assigned to the appropriate category by a dummy variable. Since some candidates stated more than one reason, more than one dummy may have been assigned for the source. To measure the influence of the internal recruitment sources, external sources were evaluated as a reference dummy.

#### **4.4 Data Analysis**

Data analysis was performed using STATA version 16. Table 6 provides an overview of the abbreviations used in the dataset for the variables.

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Table 6: Used variables and their abbreviations in the dataset

<b>Variable Name</b>	<b>Abbreviation</b>
Retention after 12 months	CCC
Risk acceptance wage	RAW
Graduation	HCS
Apprenticeship Finance	APF
Apprenticeship Commercial	APM
No apprenticeship	AP0
Sales experience	NPSL
Sense of superiority	SEC
Personality traits	
Neuroticism	B5N
Extraversion	B5E
Openness	B5O
Agreeableness	B5V
Conscientiousness	B5G
Vocational interests	
Realistic	OIR
Investigative	OII
Artistic	OIA
Social	OIS
Enterprising	OIE
Conventional	OIC
Family obligations	
Age	AGE
Age squared	AG2
Male	MAL
Relationship	REL
Young child	CHI
External Source	WSE
Internal Source	WSI
Walk-In Source	WSW

The commands used were as follows in the order of their application to the dataset:

For the Objective model:

```
„stepwise,pe(0.15): logistic CCC HCS APF APM AP0 NPSL RAW  
SEC, vce(jackknife)“
```

The variables APM and AP0 were added due to special interest, as explained above.

For the Subjective model:

```
„stepwise,pe(0.15): logistic CCC OII OIA OIS OIE OIC B5N B5E B5O  
B5G CHI REL AGE AG2, vce(jackknife)“
```

The variable CHI was added due to special interest, as explained above.

For the Source model:

```
„stepwise,pe(0.15): logistic CCC WSI WSW, vce(jackknife)“
```

The variable WSW was excluded due to lack of informational value, as explained above.

For the Final model:

```
“logistic CCC WSI OIC CHI RAW SEC APF APM AP0 REL,  
vce(jackknife)”
```

For calculating the AMEs:

```
“margins, dydx (WSI OIC CHI RAW SEC APF APM AP0 REL)”
```

For the classification table:

```
“estat classification” respectively “estat classification, cutoff(0.77)”
```

For the ROC and AUC values:

```
“lroc”
```



For the Hosmer-Lemeshow goodness-of-fit test:

“estat gof, group(10)”

For the link test:

“linktest”

## **5 RESULTS AND THEIR EVALUATION**

### **5.1 Descriptive Statistics**

Table 7 shows the descriptive statistics of the sample studied, ordered according to the categories of Job Choice Theory, as well as the correlations of the independent variables with the retention dummy. After 12 months, 75% of the occupational changers still had a valid employment contract and were thus indicated by the success-representing retention dummy. Of these, 44% accepted a base salary that was below their previous total salary and thus took a certain degree of risk of not achieving a higher income in sales through corresponding revenues. The turnover rate for these candidates was 18% after 12 months, while those without risk acceptance had a turnover rate of 31%. The level of school graduation, with EQF values of 2–4 and an average of 3.24, shows an educational level slightly above average, given that 2 means a secondary school certificate and 4 a baccalaureate. Educational levels 2, 3, and 4 resulted in turnover rates of 26%, 28% and 20%, respectively. While 8% of the sample completed an apprenticeship in finance, 15% had no occupational qualifications at all. 42% were trained as commercial apprentices in various fields, 35% were trained in a field that did not have a commercial focus. An apprenticeship in finance resulted in a turnover rate of 7%, while training as a commercial clerk, training in the non-commercial sector, and no training at all resulted in turnover rates of 24%, 32%, and 19%, respectively. Experience in the active sales of other products varied widely among the participants of the study, as response ranged from 0 to 5,000 previous sales events.

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Table 7: Descriptive Statistics

<b>Variable</b>	<b>Obs.</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>	<b>Corr.</b>
Retention	178	.75	.43	0	1	
Risk acceptance wage	167	.44	.50	0	1	0.22
Graduation	178	3.24	.63	2	4	0.03
Apprenticeship Finance	178	.08	.28	0	1	0.11
Apprenticeship Commercial	178	.42	.50	0	1	-0.03
No apprenticeship	178	.15	.35	0	1	0.02
Sales experience	159	1.53	1.14	0	3.70	0.06
Sense of superiority	178	3.13	2.34	-2	10	0.23
Personality traits						
Neuroticism	159	22.60	6.97	8	43	0.04
Extraversion	159	39.72	6.79	22	56	0.10
Openness	159	42.72	5.21	24	59	0.08
Agreeableness	159	48.62	5.66	12	56	0.02
Conscientiousness	159	45.26	6.22	19	56	-0.07
Vocational interests						
Realistic	178	.40	.49	0	1	-0.04
Investigative	178	.33	.47	0	1	0.06
Artistic	178	.39	.49	0	1	0.13
Social	178	.65	.48	0	1	0.06
Enterprising	178	.75	.43	0	1	0.03
Conventional	178	.47	.50	0	1	-0.22
Family obligations						
Age	178	29.29	8.64	19	57	-0.02
Male	178	.55	.50	0	1	0.11
Relationship	178	.62	.49	0	1	0.16
Young child	178	.07	.14	0	.5	-0.01
External Source	178	.31	.47	0	1	-0.01
Internal Source	178	.68	.47	0	1	0.18
Walk-In Source	178	.48	.50	0	1	0.10

The skewness of the distribution of this variable due to many participants without any sales experience could be corrected by logarithmizing (log10) even though this was not a prerequisite for the following logistic regression. Participants with above-average sales experience differed from those with below-average experience only by a one percentage point lower turnover rate. A sense of superiority, as an assessment of one's own probability of success in comparison to that of the general public, was also strongly differentiated—although normally distributed. What was very interesting here was that six participants estimated a lower probability of success for themselves than they expected from other newly hired occupational changers into insurance sales. Only two of these six showed the retention dummy after 12 months.

Personality traits were not surveyed in the first cohort, which is why the number of observations is lower there. Here, conspicuously low neuroticism values were found. One reason for this could be a self-selection mechanism when applying for a vacancy in sales and undergoing occupational change. Participants with above-average neuroticism values showed a turnover rate 3 percentage points lower than more emotionally stable participants with below-average values. Extraversion was also a less dominant personality trait than would have been expected for future salespersons. The mean value here corresponded approximately to the median. The turnover rate for those with a value below the mean value was 8 percentage points higher than for candidates with an above-average value. A high extraversion value therefore seemed to have a positive effect on retention at least upon first glance. The mean and the median values for the personality trait of openness were higher than those of neuroticism and extraversion and at

the same time had the lowest standard deviation in this category. The turnover rate below the mean was 4 percentage points higher. The highest average values in this category were found with the factor of agreeableness, and here, too, the median was only 1.38 points higher than the mean. Candidates with above-average values had a 3% higher turnover rate compared to candidates with below-average values. Conscientiousness was the personality trait with the highest expected positive impact on retention probability according to the literature review. However, candidates with above-average values in this category showed a 5 percentage point higher turnover rate than candidates with below-average conscientiousness. At first glance, these figures seem to suggest that higher scores on the personality traits neuroticism, extraversion, and openness along with low scores on agreeableness and conscientiousness resulted in a higher retention rate for an occupational change into insurance sales. This assumption is relativized respectively negated by the results of the logistic regression in Chapter 5.2 and 5.3.

As described in Chapter 4.3, the dummy for a candidate's vocational interest took the value 1 if this interest belonged to the three dominant ones, as part of the "Summary Code". Forty percent of the candidates stated that they had a realistic interest. 75% of these people showed the retention dummy after 12 months and were thus within the average of the sample. Investigative interest was the characteristic that was observed least frequently, with only 33% of the candidates providing this response. At 22%, the turnover rate for candidates with this characteristic did not deviate significantly from the rate for the overall sample. In an occupation dominated by data processing, such as insurance sales, 39% of those surveyed who had undergone occupational change into sales showed an artistic interest, of which 21%

no longer had a valid contract after one year. Personal sales is an occupation with much social interaction, which is why it is not surprising that 65% of the candidates who had recently chosen this occupation showed a social vocational interest; 77% of these candidates were still working in this occupation at the end of the survey period. A fundamental characteristic of the occupation in sales is success-dependent payment and thus a high personal responsibility for one's own salary. Consequently, 75% of the candidates have an enterprising vocational interest, of which 78% show the retention dummy. Even if this was the most frequently matched category among the vocational interests, the question of why 25% of the candidates chose this type of enterprising occupation in the first place arose. The category of conventional vocational interests showed the largest surprise, as 47% of the candidates preferred a more conventional vocation. Of these, only 65% were retained after 12 months, a percentage that was considerably less than the entire sample.

In the area of biometric factors and family obligations, the first thing that stands out is the rather wide range of ages from 19 to 57 in the distribution of age. Figure 4 clearly showed the right skewness in this distribution with a mean age of 29.29 and a median of 27. An occupational change into insurance sales therefore seemed to occur more frequently in the first quarter of a person's working life. The turnover rate in the 40+ age group was 29%, slightly above the average for all candidates. The gender ratio can be described as balanced, with 55% male candidates. Women showed a slightly higher turnover rate of 30%. Out of all the participants, 62% stated that they were in a stable, private relationship. Among those in a relationship, the turnover rate was 2% below average. Due to the age distribution of the sample, the

right-skewed distribution of the variable “Young Child,” as shown in Figure 5 could be expected since many of the participants had not yet or had just started a family. Sixty-five percent of the participants were childless. Among these, the turnover rate was 19%. A correlation with the variable “Relationship” was, as shown in Table 14, much less pronounced than expected. As an example of family obligations, I take the entry of the youngest child into elementary school, which, in Germany, is usually associated with a child at the age of seven. A child of seven years was assigned a “Young Child” factor according to the calculation described in Chapter 4.3 of 0.125. In 20% of the sample, this or a higher value was an expression of responsibility for a child not yet of school age, resulting in a turnover rate of 39%, which is substantially higher than the average.

The critical contact for the specific occupational choice was represented by the source of information about the occupation of insurance salesperson as well as the particular vacancy. While 31% could be assigned to an external recruitment source, 68% attributed finding information about this occupation to an internal channel, and 12% attributed it to both. For 36% of the candidates, in addition to the aforementioned, another reason was decisive for the application, which could be assigned to the category “Walk-In”. 12% showed only this ‘Walk-In’ characteristic. Externally recruited participants of the sample had a turnover rate of 25%, while internally recruited participants experienced turnover at a rate of 19%. The rate of unsuccessful candidates was noticeably higher, at 43%, among those who only showed the “Walk-In” dummy. The reason for this could be because these candidates did not use either internal or external sources of information before making occupational changes into insurance sales

and therefore had a distorted perception of the occupation as well as their own suitability for it.

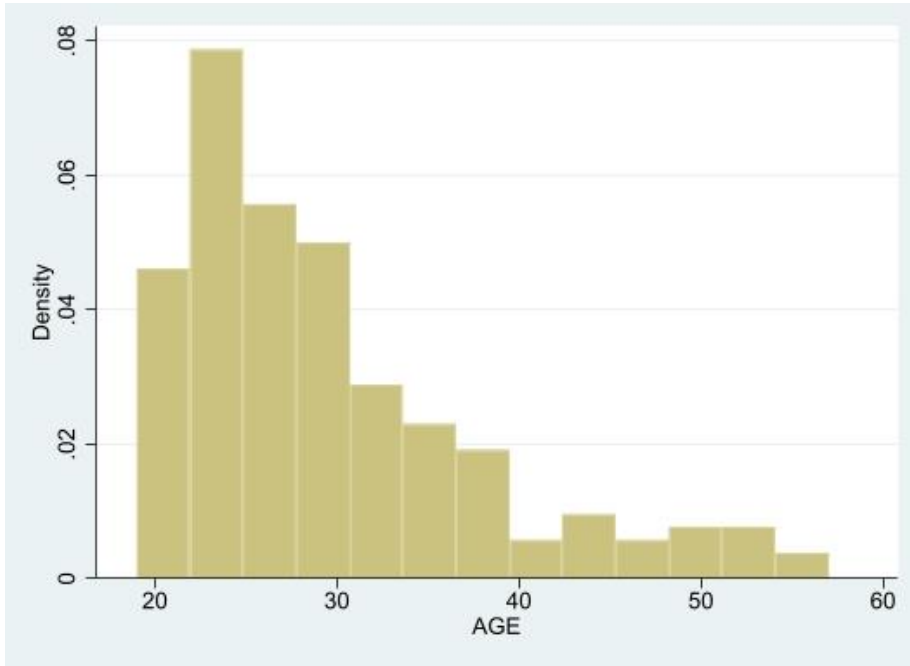


Figure 4: Histogram of age; author's own illustration using STATA16



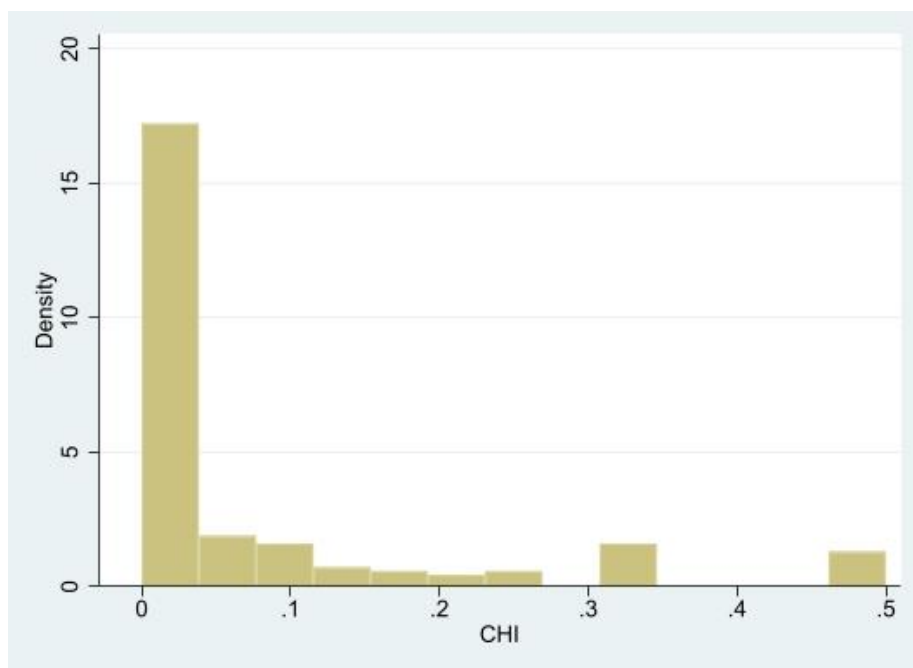


Figure 5: Histogram of “Young Child,” author’s own illustration using STATA16

## 5.2 Logistic Regression

The first three columns of Table 8 show the odds ratios of the logistic regression for each sub-model (objective, subjective, source of information). Only complete cases were analyzed. The variables in the final model are displayed in the right column of Table 8. Differences in N result from missing data and the consideration of only complete cases.

Table 8: Logit odds ratios of objective, subjective and information source predictors

<b>Dependent Variable: Retention</b>	<b>Objective Model</b>	<b>Subjective Model</b>	<b>Source Model</b>	<b>Final Model</b>
Risk acceptance wage	2.31**			2.82**
Graduation	n.i.			
Apprenticeship Finance	4.14**			3.72**
Apprenticeship Commercial	1.87			2.49*

<b>Dependent Variable: Retention</b>	<b>Objective Model</b>	<b>Subjective Model</b>	<b>Source Model</b>	<b>Final Model</b>
No apprenticeship	3.20*			2.46
Sales experience	n.i.			
Sense of superiority	1.44***			1.49***
Personality traits				
Neuroticism		n.i.		
Extraversion		n.i.		
Openness		n.i.		
Agreeableness		RD		
Conscientiousness		n.i.		
Vocational interests				
Realistic		RD		RD
Investigative		n.i.		
Artistic		n.i.		
Social		n.i.		
Enterprising		n.i.		
Conventional		0.33***		0.23***
Family obligations				
Age		n.i.		
Age squared		n.i.		
Male		n.i.		
Relationship		1.82		2.00
Young child		0.11*		0.01***
External Source			RD	RD
Internal Source			2.48**	3.40**
Walk-In Source			n.i.	
Pseudo R <sup>2</sup>	0.13	0.06	0.03	0.25
Classification rate Cut-off .5	76.05	76.40	75.28	83.23
N	167	178	178	167
AUC	.7476	.6609	.6043	.8308

*Notes:* Pseudo R<sup>2</sup> = McFadden.

Coefficients are Odds-Ratios.

\*  $p \leq 0.1$ , \*\*  $p \leq 0.05$ , \*\*\*  $p \leq 0.01$

Only complete cases were considered.

SE was calculated with Jackknife.

n.i. = not included.

RD = Reference Dummy.

## 5 RESULTS AND THEIR EVALUATION

The result of the Hosmer-Lemeshow goodness-of-fit test with 10 quantiles, as displayed in Table 9, indicates no significant differences in the observed and expected proportions of retention rates and therefore suggests an appropriate model.

Table 9: Hosmer-Lemeshow goodness-of-fit test

Group	Prob	Obs_1	Exp_1	Obs_0	Exp_0	Total
1	0.4224	4	-4.3	13	12.7	17
2	0.5615	7	8.6	10	8.4	17
3	0.6517	12	10.2	5	6.8	17
4	0.7472	10	11.4	6	4.6	16
5	0.8106	15	13.3	2	3.7	17
6	0.8822	15	14.4	2	2.6	17
7	0.9181	17	15.4	0	1.6	17
8	0.9564	14	15.1	2	0.9	16
9	0.9778	16	17.4	2	0.6	18
10	0.9984	15	14.8	0	0.2	15
Number of observations				167		
Number of groups				10		
Hosmer-Lemeshow chi2(8)				10.14		
Prob > chi2				0.2551		

Additionally, the link test of the final model, as displayed in Table 10, shows the significant value for  $\hat{y}$  and the non-significant result for  $\hat{y}^2$  expected for models without misspecification errors.

Table 10: Link test

CCC	Coef.	Std.	P> z	[95% Conf. Interval]	
_hat	1.331988	.315116	0.000	.7143709	1949606
_hatsq	-.137232	.086709	0.113	-.3071785	.0327144
_cons	.001703	.272938	0.995	-.5332458	.5366517
<hr/>					
Number of observations	167				
LR chi2(2)	50.56				
Prob > chi2	0.0000				
Pseudo R2	0.2684				

Table 11 shows the AME for each variable of the final model, the z-values, and the confidence intervals.

Table 11: AME calculations final model

	dy/dx	z	[95% Conf. Interval]	
Risk acceptance wage	.1408**	2.34	.0229	.2586
Apprenticeship Finance	.1784**	2.03	.0057	.3512
Apprenticeship Commercial	.1240*	1.85	-.0071	.2552
No apprenticeship	.1226	1.18	-.0816	.3269
Sense of superiority	.0546***	3.78	.0262	.0829
Conventional interest	- .1959***	-3.51	-.3052	-.0865
Relationship	.0939	1.44	-.0337	.2217
Young child	- .5635***	-3.05	-.9252	-.2018
Internal Source	.1661***	2.88	.0529	.2793

Notes: Model VCE: Jackknife.

Number of observations = 167.

\*  $p \leq 0.1$ , \*\*  $p \leq 0.05$ , \*\*\*  $p \leq 0.01$

Table 12 and Table 13 show the classifications tables of the final model for a standard success-predicting threshold of .5 and the sum of sensitivity and specificity maximizing threshold of .77, respectively.

## 5 RESULTS AND THEIR EVALUATION

Table 12: Classification of final model, threshold 0.5

----- True -----			
Classified	D = Success	~D = Fail	Total
+	120	23	143
-	5	19	24
Total	125	42	167
Classified + if predicted Pr(D)	$\geq .5$		
Sensitivity		Pr(+ D)	96.00%
Specificity		Pr(- ~D)	45.24%
Positive predictive value		Pr(D +)	83.92%
Negative predictive value		Pr(~D -)	79.17%
False + rate for true ~D		Pr(+ ~D)	54.76%
False - rate for true D		Pr(- D)	4.00%
False + rate for classified +		Pr(~D +)	16.08%
False - rate for classified -		Pr(D -)	20.83%
Correctly classified	83.23%		

Table 13: Classification of final model, threshold 0.77

----- True -----			
Classified	D = Success	~D = Fail	Total
+	87	6	93
-	38	36	74
Total	125	42	167

Classified + if predicted $\Pr(D) \geq .77$			
Sensitivity	$\Pr(+ D)$		69.60%
Specificity	$\Pr(- \sim D)$		85.71%
Positive predictive value	$\Pr(D +)$		93.55%
Negative predictive value	$\Pr(\sim D -)$		48.65%

False + rate for true $\sim D$	$\Pr(+ \sim D)$	14.29%
False - rate for true D	$\Pr(- D)$	30.40%
False + rate for classified +	$\Pr(\sim D +)$	6.45%
False - rate for classified -	$\Pr(D -)$	51.35%

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Correctly classified		73.65%
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Figure 6 shows the ROC curve and the AUC.

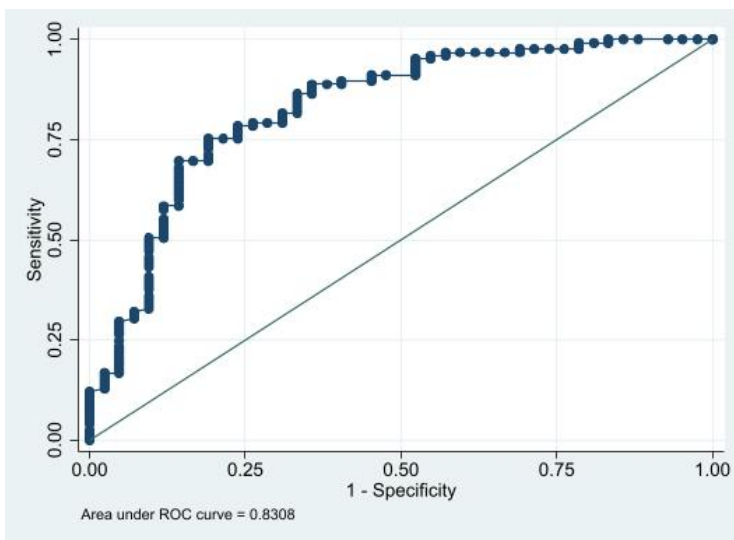


Figure 6: ROC curve and AUC, author's own illustration using STATA16

Intercorrelations of the independent variables can be seen in Table 14. The displayed values do not provide any indication of multicollinearity. A list of abbreviations was previously provided in Table 6.

Table 14: Correlation matrix of independent variables

	RAW	APF	APM	AP0	SEC	OIC	REL	CHI	WSI
RAW	1.00								
APF	0.16	1.00							
APM	-0.12	-0.25	1.00						
AP0	-0.12	-0.12	-0.34	1.00					
SEC	0.03	0.16	-0.06	-0.11	1.00				
OIC	-0.06	0.10	-0.08	-0.04	-0.12	1.00			
REL	0.00	0.14	-0.07	-0.06	0.05	0.09	1.00		
CHI	0.12	0.00	0.13	-0.13	0.05	-0.01	0.23	1.00	
WSI	0.02	0.07	-0.13	0.17	0.10	0.05	0.08	-0.02	1.00

## 5.3 Evaluation

### 5.3.1 Goodness-of-Fit

Examining the goodness-of-fit values of the final model, the value of McFadden's Pseudo  $R^2$  (0.25) indicates a high explanatory power of the final model. It should be emphasized that, as can be seen in Table 8 and Figure 7, the Pseudo  $R^2$  value of the final model exceeds the sum of the sub-models and is comparable in linear models with an  $R^2$  of about 0.70 to 0.80 (Louviere et al., 2000). Because predicting success in the form of retention 12 months after an occupational change in an interdisciplinary context was the goal of my research and not testing a few variables for significance, it can be said that the main goal was achieved. The Hosmer-Lemeshow goodness-of-fit test's p-value of 0.2551 suggests a good fit of the final model in terms of representing

the observed data. The link test shows an adequate specification of the model with no need to include or omit variables.

Furthermore, the AUC (0.83) proves excellent discrimination for predicting the success of candidates (Hosmer et al., 2013). The correctly classified rate of 83.23% for a threshold of .5 (Table 12) was 8.4 percentage points above the realized retention rate. Depending on the choice of threshold, the goal of high sensitivity or specificity can be achieved. With a value of .5, only 4% of the successful candidates were classified as false negatives, but this is at the expense of a less accurate distinction from the unsuccessful. The optimal threshold of .77 can be graphically obtained from the ROC curve. Here, the ratio of sensitivity and specificity is optimal. Table 13 shows for this cut-off value that with increasing threshold the rate of correctly classified decreases, but the detection rate of potentially unsuccessful candidates increases significantly. Depending on the goal of the model, an appropriate classification can be achieved.

### **5.3.2 Testing Hypotheses**

When interpreting the results, it must be noted that each of the three explanatory categories represents a variable with a significance level of less than 1% in the final model. Given the voluntary decision to change occupations (Longhi & Brynin, 2010), correct or false expectations of the occupational reality in insurance sales and personal assessments of suitability can therefore be found in the interplay of all three dimensions.

As can be derived from Table 8 and Figure 7, each of the individual sub-models shows a certain degree of explanatory power at



an expected level (for a similar spectrum of variables as the subjective model, see e.g., Barrick and Zimmerman (2009)).

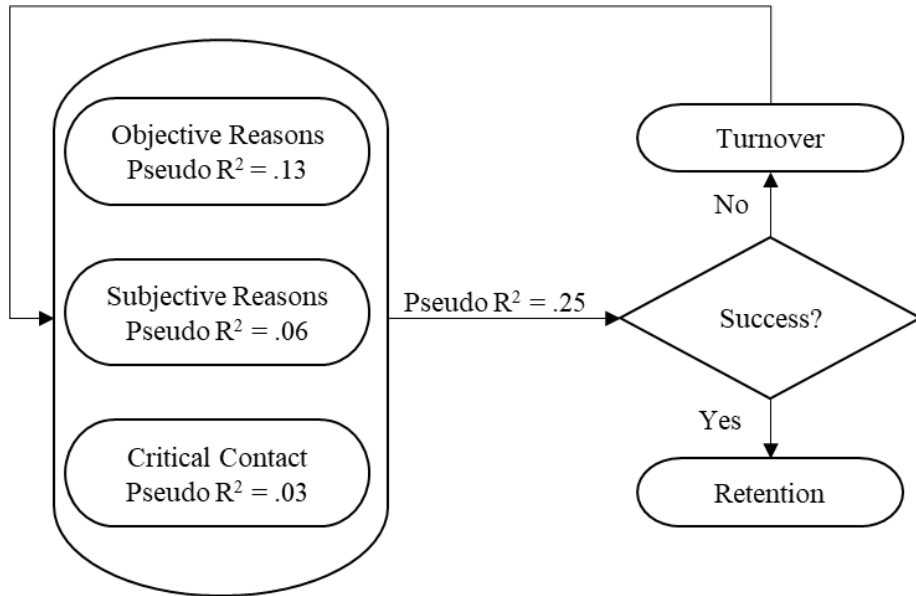


Figure 7: Explanatory power of Sub-Models and Final Model, author's own illustration

Objective reasons for personal suitability were searched for in the points cognition, experience, and signaling of aforementioned. Table 15 summarizes the results of the hypotheses testing.

Table 15: Results of Hypotheses Testing

No.	Hypothesis	Crucial Variable(s)	AME	z-value	Confirmed
H <sub>1</sub>	<i>Candidates who accept a fixed salary below <math>W^R</math> signal positive productivity and therefore have a higher retention rate after making an occupational change into insurance sales.</i>	Risk acceptance wage	.1408	2.34	Yes

No.	Hypothesis	Crucial Variable(s)	AME	z-value	Confirmed
H <sub>2</sub>	<i>The closer the skill-set of a completed apprenticeship is to the target occupation of an insurance agent, the higher the retention rate after making an occupational change into insurance sales.</i>	Apprenticeship finance, Apprenticeship commercial	.1784 .1240	2.03 1.85	Partly
H <sub>3</sub>	<i>Regardless of one's formal education, more experience in personal sales leads to a higher retention rate after making an occupational change into insurance sales.</i>	Sales experience	failed inclusion criterion		No
H <sub>4</sub>	<i>A high self-efficacy in the sense of a perceived competitive advantage leads to a higher retention rate after making an occupational change into insurance sales.</i>	Sense of Superiority	.0546	3.78	Yes
H <sub>5</sub>	<i>Conscientiousness and Openness have a positive impact on retention after making an occupational change into insurance sales.</i>	Conscientiousness, Openness	failed inclusion criterion		No
H <sub>6</sub>	<i>A mismatch of occupational interests and the new, unfamiliar occupational environment leads to a lower probability of retention after making an occupational change into insurance sales.</i>	Conventional occupational interest	-.1959	-3.51	Yes
H <sub>7</sub>	<i>The younger any children living in the household are, the lower the probability of a successful occupational change into sales.</i>	Young Child	-.5635	-3.05	Yes

Seventy-four participants accepted a fixed salary below that of their previous job. A retention rate of 82.4% of these and a significant coefficient of the risk acceptance dummy on a 5% level leads to the conclusion that Hypothesis 1 can be confirmed according to the comparable method of Lazear (2004) to determine the real potential of managers. When evaluating the effect sizes, I do not refer to the odds ratios but to the AMEs for the reasons mentioned in Chapter 4.2.5. A positive effect of an average of 14% of risk acceptance on retention can certainly be described both as large and as a new scientific result. From an economic point of view, the bearing of financial risks seems to be a signal for higher suitability and therefore a successful occupational change into insurance sales. A particular level of education showed no significant influence on retention although this may be considered an indication of general mental ability and is generally recognized as a good predictor of job performance (Schmidt et al., 2016). In a permeable education system with many secondary education options, this measure may be considered too broad. In the area of vocational training, only the dummy for the most closely related occupations in the financial sector showed a significantly positive influence at a 5% level. I evaluate the significance of the commercial apprenticeship at a 10% level as insufficient. Hypothesis 2 can therefore only be partially confirmed since a greater occupational distance—both inside and outside the cluster—seems to have no sufficiently significant correlation with the probability of success when changing occupation into insurance sales. This could be due to the fact that although a commercial apprenticeship teaches the fundamentals of the trade, the conditions for conducting sales in finance resp. insurance are different from what was expected in retail. Even if this hypothesis could not be fully confirmed, this does not

fundamentally contradict the results of Geel and Backes-Gellner (2011) since my classification of occupational clusters was even more detailed. Contrary to Hypothesis 3, experience in the distribution of other products does not show a visible advantage, which is why this particular hypothesis must be rejected. This is surprising, but that part of the new occupation seems to be learnable relatively quickly when other factors are met. The signal of the sense of superiority appears to reveal significant differences in tacit knowledge respectively human capital. Of the 178 candidates, only 25 did not assess themselves as better than the sample population. It is noticeable that especially among those who rated themselves as substantially better, no turnover occurred. The most significant variable confirms Hypothesis 4. Examining the descriptive statistics in Table 7 and the AMEs in Table 11, one must consider that this is the difference between two 10-point Likert scales. The average effect on retention can therefore be very high in individual cases. This is in line with the findings of Barrick and Zimmerman (2009) about the correlation between general self-efficacy and avoidable turnover.

None of the personality traits shows significant explanatory power in either the subjective or the final model, which is why Hypothesis 5 must be rejected. The results of Sitser et al. (2013), where conscientiousness was found to be a good predictor for general job performance in sales and where openness was a strong predictor for new customer acquisition, could not be confirmed for the retention of occupational changers, neither in the partial subjective model nor in the final model where the other variables used in this study were taken into account. Although the turnover rates were consistently lower for high values of the variables, the logistic regression reveals that there was no significant correlation. To make this clearer, I present the results of a

logistic regression with only the variables of the personality traits in Table 16, again with the retention dummy as the dependent variable.

Table 16: Logistic regression results of personality traits

<b>Variable</b>	<b>Odds Ratio</b>	<b>Std.-Err.</b>	<b>p-value</b>	<b>[95% Confidence-Interval]</b>
Neuroticism	1.007435	.0310179	0.810	.9479974 - 1.0706
Extraversion	1.017562	.0333934	0.597	.9536993 - 1.085702
Openness	1.062699	.0646886	0.319	.9423151 - 1.198463
Agreeableness	1.016476	.0482423	0.731	.9255224 - 1.116367
Conscientiousness	.9460131	.0419943	0.213	.8666025 - 1.0327
Constant	.6535501	1.909416	0.884	.002038 - 209.5797
Pseudo R <sup>2</sup>	0.0257			
N	159			

*Notes:* Dependent Variable = Retention after 12 months.  
Pseudo R<sup>2</sup> = McFadden.  
SE calculated with Jackknife.

The personality traits regularly surveyed in job interviews therefore do not appear to be a suitable basis for achieving a high retention rate.

In the case of vocational interests, Hypothesis 6 can be confirmed. Retention rates decreased significantly by an AME of .19 when a conservative interest was obviously not satisfied, as 34.5% of the 84 participants with a conservative interest failed to succeed in their new occupation in insurance sales. This insight was only possible because according to van Iddekinge et al. (2011), the entire RIASEC spectrum was analyzed to consider job specificity and not just a single item. (National Center for O\*NET Development, 2021) issues the RIASEC summary code ECS for insurance salespersons. Table 17 shows the results of a logistic regression in the variant used in this dissertation with only these three variables. The vocational interests “enterprising” and “social” do not seem to have either a positive or negative influence on the probability of turnover. In this case, the applicability of the summary code concept may come under question.

Table 17: Logistic regression results of O\*NET, RIASEC summary code

<b>Interest</b>	<b>Odds Ratio</b>	<b>Std.Err</b>	<b>p-value</b>	<b>[95% Confidence-Interval]</b>
Enterprising	1.429463	.5552346	0.359	.6641585 - 3.076624
Conventional	.3799885	.1415242	0.010	.1822064 - .7924599
Social	1.120631	.4268514	0.765	.5284516 - 2.376401
Constant	3.664662	1.746535	0.007	1.430766 - 9.386406
Pseudo R <sup>2</sup>	0.0459			
N	178			

*Notes:* Dependent variable = Retention after 12 months.

Pseudo R<sup>2</sup> = McFadden.

SE calculated with Jackknife.

Both the Stepping Stone (Jovanovic, 1997) and the Bandit (Johnson, 1978) models suggested—albeit with different signs—a correlation between the age of a new hire and the probability of turnover. Such a relationship cannot be demonstrated at a significant level with the present data. While gender also does not influence retention rates, the chances of a successful change into sales significantly decreases if a new salesperson has children, especially the younger these children are. At first glance, this result contradicts macroeconomic analyses in which family obligations reduce the probability of turnover (Moscarini & Vella, 2008). However, these analyses are concerned with the fact that a certain need for security restricts occupational mobility. On an individual level, the reasonableness of these restrictions seems to be absolutely justified by the high probability of failure. The respondents in my sample clearly valued the advantages of an occupational change more than the disadvantages; otherwise, they would not have taken this step. Sixty-two participants in the sample stated that they have children. However, the coefficient is difficult to interpret since the “Young Child” factor, treated as a continuous variable, can take values from 0 to 1 and decreases disproportionately with each additional year of age. This was

intended to reflect the need to care for young children. As an aid to interpretation, the example of two candidates with children is given here. The youngest child of Candidate A is nine years old and thus has a value of 0.1 for the variable “Young Child.” The youngest child of Candidate B is four years old and has a value of 0.2. According to the AME of “Young Child” (-0.5635), the probability of retention for Candidate B is on average 5.6 percentage points lower than the probability of success for Candidate A. Thirty-six participants reported having children ages 7 and younger. Only 61.1% have successfully managed the occupational change. With a “Young Child” AME z-value of -3.05, Hypothesis 7 can clearly be confirmed supporting the theory of work-family conflict in sales (J. S. Boles et al., 1997). This dissertation is the first study in the context of occupational change and insurance sales demonstrating this clear work-family conflict caused by having obligations to a very young child. Interestingly, this finding applies to both women and men.

The last category of sources of information shows that the expected positive impact of contact with company employees before submitting the application was highly significant, as summarized by Zottoli and Wanous (2000). In this case, an internal recruiting source reduces turnover probability by an average of 16.6 percentage points. The reason for this is most likely an information advantage. In research on recruitment sources, the category of “walk-ins” serves as a catch-all for sources that cannot be assigned to the other two: internal and external. For this reason, I did not include this item in the final model. The above-average turnover rate of the participants with only this characteristic in the descriptive statistics could be an indication of

having insufficient information prior to undergoing the occupational change into sales.

Overall, it turns out that all three approaches can be summarized under the generic term “reduction of information asymmetries” and combined form a powerful logistic regression model of the first-year retention rate of occupational changers. Taking determinants of human capital into account, psychological approaches appear to contribute less to explaining retention of occupational changers into insurance sales than in isolated studies.



## **6 CONCLUSIONS AND RECOMMENDATIONS**

The aim of this dissertation was to answer the question of which factors can explain the occurrence of retention or turnover after an occupational change into insurance sales for a candidate. I identified the determinants of a successful occupational change into sales by combining economic and psychological approaches, further supplemented with considerations of possible information asymmetries. The objective model has the highest explanatory power of the individual sub-models and represents half of the significant variables in the final model. Unobservable in official certificates, tacit human capital has been revealed both theoretically and practically in risk acceptance and perceived superiority of a candidate. A significant correlation between the decrease in retention rate and greater distance from the skillset of the previous occupation could not be demonstrated. Only the most closely related occupations in the financial sector had a positive effect on a sufficient significance level, however, and the largest average marginal effect. Surprisingly, experience in selling other products did not prove advantageous to candidate retention rates. That no variable of the personality traits could convince within the subjective sub-model was just as surprising. A clearly inaccurate understanding of the fit between occupational interests and professional reality as well as increased family obligations turned out to be hygienic factors with a highly significant reduction in the probability of a successful occupational change. As expected, the recruitment source showed a highly significant positive correlation with retention as a variable of information access and underlines the need of occupational changers to obtain sufficient

and credible information. These results are underlined by the high goodness-of-fit values of the final model.

## **6.1 Practical Implications**

Considering that the filling of a sales vacancy can account for about 30% of the annual salary (Sager, 1990) and that the training costs of job starters in sales are at least as high (Ingram et al., 2009), the results presented here are particularly relevant to the recruitment process when hiring occupational changers into insurance sales. The hypotheses and the study design reflect the thoughts of an executive in sales: Is this person suitable for the sales job? To what extent do candidates know what they are getting into? Will there be a return on investment of the initial training? A variety of test procedures are offered to answer these questions. The results of this paper can enable recruiting companies to focus on the critical factors for an occupational change and to reduce information asymmetries on both sides in order to build a stable employer-employee relationship. Companies should respond to different signals of information asymmetries by either ensuring clarity about the job prior to hiring or deciding against a candidate despite pressure to fill the vacancy if retention is one of its recruitment goals. Subjective explanatory approaches stand out due to a negative correlation with retention and seem to be more hygienic factors (Herzberg et al., 1959) than signals for suitability, while the objective explanatory approaches, as expressions of human capital, can positively predict a successful occupational change. The frequent use of personality tests can therefore be questioned, as they do not seem to have any influence on retention, especially when other factors, such as human

capital and informational sources, are heterogeneous. While previous research found a correlation between a personality trait and retention (Caplan, 2003), the significance of one concept considered isolated is worthless in practice if it does not increase the classification rate. The present work puts these concepts into context and leads to a model; a major practical advantage of the present results is that by determining the cutoff value of the classification, one can decide whether more emphasis should be placed on sensitivity (accurate detection of successful) or on specificity (accurate detection of failers). The combination of economic and psychological measures has evidently been effective. According to Hom and Griffeth (1995), even small improvements in the predictability of turnover are valuable, especially against the background of the large number of new hires that are usually made. Since recruitment source, in particular, can be seen as a source of information, it would be advantageous to make clear to the company's own employees, as ambassadors of the employer's brand, their importance in this process as well as to provide them with guidance.

Furthermore, people who are considering changing their occupation, as well as career counseling organizations, can benefit from the findings of this work. A failure of an occupational change is as undesirable for the worker, just as it is for the employer. The calculated and significant AMEs of the final model, when used for targeted information gathering, can be used as a basis for more objective decisions for or against a career in sales. Table 18 summarizes the recommendations to the acting agents. Occupational changers are also hired in many other industries, so these results are likely to be relevant beyond the area of sales.

Table 18: Recommendations in the case of hiring occupational changers

<b>Agent</b>	<b>Recommendation</b>
<b>Company</b>	
Employer Branding and Recruiting	Generate attractiveness of the occupation but enable self-selection through information Launch and/or professionalize referral programs
Hiring Process	Provide sufficient information about the occupation through the hiring stages Promote contact between applicants and job holders Address potential work-family conflicts
Candidate Testing	Assess candidates' grasp on information relevant to the occupation and thus their progress of self-selection Focus on testing human capital factors Make tacit Human Capital testable through risk acceptance and relative self-efficacy With regard to turnover avoidance, personality traits do not seem to be relevant Vocational interests seem to be a better approach, especially understanding whether or not candidate can feel comfortable in the long run and knows enough about the occupation
<b>Candidate and Career Counseling</b>	
	Human Capital should largely be retained Obtain information from people who practice this occupation Consider potential work-family conflicts In the case of a positive self-assessment, reveal tacit human capital to the potential employer.

## 6.2 Limitations and Future Research

It must certainly be considered that this study is based on a convenience sample from a single company. In line with Richardson et al. (1994),

this would be the appropriate approach in the case of such a narrow focus (occupational changers and insurance sales) and with a primary goal of internal validity. Since insurance companies differ in using different contract models, incentive structures, and requirements regarding customer access and pricing, these factors can be controlled in this way. Furthermore, the choice of observation period is questionable. While Landau and Werbel (1995) considered a period of six months to be appropriate for insurance agents, Wanous (1992) argued for a first-year retention rate, Buckley et al. (2002) calculated with days worked, and Barrick and Zimmerman (2009) analyzed after both six and 24 months. By choosing 12 months, I am at least within the time corridor of previous research. Furthermore, it must be mentioned that during part of the evaluation period from October 2019 to October 2020, there were global restrictions in parts of the labor market due to the COVID-19 pandemic. However, my previous work has shown that this did not have a negative impact on insurance sales (Hinrichs & Bundtzen, 2021).

A distinction between functional and dysfunctional as well as between voluntary and involuntary turnover, as proposed by Boles et al. (2012), would certainly yield additional insights. This was not possible in this study due to the study design since the candidates and their informational prerequisites prior to the start of the job were at the center of attention, and exit interviews are widely considered to be of little value (Hom et al., 2012).

The focus of this work on new employees currently ignores the employer's side as well as regional environmental factors. In my view, it is very likely that large parts of the unexplained variance can be explained by the composition of the hosting team, especially by the

opportunities offered and, in this case, by sales opportunities. Since an occupational changer is less able to assess the opportunities being offered than an employee with experience in the occupation, information asymmetries on the part of the candidate are likely to be a cause of failure here as well; however, there are probably also differences in regional chances of success: in sales, in particular, these include the entrepreneurial mentality of the respective manager, the number of customers to be served, and the attractiveness of the compensation package. Since the critical success factors for a candidate can be determined from the present work, the receiving side (employers) should now be analyzed so that potentially successful candidates are not employed in a context that may systematically prevent success.

Informational uncertainty exists in expectations regarding one's own performance and thus also regarding one's salary in the case of output-based pay, as well as in the subjective areas of fit in personality and vocational interests. The extent of this uncertainty is determined by contacts with the hiring company as well as the use and quality of other information channels. Today, informational advantages through referrals and the necessary contact between current employees and the candidate may be substituted or supplemented by various Internet platforms (van Hoyer & Lievens, 2005). According to the Staff Word-of-Mouth concept, which is considered valuable by candidates (Cable & Turban, 2001), future research on recruitment sources should differentiate between genuine referrals and anonymous information from online platforms. Furthermore, the credibility of these sources could be investigated: the (National Center for O\*NET Development, 2021) issues the same RIASEC summary code (ECS) for hotel desk clerks as for insurance salespersons, but these two occupations clearly

differ. The results of this study support the assumption that the occupation of insurance sales agent probably has a less conventional environment than is widely proclaimed. On the contrary, since conventional and artistic interests are opposed to each other in the RIASEC hexagon, the truth of the term “the art of selling” could be scientifically provable in the future. Van Iddekinge et al. (2011) mentioned the job specificity of the RIASEC-turnover correlation, which is why the negative correlation between conservative interest and retention found here should be investigated for other occupations in the same context in order to maintain its designation as hygienic factor.

The results of the logistic regression show the high relevance of the threshold of  $y^*$  used for  $y = 1$  for the prediction of success. Current test procedures combine different test variants additively to form an overall picture of candidates and their fit with regard to the vacant position (Schmidt et al., 2016). Future tests could, according to my results, be composed more sensibly by building up these tests in a stepwise manner, first performing tests with high sensitivity to avoid rejecting any potentially successful candidates and then performing tests with high specificity to reduce the turnover probability. There is still a long way to go in further research.

## 7 NEW SCIENTIFIC RESULTS

This dissertation is not the first publication addressing newly hired insurance salespersons. It is also not the first publication to address personality traits of successful salespersons. The novelty of this dissertation is found on several levels, which were either not considered at all or were undifferentiated in previous research. Table 19 sums up the new scientific results of this study, described in detail below.

Table 19: New scientific results

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### **New Interdisciplinary Approach**

- The combined approach explains more variance than sum of isolated concepts with substantial reduction of variables.

---

### **New Significant Variables**

- “Young Child” measures a potential work-family conflict depending on the age of the youngest child.
- “Risk acceptance wage” may reveal undocumented eligibility of candidate.
- “Sense of superiority” as a relative assessment of self-efficacy seems to be less biased than other measures and can reveal tacit human capital.

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### **New Results**

- Human capital variables explain considerably more variance in turnover than psychological concepts.
- Personality traits may be overemphasized in assessment situations of occupational changers.
- Vocational interests seem to be a hygienic factor.

### 7.1 New Interdisciplinary Approach

The topic of occupational change (i.e., the change from a known because practiced occupation to a new, largely unknown occupation) has not yet been satisfactorily addressed through a combination of economics and psychology. In economics, the subject of investigation is usually the



effects of an occupational change on wages, the creation and differentiation of occupational clusters on the basis of more or less precisely defined occupational changes, or both. Even in the only case found where, in addition to human capital factors, personality traits are also queried through large employment surveys (Rohrbach-Schmidt & Ebner, 2019), attention is then again focused on possible personality differences of broadly defined occupational groups and then on salary. This raises the question of how insightful these studies are, especially if only marginal differences are found and if highly discussed occupational psychology concepts, such as RIASEC, are disregarded. In the case of an occupational change, both the person making the change and a potential employer are particularly concerned with the success of this project. The psychological field finds explanations for success or failure of employees in general—and partially of salespersons in particular—mainly in personality traits and an inconsistently defined person-environment-fit concept. Human capital factors are considered at most under the heading of cognitive ability and are usually measured in terms of graduation rates. Differences in occupational knowledge or experience do not appear to be of interest in this subject area.

In this dissertation, the weaknesses of these isolated approaches are remedied by surveying and evaluating the areas of human capital, psychological components, and information asymmetries in an interdisciplinary context. This was achieved by overcoming the common research economic hurdle of time. Both participants and I as the researcher invested considerable time in processing and evaluating the questionnaire. The result is a combined model with greater explanatory power than the sum of its component isolated approaches.

## 7.2 New Significant Variables

To minimize the potential for error in the measurement of the variables, I developed three new variables: the factors “Risk acceptance wage” (5% significance level), “Sense of Superiority” (1% significance level), and “Young Child” (1% significance level). All three were not only highly significant, but also resolved the weakness of the previously used measurement methods by measuring relative rather than absolute scores. The topic of occupational change, in particular, shows that people think in alternatives and that occupational reality is not absolute. The “Risk acceptance wage” dummy as a measure of monetary risk acceptance frames the prospective worst-case income in relation to previous income, even in the case of different contract constellations and occupational backgrounds. An important advantage of this is that a possible misinterpretation of gross and net income of the candidates can thus be eliminated since the units of the figures are omitted in relation to one another. For the prognosis of reality, it is furthermore of great advantage that candidates do not indicate an abstract evaluation of their own risk perceptions with a questionable scale worked out from a factor analysis, but rather identify decisions made by themselves in concrete situations.

With “Sense of Superiority,” I have taken into account the criticism of Peterson (2019) that currently used self-efficacy measures may be too susceptible to moderator variables. By assessing one’s own suitability in relation (!) to that of others, at least some moderator variables in the area of information asymmetry, as described in Chapter 4.3, have been leveraged. With both of the aforementioned measurement methods, it seems possible to make tacit human capital more visible.

The variable “Young Child” was formed because the intensity of care that children require decreases disproportionately with increasing age. Accordingly, a variable with this property had to be used. Indeed, it is precisely not the often used (Carless & Arnup, 2011) pure number of children, but age. It is not far-fetched to call the mere presence of children trivial when investigating a work-family conflict using dummies since without a family, a work-family conflict would be very unlikely. The variable “Young Child” could have the potential, just as “age squared,” to become a standard in research.

### 7.3 New Results

The combination of interdisciplinary explanations for turnover and retention allows a new examination of individual groups of variables. In addition, in retrospect, this dissertation is, surprisingly, the first to compare the effect sizes of variables on retention of occupational changers by using AMEs instead of odds ratios.

The group of human capital variables, represented by the objective model, represents the most significant variables in the final model and shows a correspondingly high Pseudo  $R^2$ . The question of whether occupational proximity (i.e., formal theoretical or dual training) or practical experience in sales has a dominant effect on retention in the event of occupational change has arisen through this research. From literature, as well as my own experience, similar values were expected for these areas of knowledge and experience. However, the result was that experience in sales does not seem to have any correlation with the probability of retention, while a content-related proximity between occupational training and the new occupation is both significant at a 5%

level and increases the probability of success by a high marginal average effect of 17.8 percentage points. In this context of occupational change, monetary risk-taking as a predictor of success in sales was new and had not previously been explored. Theoretically, this can be presented as a revelation of tacit human capital and empirically proven at a 5% significance level. “Sense of Superiority” as a measure of relative self-efficacy shows a high level of significance, which is almost to be expected for this group of explanatory approaches. New insights were provided in the final model by the value for its AMEs on the probability of success, which, at 5.4 percentage points was significant at the 1% level but nevertheless represented the lowest effect of all variables. The psychological components showed that the Big5 personality traits are not decisive, but only (or at least) one factor of the RIASEC construct seems to have had a significant influence. As the dummy with the largest average marginal effect, significance at the 1% level, and a negative sign, it can be assumed that I have identified a decisive hygiene factor here. The novelty of the variable “Young Child” also implies new results. A work-family conflict, if present, seems more likely to be found in the age of the youngest child to be cared for rather than in the number of children or in the specific relationships, regardless of gender. The highly significant, large, and negative average marginal effect shows how exponentially such conflict decreases with each passing year of the youngest child’s life. It was not expected that this would be so clear, and a similar finding has not yet been shown in this context.

However, this work was also the first to relate Job Choice Theory to the prediction of success of occupational choices, and it was shown that this model—though old and simple—is effective at predicting the success of occupational changes into insurance sales.

## 8 SUMMARY

A large proportion of vacancies in insurance sales are filled by occupational changers. This is not necessarily due to the ease with which this occupation can be learned, but, in particular, to the fact that not enough young people are being trained in this occupation. However, switching from one trained occupation to another, such as sales, involves certain risks in the form of information asymmetries regarding the future occupational reality and one's own aptitude or performance. Particularly in a sales occupation, where pay is usually also performance-related, such misunderstandings can lead to failure and thus turnover. To determine the reasons for success or failure in terms of retention, this dissertation first examined the reasons for occupational change based on the literature. Then, the existing literature was examined for possible success factors of an occupational change. As an organizing framework, the Job Choice Theory, which divides the choice of an occupation into objective and subjective reasons and adds the influence of a critical contact between candidate and company, was chosen. These reasons were then further subdivided. To identify the determinants of a successful occupational change into sales, I combined economic explanatory approaches of human capital theory with psychological approaches and considerations of possible information asymmetries, especially for those who were newly hired. At a mid-sized German mutual insurance company, 178 newly hired insurance agents with a background of occupational change were interviewed at their initial training, and retention was measured after 12 months. Logistic regression revealed that the combination of different disciplines and a reduction of the variables through stepwise forward inclusion can form

a powerful model of retention. While factors of human capital correlate positively with retention, psychological concepts may indicate, if at all, characteristics of hygienic factors. Overall, the results provide strong evidence that variables reducing information asymmetries on the candidate's side can have a decisive effect on the probability of a successful occupational change into sales. With these insights, it is possible to make better hiring decisions and evaluate the informational needs of the occupational changing candidate in the early stages of the recruiting process.

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## 11 PUBLICATION LIST

### 11.1 The published publications relating to the topic of the dissertation

Kraft, M. H. G. & Hinrichs, G. (2019). How important are linguistic competencies on the german labour market? A qualitative content analysis of job advertisements. *European Journal of Economics and Business Studies*, 5 (3), 35-41. <http://dx.doi.org/10.26417/ejes.v5i3.p35-41>.

Hinrichs, G. (2019). Responsible Recruiting in Insurance Sales: A Hard Facts Measurement Approach. *Regional and Business Studies*, 11(2), 65–79. <https://doi.org/10.33568/rbs.2413>

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Hinrichs, G. & Bundtzen, H. (2021) Impact of COVID-19 on personal insurance sales – Evidence from Germany. *Financial Markets, Institutions and Risks*, 5(1), 80-86. [http://doi.org/10.21272/fmir.5\(1\).80-86.2021](http://doi.org/10.21272/fmir.5(1).80-86.2021)

## 11.2 The published publications not relating to the topic of the dissertation

- Bundtzen, H. & Hinrichs, G. (2021). The link between organizational agility and VUCA – an agile assessment model. *SocioEconomic Challenges*, 5(1), 35-43. [https://doi.org/10.21272/sec.5\(1\).35-43.2021](https://doi.org/10.21272/sec.5(1).35-43.2021).
- Bundtzen, H. & Hinrichs, G. (2021). Innovation Capability of the Company: the Role of Leadership and Error Management. *Marketing and Management of Innovations*, 1, 112-123. <http://doi.org/10.21272/mmi.2021.1-09>
- Bundtzen, H. & Hinrichs, G. (2021). Rep:grid Software supported Visualization of a Corporate Culture. **Accepted** at *TEM JOURNAL – Technology, Education, Management, Informatics*
- Bundtzen, H., Heckmann, M. & Hinrichs, G. (2021). A Constructivist Approach to Visualise Organisational Agility. *Business Ethics and Leadership*, 5(2), 96-106. [http://doi.org/10.21272/bel.5\(2\).96-106.2021](http://doi.org/10.21272/bel.5(2).96-106.2021).

## **12 CURRICULUM VITAE**

Gerriet Hinrichs was born on the 20th of September 1979 in Jever, Germany. He is married and father of 2 children.

His professional career began in 1999 with an apprenticeship as an insurance salesman, which he successfully completed in 2002.

Afterwards, he studied the profession of vocational school teacher from 2002 to 2008 and graduated with the title “Diplom Handelslehrer”.

From August 2008 to December 2009, he was a self-employed insurance agent.

Since January 2010, Gerriet Hinrichs has held various management positions in insurance sales at the insurance company DEVK.

From January 2017 he is responsible for the recruitment of the sales vacancies in Northern Germany which led him to start his research on occupational change into sales within the Doctoral School of Management and Organizational Science at Kaposvar University in September 2018.

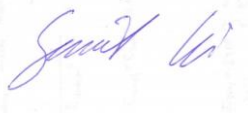
## 13 DECLARATION

I hereby declare that I wrote the attached thesis myself and that I have not used any aids other than those specified. I have marked all literal or content-related passages as such, shown in the references list.

I hereby declare that this thesis represents my own work which has been done after registration for the degree of PhD at Hungarian University of Agriculture and Life Sciences Kaposvár Campus and has not been previously included or submitted in a thesis to this or any other institution for a degree, diploma or other qualifications.

I have read the University's current research ethics guidelines and accept responsibility for the conduct of the procedures. I have attempted to identify all the risks related to this research that may arise in conducting this research, obtained the relevant ethical and/or safety approval (where applicable), and acknowledged my obligations and the rights of the participants.

Kaposvár, September 18, 202



Gerriet Hinrichs





**APPENDIX**

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## Appendix A: Declaration of Participants' Consent

TN-ID:

Om Of

M: ONOVA

### Einwilligungserklärung zum Datenschutz zwecks Teilnahme an dem Forschungsprojekt mit dem Thema „Quereinstieg in den Versicherungsvertrieb“ durchgeführt von Gerriet Hinrichs

Vor- und Nachname: \_\_\_\_\_

Geburtsdatum: \_\_\_\_\_

Arbeitsort: \_\_\_\_\_

Telefon/eMail: \_\_\_\_\_

Beginn der Tätigkeit: \_\_\_\_\_

Die **Richtlinien der Deutschen Forschungsgemeinschaft (DFG)** sehen vor, dass sich die Teilnehmer/innen an empirischen Studien explizit und nachvollziehbar einverstanden erklären, dass sie freiwillig an der Forschung teilnehmen. Aus diesem Grund möchten wir Sie bitten, der vorliegenden Einverständniserklärung zuzustimmen, bevor Sie an unserer Studie teilnehmen.

Zu Ihrer Information sind nachfolgend einige **Hinweise zu unserem Forschungsvorhaben** aufgeführt.

Die Studie wird im Rahmen einer Dissertation an der University of Kaposvar durchgeführt und verfolgt rein wissenschaftliche Zwecke. Erforscht wird unter anderem, wieso, wie und unter welchen Umständen Menschen ihren Beruf wechseln. Ihre Teilnahme an dieser Untersuchung ist freiwillig. Es steht Ihnen zu jedem Zeitpunkt dieser Studie frei, Ihre Teilnahme abzubrechen, ohne dass Ihnen dadurch Nachteile entstehen. Sie tragen mit Ihrer Teilnahme dazu bei, wichtige Erkenntnisse im Bereich des Berufswechsels zu generieren.

Falls Sie noch Fragen zu dieser Studie haben sollten oder Ihre Teilnahme widerrufen wollen, wenden Sie sich bitte an: Gerriet Hinrichs, [arbeitsmarktforschung@outlook.de](mailto:arbeitsmarktforschung@outlook.de)

#### Einwilligung in die Erhebung, Speicherung und Verarbeitung der Daten und zum Datenschutz:

Ich erkläre mich damit einverstanden, dass meine im Interview gegebenen Antworten und mein Vertragsstatus zu den Analysezeitpunkten von Gerriet Hinrichs erhoben, gespeichert und zu Forschungszwecken verarbeitet werden dürfen.

Ihre im Rahmen der Studie ggf. angegebenen personenbezogenen Daten werden nach Auswertung der Zeitreihenanalyse (1. Analysezeitpunkt nach 13 Monaten, 2. Analysezeitpunkt nach 25 Monaten) pseudonymisiert gespeichert. Das bedeutet, dass Namen, E-Mail-Adressen etc. von Ihren Antworten entfernt werden und ein Code verwendet wird, so dass Ihre Angaben in der Studie nicht mit Ihnen persönlich in Verbindung gebracht werden können. Die personenbezogenen Daten sind nur den an der Studie beteiligten Forschern zugänglich und werden zu keinem Zeitpunkt an Dritte weitergegeben. Zu den Analysezeitpunkten gestatte ich der DEVK Sach- und HUK VVaG Auskunft über meinen Vertrags-Status zu geben.

Sie können diese Einwilligungserklärung jederzeit per eMail (s.o.) widerrufen. Nach erfolgtem Widerruf werden Ihre personenbezogenen Daten gemäß Art.89 – EU-DSGVO umgehend pseudonymisiert.

Köln, 22.10.2019

Ort, Datum

\_\_\_\_\_  
Unterschrift Teilnehmer/in

## Appendix B: Questionnaire

## Fragebogen QE V2.0

Hallo!

Vielen Dank, dass Sie an der Studie "Quereinsteiger im Versicherungsvertrieb" teilnehmen. Die Studie ist elementarer Bestandteil der Dissertation von Gerriet Hinrichs und behandelt die Hintergründe eines Berufswechsels. Bitte lesen Sie die Anweisungen und insbesondere die Bewertungskriterien gut durch und beantworten die Fragen zügig aber sorgfältig. Um sich besser in die Situation hineinversetzen zu können, sind die Fragen aus der Teilnehmerperspektive gestellt. Viel Spaß! Jetzt geht es los:

Ich bin in einer festen Beziehung

- ☐ Ja  
☐ Nein

Ich habe Kinder

- ☐ Ja  
☐ Nein

Wenn Ja: Alter meines jüngsten Kindes

Mein höchster Schulabschluss

Meine Ausbildungs-/Studienabschlüsse

Wievielen Menschen habe ich schon etwas verkauft, wovon Sie vorher noch nicht wussten, dass sie es haben wollen?  
(grob geschätzt)

Durchschnittliches Brutto-Einkommen (vor Abzug Steuer und Sozialversicherungen) im Hauptjob pro Monat vor dem Wechsel in den Versicherungsvertrieb (ca.)

 €

Hinweis: Brutto-Einkommen  
- Steuer  
- Sozialversicherungen  
= Netto-Einkommen

## APPENDIX

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Folgendes hat zu meiner Entscheidung geführt, in den Versicherungsvertrieb zu gehen (Mehrfachantworten möglich, man beachte auch die unteren 6 der 13 Aussagen)

	der DEVK	eines anderen Versicherungsunternehmens
1 Stellenanzeige in einer Zeitung	<input type="checkbox"/>	<input type="checkbox"/>
2 Stellenanzeige in sozialem Netzwerk (Facebook, Twitter etc)	<input type="checkbox"/>	<input type="checkbox"/>
3 Ich wurde in einem sozialen Netzwerk direkt darauf angesprochen	<input type="checkbox"/>	<input type="checkbox"/>
4 Freunde im Versicherungsvertrieb haben mich ermutigt	<input type="checkbox"/>	<input type="checkbox"/>
5 Verwandte im Versicherungsvertrieb haben mich ermutigt	<input type="checkbox"/>	<input type="checkbox"/>
6 Versicherungsvermittler hat bei einer Beratung auf die Möglichkeit für mich hingewiesen	<input type="checkbox"/>	<input type="checkbox"/>
7 Ich habe mein Profil auf eine Jobbörse gestellt und wurde direkt angesprochen	<input type="checkbox"/>	<input type="checkbox"/>

- ☐ 8 Ich oder mein Umfeld wurden schlecht beraten und ich denke ich kann es besser
- ☐ 9 Niemand hat mich aufmerksam gemacht: Ich habe nach einer Stelle im Versicherungsvertrieb gesucht und mich dann einfach beworben
- ☐ 10 Ich habe erfolgreiche Versicherungsvermittler um Ihr Einkommen beneidet und wollte das auch
- ☐ 11 Ich kann/darf meinen ursprünglichen Beruf nicht mehr ausüben und habe mir etwas Anderes gesucht
- ☐ 12 Eine Veränderung/Entscheidung in meiner Beziehung hat einen Berufswechsel möglich/nötig gemacht
- ☐ 13 Nichts davon, sondern

Über den neuen Beruf habe ich mich folgendermaßen informiert (Mehrfachantworten möglich): „Ich habe...

- ☐ mit Freunden gesprochen, die im Versicherungsvertrieb arbeiten
- ☐ mit Verwandten gesprochen, die im Versicherungsvertrieb arbeiten
- ☐ mir die Karriereseite der DEVK angesehen
- ☐ mir die Karriereseite eines anderen Versicherungsunternehmens angesehen
- ☐ die Stellenanzeige der DEVK intensiv gelesen
- ☐ nach Arbeitgeber-Bewertungen zur DEVK gesucht
- ☐ an einem Beratungsgespräch meiner Eltern teilgenommen
- ☐ vorher schon in anderer Funktion im Versicherungsbereich gearbeitet
- ☐ einen Probe-Arbeitstag gemacht (ohne selbst etwas getan zu haben)
- ☐ einen Probe-Arbeitstag gemacht (mit Übernahme von Aufgaben, bspw. Terminieren)
- ☐ Beispiele für Abschlussprovisionen durchgerechnet

Ich denke, wenn alles **normal** läuft, werde ich kurzfristig ein durchschnittliches Brutto-Einkommen (Gesamteinnahmen vor Abzug von Steuern und Sozialversicherungsbeiträgen) haben in Höhe von

€

und wenn es **richtig gut** läuft, dann durchschnittlich

€

und wenn es **schlecht** läuft, dann durchschnittlich

€

Ich würde sagen...

	vollkommen unzutreffend - 0	1	2	3	4	50/50- Chance	6	7	8	9	vollkommen zutreffend - 10
der Quereinstieg in den Versicherungsvertrieb gelingt <u>allen</u>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
der Quereinstieg gelingt <u>mir</u> auf jeden Fall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Im folgenden Fragebogen sind eine Reihe von menschlichen Eigenschaften aufgeführt. Ich beschreibe mich so, wie ich mich heute sehe, und nicht, wie ich in Zukunft gerne sein möchte. Wenn es mir schwer fällt, eine Einschätzung zu treffen, vergleiche ich mich einfach mit anderen Personen gleichen Geschlechts und Alters die ich kenne und gebe dann an, wie ich mich im Vergleich einschätze.

	1 sehr unzutreffend	2	3	4 neutral, weder noch	5	6	7 sehr zutreffend
abweisend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
aufbrausend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ausgeglichen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
belesen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
chaotisch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
eifersüchtig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
einfallslos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
empfindlich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
entspannt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
extrovertiert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 sehr unzutreffend	2	3	4 neutral, weder noch	5	6	7 sehr zutreffend
freundlich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
gebildet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
geistig anspruchsvoll	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
gewissenhaft	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
hilfsbereit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
in sich gekehrt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
innovativ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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kreativ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
launisch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
mittelksam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 sehr unzutreffend	2	3	4 neutral, weder noch	5	6	7 sehr zutreffend
nachlässig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
nörglerisch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ordentlich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
phantasievoll	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
scharfsinnig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
scheu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
schlampig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
schüchtern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
sorgfältig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
still	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 sehr unzutreffend	2	3	4 neutral, weder noch	5	6	7 sehr zutreffend
sympathisch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
systematisch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
umgänglich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
unausgeglich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ungehemmt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
unverschämt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
verständnisvoll	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
warmherzig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
zurückgezogen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
zuverlässig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Beim nächsten und letzten Abschnitt geht es um Tätigkeiten, die man manchmal im Beruf oder in der Freizeit ausüben kann. Es werden konkrete Situationen beschrieben, in denen jeweils zwei Tätigkeiten paarweise einander gegenübergestellt sind.

Ich muss mich bei jedem Paar für eine der beiden Tätigkeiten entscheiden. Wenn mir die Wahl schwer fällt entscheide ich mich für die, die mich noch am ehesten interessiert und wähle die Tendenz.

Ich denke nicht zu lange nach, sondern entscheide mich spontan!

Es ist egal, ob ich die Fähigkeiten für diese Tätigkeiten auch tatsächlich besitze - wichtig ist immer nur mein Interesse für eine der beiden Tätigkeiten wenn ich mich entscheiden müsste, eine davon auszuüben.

Für einen Forstbetrieb

- ☐ **im Winter die Tierfütterung durchführen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **wissenschaftliche Forschungen betreiben**

Für einen großen Verlag

- ☐ **wissenschaftliche Bücher über berühmte Personen schreiben**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die grafische Gestaltung von neuen Büchern entwerfen**

In einem Konzerthaus

- ☐ **als Künstlerin tätig sein**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **KünstlerInnen vor ihren Auftritten betreuen**



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In einem Jugendwohnheim

- ☐ **die Lernbetreuung durchführen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **eine Exkursion organisieren**

In einer Spedition

- ☐ **neue KundInnen aufsuchen und anwerben**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die Warentransporte kontrollieren und registrieren**

In einem Weinbaubetrieb

- ☐ **bei der Weinlese mitarbeiten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **kunstvolle Etiketten für Weine zu entwerfen**

Für eine Kunstgalerie

- ☐ **die Auswahl der Kunstwerke treffen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die Organisation von Ausstellungen durchführen**

In einer Softwarefirma

- ☐ **die Software auf Fehler untersuchen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die neue Hardware zusammenbauen und installieren**

In einem Forschungslabor

- ☐ **Versuchsreihen planen und durchführen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die neuen MitarbeiterInnen ausbilden**

In einer Stadtverwaltung

- ☐ **die BürgerInnen bei Beschwerden beraten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **in der Bürgerverwaltung arbeiten**

In einer Tischlerei

- ☐ **an einer Drehbank oder anderen Maschine arbeiten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die KundInnen bei ihrer Wohnungseinrichtung beraten**

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In einem Verkaufsgespräch

- ☐ **die Vorteile des Produkts überzeugend darstellen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die Funktion des Produktes praktisch vorführen**

In der medizinischen Forschung

- ☐ **neue Medikamente entwickeln und in Versuchen erproben**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **den Vertrieb neuer Medikamente planen und organisieren**

In einer Bank

- ☐ **die Geschäftskonten von Großkundinnen verwalten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die Wertpapierkursentwicklungen beobachten und auswerten**

Für ein Musiktheater

- ☐ **als darstellende/r KünstlerIn arbeiten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die Verträge mit den KünstlerInnen ausarbeiten**

Für eine Fachhochschule

- ☐ **wissenschaftliche Manuskripte schreiben**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die technische Ausstattung betreuen**

In einem Kunstmuseum

- ☐ **beschädigte Kunstwerke restaurieren**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **Fachtexte für Ausstellungskataloge schreiben**

In einem Jugendheim

- ☐ **Kinder bei den Hausaufgaben betreuen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **mit den Kindern malen und zeichnen**

In einem Hotel

- ☐ **die Angebote für die neue Wintersaison planen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **am Empfang die Gäste betreuen**

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In einer Versicherung

- ☐ **die Schadensstatistiken bearbeiten und auswerten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **neue Versicherungsprodukte zusammenzustellen**

An einem Theater

- ☐ **die Kostüme entwerfen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **in den Bühnenwerkstätten arbeiten**

In einem Kaufhaus

- ☐ **den Einkauf neuer Waren organisieren**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die Schaufenster ausschmücken**

In einer Autowerkstatt

- ☐ **einen Motor zerlegen und reparieren**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **das Ersatzteillager verwalten**

In einer Fahrschule

- ☐ **die neuen FahrschülerInnen unterrichten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **neue Prüfungsfragen erarbeiten**

In einem Finanzamt

- ☐ **die Steuerklärungen großer Betriebe genau kontrollieren**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **die Steuerpflichtigen bei ihren Steuererklärungen beraten**

In einem Krankenhaus

- ☐ **behinderte PatientInnen betreuen**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **für die Haustechnik verantwortlich sein**

In meinem Wohnhaus

- ☐ **bei der Renovierung mitarbeiten**
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ **ein Fest für alle MitbewohnerInnen organisieren**

## APPENDIX

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In einem Großmarkt

- ☐ für den Einkauf die neue Werbelinie entwickeln
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ einen Fragebogen für die KundInnen entwerfen und auswerten

Bei einer Forschungsreise

- ☐ Gesteinsproben nehmen und genau untersuchen
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ genaue Aufzeichnungen über die Entdeckungen führen

An meinem Computer

- ☐ rechnen und Daten verwalten
- ☐ nicht klar, eher das Obenstehende
- ☐ nicht klar, eher das Untenstehende
- ☐ Gedichte und Kurzgeschichten schreiben

Und das war es auch schon. Vielen Dank für die Teilnahme!