THESIS OF THE DOCTORAL DISSERTATION

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HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES
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DOCTORAL SCHOOL OF MANAGEMENT AND ORGANIZATIONAL SCIENCES

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Determinants of Retention among Occupational Changers: Evidence from Insurance Sales

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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   RESEARCH BACKGROUNDS AND OBJECTIVES

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 can be summarized as follows:

H_1: 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_2: 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_3: 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_4: 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_5: Conscientiousness and Openness have a positive impact on retention after making an occupational change into insurance sales.

H6: 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.

H7: 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.

3   MATERIALS AND METHODS

3.1   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.

3.2   Sample and Procedure

3.2.1   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.

3.2.2   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.

3.2.3   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.

3.2.4   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. I have set the stopping rule 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. The variables included in the corresponding sub-models can be identified in Table 1 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 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.

3.3   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.

3.4   Data Analysis

Data analysis was performed using STATA version 16.

4   RESULTS

4.1   Logistic Regression

The first three columns of Table 1 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 1. Differences in N result from missing data and the consideration of only complete cases.

Table 1:   Logit odds ratios of objective, subjective and information source predictors

Dependent Variable: Retention	Objective Model	Subjective Model	Source Model	Final Model
Risk acceptance wage	2.31**			2.82**
Graduation	n.i.			
Apprenticeship Finance	4.14**			3.72**
Apprenticeship Commercial	1.87			2.49*
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 R²	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 R² = McFadden.
      Coefficients are Odds-Ratios.
      * p ≤ 0.1, ** p ≤ 0.05, *** p ≤ 0.01
      Only complete cases were considered.
      SE was calculated with Jackknife.
      n.i. = not included.
      RD = Reference Dummy.

The result of the Hosmer-Lemeshow goodness-of-fit test with 10 quantiles, as displayed in Table 2, indicates no significant differences in the observed and expected proportions of retention rates and therefore suggests an appropriate model.

Table 2: 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 3, shows the significant value for $\hat{y}$ and the non-significant result for $\hat{y}^2$ expected for models without misspecification errors.

Table 3: 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

Number of observations	167
LR chi2(2)	50.56
Prob > chi2	0.0000
Pseudo R2	0.2684

Table 4 shows the AME for each variable of the final model, the z-values, and the confidence intervals.

Table 4:   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.
           $* p \le 0.1, ** p \le 0.05, *** p \le 0.01$

Table 5 and Table 6 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.

Table 5:   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)		>=.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 6:   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)		>=.77	
Sensitivity		Pr(+| D)	69.60%
Specificity		Pr(-|~D)	85.71%
Positive	predictive value	Pr(D| +)	93.55%
Negative	predictive value	Pr(~D| -)	48.65%
False + rate for true ~D		Pr(+|~D)	14.29%
False - rate for true D		Pr(- |D)	30.40%
False + rate for classified +		Pr(~D| +)	6.45%
False - rate for classified -		Pr(D| -)	51.35%
Correctly classified			73.65%

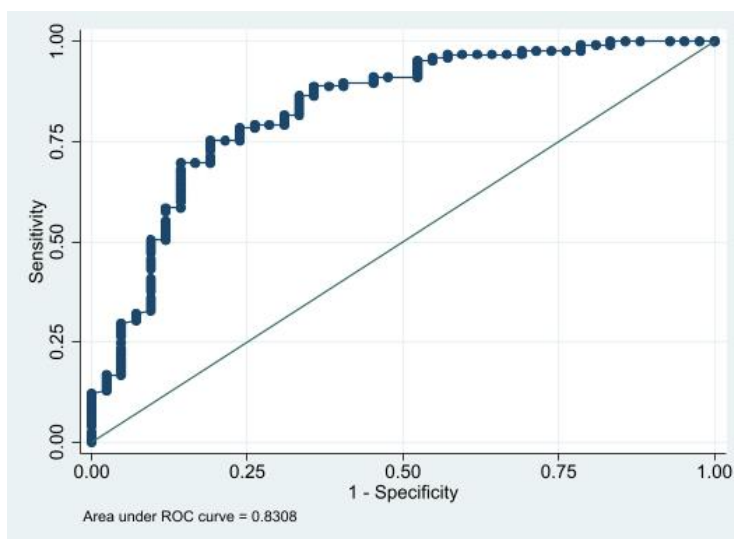Figure 1 shows the ROC curve and the AUC.

Figure 1:   ROC curve and AUC, author's own illustration using STATA16

Intercorrelations of the independent variables can be seen in Table 7. The displayed values do not provide any indication of multicollinearity.

Table 7: 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

4.2   Evaluation

4.2.1   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 1 and Figure 2, 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 5) 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 6 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.

4.2.2 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 1 and Figure 2, 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)).
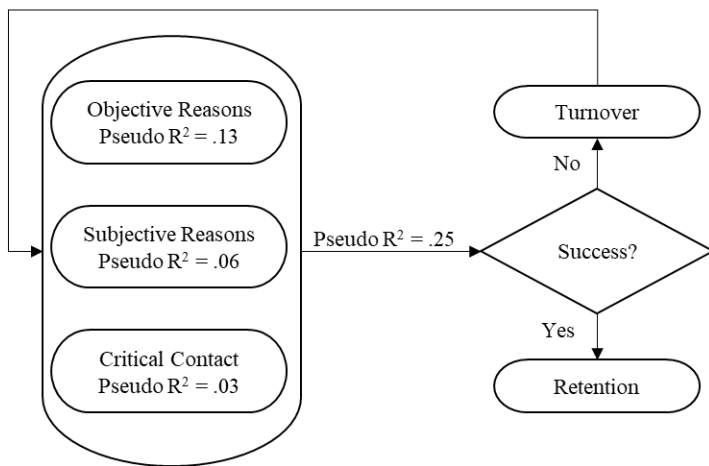

Figure 2:   Explanatory power of Sub-Models and Final Model, author's own illustration

Objective reasons for personal suitability were searched for in the points cognition, experience, and signaling of aforementioned. Table 8 summarizes the results of the hypotheses testing.

Table 8: Results of Hypotheses Testing

No.	Hypothesis	Crucial Variable(s)	AME	z-value	Confirmed
H_1	*Candidates who accept a fixed salary below W^R signal positive productivity and therefore have a higher retention rate after making an occupational change into insurance sales.*	Risk acceptance wage	.1408	2.34	Yes
H_2	*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.*	Apprenticeship finance, Apprenticeship commercial	.1784 .1240	2.03 1.85	Partly

No.	Hypothesis	Crucial Variable(s)	AME	z-value	Confirmed
H_3	*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.*	Sales experience	failed inclusion criterion		No
H_4	*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.*	Sense of Superiority	.0546	3.78	Yes
H_5	*Conscientiousness and Openness have a positive impact on retention after making an occupational change into insurance sales.*	Conscientiousness, Openness	failed inclusion criterion		No
H_6	*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.*	Conventional occupational interest	-.1959	-3.51	Yes
H_7	*The younger any children living in the household are, the lower the probability of a successful occupational change into sales.*	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. 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 occured. The most significant variable confirms Hypothesis 4. Examining the AMEs in Table 4, 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 9, again with the retention dummy as the dependent variable.

Table 9: Logistic regression results of personality traits

Variable	Odds Ratio	Std.-Err.	p-value	[95% Confidence-Interval]	
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 R²	0.0257				
N	159				

Notes: Dependent Variable = Retention after 12 months.
             Pseudo R² = 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 10 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 10:   Logistic regression results of O*NET, RIASEC summary code

Interest	Odds Ratio	Std.Err	p-value	[95% Confidence-Interval]	
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 R²	0.0459				
N	178				

Notes: Dependent variable = Retention after 12 months.
             Pseudo R² = 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 insurace 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.

5   CONCLUSIONS AND RECOMMENDATIONS

The aim of this dissertation was to anwer 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.

5.1   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 11 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 11:   Recommendations in the case of hiring occupational changers

Agent	Recommendation
Company	
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
Candidate and Career Counseling	
	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.

5.2   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 and 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 Hoye & 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.

6 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 12 sums up the new scientific results of this study, described in detail below.

Table 12:   New scientific results

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.

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.

6.1   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.

6.2   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 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.

6.3   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.

7   PUBLICATION LIST

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.

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