

Dissertation

**The role of biodata in staff selection and retention
of front line service employees:
The case of a car rental company in Germany.**

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Abstract

A tight labour market can increase employee turnover. Under these conditions, retention strategies become more important. A first simple and low-cost method is to change the selection strategy by focusing on hiring individuals who are more prone to remain than others. Biographical data of applicants can indicate this. The study tests different theoretical concepts and hypotheses related to retention, such as past behaviour, which can predict future behaviour and habitual commitment, motivation to work for the current employer or job embeddedness. Collating and keying data from the rich source of 105 applications for front line service workers of a car rental company in Germany, a new dataset with variables like employment source, employment status, re-application, duration of last position, and number of job changes, occupational experience, length of work experience, and work experience in certain types of industry, is generated. Regression analyses reveal that new hires from retail, trade, and repair industry are significantly less likely to leave voluntarily than new hires from other industries. This result may have less to do with the fit of a new hire to the job than resulting from external labour market conditions, as employees are paid better in car rental organisations than in most retail, trade and repair organisations. Results also hint to a higher retention rate for new hires referred by current employees which would suggest that job embeddedness through personal links at work can increase retention. Biodata can be used as a selection tool for organisations when hiring front line service workers to prevent turnover. However, particularly given the few significant results, it should not be the only measure.

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Personal Learning and Reflective Statement

I work in the HR department of a car rental company managing recruitment for Germany. On a daily basis, I experience difficulties in finding candidates. These difficulties are mainly based on Germany's positive economic development and the tight labour market which cause a lack of candidates and an increase in turnover. Turnover rates in the car rental company have gone up continuously over the past years accordingly, but revenues haven't. Therefore, I was looking for a method to address these issues that is not costly. These are the reasons why I decided to choose the topic of retention and biodata.

Writing the dissertation allowed me to explore this topic on a very deep level. By reading about biodata and retention, I gained deep insights into the nature of this relation and learnt that biodata have been successfully used as selection tool and this could contribute to a higher retention rate. My research suggests monitoring the recruitment source "employee referral" more, so that more empirical evidence can be gathered and the importance of personal links in the company can be proved. Employee referral programs can be a good way to attract applicants that are more likely to stay. I can now also announce to hiring managers the finding that new hires from trade/retail/repair industry are more likely to stay, so that we can broaden the selection of candidates by that group.

I can handle data better than before and realised that editing and interpreting data must be done very cautiously, considering many facts at the same time. Data analysis can be a powerful tool to use in HR or recruitment, and in the future I will definitely push their application and initiate more projects like this. This can help improving my work outcomes and achievements and hence benefitting the company. For example, the next step would be to look at the relation of performance and biodata, which can help selecting employees who are likely to perform well.

Another fact is that I became more organised and improved my time management. Putting a certain regular amount of time and effort in a project can have big outcomes.

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Abbreviations

BA – Bundesagentur für Arbeit

FLSW – Front-Line Service work or Front-line service worker

KSA – Knowledge, Skills and Abilities

SME – Small and Middle Enterprises

Chapter 1: Introduction

Germany's economy is strong and prospering, which can result in a higher demand for labour – and, in fact, Germany has the highest demand since the economic crisis after 2008 (BA, 2017a). Under these conditions, voluntary turnover is usually higher (IAB, 2009). As Germany is also developing towards a service sector economy (Destatis, 2016), the demand for service staff is high. Staff in the service sector work more often in atypical work patterns with poor working conditions, such as part time, fixed term contracts, antisocial hours, shift work, and low salaries (Destatis, 2016; European Parliament, 2015). Specifically, front line service workers are facing these conditions more than workers from other areas in the service industry: “Front-line service work (FLSW), also called interactive service work, is defined as work in direct contact with customers (or any other service recipient), and in a subordinate position in the employment relationship” (Bélanger and Edwards, 2013, p. 435). FLSW deals with customers on a daily basis, and they are exposed to problematic customer behaviours. Both factors, the working conditions and the regular contact with problematic customer encounters, can lead to employee turnover (Poddar and Madupalli, 2012). Employee turnover is costly and can have a negative impact on customer service quality, which has negative consequences for the business itself (CIPD, 2007; Poddar and Madupalli, 2012).

It is, therefore, crucial for organisations operating with FLSW to address turnover. Research suggests that some individuals are more prone to voluntary turnover than others (Barrick and Zimmerman, 2009; Breugh, 2014; Carr et al., 2006). This study investigates how voluntary turnover can be reduced and retention be increased through the selection of the right candidates in a service company in Germany. The research question is: When selecting candidates for a position of an FLSW, what are the characteristics of the candidate that indicate a high retention? The aim is to make the selection, recruitment, and retention of front line service workers more effective and efficient for organisations operating in the service sector.

1.1 Strategies of organisations to tackle turnover

Retention initiatives are very often the first choice for organisations to tackle high employee turnover (Taylor, 2008). Retention initiatives can include analysing exit interviews, and accordingly applying measures to help overcome deficits mentioned by the leavers (Taylor, 2008, p. 59). Development initiatives are a longer-term and potentially expensive strategy. When choosing to hire people who do not possess the required skills or experience, it will be a costly endeavour to train them up to the required level needed (Taylor, 2008, p. 60).

Two CIPD studies revealed that the current general trends in resourcing that organisations follow show a clearer focus on developing talent in-house as well as concentrate on retaining staff

(CIPD, 2007; CIPD 2015). As Denerly and Plumbley (1969) very early realised: "When labour is scarce, admittedly there is less scope for turning away applications; but greater skill is needed in order to find reasonable candidates" (Denerly and Plumbley, 1969, pp. 8-9). Hence, selection can play a more important role. Becton, Matthews, Hartley, and Whitaker (2009), suggest "that improving the employee selection process [...] by identifying applicants with the greatest potential for high levels of performance, retention, and organizational commitment is a viable strategy" to tackle high turnover (Becton, Matthews, Hartley, and Whitaker, 2009, p. 192), and hence, lower turnover costs.

Chapter 2: Literature Review

2.1 The role of biodata in employee selection

A way to increase retention without spending huge amounts of money could be through the selection of candidates who are more likely to stay than others in the first place. The research around the broad topic of biographical data (biodata) addresses the issue of retention and selection. Background biographical data, or biodata as it is more commonly known, has been in use for over 100 years, and has been used extensively in the selection of candidates (Stokes, 1999, p. 111). Biodata is biographical information about candidates that can be gathered in different forms; for example as application blanks, through biographical questionnaires, multiple choice items, or structured interviews (Becton et al., 2009). No matter which design, they all have the purpose of gathering information about the applicants' previous experiences, behaviours, or feelings in different situations (Becton et al., 2009). Biodata is most commonly used as an employee selection device. When applying for a job, applicants are required to fill out an application blank or a questionnaire, so that the organisation can gather information about the applicant. This can encompass "both factual verifiable experiences, to include questions such as, "Did you graduate high school?" and subjective, non-verifiable experiences, that include questions such as, "Did you enjoy being in leadership roles in high school?" (Becton et al., 2009, p. 189). Factual information about an applicant can include age, marital status, previous jobs, time spent in previous jobs, and education in years (Smith and Robertson, 1993). Biodata is an important criterion for choosing an applicant. Research suggests that it can predict for example job performance, turnover or absenteeism, among others (Becton et al., 2009). Therefore, they can provide a basis for employers, on which they will select employees for a role (Smith and Robertson, 1993). Biographical questionnaires with retrospective questions are a more extended version of a biodata. These questionnaires can provide more detailed life-history information, and ask personal and psychological questions – they can comprehend over 100 items (Smith and Robertson, 1993). Common questionnaires of biodata consist of item batteries about motivation

to work for a company prior to hiring, or about personality traits (Barrick and Zimmermann, 2009). An example for a very personal questionnaire item is if someone was homesick when s/he was a child when away from home (Smith and Robertson, 1993). Those kind of questionnaires, however, are more psychological evaluations than simple background data, and using such questionnaires, it is difficult to distinguish where biodata end and a testing of personality begins (Smith and Robertson, 1993). However, biodata as a selection device is put in place, and one of its biggest advantage is the low cost:

“Compared with post-hire turnover reduction strategies, the use of biodata is inexpensive and easy to implement” (Breugh, 2014, p. 321).

It is more expensive to develop training plans for employees and to hire training personnel to conduct them in order to increase retention than to just use an online questionnaire or an application blank to select the employees that are more likely to remain.

Research showed that biodata has been “highly valid predictors” (Drakeley and Herriot, 1988, p. 145) of voluntary turnover (Barrick and Zimmermann, 2009; Schmitt, Gooding, Now, and Kirsch, 1984), which is why this study will focus on biodata and retention as an affordable measurement. Biodata is not only a valid predictor for turnover, but also predicts work performance or productivity (Hunter and Hunter, 1984; Breugh, Frye, Lee, Lammer, and Cox, 2014).

2.2 Concerns about biodata research and practice

Biodata has been criticised by researchers for several reasons: There is no consistent definition, several studies use biodata just empirically without theoretical foundation, or the kind of measurement in certain studies is problematic (Breugh, 2014). These concerns are, however, not intrinsic to biodata – they can be avoided. Good biodata research can have solid and “informative” results, according to Breugh (2014, p. 321). In this study, these concerns shall be addressed in the first place, by defining biodata more narrowly as self-reported individual history information, as suggested by Gatewood, Field and Barrick (2011). This avoids interfering with psychological factors, or other variables, like personality (Breugh et al., 2014).

When biodata are such a good predictor of retention or job performance, then why is it not widely used in practice to select employees (Furnham, 2008)? This is because there have been concerns raised about the practicality, validity, and legality of biodata (Breugh et al., 2014). Furnham (2008) conducted a survey among HR professionals and found that they often suppose a distortion of applicants’ answers in biodata items which can cause a lack of validity (Furnham, 2008). This can happen indeed, as applicants are eager to get the job and might lie in their answer (“applicant faking”), thus intentionally raising their scores on a biodata scale because they think this will increase their chances to get hired (Breugh et al., 2014, p. 41). Additionally, the HR professionals found biodata scales are quite lengthy, and thus, very time-consuming for

applicants (Furnham, 2008). Another concern is the legality of biodata when researchers analyse items such as age or marital status. According to Breugh et al. (2014), who stated that those concerns are raised due to the possibility that biodata can result in statistical discrimination, which means they can have an “adverse impact linked to gender, race/ethnicity, and age” (Breugh et al., 2014, p. 42). It is possible that in some cases “minorities receive lower biodata scores than non-minorities” (Breugh et al., 2014), which can also happen in cognitive ability tests. Breugh et al. (2014), suggest that for those reasons, further research is needed to address these concerns. In order to tackle the validity, in this study only provable objective facts, such as lengths of the former employment or source of employment will be considered. Long item batteries answered by applicants regarding their past experience, will therefore be avoided. Application forms will be used as a source of information and applicants will not be required to fill or answer questionnaires. This will help in keeping this selection device practical. This means that there will not be a wide range of biodata scales; however, Barrick and Zimmermann (2009) proved that using a few carefully selected items to predict voluntary turnover, leads to a better accuracy than studies using many more items (Barrick and Zimmermann, 2009). Legal concerns will be avoided by not using age, gender, or marital status, as factors.

2.3 Theoretical foundation for biodata

The theoretical background was evolved on the basis of a behavioural consistency principle (Owens and Schoenfeldt, 1979; Dean and Russel, 2005): Biodata is a measurement or indicator of previous behaviour, and thus, can provide insights into future behaviour (Owens and Schoenfeldt, 1979, Becton et al., 2009). There are, however, also other theoretical concepts. Those are derived from the social identity theory or another that is known as “ecology model”. The first is more event oriented and says that knowledge, skills, and abilities (KSA), evolve as a consequence from certain (social) events. The latter is more process-oriented and emphasises upon personality, social, and intellectual resources, which, in an iterative process of choice, development, and adaption, helps in drawing conclusions about future behaviour of individuals (Dean and Russel, 2005). These theoretical concepts, however, are not used in this study as they deal with subjective, and non-verifiable data, such as attitudes or feelings of applicants. This would be a psychological testing and would require pre-hire questionnaires, costly software, or manpower, to interpret them and draw conclusions out of them for selection and hire decisions. They veer away from facts. This study focuses on facts about applicants’ past work experiences and verifiable data from their resume, as this is a cheap and comparatively quicker measure that can help increase retention.

2.4 Effects of biodata on employees' retention

The literature about biodata and retention sometimes developed theoretical models and tested them empirically (Stokes, 1999; Barrick and Zimmerman, 2009; Carr et al., 2006). Some researchers' approach was more eclectic, and they just tested random variables that were available (Cascio, 1976). In this study, the research is based on theoretical foundations, which are described in the following paragraphs.

2.4.1 Past behaviour and past habitual commitment

One of the earlier theoretical concepts was made by the "pioneers" of biodata, Owens and Schoenfeldt (1979), and have been mentioned above. It states that past behaviour can predict future behaviour (Owens and Schoenfeldt, 1979). Barrick and Zimmerman (2009), investigated applicants' commitment to prior employers through two biodata items: tenure in last job and the number of jobs over the past five years. Those two combined, reflect habitual commitment: Individuals who have a habit of looking for new jobs permanently, have a shorter tenure in the last job(s), and are likely to do so again in the current job (Barrick and Zimmermann, 2009). Some employers consider the employment status of an applicant as another indicator of a proneness to turnover (Breugh, 2014). There is a lack of broader research about this correlation. However, Breugh (2014) found a significant correlation: Applicants who were employed before being hired were less likely to leave the new organisations than applicants who were unemployed (Breugh, 2014).

2.4.2 Motivation to work for the current company

Another source of an applicant that has proven influence on retention is a "walk in", according to Zottoli and Wanous (2000), especially, when individuals drive to an organisation to submit their application. This effect is even stronger when the position was not advertised, for example as a proactive application (Zottoli and Wanous, 2000). Hires who applied in this way were likely to remain longer with the organisation than others who applied in a different manner.

Breugh (2014), suggested further positive relationships between different factors and retention: Individuals who had previously applied show a greater desire to work for the company, and hence, this fact can indicate a higher commitment and retention (Breugh, 2014). Breugh (2014) summarises this as an applicant's motivation to work for the current employer (Breugh, 2014).

2.4.3 Embeddedness

Mitchell, Holtom, Lee, Sablinski, and Erez (2001), introduced a construct called (job) embeddedness, which was later diagnosed as a major trend in the turnover and retention literature (Holtom, Mitchell, Lee and Eberly, 2008; Mitchell et al., 2001). They consider it a key factor that can help in understanding why people remain in the company. This term was

originally taken from sociological literature: Social networks can enhance and constrain economic action, such as finding a job, etc. (Granovetter, 1985; Mitchell et al., 2001). Other than sociologists who apply this concept broadly on individuals, groups, or organisations, Mitchell et al. (2001) focus more narrowly on individuals who remain in their jobs or organisations (Mitchell et al., 2001). Mitchell et al. (2001, 2008) distinguish between three sub-dimensions called links, fit, and sacrifice. Sacrifice means the extent to which an individual is embedded in his or her life and community, for example as a house owner, and thus would have to make sacrifices when leaving the job to work in another city (Mitchell et al., 2001). As this study cannot cover those data, the focus is laid on links and fit.

2.4.3.1 Links

Connections or links are persons who have links to other persons or institutions in their life; these can be close or distant, formal or informal, and a person can have few or many links, etc. Highly embedded persons have many and often close links (Mitchell et al., 2001). Though the concept of “embeddedness” is quite new, older research showed that both on- and off-the-job links are related to retention in the job: If someone is married, older, having small children, and long job tenures, he or she is more likely to remain (Abelson, 1987). More recent research could confirm the finding for off-the-job embeddedness, especially for women (Zatzick and Iverson, 2006). In addition, on-the-job embeddedness was linked to a decreased turnover – which they tested for age, gender, marital status, tenure in current job, organisation, and industry (Mitchell et al., 2001).

2.4.3.2 Fit

Although neither of the authors link their research to each other, Mitchell et al. (2001) and Carr, Pearson, Vest, and Boyar (2006) have similar theoretical concepts of retention and embeddedness. Mitchell et al. (2001), define fit as follows: “(...) as an employee’s perceived compatibility or comfort with an organisation and with his or her environment” (Mitchell et al., 2001, p. 1104). This can concern the fit of personal values, career goals or future plans with the organisation’s culture. According to Carr et al. (2006), individuals select jobs on the basis of value congruence. Summarised, a person’s job choice and socialisation are related to their perception of fit, which can have an effect on turnover (Mitchell et al., 2001).

Carr et al. (2006), examined the relationship between prior work experience and retention. They found that new hires with longer work experience (veteran newcomers) have a higher retention rate in a new organisation than newcomers with little or no work experience (neophytes) (Carr et al., 2006). The rationale behind this is that due to their longer experience, they have a better understanding of the fit of the organisation and their personality, also called person-job-fit. On this basis, they can also assess the value congruence between their personal values and the

future organisation's values. They are, furthermore, better in sense-making, built on past experiences and perceptions, and actively engage in it (Carr et al., 2006). Job-person-fit and value congruence are intermediate variables between prior occupational experience and employee retention. Veteran newcomers have also learnt how to socialise into and adjust better to a new environment, to a company culture, etc. The more years of experience they had, the better would be their decision making when going for a job, and the less likely they would be to leave the new organisation (Carr et al., 2006). Carr et al. (2006) define veteran newcomers as newcomers with prior work experience in the same occupation which they have gained in another organisation. Hence, the authors only considered an individual's occupational experience which is similar to the job in the new organisation, and did not examine their diversity of experience, for example, in another profession. Future research, however, should take the following into account: The nature or quality and diversity of prior occupational experience that newcomers bring to the organisation could have strong effects on employee retention (Carr et al., 2006).

Based on the presented theoretical concepts and research results above, the hypotheses and research models will be derived and generated later in this study. The appropriate research questions and methodology are outlined in the following.

Chapter 3: Research Questions

As mentioned previously, one stream of action to overcome difficulties resulting from turnover can be to focus on retention. Hence, it is of significant importance that the recruitment process is cost-effective and efficient (Taylor, 2010, p. 161). As described in the previous sections, one way this can be done is by selecting new hires who are likely to remain in the company. Based on the outlining above, the following specific research question(s) will be investigated in this study:

1. Can biodata of applicants help organisations select new hires who are more likely to remain in the organisation?
2. Which biodata would that be?
3. Can organisations draw a better recruitment strategy from these findings that can lead to a higher overall retention rate?

The investigated company gains insights and enhances understanding of selecting the right candidates in terms of retention, increases its chances to increase retention and decrease turnover and its costs, and therefore, can increase its competitiveness in the challenging German economy.

Chapter 4: Research Methodology

4.1 Research design: Case study

A case study is a research methodology that is concerned with a bounded entity, a specific space or place, or in a particular incident (Quinlan, Babin, Carr, Griffin, and Zikmund, 2015, p. 146). A case study can deal with schools, enterprises, or other entities – in this case a company in the tourism industry. It can be one or more cases; in this thesis it will be one case – which will be investigated in more depth, as typical for case studies (Quinlan et al., 2015). “Instead of breadth, i.e., numeric size and geographic spread, case study research calls for depth; it calls for some deeper investigation of some bounded entity” (Quinlan et al., 2015, p. 146). It will be carried out as quantitative analysis (Quinlan et al., 2015).

This study is investigating an organisation operating in the service sector. The case for this study will be a car rental company in Germany. The official statistical classification of economic activities in the European community of car rental companies, according to Eurostat, NACE, Rev. 2 (2008), is in non-financial business economy, Section N Administrative and Support Service Activities, Division (77) Rental & leasing activities, (1) the rental of motor vehicles (Eurostat, 2017a).

4.2 Data collection

Existing employee data and biographical history information of hired applicants were gathered and a new data set was created from different internal sources, such as the employee data base, application tracking system, and reports about leavers. The car rental company gave the author permission to use this data if anonymised. “Biodata in the form of resumes and applications are probably the most commonly used information in personnel selection” (Brown and Campion, 1994, p. 897). The application tracking system contains resumes of all employees who applied since 2012. Information, such as length of work experience, tenure at last job, job changes, et cetera, will be collected from the resume of new hires. In the first years of the applicant tracking system, only a small percentage of new hires uploaded their resumes; hence, only new hires’ applications of 2015 and 2016 are used in this study and put into a new dataset.

The German Job Application

Applications in Germany differ from other applications in Europe (Bailey, 2010). They are extraordinarily detailed and rich in information, starting with many demographics and personal information, such as the exact birth date, birth location, education data, address, and contact information, marital status, and nationality. Nevertheless, sometimes, religion and children, but also often names and occupations of parents and siblings, spoken languages, and a picture, are provided in most cases, and each job is displayed with start and end date; most in the format of

month/year (Bailey, 2010). Work experience is listed with the name of the employer and role, and sometimes the tasks, compulsory military service, or social duties are added as well. Furthermore, a cover letter and written references of former employers and educational and other qualification certificates are also provided (Bailey, 2014). From this rich source, data just had to be picked, keyed, and added to a database, to create a rich data set. Furthermore, the applicant tracking system allowed the gaining of missing or coarse information, and a synopsis of all phone screened candidates was saved.

The variables

The researcher built a dataset by entering data in an excel sheet, keying variables and transforming the data set later into a format to match the statistical analysis software (see below). The dependent variable is the voluntary turnover of new hires of the company. The independent variables were:

- Duration of the most recent job
- Number of Job changes
- Employment status before start
- Recruitment Source: Walk in
- Re-application
- Recruitment Source: Referral
- Work experience in front line service work
- Work experience in Car rental
- Work experience as customer service representative in car rental company
- General work experience
- Most work experience in industry: Trade/Retail/Repair
- Most work experience in industry: Transport & Logistic
- Most work experience in industry: Hospitality
- Most work experience in industry: Administrative Support Services

Duration of last job

The months in the most recent job were calculated manually, based on the information given in a new hire's resume. The given start date of the last position was deducted from the start date in the car rental company and noted in months.

Number of job changes

The number of job changes was calculated by counting every job a new hire stated in their resume. There is no considerable difference between men and women; however, there is an expected positive, significant association with age: The older a person, the more job changes he or she has. In order to control for the age effect in the interference statistical analysis, the

number of job changes was proportioned, so that the independent variable was actually the number of job changes per year of age.

Employment status

The information whether a person was employed with another organisation immediately before being hired in the car rental company was taken from the resume as well. It was encoded as 1 = employed and 0 = unemployed.

Recruitment Source: Walk in

The recruitment source was documented in the applicant tracking system of the car rental company. A walk in means that individuals submitted their application in person; hence, they either drove or walked to the branch and handed it in. Other sources are mainly through the internet on the company career website, job boards like Stepstone or Indeed, or the agency of unemployment. The variable was encoded as 1 = walk in and 0 = other recruitment source.

Re-application

The applicant tracking system contained information about every job an applicant has ever applied for since 2012. The reason for re-application could be both: that they had been rejected the first time or that they indeed had been hired before (5 cases), but left the company and now want to work for it again. New hires, who had previously applied at the car rental company – regardless how many times – were encoded as 1 = applied before at least once, and 0 = applied for the first time.

Recruitment Source: Employee Referral

As stated above, the recruitment source was documented in the applicant tracking system. It was encoded as 1 = employee referral, and 0 = other recruitment source.

Work experience FLSW in months

From the given dates on the resume, which mostly were in the format month/year, the number of months was calculated manually for each new hire. Each position in front-line service work, as defined in the introduction, that a new hire has hold in his or her work life was added, and the sum of all was then noted in the database.

Work experience in car rental services in months

The same procedure was followed for car rental experience: The months that a new hire was working in a car rental company were summed up, including self-employed, station manager, or any subordinate role.

Work experience as CSR in months

The counter staff that actually rents out the cars to the customer are differently designated in different car rental companies, like rental sales agent, or customer service representative (CSR). In this study, CSR is used to capture the counter staff. All prior work experience spent in this role was added and noted in the database. Vocational training in a car rental company to gain a qualification as counter staff was included.

Work experience in general in months

According to procedure of the more specific levels of work experience, the general work experience was similarly generated, adding all positions held in the overall work life by a new hire, minus periods of unemployment, parenthood, or education and qualifications. In case a person was working while studying or in school, the work experience was considered too, as well as mini jobs and internships that exceeded a period of two weeks. Working two jobs at the same time counted as one.

Work experience in industry

The statistical Classification of Economic Activities (NACE) in the European Community are part of the integrated system of statistical classifications that produce internationally comparable statistics (Eurostat, 2008). The operationalisation in this study was done as follows: Every company in a new hire's resume was classified according to the NACE; the number of months were counted, and working time in the same industry was summed up. The highest number of months a new hire has worked in a certain industry was taken as the industry most worked in. The frequency distributions are displayed in Table 1. Four main industries crystallised and are outlined in the following paragraph.

Most work experience gained in industry: G – Wholesale and retail trade; repair of motor vehicles and motorcycles

This category contains trade, and distinguishes between wholesale and retail sale, apart from trade in motor vehicle. The repair of motor vehicles in garages and as part of stores is included as well. It will be shortened up by calling it Trade/Retail/Repair in this study.

Most work experience gained in industry: H Transportation & Storage

Activities such as passenger rail and air transport, but also freight rail transport as well as warehousing and postal activities are captured in this category.

Most work experience gained in industry: I – Accommodation and Food Service Activities

This industry category encompasses accommodation services, like hotels, holiday stays, and camping grounds, as well as food and beverage service activities, such as restaurants, catering, et cetera. It will be summarised as “Hospitality” in this study.

Most work experience gained in industry: N – Administrative Support Service Activities

This industry encompasses very different types of economic activities, such as rental and leasing activities, which includes car rental organisations, travel and tourism agencies, security and investigation activities, services to buildings and landscape activities, office administrative, office support, and other business support activities, which include call-centre services.

Table 1 Frequency of most of the work life and prior spent in industry (N = 105)

Industry	Most work experience	Prior job
G Wholesale and Retail Trade/ Repair of Motor Vehicles	19	18
H- Transport & Logistic	9	11
I - Accommodation and Food Services (in this study called: Hospitality)	17	12
J - Information & Communication	2	2
L - Real Estate	2	3
M - Professional / Scientific and technical activities	3	3
N - Administrative Support Services (includes car rental services)	27	36
O - Public administration and defense	4	3
Q -Health & Social Services	4	3
R - Arts, Entertainment and Recreation	4	2
Other (e.g. Manufacturing, Construction, Financial Services, Electricity/Gas/Steam, and air conditioning supply), or no work experience	12	12

4.3 Data Analysis

This quantitative data is analysed in the statistical program Stata. There are descriptive statistics about the sample, with parameters such as average, standard deviation, median, etc. of the different variables, and there are inferential statistics, such as correlations and regressions, to prove or disprove hypotheses and answer the research question(s). As the dependent variable voluntary turnover is binary coded (coded 0 = no turnover; 1 = voluntary turnover), bivariate correlations are conducted as cross tabulations instead of linear correlations. The significance of the relation is tested with the Chi2 test and the strength of the relation is measured with Cramer’s V (Kopp and Lois, 2014). These operations can show relations or associations and the strength or effects of the independent variables on the dependent variable (Kopp and Lois, 2014). Sometimes, it is also interesting to know if the difference between a metric variable (for example, work experience in months) differs between groups (for example, a nominal variable

such as new hires from 2015 and 2016). The operation is called t-test and compares group means and weighs them by their standard error (Kopp and Lois, 2014). This operation allows comparing metric and nominal variables. Starting with binary relations, the four models and their hypotheses are tested step by step, and where appropriate, t-tests will be conducted.

When the influence of more than one variable on another is tested, the operation regression is used (Kopp and Lois, 2014). With the help of regressions, the values of a dependent variable (voluntary turnover) can be predicted by independent variables (work experience, recruitment source, et cetera). Logistic regressions are used for nominal variables, instead of linear regressions, which require a metric dependent variable (Kopp and Lois, 2014). Logistic regressions can be expressed in likelihood (b-coefficient) and odds (odds-ratio e^b) (Kopp and Lois, 2014). A positive b-coefficient or an odds-ratio bigger than one, indicate that the likelihood of the dependent variable to take on the value of 1 increases. To make a statement about the extent of the increase, the odds ratios give information and are easier to interpret than the coefficients. That is why the odds ratios will be displayed in this study. For example, an odds-ratio of 1.245 states a positive relation between gender and turnover: A new hire's odds to leave voluntarily are 0.245 times higher or 24.5% higher when she is a female. When adding variables into a regression, they are also called covariates or predictors.

Odds ratios or b-coefficients in the logistic regression are not standardised factors, and therefore, do not give information about which of the independent variables has the biggest effect on the dependent variable. Unfortunately, this is only possible in a linear regression (Kopp and Lois, 2014). The overall validity of a regression model is tested by the pseudo R^2 , which can reach 1 maximum. In the statistical program Stata, which is used in this study, the pseudo R^2 by McFadden is applied, as this is the default in this program, in the more commonly used SPSS the equivalent is Cox and Snell, wherein the figures are usually a bit higher (Kopp and Lois, 2014). A value of 1 would mean that 100% of variance of the dependent variable can be explained by the model, which is nearly impossible, and in social sciences a value of 0.2 (20%) is quite high (Kopp and Lois, 2014). The degrees of freedom and the likelihood ratio χ^2 as significance test of the model are displayed as well (in SPSS Output "Omnibus-Test") (Kopp and Lois, 2014).

4.4 Theoretical concepts and empirical models: Hypotheses

Model 1: Past behaviour and habitual commitment

According to the adage outlined above – past behaviour can predict future behaviour – several significant connections were suggested by research between past job tenure, the number of jobs within the past five years, and the employment status of an employee. In this study, the author uses a new hire's number of jobs during the entire work life instead of the number of jobs within

the past five years. This way, a “bad period” or bad luck in recent jobs can be compensated in a standardised, more realistic number.

Regarding the duration of the last position, it must be considered that if a new hire is a college graduate, he or she cannot have any work experience yet, and hence, must be excluded from this calculation, to avoid bias.

The hypotheses derived from the outlined research are:

Hypothesis 1: New hires who have shorter tenure in the last position are more likely to leave voluntarily (Barrick and Zimmerman, 2009; Breugh, 2014).

Hypothesis 2: The higher the number of job changes during prior work life, the more likely a new hire is to leave voluntarily (Barrick and Zimmerman, 2009; Breugh, 2014).

Hypothesis 3: New hires who were employed at the time of hiring are less likely to leave (Breugh, 2014)

Model 1 Past behaviour and habitual commitment – Variables

Dependent Variable	Independent Variables
Voluntary turnover	Duration of last position in months
	Number of job changes
	Employed before start

Model 2: Motivation to work for current employer

According to the above outlined research, a new hire’s motivation to work for the new organisation can influence their turnover behaviour. The main indicators are the source of application, a “Walk in”, and the application frequency.

The control variables age and if a person has kids make particular sense because: Older people might use more traditional methods of applications, like a walk in, and due to their age, they would have more opportunities to apply more than once for a company. People without kids might have more time and opportunities driving to an organisation to submit their application.

Hypothesis 4: New hires who submitted their application in person – they literally walked in to the company – are less likely to voluntarily leave than new hires who applied using a different method (Zottoli and Wanous 2000; Breugh, 2014).

Hypothesis 5: New hires who applied more than once in the organisation before being hired are less likely to leave voluntarily (Breugh, 2014).

Model 2 Motivation to work for current employer – Variables

Dependent Variable	Independent Variables
Voluntary turnover	Source: Walk in
	New hire applied more than once in this company before being hired

Model 3a Embeddedness: links

According to the job embeddedness literature, the links an employee shares with the organisation, or other people in the job or off the job, can decrease retention, as they “embed” them into work and life (Mitchell et al., 2008). According to Barrick and Zimmermann (2009), and Breugh (2014), an employee referral indicates a better and more realistic understanding of the role, which can lead to higher likelihood of retention. The number and kind of contacts cannot be tested in this study as there is no information available about this. Hence, the links and understanding of the job will be tested by the indicator “referral” as source of the application. The current job tenure is an ambivalent indicator, as this is measured after being hired. It will be tested as an indicator of job embeddedness; however, results will not be taken into account.

Hypothesis 6: New hires who came as “employee referrals” into the organisation remain longer than applicants from other sources (Breugh, 2014; Barrick and Zimmermann, 2009).

Hypothesis 7: New hires with many off-the-job-links are more likely to remain; if they are married, older, have kids, and a longer job tenure (Mitchell et al., 2001).

Model 3a Embeddedness: links – variables

Dependent Variable	Independent Variables
Voluntary turnover	Source: Referral
	Marital status: married
	Kids
	Age
	(Tenure in current job))

Model 3b Embeddedness: fit

According to the research of Carr et al. (2006) outlined above, the person-job-fit of a new hire is related to turnover. As there is no survey conducted for this study, the intermediate variables of perceived fit, and perceived value congruence, or pre-entry expectations, cannot be tested. However, according to Carr et al. (2006), the factors “length of prior work experience in months” and “prior work experience in the same profession” are good indicators that predict turnover in their study. The occupation of an individual is very difficult to classify (Stuth, 2015). Thus, in this study, the work experience of all new hires is classified in three different categories, aiming to capture the “same occupation” on different levels of specification: front-line service work

experience as a very general occupational category, car rental experience in particular, and work experience as customer service representative of a car rental company as the most specific indicator. As front-line service work is present in different kinds of industries, the industry that a new hire has worked in most in their work life has been recorded as well. This is in accordance to the request of Carr et al. (2006), who only look at the experience in the same job a person had before he or she was hired in the new organisation. However, they emphasise the need for research with other work experience. Therefore, this study also tests work experience that was mostly gained in a certain industry during the work life, as experience from a different background.

Two hypotheses can be derived:

Hypothesis 8: New hires with work experience in the same occupation, measured in three categories, have a greater likelihood to remain than people with no, or little work experience.

Hypothesis 9: A new hire with work experience in the same industry is more likely to stay than a new hire from a different industry.

Model 3b Embeddedness: Fit – variables

Dependent Variable	Independent Variables
Voluntary turnover	Work experience: FLSW, car rental, CSR
	Most work experience gained in industry
	General work experience in months

Chapter 5: Case study – Introduction of a car rental company in Germany

The company has 20.000 employees worldwide, operates in 100 countries, and has a revenue of \$15.5 billion in 2016 (Internal document, 2017). In Germany, the company employs about 700 people, mainly customer service representatives of the rental stations, distributed over the whole area of the country in 170 locations. Other main professional groups in the operational car rental business are hikers, supervisors, or station managers, plus several head office roles, such as financial, marketing and HR professionals, fleet managers, and sales staff. In 2016, about 160 new hires were employed in Germany (internal information documents), of which the vast majority were customer service representatives. Internal reports revealed that the company is facing an increased turnover rate and a tripling of the turnover costs in 2016, compared to 2015.¹ In particular, the turnover before six months had increased by about 60% within two years. The

¹ This is taken from confidential internal material of the company, which the researcher has permission and access to. More information is provided on request.

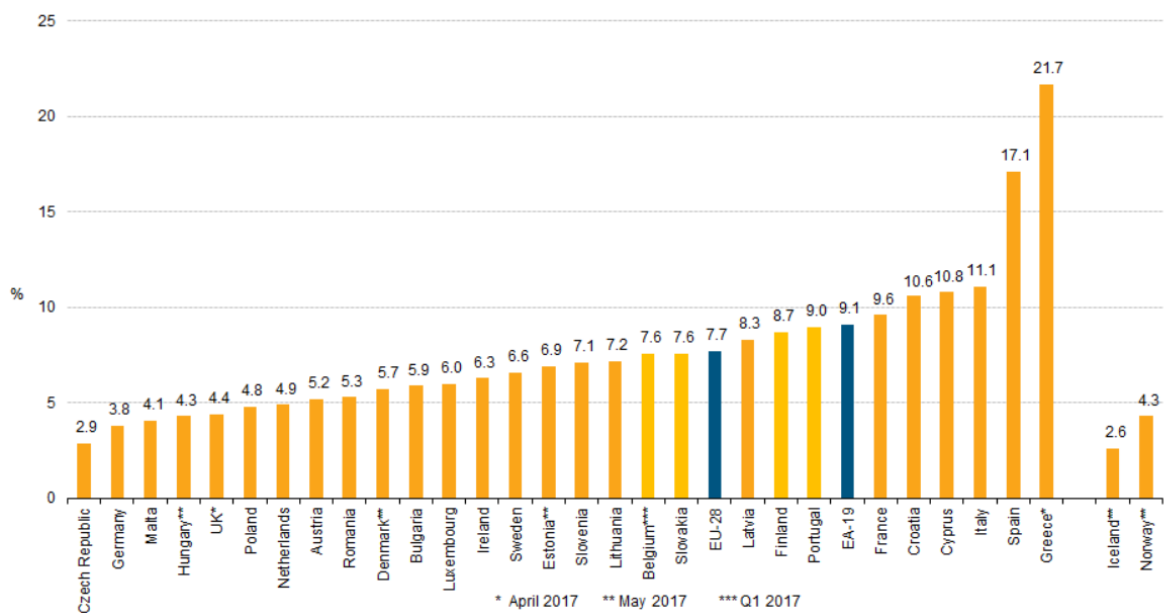
company has a strong business case to take action against this. This study will help tackling this issue.

5.1 General conditions of staff recruitment and retention for the car rental company

The highest number of all roles in the car rental company are customer service jobs; for example, car rental agents whose main task it is to rent cars at the counter, and interacting with customers face-to-face on a daily basis. Hence, these staff can be classified as FLWS. The role requires an outgoing personality, customer orientation and communication skills in different languages. The work conditions are related to shift work, anti-social hours, low pay, and the ability to be professional when dealing with difficult customers; for example, when customers complain. These conditions are similar to employees in other service roles or FLWS, like employees working in retail trade or hospitality, such as hotels and other accommodation, transport services etc. Against this backdrop, car rental companies compete on a large scale with organisations operating in retail, trade and tourism, and food services for candidates.

The general conditions for the recruitment and retention in a car rental company in Germany are outlined in this section. These provide a further rationale for investigating this topic by strengthening the fact of trying to keep staff rather than recruit new staff as there is a shortage of suitable candidates on the labour market in Germany.

Figure 1 Unemployment Rates in Europe, 2017

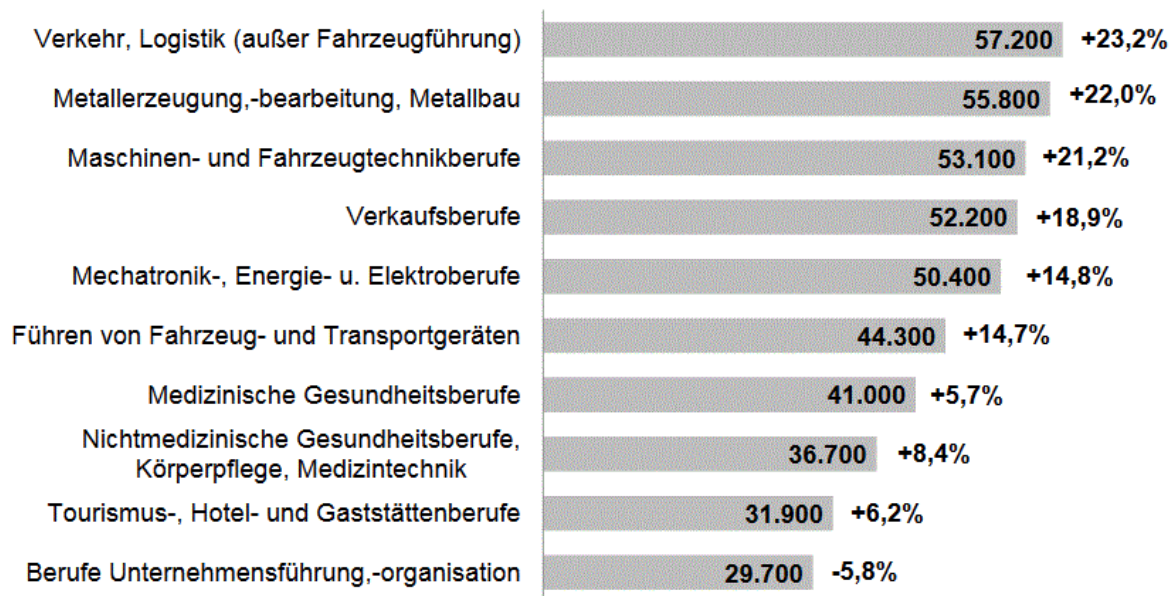


Source: Eurostat, 2017c

As mentioned above, staffing and recruitment conditions are difficult in a situation that is shaped by a tight labour market which is characterised by a high number of vacancies and low unemployment rates (Taylor, 2010, p. 57). Germany has one of the lowest unemployment rates among the OECD countries, with 4.2% in 2016 and currently 3.8% (OECD, 2017, Eurostat, 2017). Additionally, the number of open vacancies has risen for all jobs (BA, 2016), which, in fact, is one of the highest job vacancy rates among European countries (Eurostat, 2017b). The time to fill a role increased for almost all professions (BA, 2016). As Figure 2 demonstrates, the front-line service staff is among the top ten of most sought-after labour force in Germany (“Verkaufsberufe” and staff in tourism and hotels). A yearly study of Ernst & Young investigating small and medium enterprises (SME) in Germany, reveals a shortage of skilled labour for the service sector in particular (Ernst & Young, 2016). In their survey answers, SME identify customer service and sales as the second highest area of a lack of skilled candidates and have recruitment difficulties (Ernst & Young, 2017).

Figure 2 Top ten numbers of open vacancies by industry in Germany

Gemeldete Arbeitsstellen am ersten Arbeitsmarkt
 Bestand nach Berufshauptgruppen (KldB 2010) und Vorjahresvergleich
 Juli 2017



Datenquelle: Statistik der Bundesagentur für Arbeit

Source: BA, 2017b

5.2 The Sample

The sample originally consisted of 161 new hires, whose resumes were uploaded in the applicant tracking system of the described car rental company in Germany. They were hired between 1st January 2015 and 31st December 2016, and all of them were hired as front-line service workers in the role, as a customer service representative or customer care agent, at different locations in Germany. There were 70 persons hired in 2015 and 91 in 2016.

The author deleted cases of the sample due to reasons of termination: there were cases of data errors, new hires who did not show up on day one, or too many missing data for an observation (altogether 15 cases). Further deletions were conducted due to the research interest in the voluntary aspect of turnover: According to Breugh (2014), in the traditional practice in research about voluntary turnover, individuals who left the company involuntarily are dropped from the sample (Breugh, 2014). Therefore, 41 further observations were dropped, and the final sample consisted of 105 observations.

5.2.1 Descriptive Statistics of the sample

Out of the 105 observations, 42 were hired in 2015 and 63 in 2016. The retention rate of the sample is 64%, 36% of all new hires between 2015 and 2016 left the car rental company voluntarily. The data were pulled on the 30th June 2017 so that every new hire could have the chance of staying for at least six months, as this is the threshold used very often in turnover and retention literature (Barrick and Zimmerman, 2005; Breugh, 2014). However, there are variations as well: Some have time spans of 4 to 8 months for reasons that are related to the study time frame (Carr et al., 2006), longer time spans of 12 months (Cascio, 1976), or tested for two different points of time such as 6 months and 2 years (Barrick and Zimmerman, 2009). In Germany, 6 months is the probation period. As both the hiring date and the leaving date are provided, the duration of hire can be calculated; the average tenure in their current position is 13 months with a standard deviation of about 8 months. Naturally, the 2015 sample has longer tenures (19 months) than the 2016 (9 months). Of the 38 voluntary leavers, 22 left after 6 months. After a tenure of one year, 21% of new hires from 2015, and 55% new hires from 2016 (who were hired before July 2016), had left the company after one year. This difference is statistically significant.

The majority of new hires are male: 63 of the 105 new hires (60%). The age in the sample ranged from 19 to 59. The average age is 31 years with a standard deviation of 9 years – so that most new hires in 2015 and 2016 were between 22 and 40 years old and there are no significant differences between hires from 2015 and 2016 regarding age. About 83% of the sample has a German nationality; the others have different nationalities, such as Croat (3%), Polish, Russian, or Italian, each constituting 1.9% as the next largest groups. The marital status for most of the new

hires is single, with almost 76%; 22% are married, and almost 2% are divorced. In regard to their education, the majority of 50% has a leaving certificate or A-levels (“Abitur”) (50 persons), about 40% have a middle school certificate (“Mittlerer Schulabschluss”), and 11% have a lower school certificate (“Hauptschulabschluss”). Regarding their vocational qualification, the vast majority of the new hires have undergone vocational training (73%; 72 persons); a college degree is held by 8, and 19 have no qualification at all. The vocational training is acquired mainly in the industries of wholesale and retail trade/repair of motor vehicles and motorcycles (Eurostat 2008, Rev. 2), and will be called retail industry (24 new hires). The second largest industry new hires have a qualification in administrative and support service activities, which encompasses car rental services (15 new hires) – 10 have stated their qualification working in a car rental company. The third largest industry in which the new hires are qualified is accommodation and food service activities (11 persons). Frequency distributions of the industries new hires worked most in during their overall work life reveal the four most “common” industries before being hired in car rental: 69% of the new hires come from Trade/Retail/Repair, Transport and Logistic, Hospitality, and Administrative Support services (inclusive of car rental), which is the industry with the highest frequency. Of these, 43 new hires (41%) had direct car rental experience at some point in their work life. Only 8 of 105 had never worked in front-line services before. Thirty new hires have been working as a customer service representative in a car rental company before.

The average duration spent at the last job in the sample was 17 months, almost 1.5 years, and ranged between 0 and 95 months (7.9 years). With increasing age, the duration of the last position increases; however, it is not linear, as new hires over 55 years of age, and new hires in the youngest age group of 19-24 years, are at the same level (8 months). It also differs by gender – significantly: Women’s last position in the sample lasted 10 months in average while men’s lasted 21 months. The average number of job changes of the sample is 4.4, ranging from 0 to 15 times within the overall work life. About 2/3 of the new hires have been in employment (63%) and 1/3 haven’t (37%) immediately before hiring. More men, than women, have been employed before being hired; however, the differences are not significant. Younger people were more often not employed. Regarding the recruitment source, there are 15 new hires who “walked in” and four who were an employee referral; the vast majority applied through the company career website or internet job boards. Eighteen new hires have applied before at least once; all of them have previous car rental experience. More information about means, standard deviations, minimum, and maximum values of all independent variables, are displayed in Table 2.

Chapter 6: Results

First, binary cross tabulations between the dependent and the independent variables were conducted (table 2). As the dependent variable is dichotomous, and not a correlation for linear

variables, the association measure Cramer's V and the test Chi-square were applied. Accordingly, the following regression analysis was done through logistic instead of linear regressions. The regression models have been controlled for some demographic variables as suggested by Breugh (2014), such as age, gender, and marital status; however, this is only a precaution, and cannot be taken into account later when selecting candidates, due to discriminatory and legal reasons.

Table 3 displays the correlations between all used variables, however, its purpose is more of a controlling than an analytic nature. It shows significant positive correlations for having kids and being married, that who is married is not single, and other correlations, which support the correctness of the collated and edited data. General work experience is positively correlated with the specific work experience such as car rental experience et cetera. Age is positively correlated with the number of job changes and work experience too, which has to be taken into account when analysing the data in the regression models.

Table 2 Means, standard deviations, min-max-values of all independent variables and their association with voluntary turnover

Independent Variables	Mean	Standard Deviation	Min	Max	Cramer's V* N = 105
Duration of most recent position in months	17.12	20.63	0	95	0.61
Number of job changes	4.43	3.18	0	15	0.20
Employed before start	0.63	0.49	0	1	0.12
Recruitment Source: Walk-in	0.14	0.35	0	1	-0.02
Re-applied	0.16	0.37	0	1	0.19*
Recruitment Source: Referral	0.04	0.19	0	1	-0.15
Work experience FLSW in months	53.71	61.1	0	344	0.23
Work experience in car rental in months	19.30	41.37	0	204	0.61
Work experience as CSR in months	11.5	30.93	0	204	0.47
Work experience in general in months	104.65	101.45	0	411	0.23
Most work experience gained in <i>industry: Trade/Retail/Repair</i>	0.18	0.39	0	1	-0.20*
Most work experience gained in <i>industry: Transport & Logistic</i>	0.09	0.28	0	1	0.05
Most work experience gained in <i>industry: Hospitality</i>	0.16	0.37	0	1	-0.01
Most work experience gained in <i>industry: Administrative Support Services</i> (includes car rental services)	0.26	0.44	0	1	0.24*
Control variables					
Age	31.45	9.19	19	59	0.51
Marital status: Single	0.76	0.43	0	1	0.01
Marital Status: Married	0.24	0.43	0	1	-0.01
Gender	0.4	0.49	0	1	-0.05
Kids	0.5	0.51	0	1	0.18

*p ≤ 0.10; **p ≤ 0.05; ***p ≤ 0.01

Metric variables are standardised and grouped where appropriate. However, for comprehension purposes, the original variables are displayed with means, min, and max values. For example, number of job changes and work experience were standardised by age (per age year), as both are correlated.

Table 3 Correlations among all used variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Turnover	1																			
Duration of most recent position in months	2	0.01																		
Number of job changes	3	0.11	-0.04																	
Employed before start	4	0.12	0.06	0.16																
Recruitment Source: Walk-in	5	-0.02	0.01	-0.00	0.04															
Re-applied	6	0.19	0.17	0.10	0.08	-0.03														
Recruitment Source: Referral	7	-0.15	-0.06	0.01	-0.05	-0.08	-0.09													
Work experience FLSW in months	8	0.08	0.04	0.35*	0.12	0.15	0.19*	-0.02												
Work experience in car rental in months	9	0.16	0.29*	0.12	0.14	0.08	0.50*	-0.09	0.53*											
Work experience as CSR in months	10	0.16	0.06	0.06	0.10	0.18	0.32*	-0.08	0.58*	0.80*										
Work experience in general in months	11	0.13	0.19	0.68*	0.14	0.04	0.24*	-0.09	0.59*	0.47*	0.30*									
Most work experience gained in <i>industry: Trade/Retail/Repair</i>	12	-0.20*	-0.14	-0.13	-0.07	-0.12	-0.15	0.16	-0.06	-0.17	-0.12	-0.16								
Most work experience gained in <i>industry: Transport & Logistic</i>	13	0.05	0.05	0.01	0.03	-0.03	-0.05	0.12	0.01	-0.14	-0.11	-0.04	-0.14							
Most work experience gained in <i>industry: Hospitality</i>	14	-0.01	-0.16	0.10	0.07	0.04	0.09	-0.09	0.06	-0.10	-0.08	0.02	-0.21*	-0.13						
Most work experience gained in <i>industry: Administrative Support Services</i> (includes car rental services)	15	0.24*	0.10	0.18	0.05	0.01	0.31*	0.00	0.26*	0.53*	0.42*	0.30*	-0.28*	-0.18	-0.26*					
Age	16	-0.03	0.24*	0.62*	0.10	0.02	0.17	-0.13	0.55*	0.38*	0.23*	0.88*	-0.13	-0.09	-0.02	0.23*				
Gender	17	-0.05	-0.25*	-0.09	-0.13	-0.11	-0.16	0.04	-0.05	-0.15	-0.02	-0.16	0.07	-0.11	0.12	-0.12	-0.18			
Marital status: Single	18	0.01	0.00	-0.12	-0.01	0.09	-0.12	0.12	-0.11	-0.01	-0.01	-0.22	0.00	0.01	-0.05	-0.05	-0.24*	-0.01		
Marital Status: Married	19	-0.01	0.00	0.12	0.01	-0.09	0.12	-0.12	0.11	0.01	0.01	0.22*	0.00	-0.01	0.05	0.05	0.24*	0.01	-1.00*	
Kids	20	0.18	-0.07	0.42*	0.06	0.08	0.25	-0.17	0.29	0.09	0.23	0.33	-0.10	0.00	0.00	0.07	0.35*	0.13	-0.57*	0.57*

Model 1 Past behaviour and habitual commitment

Model 1 encompasses hypotheses about past behaviour and habitual commitment to former organisations. Hypothesis 1 posits that the shorter the time spent in the most recent job, the more likely a new hire is to voluntarily turn over. As noted in Table 2, the duration of the prior job has a strong effect on voluntary turnover (0.60); however, it is not statistically significant. The number of job changes during the work life has a medium effect on voluntary turnover (0.20), yet is not statistically significant. Being employed directly before starting the new job in the car rental company has a small, not significant effect.

Testing these three independent variables in a logistic regression for their effect on voluntary turnover, Table 4 shows the following results: Neither the duration of the most recent job nor the employment status before being hired has an effect on voluntary turnover. The number of job changes, however, is significant, and negatively related to turnover: The higher the number of job changes, the more likely the new hires are to leave voluntarily. Bearing in mind that this correlation was not found in the binary cross tabulations, this result should be considered with caution.

In a separate correlation testing of the correlations among the independent variables, medium, statistically significant associations between age and the number of job changes, and gender and the duration of the last position were found. Even though it was accounted for, this association, by standardising the job changes per year of age, the significant effects of this predictor in Model 1 can be moderated by age. Additionally, women have significantly shorter durations of their most recent position (21 months for men; 10 months for women).

The overall variance accounted for in the Model 1, measured in Pseudo R^2 , does increase with each covariate added in; however, with all 3 predictors, it is still very small with 0.077 – this means that only the 7.7% of the variance with 6 degrees of freedom would be explained if it was significant; however, it is not. None of the hypotheses except Hypothesis 2 can be proved.

Model 2 Motivation to work for employer

The Hypotheses 4 and 5 related to motivation to work for the current employer posit that a submission of an application in person and to reapply after rejection at an organisation is linked to a lower voluntary turnover of a new hire. The binary cross tabulations show that the association of a walk in is minimal on voluntary turnover and is statistically insignificant. The re-application is against the expectation positively and significantly, yet not very strongly (0.20) associated to turnover: The more often a person applied before being hired, the more likely this person is to leave voluntarily.

Testing these independent variables “Recruitment source: walk in” and “Re-Application” in a logistic regression model, there are no statically significant effects (table 5). 15 new hires

submitted their application in person, 10 (67%) remained with the company – which does not vary from the overall retention rate of about 64%. Therefore, hypotheses 4 and 5 cannot be supported with this sample.

Table 4 Model 1 – Past behaviour and habitual commitment – Logistic regressions for Hypotheses 1-3

	Step 1	Step 2	Step 3
Variable	Odds ratio	Odds ratio	Odds ratio
Duration of last job in months	1.180	1.310	1.290
Number of job changes per age year		1.677**	1.653**
Employed before start			1.944
Control variables			
Age	0.852	0.729	0.695
Gender	0.848	0.990	1.019
Marital status (single)	0.929	0.968	0.940
Pseudo R² (McFadden)	0.014	0.062	0.077
LR χ^2, df	1.5, 4	6.80, 5	8.40, 6
N	92*	91	91

♣The number of observations in the models differ due to case-wise deletion in Stata, when there are missing values in an added variable (Kopp and Lois, 2014).

*p ≤ 0,10; **p ≤ 0,05; ***p ≤ 0,01

Table 5 Model 2 – Motivation to work for employer - Logistic Regressions for hypotheses 4 and 5

	Step 1	Step 2
Variable	Odds ratio	Odds ratio
Recruitment Source: Walk in	0.991	0.722
Re-applied		2.281
Control variables		
age	0.906	0.864
gender	0.719	0.708
Marital status (single)	0.994	1.036
Pseudo R² (McFadden)	0.005	0.026
LR χ^2, df	0.58, 4	2.82, 5
N	93*	92

♣The number of observations in the models differ due to case wise deletion in Stata when there are missing values in an added variable (Kopp and Lois, 2014).

*p ≤ 0.10; **p ≤ 0.05; ***p ≤ 0.01

Model 3a Job Embeddedness: Links

Looking at Hypotheses 6 and 7 that form the Model 3a for job embeddedness-links, there are only small effects in the cross tabulations and none are significant. For the factor “employee referral”, this can be due to the small number of four new hires who have been referred by another employee (hence the automatic omission from the regression model). Nevertheless, the

fact that all of these four referrals are still working at the car rental company, might point to the expected relation of decreased turnover.

Altogether, Table 6 demonstrates that having personal links to the company or being embedded in other ways off-the-job, such as being married, or having kids, does not influence voluntary turnover in the present sample (Hypotheses 6 and 7).

The commitment to the company, however, seems to rise with increasing time in the current position, as proved to be a strong indicator of voluntary turnover by Barrick and Zimmer (2009). With every month in the current position of the car rental company, the probability to leave decreases by 1.6%. This is an interesting result, however, as this is not a factor that can be taken from the resume as an indicator of retention, it is irrelevant for the research question and is not considered in the results.

Table 6 Model3a Embeddedness: Links - Logistic Regressions for Hypotheses 6-7

	Step 1	Step 2	Step 3
Variable	Odds ratio	Odds ratio	Odds ratio
Recruitment Source: Referral	Omitted	Omitted	omitted
Kids		2.682	6.670
Duration current position			0.984**
Control variables			
Age	0.9873	0.694	0.265
Gender	0.729	0.950	0.639*
Marital status (single)	1.064	1.846	0.532
Pseudo R² (McFadden)	0.007	0.037	0.377
LR χ^2, df	0.71, 3	1.50, 4	15.20, 5
N	89*	31	31

♣The number of observations in the models differ due to case wise deletion in Stata when there are missing values in an added variable (Kopp and Lois, 2014).

*p ≤ 0.10; **p ≤ 0.05; ***p ≤ 0.01

Model 3b Embeddedness: Fit

Table 7 shows that there is no effect when testing the association between voluntary turnover and work experience in the same occupation, nor in the indicators FLSW, car rental service, or customer service representative. The general work experience does not seem to have an influence either. Regarding the industry in which a new hire has been working the most time in his or her work life, only Trade/Retail/Repair, and Administrative and Support Services have an effect. New hires rather remain in the car rental company when they have spent the vast majority of their work lives in the Trade/Retail/Repair industry, but are more likely to leave when they did so in the Administrative and Support Service Industry.

Testing the relations in a logistic regression, the outcome in Table 7 confirms that there is no effect of the same occupation; however, it suggests that work experience, in general, has an effect, but an unexpected one: The more work experience new hires have, the more likely they are to leave voluntarily. As the variable is age standardised, it is hard to interpret the odds ratio displayed in Table 7. Looking at the work experience in months, with each month's increasing work experience, the chances that new hires leave voluntarily increase by 1.2%. This result is not stable; however, it must be considered with extreme caution, as when adding general work experience to the model, suddenly age becomes significant as well. When correlated with turnover in cross tabulations, as seen in the Table 2 above, there is no effect at all of either age, or work experience.

Table 7 Model3 b Embeddedness: Fit - Logistic regressions for Hypotheses 8-9, Part 1

	Step 1	Step 2	Step 3	Step 4
Variable	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Front line service work	1.169	1.150	1.110	1.038
Car rental		1.568	1.450	1.874
Customer Service Rep			1.003	1.003
General work experience				1.940***
Control variables				
Age	.832	.803	.798	.326***
Gender	.700	.695	.699	1.007
Marital status (single)	.979	.972	.963	1.250
Pseudo R² (McFadden)	0.010	0.019	0.020	0.131*
LR χ^2, df	1.27, 4	2.13, 5	2.24, 5	14.40, 7
N	93	93	93	93

*p ≤ 0.10; **p ≤ 0.05; ***p ≤ 0.01

Further bivariate analyses have revealed a very strong, significant correlation between general work experience and age (0.88). Even though the variable has been age-adjusted, and the model has been controlled for age, the effect is still prevailing. Interpreting this without caution, the result would suggest that the younger new hires are, and the more work experience they have, the more likely they are to leave than older new hires with less work experience. In more not displayed regression analyses, general work experience did stay significant; however, the overall model only becomes significant when adding age. Hence, age must be considered as an intermediating variable, and would need further research. Hypothesis 8, therefore, cannot be supported.

Table 8 Model 3b Embeddedness: Fit - Logistic regressions for Hypotheses 8-9, Part 2

	Step 5	Step 6	Step 7	Step 8
Variable	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Front line service work	1.025	1.007	1.051	1.041
Car rental	1.759	1.814	1.839	1.669
Customer Service Rep	1.003	1.003	1.001	1.001
General work experience	1.933***	1.925***	1.948***	1.916***
Industry: Trade/Retail/Repair	0.130*	0.134*	0.1093**	0.121**
Industry: Transport & Logistic		1.299	1.072	1.176
Industry: Hospitality			0.424	0.473
Industry: Support services				1.274
Control variables				
Age	0.311***	0.319***	0.301***	0.309***
Gender	1.104	1.139	1.307	1.341
Marital status (single)	1.129	1.123	1.012	1.037
Pseudo R² (McFadden)	0.179	0.179**	0.191**	0.191**
LR χ^2, df	19.72, 8	19.81, 9	21.02, 10	21.10, 11
N	93	93	93	93

*p ≤ 0.10; **p ≤ 0.05; ***p ≤ 0.01

The cross tabulations, as well as the regression analyses in table 8, confirm that the industry Trade/Retail/Repair is negatively, statistically significant, related to turnover. New hires, who have spent most of their work in that industry, are more likely to stay in the car rental company. The other industries do not have any impact, except the administrative and support services industry, which will be just called as the support services industry. It encompasses very different kinds of economic activities as stated above, such as rental and leasing activities, travel and tourism agencies, security and investigation activities, services to buildings and landscape activities, office administrative, office support, and other business support activities which include call centre services. Most new hires who are classified in this industry, have either mainly car rental experience, travel and tourism agency experience, or a call-centre back ground. This sector is positively related in the cross-tabulation tests to turnover; however, it is not in the logistic regression. It has been tested separately without the other industries as well, and is significant in the first step being controlled for age, gender and marital status; however, as soon as the industry trade/retail/repair is added into the model, the industry of support services become insignificant.

New hires, with a background of Trade/Retail/Repair, hospitality sector, and the transport and logistic sector are younger (50% of new hires are 26 or 27 years or younger), compared to new hires from support services (50% of persons are 34 years or younger). Furthermore, the work experience differs by the industry most worked in; new hires, with a support services background

have the longest work experiences of all other industry backgrounds (about 13 years). This is reasonable, as they are also the oldest group. New hires from the trade/retail/repair background, with 5.8 years, have the shortest work experience, followed by transport and logistic with 7.5 years, and new hires from the hospitality sector, who have about 9 years of work experience. T-tests revealed that the differences in the means are statistically significant only for new hires from trade/retail/repair and support services. This is a reason for the interference of general work experience and industry in the logistic regression models. Hypothesis 9 can thus, partly, be supported.

Overall Model

Finally, as a last test, adding all independent variables in one regression model, only general work experience and the industry of trade/retail/repair, as well as the control variable age, are significant (table 9). Reducing the model to only the significant variables and control variables, they stay significant. The explained variance of 28% in the full model is high and significant, and decreases to 16% in the latter model, which is still relatively significant. Additionally, the effects of the independent variables decrease when taking out the other variables. In the models, the standardised work experience variable and age groups are used, which are difficult to interpret. The not standardised work experience in months shows an effect of 1.1 % increase of the chances to voluntary turnover with each month adding more work experience and thus, 18% higher chance to leave for each age year less (both not displayed). When using the not age-controlled variable of work experience, it becomes insignificant without age. Furthermore, age is not consistently related to turnover on its own. Hence, it seems to be some sort of an intermediate effect.

The chances to leave voluntarily are decreased by about 87%, when having the most work experience in trade/retail/repair. This is opposed to the general work experience and age effect, as the impact of this industry being relatively stable is more of a long-term effect; after six months of working in the car rental company, new hires with this industry background often do not remain; however, after one year there is a significant effect.

Table 9 Logistic Regression: All independent variables and all significant variables

	Full Model	Significant variables only
Variable	Odds ratio	Odds ratio
Duration of most recent position	0.993	
Number of job changes	6.414	
Employed before start	1.844	
Recruitment Source: Walk-in	0.246	
Re-applied	0.718	
Recruitment Source: Referral	(omitted)	
Front line service work	0.951	
Car rental	1.064	
Customer Service Rep	2.060	
General work experience	2.173**	1.870***
Industry: Trade/Retail/Repair	0.0565**	0.1220*
Industry: Transport & Logistic	1.359	
Industry: Hospitality	0.1660	
Industry: Support services	1.499	
Control variables		
Age	0.196***	0.364***
Gender	1.455	1.081
Marital status (single)	0.952	1.138
Pseudo R² (McFadden)	0.28**	0.16***
LR χ^2, df	29.04, 16	18.16, 5
N	86*	93

♣The number of observations in the models differ due to case-wise deletion in Stata when there are missing values in an added variable (Kopp and Lois, 2014).

*p ≤ 0.10; **p ≤ 0.05; ***p ≤ 0.01

Chapter 7: Discussion

This study's primary purpose was to examine the relation between voluntary turnover and biodata of applicants. Four theoretical models were derived from the literature investigating the association between the biodata and the turnover or retention.

The variables of the first model, "past behaviour and habitual commitment", did not have a significant effect on voluntary turnover, except for the number of job changes that had a negative effect on retention. This effect is not stable; it is highly correlated to general work experience, and lost all impact when work experience was added to the regression model. It can be concluded that for the car rental company, habitual commitment and past behaviour do not play a role for voluntary turnover.

The suspected negative impact of "motivation to work for the current employer" and voluntary turnover was not supported. Re-application in the same company is associated with higher rates of retention in the literature; however, in this study it is rather the opposite. It is interesting to

see that most of the re-applicants had previous work experience in a car rental company – either in another or in the investigated car rental company itself. Four of the five new hires who had been working for the same company before had done this in a call centre in another country. The reason why those new hires might be more prone to leave could be that their allegedly informed expectations did not match reality, or may have changed since the first time.

The theoretical “model of embeddedness” with links and fit, is quite complex, and is related to the sociological theory. Personal links off-the-job, such as being married, or having kids, did not show any impact on turnover. Personal links on-the-job were measured by the fact that somebody was referred by a friend or relative – which had too few observations to be able to make a significant prediction for turnover, even though the retention of all referrals hinted in the expected direction of higher retention. Surprisingly, previous work experience in the same occupation did not have an impact on the turnover – neither car rental experience, nor, specifically, as a customer service representative, in the same occupation as hired. General work experience, in accordance with age, was associated with turnover; however, this effect was not stable. Younger individuals tend to leave jobs more often, they start college, go traveling or haven’t found the right work for them yet, and with increasing age, individuals gain more work experience. In addition, they experience how to socialise and adjust into a new work place, how to participate, gain the information needed, and cope with unexpected incidents. Considering the job changes every labour force participant makes, this process of “arriving” in a new work place should be considered as re-socialisation, as it is a new process every time, with a new start (Adkins, 1995). The industry, as a conditioning environment for the behaviour of work place participants, such as employees, was also tested for their influence on voluntary turnover. New hires, with a main work background in the industry of wholesale and retail trade/repair of motor vehicles, were found to remain more frequently than simply by random chance. New hires from this industry have the least work experience of all tested industries, and are among the youngest new hires. Coming from a retail background, often means that working in the car rental is more challenging, as it is constantly changing, customers have higher standards, and it is a very ad-hoc business, as customers need their car now so the customer service staff must act and find solutions quickly to keep customers happy. Some of the new. Therefore, hires of this industry have been selling cars before and might be just car enthusiasts enjoying working with cars. A more external, economic explanation can be found in the low salary for individuals working in the industry of wholesale and retail. According to the remuneration atlas of the federal agency of labour (BA, 2016), salaries in this industry are the lowest in Germany (BA, 2016). New hires probably know this, and the retention might be more pragmatically motivated than enthusiastically.

A general remark about the fact that voluntary turnover after one year has doubled since 2015, shall be discussed here as well. This development can occur due to internal changes in working conditions; however, the reasons can also be external conditions. As described above, the German economy is strong; it is characterised by a tight labour market which holds many job opportunities for the working population. This is not only a recent development, but an ongoing process since years, so that the problem is aggravated. This situation can lead to a higher turnover in general, regardless of individual conditions in a company, as the labour force report of the German Institute of Labour Market Research suggests (BA, 2017a). Furthermore, other research suggests that present employment opportunities have a negative influence on retention (Kirschenbaum and Mano-Negrin, 2002).

Chapter 8: Limitations

This study investigates the influence of different factors on voluntary turnover. According to Barrick and Zimmerman (2009), voluntary turnover can be distinguished between avoidable, voluntary turnover, and unavoidable, voluntary turnover. Unavoidable voluntary turnover can be to relocate to another city for the partner, or quitting to take care of a family member. The company could have done nothing to keep that employee. Avoidable, voluntary turnover refers to a situation when the company could have avoided the turnover through a pay raise or enriching the job experience (Barrick and Zimmerman, 2005). In this study, however, a coarser category of just voluntary turnover was investigated due to data availability. The company does not record more specific reasons.

Another reason that many of the hypotheses could not be supported can be in the fact that most biodata research is done with surveys. Especially, the complex model of embeddedness builds on personal perceptions and attitudes that cannot be captured in all their comprehensiveness just by the biodata from a resume. For example, the person-job fit or value congruence, as found significantly effecting turnover by Carr et al. (2006), can only be drawn from personal statements. Additionally, this model is time-sensitive, as mentioned by Adkins: Drawing from socialisation processes, people change over time while adapting to a situation, to a new job and environment, as socialisation is not done once, but is rather a lifelong learning process (Adkins, 1995).

Even though the number of observations in this study is eligible for statistical operations, such as regressions; and comparable to successful studies with similar sample sizes (Breugh, 2014; Barrick and Zimmerman, 2009), other studies calculate with much bigger samples (Carr et al., 2006; Barrick and Zimmerman, 2005), which can have an effect on the variance, validity, and thus, the overall effect of variables (Kopp and Lois, 2014). This study can be extended in 2018 for

the new hires of 2017, which would give a broader scope and variance, and could hence boost overall results.

A last limitation is the focus on the simple fact whether new hires left or not (voluntarily). Since the start date and termination date are known, an event history analysis could also be conducted. The advantage would be that the exact point of time of termination could be determined and associated with other events, which would overall give more exact results, especially when also the independent variables are time sensitive, such as work experience and age, or kids (Carr et al. 2006). It would have been also very interesting to have complete data about kids who are time-sensitive as well, or the number of kids, as this has a huge impact on labour, the availability, and retention – especially for women (Bundesministerium für Familie, Senioren, Frauen und Jugend, 2017). An event history analysis, however, would require a completely different data preparation, and would have been too time-consuming for this study.

Chapter 9: Conclusions and Outlook

The research question was if biodata of applicants can help organisations select new hires who are more likely to remain in the organisation. It can be answered partly with a yes. From this study, it can be concluded that the industry in which an individual gained the most work experience affects retention, and the recruitment source “employee referral” hints to higher retention as well. An adjusted recruitment strategy derived from these findings, that can lead to a higher overall retention rate, can be drawn from these results, and is outlined below as recommendation.

Looking at the other tested potential indicators of retention that can be considered when selecting candidates, the duration of the last position, as well as the employment status before being hired – not necessarily the number of job changes – must be considered. The number of job changes, however, can play a role under certain circumstances. As the effect is not stable, no clear statement about their effect on voluntary turnover can be made at this time, and further research is required.

The fact that there is no effect of specific occupation-related work experience on turnover was not expected; however, it can be evaluated as a good aspect. Applicants can be chosen from a broad range of occupational backgrounds, which is a huge advantage in times of a tight labour market. On the backdrop of these results, it is absolutely legitimate and recommendable to target and hire people from different occupational and industry backgrounds, as a “career jumper” or a “Quereinsteiger”, as they are called in Germany. Given the fact, however, that there is more to an employee than retention, other factors, such as performance, play a critical role as well, wherein previous experience in the same occupation or industry can still be of great use and shouldn't be abandoned completely. Considering the training time of a new hire, it can be

assumed that new hires, with similar work backgrounds, have shorter training times and need less effort and expenditure to start the job than new hires from different backgrounds and other work experience. Therefore, the next step should be to examine the association of biodata and work performance. There exists rich literature, suggesting useful outcomes (Barrick and Zimmerman, 2005; Becton et al., 2009; Hunter and Hunter, 1984).

The topic of previous work experience and age would need further investigation; for example, considering the psychological contract. Work experience and age can shape an individual's reaction to psychological contract breaches in work places, such as getting less feedback or perks than promised (Thomas and Feldman, 2009). Thomas and Feldman (2009) found mediating variables that influence the relationship between age and work experience and consider the moderating effects of age.

Another important insight for the car rental company would be to know if the turnover is functional or dysfunctional; functional turnover would mean that employees with bad performance leave, which would be a rather good result. Nevertheless, from the insights gained through this study, recommendations can be derived, and are outlined in the next paragraphs.

Chapter 10: Recommendations

A first recommendation, despite the lack of proof, is to enhance employee referral programmes in the car rental company. Strong links on the workplace can foster employee engagement and commitment, and hence, help increase the retention rates.

Regarding the work experience when selecting candidates, their occupational background should still be considered for the reasons outlined above. However, a focus can be put on targeting potential applicants from the industry trade/retail/repair, to specifically hire those with the most work experience in this industry. It is also recommended to work with the marketing department to help design recruitment marketing campaigns with this target group, and explore industry specific job boards prior to posting job advertisements.

An additional, cost-free measure, is to simply change the requirements on job advertisements and state explicitly that the background of the trade/retail/repair industry is desirable, and that "career jumpers" are welcome. This would require liaising with hiring managers and discussing their experiences and the new approach.

Furthermore, the company should start recording more specific reasons of voluntary leavers, in order to investigate avoidable, voluntary turnover better, and be able to prevent it.

Table 10 Time-frames and costs of recommendations

Measure	Time frame	Costs
Increase amount for employee referrals to 1000 EUR	June 2018	12.000 EUR
Increase employee referrals by 10%	February 2018, then review	2.000 EUR
Recruitment Marketing for trade/retail/repair industry	Plan until November 2017, launch January 2018	3.000 EUR
Explore and post advertisements on industry-specific job boards	October 2017	2.000 EUR
Visit job fairs for the industry retail and trade	December 2018	2.500 EUR
Change job ads for career jumpers	September 2017	0 EUR
Liaise with hiring managers and work out plan	December 2017	200 EUR
Select applicants from retail/trade/repair industry but also consider career jumpers from different industry backgrounds	ASAP	0 EUR
Record specific reasons for turnover to prevent avoidable turnover	October 2017	0 EUR
TOTAL		21.700 EUR

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Appendix

Statistical Classification of Economic Activities in the European Community, Rev. 2 (2008)	
Variable Detail	Variable Information
A	AGRICULTURE, FORESTRY AND FISHING
B	MINING AND QUARRYING
C	MANUFACTURING
D	ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY
E	WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES
F	CONSTRUCTION
G	WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES
H	TRANSPORTATION AND STORAGE
I	ACCOMMODATION AND FOOD SERVICE ACTIVITIES
J	INFORMATION AND COMMUNICATION
K	FINANCIAL AND INSURANCE ACTIVITIES
L	REAL ESTATE ACTIVITIES
M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES
N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY
P	EDUCATION
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES
R	ARTS, ENTERTAINMENT AND RECREATION
S	OTHER SERVICE ACTIVITIES
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES

Source: Eurostat, 2017a