MOTIVATION AND SUPPORT OF EMPLOYERS CONCERNING THE IMPLEMENTATION OF PART-TIME STUDIES FOR VOCATIONALLY TRAINED IT WORKERS

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ABSTRACT

This paper aims to increase the understanding of the relationship between employers and employees in the IT sector in terms of professional development and Higher Education (HE). The main focus of this article is to gain an insight into how employers and employees cooperate with each other in the selection and support of vocationally trained IT workers who want to qualify themselves through University Life Long Learning (ULLL) at Higher Education Institutions (HEI). The theoretical background provides an introduction to existing research into labour market behaviour, human capital management and segmentation of the IT labour market. Firstly, the field of vocationally trained IT workers in Germany was empirically analysed through an online survey and standardised telephone interviews. Secondly, standardised telephone interviews and additional interviews with decision makers were conducted to gain deeper business insights. The full results indicate varying degrees of support of skilled workers, and that the majority of the researched companies which employ vocationally trained IT workers do not have standardised processes for HE. The article closes with a conclusion and recommendation to increase the understanding of the connection between employees and employers regarding the professional development of vocationally trained employees.

INTRODUCTION

Research project Open IT has existed since 2014. Its aim is to construct, test, and evaluate academic programmes in the field of IT studies that take into account and recognise IT workers' existing competencies in order to reduce academic workload required of part-time students.
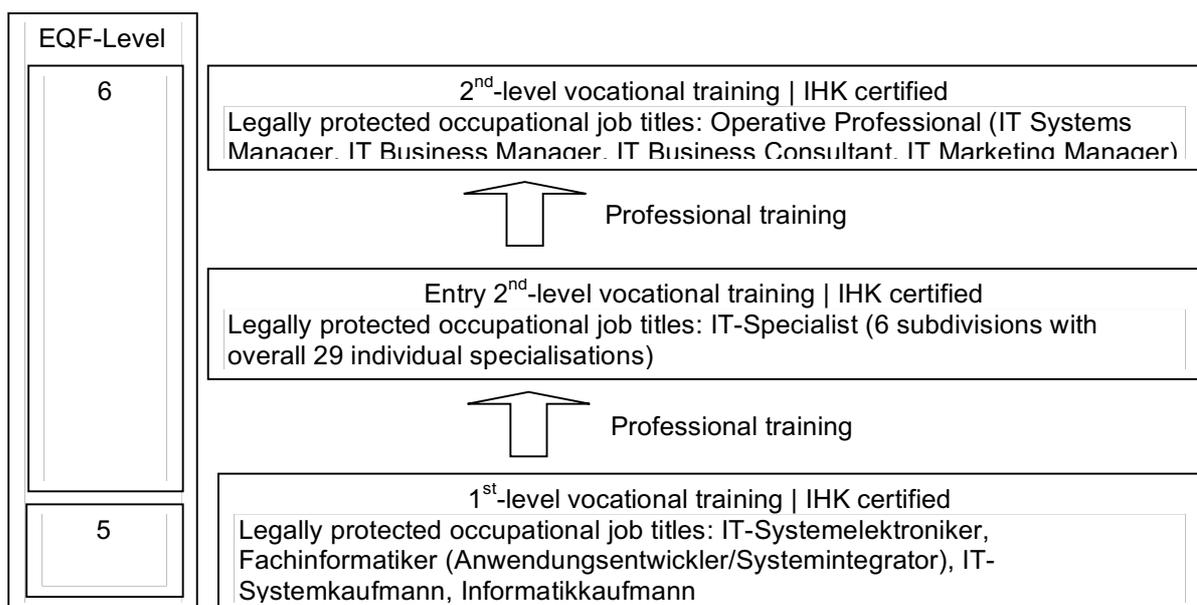
EQF-Level	
6	**2nd-level vocational training | IHK certified** Legally protected occupational job titles: Operative Professional (IT Systems Manager, IT Business Manager, IT Business Consultant, IT Marketing Manager)
	Professional training ⬆
	Entry 2nd-level vocational training | IHK certified Legally protected occupational job titles: IT-Specialist (6 subdivisions with overall 29 individual specialisations)
	Professional training ⬆
5	**1st-level vocational training | IHK certified** Legally protected occupational job titles: IT-Systemelektroniker, Fachinformatiker (Anwendungsentwickler/Systemintegrator), IT-Systemkaufmann, Informatikkaufmann

Figure 1 – Vocational training scheme for IT employees in Germany

The resulting IT studies courses are aimed at vocationally trained IT employees who have passed the 1st- or 2nd-level of the standardised vocational training as stipulated by the German Chamber of Commerce (IHK). Based on the existing standards for vocational training (EQF levels 4-6), the members of the described target groups need 91 or 120 ECTS credits (originally 180 ECTS credits) for the developed Bachelor program. It is vital that HEIs understand this kind of cooperation. Based on this insight, HEIs can develop a successful cooperation with employees and employers and furthermore, identify current threats to education. The results of the research work should offer best practices and a structure to support future prospective students or companies in promoting professional training at HEIs.

THEORETICAL BACKGROUND

As existing research shows, personal education generally has a positive impact on wages, regardless of whether the education is general or specific (Mincer, 1974). Consequently, it makes sense for employees to educate themselves to increase their wages. Past research has proven that there is no return on investment for a company in providing training if the labour market is perfectly competitive (Becker, 1964), as specific skills may already be available in those markets. In this case, a general training would only be meaningful if the employee stays with the company for a certain amount of time. An example for this is the German apprenticeship system in which general training is supported by companies (Acemoglu & Pischke,1998). General training may be also useful for companies which pay lower wages than other market participants. Also, skilled workers who are unwilling to change their employer are less expensive for companies compared to the costs of fluctuation (Acemoglu & Pischke, 2009).

IT workers who are selected for vocational training from the internal labour market are mostly skilled or white-collar workers with a medium income level and a high loyalty to their employer. This loyalty is shown in the duration of corporate affiliation. Medium-sized and large companies represent the majority offering these developmental approaches due to the level of work (Schmiede 1997). This definition of the internal labour market may also fit the general IT labour market.

IT work requires a high level of education due to its complexity and the need for specified skills. The continuous improvement of IT workers' skills is a consequence of the fast-developing IT technology. The IT business is characterised by a substantially lower level of unskilled workers than is found in other business sectors. In addition, the number of people on the jobs market with university degrees is increasing (Braukrowitz et al., 2000). Taking into consideration the internal labour market as part of the primary labour market has important advantages for businesses. Upskilling of employees from the internal market reduces fluctuation costs which are higher in this field of work than in the high management sector or in the field of unskilled workers. Further benefits are the avoidance of high acquisition costs and a reduction of initial training costs. In addition, these medium-skilled workers are both trained for new tasks and are able to perform their current work more efficiently (Funk et al., 2010).

Equally relevant to the issue are the further benefits of training. Upskilled employees can be assigned to different customer groups or projects, typical for temporary employment agencies. This has a positive and long-term impact on the company if the employee stays with the company (Bouncken et. al., 2012). If and how a company supports the training of employees has to be carefully evaluated regarding costs, time, the expected benefits and the risk the company takes with the training. In this context, general training courses lead to an uncertainty due to a lack of specific focus, which makes a detailed analysis difficult (Zickert, 2007).

It is generally agreed in research that there is a positive correlation between the support of the employee by the employer and the employee's participation in the training (Dustmann & Schönberg, 2012). Besides the support during training or additional education, it is important to understand how the decision to support training is made. The negotiation and standardisation of a training framework is normally organised by collective institutions like labour unions which standardise those supports and transfer them into practical usage (Armingeon, 1994). The development of such a framework depends on the company's philosophy and operational structure and is mostly drawn up by unions (Bail et al., 2015).

Regarding the training framework conditions for educational training, the German IT market must be divided into various company types: smaller IT companies, mostly without work councils and with a community consensus approach; medium-sized companies, which are characterised by established but still flexible processes; and larger, traditional companies, which have mostly fixed framework conditions (Braukrowitz et al., 2000). Small and medium-sized companies follow a trend that may be typical for Germany. Bellmann & Gerner (2011) showed in their research that only 5% of the companies with 50 or less employees have a general training framework. That percentage increases slightly for medium-sized companies (50-199 employees), but is still below 10%. With increasing company size, the percentage of companies with a fixed training concept rises significantly. Even if such a collective framework exists, a person has to qualify or be selected for this. In smaller companies, this decision is normally taken by the CEO. With increasing company size, this responsibility is assumed by HR specialists or by department leaders (Hemmer-Schanze et al., 2012).

EMPIRICAL RESULTS

Three questions were drawn up regarding the support of IT workers. The first question addresses the general support of IT workers in training: how are IT workers supported by their companies in training and educational development?

Secondly, this paper evaluates possible barriers to professional training for IT workers: what restrictions and concerns do employers have regarding higher education?

The third question addresses how companies select employees for training: specifically, whether they use certain eligibility criteria to select employees for higher education?

These research questions were evaluated in separate research steps. Firstly, the field of vocationally trained IT workers in Germany was empirically analysed through an online survey and standardised telephone interviews. Secondly, standardised telephone interviews and additional interviews with decision makers were conducted to gain a deeper insight into management thinking. Qualitative and quantitative questions were combined to create a specific research method for each target group: the employees and the employers. The results, which influence these three questions, are shown in the following two subsections.

The Support of Vocational Trained IT Workers

An online survey addressing the target group of vocationally trained IT workers was developed. This survey was distributed via various online networks. In total, 328 vocationally trained IT workers participated in the survey. Of those participants 149 are currently employed and are planning to take part in additional HE. The following table shows how those employees were supported by their companies:

Support	No. respondents	Percentage	Cumulative Percentage
Support not finally decided yet	8	5.37%	5.37%
No support requested yet	40	26.85%	32.21%
Will not receive support from the employer	15	10.07%	42.28%
Will receive support from the employer	86	57.72%	100.00%
n=149			

Table 1 – Support scheme for IT workers

The following figures apply to the 86 people who are supported by their companies. The members of this specific group have a high amount of work experience. Over 75% of them have five or more years of work experience, which they gained mostly with the same employer. Nearly 55% of the participants are employed by small or medium-sized companies. 30% of the participants indicated that they work for a company with 2,000 or more employees. Nearly all of those participants worked for the Federal Armed Forces. Most of those soldiers have already completed or are currently undergoing 2nd-level vocational training. This kind of training is standard at the end of their period of service to qualify them for the civil labour market.

None of the 86 participants have a general focus on a degree regarding school education. All participants have degrees that allow vocational training in the field of IT.

Graduation	No. respondents	Percent	Cumulative percent
High school	39	45.35%	45.35%
Professional high school	13	15.12%	60.47%
Middle school	34	39.53%	100.00%
n=86			

Table 2 – School degrees of vocationally trained IT workers

Employers offer various ways of supporting employees. A high number of participants selected the option of paid leave, which seems to be the option offered most frequently by their employers at this point. Partial study cost coverage is also a frequently offered means of support. This is not sector-specific, however.

Means of support	No. respondents	Percent
Participation fees	48	57.14%
Audit fees	49	58.33%
Paid leave	66	78.57%
Internal coaching	21	25.00%
n=86; multiple answers possible		

Table 3 – Types of HE support offered to vocationally trained IT workers

The results show a notable finding: the majority of participants point out that they were offered (paid) leave by their company for HE studies. However, the analysis of the qualitative telephone interviews with 60 vocationally trained IT workers who have decided to start their HE study program shows that their companies' support varies in reality. Most of the participants stated that they could not reduce their working time, but that the company was more flexible with their working time and they received more financial support (e.g. travel expenses). None of the survey participants stated that they received internal coaching. 10% of the participants stated that they had not informed their employer about the planned study. Those employees were unsure of how the employer would react to such a study programme and feared that they would receive no support at all.

The Role of Companies

In the next step, 30 companies were interviewed by telephone regarding HE. Those interviews addressed the content of HE offers for vocationally trained IT workers as well as the reasons for HE and the support offered by the companies. The results show that there is no relationship between company size and support or training behaviour regarding vocational or professional training. Companies which offer vocational training may deny additional HE and, conversely, companies which currently do not provide general training within the field of IT may offer additional HE. Two main reasons for limiting additional HE were mentioned.

The first issue is the uncertainty of companies as to how their educated employees should be used after and during the HE. The education might exceed the company's requirements. In this context, some companies struggled with the expected increased wages they would have to pay for a more highly qualified employee. The second concern was the aspect of time, with uncertainty as to whether a person could fulfil the requirements of HE and of their work at the same time.

The interviews also showed that the companies do not have a standardised support for HE. Only two out of the 30 companies have long-term plans to provide HE for their vocationally trained IT workers, but this education is not set up in the form of part-time studies and is completed in the form of dual studies without a reduction in ECTS credits. Other forms of training provided by employers are not HE-related. These are mostly product- or service-oriented and are provided in direct relation to the employee's work. Most companies do not have a general qualification system. Companies which want to support future HE offer mainly financial compensation, including a bonus for successful completion of a course of study. This kind of support may reflect the issue of time: most companies state that financial support is easier to realise than offering working time reductions. Although some companies do offer temporal support, this is compensated in terms of flexibility and the use of holidays or overtime.

In addition to the telephone interviews, five IT HR managers working at small and medium-sized companies were interviewed face-to-face. The interviews focused on the companies' selection behaviour. All interview partners pointed out that past grades are unimportant and are not criteria for selection. Rather, the HEI and the employee must fulfil the requirements. The main selection criteria are the employee's compatibility with the company, his or her performance at work and recommendations.

In this context, performance was mostly defined as a combination of employee competence and motivation. This definition is similar to the explanation by North et al. (2013) who added the term "possibilities" to the description of performance. Possibilities of an employee were not mentioned in the interviews. However, one participant was uncertain about the future usage of a person who will participate in such training. From these facts one may conclude that HE is an added value for the participants. Companies are willing to support their employees without a clear target after the training in order to retain them as employees for the period of training.

Similar findings regarding recommendations were analysed. Team leaders and co-workers frequently give recommendations for a person to participate in additional training. The employees are selected individually. That is often backed by a statement by the employee's department that he/she is able to fulfil such professional training. Additional training is also a method of increasing employees' commitment to the company. Insufficient training possibilities are often a reason for changing employers. This scenario is likely especially if a person has reached a high level of competence in their current work position. It is up to the

employee to select the training they prefer and which they need to achieve their goals. The companies are only the provider of a support framework. In the end, the employee decides upon the right educational programme.

CONCLUSION

The full results show that the support companies offer for training and educational development differs both in the decision process and the final signup for HE courses. It is shown that the support of employees differs in various ways and that the majority of companies which employ vocationally trained IT workers do not have standardised processes for HE. It has been revealed that the selection process of small and medium-sized companies for HE and training are highly flexible and not based on a standardised development process. Regarding the concerns of employers, it was shown that both uncertainty about the future usage of the upskilled employee and time management are reasons against support. An additional consultation might be a solution. (Pellert 2014) highlights the need for additional educational support regarding social and monetary barriers and for lifelong guidance. In this context the fact that a vocational development plan for employees does not always exist and a practical transfer of the learned content is not always given should also be kept in mind. Consequently, offering more in-depth consultation regarding requirements of study, support and future usage may be necessary and must also be discussed. In this case, the employer should normally assume the role of a strategic partner, since the valuable IT workers are becoming rarer due to academisation and more difficult to replace due to their vocational practice during the part-time study (Barney, Wright 1998). Moreover, there is more research needed into the selection of employees for training and HE as well as the planned practical application of the content learnt during the HE studies.

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