HRM challenges and Lifelong Learning in SMEs in Western Saxony

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ABSTRACT. This paper deals with the specific characteristics of Human Resource Management (HRM) in Small and Medium-sized Enterprises in the region of Western Saxony, Germany. Our research provides a descriptive and explorative analysis of HR processes in the regional Small and Medium-sized Enterprises (SMEs), their specific challenges and the status of Lifelong Learning (LLL). Thus, new insights and knowledge intended to contribute to research regarding HRM for SMEs were generated. The research results were obtained during the Erasmus+ project SHARPEN during which a collaborative cross-regions survey was conducted in five European countries from 2016-2019. This paper presents a review of the current literature relevant for HRM in (regional) SMEs as well as a discussion of the research results and recommendations for SMEs. It was found that the SMEs situated in Western Germany possess reasonably developed HR structures and processes and that Lifelong Learning initiatives are applied. For the benefit of the economic development of the region, offering ways to intensify the exchange of ideas and best practices as well as adopting theoretical constructs could allow the SMEs to gain new incentives for future projects.

KEYWORDS: HRM, Lifelong Learning, SHARPEN, SMEs, Western Saxony

Introduction

This paper explores the specific characteristics of Human Resource Management (HRM) in Small and Medium-sized Enterprises (SMEs), particularly in the region of Western Saxony in Germany. Today, companies and SMEs in particular face numerous challenges in the field of HRM (Maršíková et al., 2019; Wapshott, Mallett, 2015). On the one hand, the demand for highly qualified employees is increasing.
Due to digitalization, as well as in the industrial environment through automation and industry 4.0, complex structures in companies have to be considered and the degree of connection across departments is increasing (Forkel et al., 2018; Schumann et al., 2016a). For these reasons, employees will be required to demonstrate a high level of technical knowledge within a domain, but also, to think and communicate in an interdisciplinary way and across departments. On the other hand, logistics in particular is changing constantly and must recruit qualified specialists. Here, too, the degree of automation is increasing, the product range is becoming more and more heterogeneous and customer requirements for delivery times and delivery service are constantly increasing. Furthermore, in the age of online shopping, companies are competing globally and with specialized logistics service providers. This makes it difficult just for the logistics department in the SMEs to position itself broadly and competitively. Furthermore, logistics has a cross-sectional function in the company, so that qualified specialists with cross-domain knowledge are needed here too (Forkel, Schumann, 2017; Forkel et al., 2017). This paper contributes to the academic debate regarding HRM for SMEs by providing an analysis of HRM processes in such regional SMEs, including the related challenges.

The research was carried out in the course of the Erasmus+ project SHARPEN. A collaborative cross-regional survey was conducted in five European countries from 2016 to 2019, offering a unique comparable international set of data on the specifics of HRM in SMEs (Maršíková et al., 2019). The project partners are universities situated in England, Finland, Lithuania, the Czech Republic and Germany (Maršíková et al., 2019). On the basis of the overall aim of the project to promote and research HRM in SMEs in order to support regional development, the underlying research questions for this paper are what HRM challenges specific for the region of Western Saxony can be identified and what is the level of development of Lifelong Learning (LLL) in this region.

The empirical research undertaken in the course of this project follows a quantitative research approach generating primary data from all five regions using the survey research strategy (Maršíková et al., 2019). The findings of the explorative study are of particular value for HRM scholars and professionals, as they offer unique insights into HR problems and processes that are specific to SMEs. The results furthermore support the understanding of such HR environments and the development of tools helping SMEs to thrive in increasingly complex and global markets.

First, this paper presents an overview of relevant facts and theory related to HRM in SMEs, particularly in the region of Western Saxony. Thereafter follow explanations of the methodology used as well as a presentation and discussion of the research results and recommendations. In the last part of the paper, limitations to the conducted research are explained and key conclusions are derived.

### Relevant theory

**General facts about Saxony**

The federal State of Saxony is located in the east of Germany. It is bordered by Poland and the Czech Republic on its national borders and is one of 16 federal states in Germany with the capital in Dresden. The project region was Western Saxony, situated around the fourth largest city Zwickau (STLA, 2018b).

The area of the state covers about 18,450 km² and about 4,081,308 people live in Saxony, including 185,737 foreigners (STLA, 2018d). According to forecasts, the population will continue to decline to 4,019,200 inhabitants (2020) and 3,851,400 inhabitants (2030) (STLA, 2016).

In 2017, Saxony’s birth rate was one of the highest with 36,834 live births since 1990 (STLA, 2018e).
In comparison to this, the death rate decreased from about 67,934 deaths in 1990 to 54,689 deaths in 2017 (STLA, 2018e). In the regional population there are about 14.3 % aged 0 – 18 years old (School age), 57.7 % of people aged 18 – 65 years (working age) and 28 % of people who are older than 65 years (Seniors) (STLA, 2018a). In comparison to the German and European average, Western Saxony has a higher percentage of over 65 year olds (Figure 1) (Statista, 2019; STLA, 2018a). Forecasts predict a highly increasing rate of inhabitants over 65 years of age (up to 31 % of the total population), leading to a substantial loss of potential labour force until 2030 (STLA, 2016).

At the moment, Saxony benefits from a strong economy thanks to its long tradition as a business location and early industrial region. There is a steadily decreasing rate of unemployment over the course of the last 12 years (STLA, 2019). From the year 2017 to 2018 the rate of unemployment dropped from 6.7 % to 6.0 % (STLA, 2019). As most of the unemployed people are between 25 and 55 years of age, Saxony has a comparably low youth unemployment (STLA, 2019).

The State Ministry for Economy, Work and Traffic aims at establishing a modern and internationally-oriented industry with a high economic productivity. There exists a large variety of different industries in Saxony. The State Statistical Office of the Free State of Saxony summarized the most important industries contributing to Saxony’s industrial turnover in 2015 (STLA, 2018c). The most important industry sector is Automotive industry (30 %), followed by Electrical Engineering and Microelectronics (12 %). Mechanical engineering and Metal production each account for 13%. This clearly supports the strong position of the automotive industry in Saxony (Volkswagen, Porsche etc.) (STLA, 2018c).

**HRM challenges for SMEs**

The main aim of HRM is to support the organization in achieving its objectives by developing and implementing human resource (HR) strategies that are integrated with the business strategy (strategic HRM) (Armstrong, Taylor, 2014). Other important aims are contributing to the development of a high-performance culture, ensuring that the organization has the talented, skilled and engaged people it needs, creating a positive employment relationship between management and employees and a climate of mutual trust and encouraging the application of an ethical approach to people management (Armstrong, Taylor, 2014). Special aspects of HRM in SMEs are presented in Figure 2.
HRM in SMEs is usually performed by the owners or senior managers. SMEs usually do not have a lot of internal HR expertise or skills.

As organisational size increases, HR becomes more formalised. As organisational size increases, the presence of an HR department is more likely.

Figure 2. Specifics of HRM in SMEs (based on Prouska and Psychogios, 2019)

According to Wapshott and Mallett (2015) “prescriptive models of people management... seem to treat a large firm experience as typical while paying scant attention to SMEs”. We need “to understand SMEs on their own terms [otherwise we will] have a distorted understanding of the employment relationships and practices that represent the everyday working lives of millions of people.” (Wapshott, Mallett, 2015). Characteristics often associated with SMEs are a high degree of informality (Informality can exist in various ways when it comes to employment relationship and practices e.g. an ad-hoc way of organising tasks), spatial and social proximity (Managers and employees may share a workspace and often there is a greater degree of familiarity) and resource poverty (considering that SMEs do not have the resources of large companies, “resource poverty” describes the challenges faced by SMEs in particular, and is a regular theme of understanding these companies) (Wapshott, Mallett, 2015).

Megatrends in HRM are trends shaping work and working lives all over the world. Often these trends or megatrends can be sorted into the category demography, scarcity of resources, globalisation, digitalisation and change of values (CIPD, 2019). Globalisation trends concern culture, environment, economy, politics, and society while digitalisation trends refer to new information technologies, marketing, sales and service, innovation and product development, organization, change and leadership and Industry 4.0. Demographic and migration trends in Western Saxony encompass an aging and shrinking population and the development that few young people are facing many old people.

Lifelong Learning

Lifelong Learning is inherent in human life. It was conceptually implicitly presented above all by the educational sciences, in order to emphasise in particular, the ability of people to learn independently. Since it is based on the information literacy of each individual, there is a close connection to information literacy (Schumann, Tittmann, 2008), which is currently intensified in the age of digitalization. If learning is seen in the context of human resource development in enterprises or other organisations, then Lifelong Learning is basically a tautology. It takes place regardless of whether it is promoted consciously, for example through appropriate strategies and concepts, or unconsciously in the work and life process, for example through on-the-job training. Either way, however, it is of existential importance for the individual as well as for the organization in which the individual works. Pragmatically speaking, it is just as important for the
personal and professional development of each individual as it is for personnel management in companies. LLL must therefore be considered both strategically and conceptually in personnel management and personnel development, both in vocational training and in higher education. In Germany, the interaction between universities, businesses and governmental bodies is of fundamental importance for HRM processes, particularly for SMEs. While cooperation with universities and vocational training institutions ensures that employees are adequately qualified, companies must also take into account the framework conditions that are set by legislation and other aspects of governance. This approach towards the joint consideration of academia, industry and state is introduced by Etzkowitz and Leydesdorff (1995) and also set into the particular context of regional innovation and knowledge development (Asheim et al., 2011; Etzkowitz, Klofsten, 2005). In the further development of related research, this Triple-Helix Model has been extended towards a Quadruple and Quintuple Helix (Carayannis et al., 2012), adding the society and the (natural) environment in which the Triple Helix cooperation is placed. This is illustrated in Figure 3.

**Figure 3.** The subsystems of the Quintuple Helix model (based on Carayannis et al., 2012)
Accordingly, universities and businesses cooperate in LLL in higher education within the given educational policy framework. Due to globalisation and the associated dynamization of learning and knowledge transfer processes, education systems are becoming increasingly complex. The Triple Helix Model and its respective extensions can therefore be applied both regionally and internationally today. In a dialectical context, universities are on the one hand proactive in providing qualified graduates for companies; on the other hand, companies influence the design of studies. Both serve the sustainability of education and training.

**Methodology**

The research project was undertaken under consideration of an objective ontology and an epistemology of positivism (Gray, 2018; Saunders et al., 2019). Adopting a deductive research approach, this research project employs a narrative review of the relevant theory to draw information from secondary data sources in order to introduce the reader to the research topic. The empirical research is designed as an explorative quantitative study gathering primary data through a survey strategy (Gray, 2018; Saunders et al., 2019). The aim is to elaborate on potential influences on SMEs in the five project regions and to describe the current status and application of HRM and LLL in SMEs. The survey research strategy of this research employs a questionnaire (Gray, 2018; Saunders et al., 2019).

The empirical research undertaken in the course of this project generated quantitative primary data from all five regions. All activities were done with the support of SHARPEN project from 2016 to 2019 (Maršíková et al., 2019). From December 2016 to February 2017, a first set of questions focusing on HRM issues was identified by specialists from the national SHARPEN teams (Maršíková et al., 2019). From March 2017 to June 2017, this first set of questions was tested on selected SMEs in the project regions (pilot study) (Maršíková et al., 2019). These SMEs were selected due to their affiliation with the project (students shadowing HR managers) (Maršíková et al., 2019). Following the feedback on the pilot survey (July 2017 - September 2017), the final questionnaire was designed (October 2017 - December 2017) using the CAWI Internet surveying technique (Clayton et al., 2000; Maršíková et al., 2019). The final questionnaire comprised 28 questions and all project regions used the same content and structure (translated to national languages) to ensure comparability (Maršíková et al., 2019). For a full version of the questionnaire please see Maršíková et al. (2019). The survey aimed at collecting 100 responses for each region (Maršíková et al., 2019).

In Western Saxony the target sample was restricted to NUTS level 2: DED 41-45 (2). A total initial sample of 4,178 companies was included in the Chamber of Commerce (IHK) database and the link was distributed via the IHK website (indirect contact) (Maršíková et al., 2019). A total of 275 companies were added to the initial sample and directly contacted via e-mail and phone. These companies were chosen due to their affiliation with the University of Applied Sciences (WHZ) (alumni network, career service, previous HR events/projects etc.) (Maršíková et al., 2019). Companies employing 0 to 3 people are excluded because the aim of the survey is to identify the specifics of HRM in SMEs perform activities of human resource management where the work with employees is necessary condition. In Germany, the definition of an SME limits the number of employees to 199, whereas the European Union (EU) sets the limit at 249 employees. Therefore, the database of the Chamber of Commerce is limited to companies with up to 199 employees, which is why the survey in Western Saxony was limited to companies with 4 to 199 employees. In order to reach the required number of 100 respondents after the official survey deadline (February 2018), the survey link was shared in the database (approx. 1,000 companies) of the annual Zwickau job fair (ZWIK) (Maršíková et al., 2019).
In case of Western Saxony, the deadline had to be extended to reach a sufficient number of respondents and the survey was closed on 30 September 2018 (Maršíková et al., 2019). In Western Saxony a total of 105 responses were collected (Maršíková et al., 2019). Of these 105 responses, only 83 could be used for the data analysis as 22 were partially empty (Maršíková et al., 2019).

**Results**

**HRM challenges for SMEs in Western Saxony**

In total, 83 regional SMEs participated in this survey. As can be seen in Figure 4, most companies involved in the survey have 50 to 249 employees. About a quarter of the respondents employ 10 to 49 employees and only about 15% have fewer than 10 employees (Maršíková et al., 2019).

![Number of employees](Figure 4)

An interesting finding is that there are more family-run SMEs than others. More than half of the participants indicated that their company was a family business compared to just of 40% other business forms (Figure 5). Additionally, nearly 80% of the SMEs involved are limited liability companies. Private limited companies, cooperatives and others account for less than 30% of the SMEs. The dominant area of business for the regional SMEs in West Saxony is the processing industry (nearly 30%) followed by information and communication sector and self-employment (each about 15%) (Maršíková et al., 2019).

![Percentage of family businesses](Figure 5)
In order to find out more about the status of human resource management in the SMEs several questions were asked about their HR situation. Most of the companies surveyed (about 54%) have an HR department (Figure 6). In the 46% of companies who do not have a dedicated HR department, other employees take over HR responsibilities (this number can range from 1 to 19). It seems that sometimes there are many employees sharing HR work. The most frequent HR tasks are often done by the business owner, the direct superior or the HR manager. In the SMEs surveyed, most are not a member of a professional HR association. Only about 2% indicated a membership (Maršíková et al., 2019).

![Figure 6. HR department (Maršíková et al., 2019)](image)

Regarding the importance of HR tasks, the most important ones for SMEs in West Saxony are shown in Figure 7, namely Personnel planning, Personnel recruitment, Personnel selection, Employee satisfaction (Maršíková et al., 2019).

![Figure 7. Importance of HR tasks (Maršíková et al., 2019)](image)
The SMEs responded that the most frequently used recruitment methods are Career websites, Internet job offers, recommendations and employment agencies. Furthermore, identified trends are Social Community Recruiting, Talent Scouting, Competitive Intelligence, and Guerrilla Recruiting (Maršíková et al., 2019).

Concerning the perceived challenges for the regional SMEs, the departure of key workers/professionals, shortage of skilled workers, offering competitive remuneration, Employer branding and company attractiveness for academics/young workers were the challenges most often identified as very important (Figure 8) (Maršíková et al., 2019).

How do you rate the importance of the following challenges that SMEs often face?

![Image showing a chart of HR challenges](image)

**Figure 8.** Perception of HR challenges (Maršíková et al., 2019)

**Lifelong Learning in SMEs in Western Saxony**

Lifelong Learning is essential for companies of all sizes, however organising employee training can be difficult for SMEs due to capacity or financial restraints. To the best knowledge of the authors, there is no detailed study yet which covers the aspect of Lifelong Learning in SMEs in the Western Saxony. Figure 9 shows that nearly all of the SMEs surveyed carry out planned employee at least if required. Nearly half of the companies (48.19%) even schedule trainings although they are not immediately necessary. Only 2.41% do not carry out planned employee trainings in their company (Maršíková et al., 2019).
Do you regularly carry out planned employee training and trainings in your company?

![Responses]

**Figure 9.** Planned employee training frequency (Maršíková et al., 2019)

As nearly all of the companies involved in the survey implemented planned employee training into their HR processes, it was interesting to evaluate which training and development offers were used. This is illustrated in Figure 10 and it becomes clear that some offers are used by more companies than others. Frequently used training and development offers (>50%, 100% = number of answers) include seminars, workshops, training, work instructions and webinars. The lesser used offers are mentoring, coaching, consultation, job rotation, simulations, brainstorming, e-learning, use of digital management strategies (e.g. gamification), outdoor training and assessment centres (Maršíková et al., 2019).

![Responses]

**Figure 10.** Training and development offers (Maršíková et al., 2019)
After determining the most frequently used training and development offers, it was important to also discover how the estimated effectiveness of employee training was evaluated by the SMEs. The majority of SMEs involved in the survey used direct feedback from the training participants to evaluate the effectiveness (86.75%). As can be seen from Figure 11, this is by far the most popular evaluation tool as the second most frequently employed method Feedback from the supervisors of the participants is somewhat similar and constituted 36.14% of the responses. The least often used methods are Assessment of work performance immediately after further education (10.84%) and Change in return on investment (ROI) (6.02%) (Maršíková et al., 2019).

The application of Lifelong Learning in Western Saxony appears to be frequent, however only a small number of different tools are actually used by the SMEs surveyed.

The West Saxon University of Zwickau offers such forms since its reestablishment from the Technical University Zwickau in the early nineties. The mandatory modularisation of all study programmes within the framework of the Bologna reform also represents a break. It facilitated the prerequisites for modular systems of trans-organisational cooperation between companies and educational institutions in the tertiary sector (Schumann, 1998). It was important to develop recognition management, based on the European Credit Transfer System (ECTS), which makes the knowledge and skills acquired outside the university assessable for the universities and thus usable for the educational demanders. This means that previous knowledge and skills acquired in companies can be directly incorporated into the educational process both at the university and in the companies themselves and considered (Schumann, 2017; Schumann et al., 2016b).

Highly networked learning and teaching models and forms have been and are being developed over several stages of the integration of different forms of direct, distance and later online study. An additional acceleration of these processes was achieved through digitisation, especially through the introduction of e-learning and m-learning with the various derivatives such as MOOCS (3), e-badges, e-assessments, e-portfolio, etc. (Tittmann, Schumann, 2015) was achieved. Thus, educational offers are not only modularized but also granulated and thus much more transparent. New forms of micro accreditation and micro certification are made possible. Constructivist learning is supplemented or replaced by connectivism (Siemens, 2005), which facilitates the interplay between learning and educational processes in universities and companies.

![Figure 11. Evaluation methods for training and development offers (Maršíková et al., 2019)](image-url)
Discussion and recommendations

The research question for this paper was to identify HRM challenges which are specific for the region of Western Saxony and to evaluate the level of development of Lifelong Learning in this region.

Concerning the general HR challenges for SMEs in Western Saxony, this paper found that the majority of the regional SMEs can be categorised as medium-sized SMEs as 59.26% employ 50-249 full-time employees.

This corresponds with the fact that most of the companies surveyed (54.22%) have a dedicated HR department. Consequently, SMEs in Western Saxony appear to have a relatively solid HR approach. Another obvious regional characteristic is the high share of family-run SMEs (43.37%). Combined with the previously mentioned facts that there are mainly medium-sized companies disposing of an HR department, this could indicate the company owners’ dedication towards good HR processes in their companies. This assumption is also supported by the respondents’ indication that most frequent HR tasks are often done by the business owner him- or herself, the direct superior or the HR manager. On the contrary, the SMEs surveyed appear to rarely seek professional HR advice as only 2.41% are members of a professional HR association (Maršíková et al., 2019).

The respondents’ evaluation of the regarding the importance of different HR tasks corresponds to the general challenges for SMEs as identified by Wapshott and Mallett (2015) and the specific regional challenges (explained in chapter 2). As SMEs in Western Saxony are mainly facing demographic and migration trends giving rise to a shortage of skilled labour, it is not surprising that the HR tasks identified as most important for the SMEs surveyed are Personnel planning, Personnel recruitment, Personnel selection, Employee satisfaction. The last task also corresponds with the observed trend towards employer branding, especially via social community recruitment and guerrilla recruiting in order to reach younger potential employees (Maršíková et al., 2019).

Summing up the key regional challenges for SMEs in Western Saxony, we recommend the SMEs to search more professional advice and peer support by joining a professional HR association. As the HR structures are often already established, the next logical step would be to increase engagement with professional associations as well as research and higher learning institutions in order to avoid being restricted by typical SME resource poverty.

Considering the results with regard to Lifelong Learning efforts of SMEs in Western Saxony, it can be said that the resource poverty faced by SMEs (Wapshott, Mallett, 2015) also seems to affect the company efforts regarding Lifelong Learning. Although the vast majority of SMEs involved in the SHARPEN survey (96.38%) regularly carry out planned employee training and trainings, only a restricted number of training and development offers are deployed. In addition, the evaluation of these Lifelong Learning offers appears to scarcely be professional. By far the most popular evaluation tools are Feedback from participants and Feedback from the supervisors of the participants (Maršíková et al., 2019).

The development of Lifelong Learning as a common strategy in the context of the Triple Helix model is a typical form of the successive extension of systems limits in knowledge transfer and learning processes. Initially, classical training was supplemented by in-service training, particularly in the sense of personnel development in companies, in the form of distance and
postgraduate study courses. Within the framework of the Triple Helix, a new teaching and learning culture is being developed that is promoted by state and society. This culture is particularly suited to SMEs, which usually are very limited by resources in personnel management and the development of professionals and specialists. The development of highly integrated, modularised education systems, in which universities and companies are jointly involved, is constantly being developed and networked further, both regionally and internationally. To this end, universities and companies are entering into new forms of cooperation and connections.

The following features, which are becoming more and more distinctive, are typical for the development of educational offers at University of Applied Sciences Zwickau in Western Saxony in coordination with the regional and supra-regional economy:

1. Modularised offers in direct and distance learning, now also as hybrid forms, which make it possible to switch between the two kinds of study;
2. Multivalent coordinated curricular development with partners from business, administration, research and teaching up to corresponding international networks and practical modules;
3. Adapted career service with special offers for partner institutions of different sizes (e.g. SME and large corporations) and students involving HR departments or networks;
4. Special forms of initial and continuing vocational education and training with special consideration of SMEs, such as dual studies, distance learning, part-time forms of study, online studies;
5. State-supported, public cooperation projects in education and research between universities and companies, especially SMEs, such as regional knowledge transfer, Job Factory Career Service, innovative actions and development of a strategy for youth-oriented local employment policy, Saxony’s education market, and central innovation programme for SMEs;
6. Expanding further training not only in the area of part-time courses, but above all through certification projects on the basis of public-private partnerships.

In the last 20 years completely new ways of cooperation for a promising, cooperative education and training with close relation to strategies and concepts of Lifelong Learning have been developed (Schumann et al., 2018). Educational innovations have been partly disruptive, resulting in major differences in the application of the new opportunities in individual companies, depending on how HR management has responded to the changes and responded appropriately. In the coming years, it will be important to further accelerate the highly innovative processes driven by AI (Bettenhausen, Westerkamp, 2018), but also to ensure that Lifelong Learning has a broad impact in SMEs.

The excellent solutions available for the development and retention of professionals in SMEs based on the Triple Helix model must be further expanded and rolled out more strongly. Education systems should be adapted to the challenges of digital transformation (Gallenkämper, 2018).

In summary, Lifelong Learning is applied in regional SMEs in a rudimental way. However, there is great potential by extending the training and development offers as well as by establishing professional training evaluation processes and promoting the Triple Helix model.
Limitations

The survey focusing on the topic of HRM in SMEs targeted all SMEs in the Zwickau (Western Saxony) region. However, there are several limitations which may affect our results (their reliability, validity and return rate). Firstly, the information used from the Chamber of Commerce Web database could not be up-to-date. In addition, contact availability for the selected SMEs was limited, which in turn affects the sample representativeness (methods of sample selection). Using CAWI method and online surveys may cause several limitations. Respondents may not feel encouraged to provide accurate and honest answers. Survey question answer options could lead to unclear data because certain answer options may be interpreted differently by respondents.

Conclusion

This research paper attempted to identify the key HRM challenges faced by regional SMEs in Western Saxony and to evaluate the level of development of Lifelong Learning in this region. It was found that the SMEs situated in Western Saxony possess reasonably developed HR structures and processes. Also, the application of Lifelong Learning initiatives could be observed. However, it might be beneficial for the economic development of the region to support the advancement of HRM in the region’s SMEs by offering ways to intensify the exchange of ideas and best practices and by basing Lifelong Learning approaches on a profound theoretical basis, e.g. the Triple Helix model. This research paper and the results of the Erasmus+ project SHARPEN will be useful for regional HR managers (and academics) as the results offer the possibility of self-evaluation and to gain new incentives for future projects.

Notes

(1) Age groups in Western Saxony differ: 0-19 years, 20-64 years, over 65 years.
(2) The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU for the purpose of the collection, development and harmonisation of European regional statistics, socio-economic analyses of the regions and framing of EU regional policies (Eurostat, n.d.).
(3) Massive Open Online Courses.

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