



European Journal of Educational Research

Volume 13, Issue 3, 1185 - 1197.

ISSN: 2165-8714

<http://www.eu-jer.com/>

Exploring the Factors of Firm-Provided Continuing Education and Training: A Systematic Literature Review

Mariya Neycheva* 

Burgas Free University, BULGARIA

Received: October 23, 2023 ▪ Revised: December 17, 2023 ▪ Accepted: January 23, 2024

Abstract: Given the insufficient involvement of business investments in adult education, this study focused on the factors that motivate managers and entrepreneurs to invest in continuing education. For this purpose, we conducted a systematic literature review of studies referenced in Scopus and Web of Science since 2015. The factors for training were classified into four levels: personal, organizational, industry-related, and national. The results indicated that the inside firm-related determinants are the most studied and essential. A consensus emerged in the relevant literature on the positive impact of a supportive workplace culture, a learning orientation, formalized human resource development practices, and employee voice. The long-term orientation of managers and the perception of employees' flexibility and adaptability to change also play a role. The study highlights the increasing pressure from regulations and market competition, as well as the (in)capability of universities to provide training tailored to the specific needs of companies. Although institutional factors appeared to predominate, economic considerations also influence training decisions; the latter means that the two underlying theories – institutional theory and human capital theory – complement each other when explaining employers' incentives to invest in training.

Keywords: *Employer-provided training, job-related training, lifelong learning, training investments, vocational training.*

To cite this article: Neycheva, M. (2024). Exploring the factors of firm-provided continuing education and training: A systematic literature review. *European Journal of Educational Research*, 13(3), 1185-1197. <https://doi.org/10.12973/eu-jer.13.3.1185>

Introduction

The impact of continuing education and training extends to the national, industrial, organizational, and personal levels. A well-trained workforce is a critical factor for innovation and growth, economic and social cohesion, the reduction of income inequalities, quality jobs, and a worthy family life. Adapting to structural changes driven by technological and organizational factors through job-related training is positively associated with increased employment security, job flexibility, employer retention, and innovation (R. Becker, 2019). However, the success of training depends on an initial analysis of training needs, the development and implementation of an appropriate training plan, and ongoing evaluation (Huerta et al., 2012). European policy in education and training recognizes the essential benefits of lifelong learning and includes it as a critical priority. This priority is evidenced by the updated target for adult participation in education and training (European Commission, 2021). It recommends a rate of at least 47% in the 12 months before the survey to be achieved by 2025.

In today's organizations, training enhances employees' skills and is a strategic tool that defines the capacity to adopt new knowledge (Polo et al., 2018). Although business organizations are an essential source of funding for training (Elson-Rogers & Westphalen, 2000), their involvement is insufficient, considering that only 27.5% of individuals have received training support from their employers (Cedefop, 2015).

Considering all these facts, policymakers, authorities, and managers need to recognize the reasons for (non-)investment in adult learning. In this regard, this study focuses on the determinants of company-funded education and training. There is an abundance of papers on lifelong learning that come to different, sometimes even contradictory, conclusions. We have therefore applied the systematic literature review method to outline the predominant determinants of corporate investment in training. Including recent empirical papers referenced in Scopus or Web of Science since 2015 ensures the quality of the research findings.

The search in the two databases did not produce a similar study that provides a multidimensional comprehensive analysis of the determinants of employer-provided training. Some reviews and meta-analyses address specific aspects of

* Correspondence:

Mariya Neycheva, 62 San Stefano St., 8000 Burgas, Bulgaria. ✉ mneicheva@abv.bg



learning and training in organizations, e.g., conceptualization of training (Cerasoli et al., 2018), talent development and talent management (Kaliannan et al., 2023; Rowe, 2019), the impact of skills obsolescence on training (Gusseck et al., 2021) and the role of technological change, particularly the fourth industrial revolution (Aranda Jiménez et al., 2022; Verma & Venkatesan, 2021). Thus, the main contribution of this article to the current state of research in this area is that it presents the latest evidence regarding companies' investments in adult learning. We examine numerous empirical papers and outline the key factors and barriers to these investments. The study also highlights the theoretical paradigms in continuing education that are justified by the latest evidence from the field. All of these paradigms have important practical implications for adult learning policies.

Literature Review

This section contains a comparative analysis of the underlying theoretical views on the determinants of workplace training. Human capital theory, dating back to G. S. Becker (1964), views education and training as an investment in human capital that increases a firm's productivity, efficiency, and competitiveness. Under rational behavior, they would only be carried out if the expected benefits outweigh the training costs. Employers have no incentives to improve the general skills of their employees, as the latter is helpful for all employers if the employee decides to change companies (van den Berg et al., 2023). The current employer bears the training costs, while the external company reaps the benefits by satisfying its skill needs at no cost (Mohrenweiser et al., 2019). Therefore, the company is motivated to invest in company-specific training (Korpi & Tåhlin, 2021). It would take away the gains of such training due to the expectation that employees would not benefit from higher productivity and corresponding wages if they change employers, as the specific knowledge and skills have less or no value to competitors (Cedefop, 2015). Another reason for investing in specific skills is the replicability of workers. Those who have acquired valuable skills for a particular company are harder to replace. The likelihood that an employee will stay with the same company for a long time increases, which reduces the turnover rate (Koster & Benda, 2021).

In contrast to this consideration, some studies argue that employers could reward general training (Pedrini, 2013). The reasons for this argument are mainly related to market failures, such as imperfect labor markets. A company with monopsony power could depress wages and thus neutralize some of the general training costs (Acemoglu & Pischke, 1998). When demand for labor is weak, employees cannot easily change their current employer. Therefore, less developed regions would invest more in general training. With information asymmetry, the current employer would pay a higher wage to retain highly skilled workers, while low-skilled workers would be free to leave (Brunello & Wruuck, 2020). In addition, there could be some complementarity between general and specific training (Acemoglu & Pischke, 1999).

Companies that use non-standard labor tend to underinvest in human capital due to a higher turnover rate. For this reason, temporary and part-time employees are less willing to participate in training (Poulissen et al., 2021). This hypothesis applies to both general and specific types of training. However, there could be economically plausible reasons for these workers to participate in training, e.g., a higher willingness to learn and perform, intensive interactions with full-time employees, the need to signal workers' skills, etc. (Pedrini, 2020).

Combined with the task-based approach (Autor & Dorn, 2013; Mohr et al., 2016), human capital theory could explain the differences in training by occupation. Continuing training of people performing routine, repetitive tasks is not attractive because computer technologies could gradually replace their jobs. Such occupations are less likely to require new knowledge/skills. Training would go to people performing non-routine tasks that usually require specific competencies.

Business cycles also exert pressure on training investment, although the direction of this influence is not clearly defined (Dietz & Zwick, 2020). In times of recession, the forces driving training could arise due to the lower opportunity cost of employees' time spent on training, as capacity is less utilized and working time is lost. The strategy of labor hoarding combined with training could help managers retain a qualified workforce and meet the increasing demand for labor during subsequent upturns (Möller, 2010). However, in bad times, declining revenues, uncertainty, and credit constraints might harm training investments (Bellmann et al., 2014).

According to resource-based theory (Barney, 1991), the firm is viewed as a unique set of resources that aims to maximize its value. An enterprise could achieve efficiency gains by coordinating the efforts of different individuals who possess specific knowledge (Grant, 1996). The dynamic market conditions resulting from technological advances, changing consumer needs, or competitive pressures necessitate continuous knowledge acquisition. The manager's main task is to coordinate this newly acquired knowledge.

A well-established strand of literature on work-based training stems from institutional theory. In a broader sense, training could be considered a response to regulations, norms, beliefs, cultural attitudes, and values at the national, industry, or organizational level. Against this backdrop, it is influenced by a range of factors such as trade unions (Waddoups, 2014), culture and ethics (the cognitive aspect of the organizational institution), market structure/competition as a normative institution, and institutional change (García-Cabrera et al., 2018; Webster & Jensen, 2006).

Corporate governance theory links training to short-termism. Managers who prioritize shareholders' interest place more emphasis on short-term profits. Therefore, the enterprises listed on the stock market would invest less in training than the unlisted establishments. Some managers also behave opportunistically. To be better recognized and rewarded by their employers, they would prioritize short-term goals, which could hinder training initiatives. This opportunism of managers creates a moral hazard problem (Felstead, 2018). From the manager's perspective, there is a risk that productivity gains will be lower than expected and that they will switch careers or poach after training in transferable skills. In line with transaction cost theory, introducing contracts against such risks increases the transaction costs associated with training, making the training investment less efficient (Wotschack, 2020b).

The model of exchange relationships between employers and employees (Tsui et al., 1997) distinguishes four types of behavior according to investments in employees and the associated expectations: high investment/high expectations, high investment/low expectations, low investment/high expectations and low investment/low expectations. Training investment occurs in the first two cases (Koster & Benda, 2021): when there is a reciprocal relationship in which employees make extra effort and expect a reward from the organization or when employers invest more in employees due to certain circumstances such as a tight labor market without expecting corresponding returns.

The above brief literature review shows that from a theoretical perspective, training decisions can be explained in the light of two basic views – human capital theory and institutional theory. While the first theory focuses on purely economic reasons for training investment, institutionalists add a social context to organizational behavior (Waddoups, 2014; Wahda, 2017). With this in mind, the following research questions arise:

RQ1: What factors influence employers' investment decisions in organizational human resource training?

RQ2: What theoretical views on corporate training are justified by recent real-world evidence?

Methodology

Given the large body of empirical literature on adult learning, we applied the systematic literature review method to answer the above research questions (Kitchenham, 2004; Xiao & Watson, 2019). It comprised three stages: (a) an automated search based on a set of criteria, (b) a preliminary review (titles, abstracts, keywords) of the papers selected in stage 1, and (c) an in-depth review of the abstracts/content of the papers selected in stage 2. Table 1 shows the criteria for the automatic selection and the outcome of stage 1. To ensure the quality of the selected studies as well as the robustness of the outcome we focused on the two most popular databases for scientific references – Scopus and Web of Science.

Table 1. Outcome of the Automated Search Using a Predefined Set of Criteria

Criteria	Value
Databases	Scopus and Web of Science
Publication Year	January, 2015 – January, 2023
Subject Area	Economics, Econometrics and Finance
Scope	Continuing Vocational Education Continuing training
Title + Abstract + Keywords	Employer provided training Employee training Investment continuing training Business investments continuing training
Type of publication	Articles, Conference Paper
Language	English
Search outcome	Total of 1441 items*, including 1379 non-repeating items

*372 items were found in Web of Science and 1069 in Scopus

In the second stage, we carefully reviewed the title, abstract, and keywords of all 1379 articles found by the automatic filtering. A significant number of these articles were classified as not relevant. This was because a loose set of criteria was used in the first stage to reduce the likelihood of omitting some relevant studies, thus ensuring the reliability of the research findings. We also excluded studies outside business, management, economics, econometrics, finance, administration, and management (e.g., pedagogy, psychology, law, engineering studies, etc.). The result of the second stage was 98 papers (see Table 2). The full-text analysis of these papers showed that the factors for training could be categorized into four subgroups according to the level of aggregation: a macro/national level, an industry/market level, a company level, and a personal/individual level. Not surprisingly, the studies on company-related determinants predominate (more than 1/3). It is also worth noting that more papers have been published since 2020 (i.e., in the last 3 years), which may indicate an increased interest in this topic recently.

Table 2. The Outcome of the In-Depth Review of the Relevant Papers

Factors of training	Number of studies
Total, of which:	98
At a macro/national level	16
At an industry/market level	7
At a company level	36
At a personal level	17
A multi-level approach	22

Findings/Results

Personal-Level Factors

In line with human capital theory, the employee profile is expected to determine the likelihood of further training. Barry et al. (2020) claim that the age of employees is negatively associated with training opportunities (see also Korsakienė et al., 2017); marital status plays a role, while education is insignificant. However, they point out that industry- and company-related factors, such as workplace, market structure, and product market policy, are more important. The workplace requirements, the workplace's further training potential, and the further training needs of employees, not their educational background, determine attitudes toward further training (Korpi & Tählin, 2021). Conversely, a statistically significant correlation was also found in the opposite direction. For example, Božič (2019) found that the older age of employees and their higher educational background in the Slovenian private sector significantly correlate with their access to in-service training. In this way, employers are addressing skills gaps and deficits among employees. Sung and Choi (2023) claimed that the quality of human capital is positively associated with investment in human resource training and development. Professional management and a high-quality workforce increase the likelihood of investing in training over time. They also found a positive impact of technological change, suggesting that the complementarity between these two forms of intangible capital could explain the positive impact of human capital.

In contrast to the above and in line with human capital theory, Kramer and Tamm (2018) derived a complementarity between higher educational attainment and participation in training during working life in Germany. However, they did not explicitly refer to job-based training (see, also Cho & Lee, 2022, for South Korea). This result could be due to a higher return on investment in training due to the human capital accumulated in the early years of life. Grześkowiak (2015) added the role of career stage and individual age on the type, intensity, and expenditure on education and training.

The flexibility of the workplace, manifested in the decision-making autonomy of the workplace or the performance of different tasks, is beneficial for training. In such cases, investment in training is often disproportionately biased towards workers with higher levels of education (Campaner et al., 2018), which may explain the positive impact of a higher educational background on training.

Studies have also addressed gender differences in education. Halldén (2015) pointed out that men are more often exposed to long on-the-job training than women. In the private sector, female employees are more likely to receive training if their immediate supervisor is male. A greater risk of being on the training margin is experienced by women, older workers, and those employed in the private sector or doing manual labor (Silvennoinen & Nori, 2017). The low participation of female small business owners in formal training is explained by time and resource constraints and personal preferences (Sharafizad, 2018). On the other hand, female employees value supportive human resource management practices, including training opportunities, more than men (Human Resource Management International Digest, 2020). The literature generally assumes that there is no gender-neutral training model (Kroese, 2022).

The Cerasoli et al. (2018) meta-analysis found many statistically significant personal demographic characteristics that increase the likelihood of working adults participating in informal learning. These include a higher level of education, higher rank/tenure, and marital status (married). The latter was associated with the occupational success of married individuals. The effects of gender and age are not sizeable.

The profile of educated immigrants was also mentioned. In Canadian private companies, visible minority immigrants receive less classroom training and participate in less and shorter classroom training than white immigrants. This pattern could be explained by the fact that companies offer fewer training opportunities to male immigrants and that there are differences in the workplace for female immigrants. This fact consequently affects the wages and career paths of these employees. No significant differences were found in on-the-job training (Dostie & Javdani, 2019).

Pedriani (2020) implied that part-time employees are less likely to participate in training outside the workplace than employees on fixed-term contracts. The negative correlation between the volume of training and part-time contracts could be explained by these workers' lower educational attainment and lower-graded jobs, which generally supports the human capital theory. The study revealed differing patterns between British and Italian firms regarding the exposure of training content for part-time and temporary workers. In Italy, part-time workers are more likely to participate in

training to improve their standard technical skills. Temporary workers are trained in non-transferable in-house or non-standard technical skills. In contrast, the likelihood of providing non-standard technical content in the UK is higher for part-time jobs. These differences may reflect the institutional models of the labor market, namely, using part-time workers in administrative occupations or mobility.

Organisational–Level Factors

The determinants at the company level originate mainly from institutionalism. The relevant studies focus on the probability of training, its forms, or the type of skills trained. The most studied factors are the company's culture, human resource management strategies, policies and practices, business strategy, especially product/service strategy, labor-management relations, and the power of employee associations.

Professional development, including training as a core component, is an integral part of organizational culture (Greaves, 2020). Cultural context determines extrinsic employee motivation, a significant predictor of training and development, especially in organizations that employ young people (Han et al., 2023). Ho et al. (2021) found that a supportive culture promotes lifelong learning among employees, while a bureaucratic or innovative culture has no impact. In organizations that require continuous improvement of employees' skills, such as information technology, on-the-job learning can be more efficient and less expensive than formal training (Pathak, 2017). Building a culture that supports continuous learning and development is essential to achieving learning goals.

It can be assumed that general skills training programs that promote greater employee involvement in decision-making, teamwork, and innovative incentive schemes are prevalent in workplaces, as employees should be trained to implement these practices successfully. According to Cerasoli et al. (2018), formal (e.g., rewards) and informal organizational support, autonomy in job/task, available resources, and reduced workload signal learning opportunities. They also claim these situational antecedents are more important than personal demographic characteristics. The sharing of work experiences, a learning-oriented culture, the existence of staff responsible for training, good human resources management, ownership of a private company, and transparency and fairness in the selection of trainees are conducive to lifelong learning in companies (Anlesinya, 2018; Aurrekoetxea-Casaus & Díez, 2020; Nguyen et al., 2020).

Management support is essential for fun in the workplace, providing various learning opportunities within the organization (Taheri et al., 2022). Managers of companies that offer higher quality products/services (i.e., high-ranking compared to low-ranking hotels) better recognize the role of training and the training needs of employees (Mitrevva, 2019). On the other hand, a lack of focus on organizational learning practices or recognition of learning as a factor in achieving values, mission, and business plans reduces training (Mousa et al., 2022).

Factors at a company level could explain some specific aspects of training. Rego et al. (2017) argued that the involvement of older workers in training and their discrimination in favor of younger people depends on managers' attitudes towards older people, especially the perception of older employees' adaptability, i.e., competence in performing new tasks, resistance to change, willingness to participate in training, etc. Organizations that promote greater employee involvement in decision-making, teamwork, and innovative incentive schemes must train their employees in general skills to implement these practices properly.

Concerning the hospitality industry, Johnson et al. (2018) found a positive correlation between the company's service orientation and its service training. The stronger service orientation is reflected in managers' intense communication about the importance of services, incentives, and rewards for employees and employees' commitment to providing high-quality services. The innovative orientation and technological state of production are most important in explaining the frequency and intensity of training, especially in manufacturing companies (Roshchin & Travkin, 2017). Thus, the company's job-related education and training engagement is rooted in its business strategy. In addition, Smith et al. (2019) claimed that business strategy has displaced strategic response as a driver of training in Australian firms, particularly large establishments. They underline the role of new technologies and change in the workplace and point out that quality has recently become the most important factor. In the European context, business practices focusing on the development of the organization's internal resources were positively associated with training, while externally oriented practices focusing on the organization's environment – customers, technological cooperation, etc. – have a negative statistically significant influence (García-Cabrera et al., 2018).

Felstead (2018) tested the short-termism view during the recent global recession (2008-2009) and substantiated the hypothesis that the opportunism of managers prioritizing short-term gains over long-term success is negatively correlated with training activity. Market followers considered relatively short-term oriented, are more likely to report a decline in training and scope in times of crisis.

The role of human resource management strategy and practices has also been well discussed. The human resource development structures that are in place, particularly in larger companies, enable them to choose formal forms of training. In contrast, smaller players generally do not have such formal facilities and rely on informal and incidental learning (Bishop, 2020). The two main forms of learning are complementary, as the opportunity for formal learning is positively associated with short- and long-term participation in informal learning activities. However, this relationship

depends on the strength of the human resource management system (Bednall & Sanders, 2017) or national cultural values, especially high uncertainty avoidance (Richter et al., 2020). Formalizing human resource practices (e.g., by writing down plans, procedures, descriptions, etc.) is favorable for training (Cho & Lee, 2022; Davis & Amirbekova, 2019; Wotschack, 2020a).

Another important issue that has its origins in institutionalism is the power of employee voices expressed formally or informally. Kambayashi and Kato (2020) claimed that “de facto” communication between workers and management about training opportunities is more important for training than “de jure” collective bargaining within the enterprise. This result could be because unions are more willing to focus on short-term issues, such as wages or working hours, than on long-term issues, which include worker training. Such “de facto” institutions are positively related to managers' willingness to communicate about training, encouraging participation in training, particularly off-the-job training. The study implies that informal work institutions play a greater role in training investment than formal legal structures. The forms of collective employee representation that enable workers to assert their interests in training and formal human resource practices stimulate training for low-skilled jobs. This influence is more substantial than economic or market-related forces, such as up-to-date equipment and technologies, production, services, innovations in work organization, and labor shortages (Wotschack, 2020a).

According to Piasecki (2021), employees who own part of the establishment (in the case of cooperative banks) receive more training than the rest in terms of the number of training events and the duration of training. Moreover, this study could explain the negative or negligible relationship between the educational attainment of workers and training, which is supported by some empirical evidence presented above, as it shows that non-member workers are often young, better-educated people.

Industry-Level Factors

Although far fewer in number, some papers examined the role of training in the business environment in which the company operates (e.g., the region, technologies, and nature of competition). On the one hand, a positive link between regional development and training frequency was found in Eastern Europe (Neycheva & Baltov, 2024; Stacho et al., 2019). Conversely, in southern Italy, companies in regions with lower employment density have lower training opportunity costs (Filippetti et al., 2019), which stimulates investment in training. Ahmad and Khan (2022) pointed out that human resource practices, including training, differ considerably between companies operating in risky and less developed market environments and competitive industries that use a more skilled workforce. A disadvantage of training incentives is the low level of support from local stakeholders, such as chambers, associations, or local authorities, concerning the training needs of companies (Fuchs et al., 2021).

The intensity of competition, technological innovations, and customer demand also promote learning. In light of the resource-based view, Esteban-Lloret et al. (2018) highlighted the role of competitive pressure for training. It is determined by the company's desire to achieve a competitive advantage and perform better than its rivals. Furthermore, in line with the institutionalist paradigm, the latter study found a meaningful impact on professional associations and the training patterns pursued by market leaders. Aranda Jiménez et al. (2022) added the role of industry agreements in supporting training. According to Roshchin and Travkin (2017), firm-level factors such as the technological state of production positively affect the frequency and intensity of training, supporting the above findings, while product market competition is positively correlated with the frequency but not the intensity of training.

The high financial, environmental, and human costs of mistakes in some sectors or the reduced supply of highly skilled labor induce employers to pay for training (Sampson & Tang, 2016). Gussek et al. (2021) showed that training is a primary measure to prevent skills obsolescence due to technological changes. However, due to financial considerations, organizations are more willing to train their younger employees in new technologies than their experienced employees. The impact of Industry 4.0 was also recognized by Whysall et al. (2019).

As mentioned above, employee poaching could also explain why rational employers (do not) offer training in general skills. However, for Germany, Mohrenweiser et al. (2019) revealed that such practices are not common and do not influence training patterns. Employees usually switch to competing firms when their employer suffers a temporary slump. Nevertheless, the relationship between poaching and training needs to be explored in more detail.

Macro-Level Factors

The macro-level factors shaping the training decisions of all enterprises across a given economy can be classified into three main groups. The first relates to national culture, traditions, and values, the second to the national institutional framework, and the third to the state of the economy, which is determined by economic cycles, technological progress, and digitalization. Aepli et al. (2021) highlighted the cultural differences in private preferences over public goods. Taking this into account, they explain the higher proportion of firms offering adequate apprenticeship training positions in Switzerland's German-speaking communities of Switzerland compared to their French-speaking counterparts. The reason for this finding is the more robust support of private engagements, including unpaid ones, by individuals in the

German regions. Demographic change, leading to an aging population, makes it necessary for older people to participate in lifelong learning to remain in the workforce and extend their working lives (Angeloni & Borgonovi, 2016).

The second group of factors influencing job training involvement is linked to institutional settings and organizational pressures. When comparing their later results (2015) with a similar earlier study, Smith et al. (2019) observed increasing pressure of the regulatory requirements on the training initiatives (see, also, Oseghale et al., 2018; Wotschack, 2020b). Legal protection against discrimination based on gender or sexual orientation mediates access to training (Allmang et al., 2019). Government support, including financial incentives and practices to improve business competitiveness, encourages employers to invest in training (Lee & Davison, 2018; Mason, 2020).

An important role has been attributed to partnerships between companies, universities, and the government as a predictor of training. Mousa et al. (2022) focused on the barriers to formal training as a primary form of organizational learning in public banks in a developing economy (Egypt). In addition to the organizational level factors mentioned above, they also mention unsuitable external trainers providing training content unfamiliar to the organization's business needs. The low level of support from the local government leads to informal personal relationships when selecting external trainers. There is a lack of trust in the business qualifications of universities to provide vocational training. Supporting evidence can be found in Mitreva (2019) for Macedonia and Neycheva and Baltov (2024) for Bulgaria. On the other hand, Fuchs et al. (2021) for Germany highlighted the cooperation between universities of applied sciences and foreign subsidiaries in providing industry-specific skills. The availability of appropriate trainers, the readiness and capacity of academia to offer high-quality education and training, and the state of university-industry are (positive) predictors of training activity (see Aslam et al., 2022; Davis & Amirbekova, 2019; Esteban-Lloret et al., 2018; Jackson et al., 2022; Oseghale et al., 2018; Rowe, 2019; Vodenko et al., 2017).

Economic crises negatively pressure training activities overall, especially for semi-skilled and unskilled workers (Dietz & Zwick, 2020). The supply-side measures proposed by the Greek government during the recent Great Recession in 2009 for small businesses, i.e., the expansion of higher educational institutions and subsidized training courses/programs, have not led to the expected impact on the demand for formal and informal training (Panagiotakopoulos, 2015). In addition, higher income taxation and a lower minimum wage have forced these firms to pursue low-price strategies, negatively impacting the demand for highly skilled workers. Both studies demonstrate the negative influence of crises on investment in training.

Discussion

This study aims to outline the main drivers of business investments in CET based on a systematic literature review of relevant recent publications (since 2015) indexed in Scopus or Web of Science. The research scope was limited to economics, econometrics, finance, business, management, and administration. We explored the incentives to train rooted in human capital theory, resource-based theory, and institutional economics. The literature search yielded 98 articles dealing with the topic.

In line with the theoretical background (see section 2), we identified four groups of factors depending on the level of aggregation: personal, organizational, industrial, and macroeconomic. The research mainly focused on the organizations' role, while the industry/company environment was the least studied. A key impact on the training investments is organizational characteristics such as a supportive culture, learning orientation, and the existence of human resource development practices, particularly formalized ones. Recently, the role of employee voice in various forms, such as formal institutions, non-formal representation, or stock ownership, has become essential for employee development and training. The positive role of these factors is broadly supported by recent studies, such as those by Aurrekoetxea-Casaus and Díez (2020), Ho et al. (2021), Kambayashi and Kato (2020), Piasecki (2021) and Wotschack (2020a). Management attitudes and views, such as short-term vs. long-term orientation and perceptions of staff flexibility and adaptability to age-related changes, also play a role. Another group of determinants examined relates to business strategy, innovative practices, customer orientation, and technological progress. The stimulating impact of the latter was also recognized in the review studies by Aranda Jiménez et al. (2022), Gussek et al. (2021), and Verma and Venkatesan (2021).

The organization's environment also appears to influence training decisions. Training is widely recognized as gaining an advantage in a competitive business environment. In addition, modern organizations gain legitimacy and acceptance by investing in training, especially if they are more locally based. In this respect, the studies support the positive influence of stakeholders, such as local authorities, professional associations, or educational institutions. It was recognized that the level of regional development also plays a role, but the direction of this impact was not precisely defined. A positive correlation between education and regional development was observed for less-developed European economies (Eastern Europe). One of the reasons for this result could be the higher degree of competition between the developed regions in these countries.

At the macro level, the studies for both developing and developed countries confirm the fundamental role of academic institutions as providers of high-quality training services tailored to companies' needs for (specific) training. This finding complies with the works of Fuchs et al. (2021), Mousa et al. (2022), and Neycheva and Baltov (2024). National authorities provide a regulatory framework, incentives, and support. The existing national frameworks/institutions encourage

companies to adopt and apply similar practices in human resource management. The hypothesis that training activity is related to the stage of the business cycle is also justified, as there is some evidence that training activity decreases in times of crisis. Nevertheless, further work is needed in this direction.

In line with the second research question (see section 2), the literature review shows which existing theories fit the contemporary empirical evidence. The influence of institutional determinants at the national, industry, or company levels on the training volume has also been recognized in practice. This finding is also confirmed by García-Cabrera et al. (2018). This result means that the paradigms rooted in institutional theory better explain the determinants of training in modern organizations. However, although these factors seem to predominate, neither of the two theoretical background paradigms – human capital theory and institutionalism – comprehensively explains an organization's attitude towards training its employees; instead, they should be considered complementary. The institutional determinants, e.g., company culture, employee voice, employee participation, etc., help the factors considered by human capital theory, such as age, education, skills, etc., of the trainees, to unfold their effect. The decisions made by rational managers/entrepreneurs are influenced by economic considerations as well as the internal and external institutional context in which the company operates. This result also means that national and local institutions should adapt their approaches and practices according to the worker's personality (i.e., age demographics, education, gender, skills acquired, etc.) to promote the training companies offer.

Conclusion

This study derives the determinants of company-sponsored training in today's organizations by applying the systematic literature review method. Given the increasing number of scientific papers focusing on lifelong learning, it provides a comprehensive overview of the relevant research. It synthesizes the major findings, which sets it apart from previous works. The comparative analysis of the drivers of lifelong learning associated with human capital theory and those stemming from institutional theory suggests that institutional factors predominate inside and outside the organization. These include the organization's culture, learning orientation, and formalized human resource development practices. Both formal and non-formal employee voices prompt managers to invest in training. In terms of the company's environment, competitive market pressures, government regulations, and regulatory support are beneficial. The importance of universities as the main providers of specific quality services is also confirmed. At the same time, the results on the impact of personal characteristics, such as age, educational background, or gender, differ in the studies. Although the behavior of companies could be justified in the light of human capital theory and institutionalism, the latter seems to better explain the motivation of today's companies to invest in continuing education. The study has practical implications for policymakers in the field of lifelong learning. From a practical point of view, it underlines the responsibility of national and local authorities to provide a favorable institutional environment that motivates business actors to finance continuing education. This responsibility is especially important in countries with low levels of participation in adult education.

Recommendations

As it was indicated above, the systematic review outlines some gaps in the literature which need further elaboration. Prospective research areas for future investigation include cost-benefit and cost-effectiveness analyses of training, the impact of crises, particularly Covid-19 pandemics, and a careful analysis of the companies which rarely participate in training or do not participate et al. Also, there is a need to extend the geographical scope of the relevant research by focusing more extensively on the less developed countries in Europe. Such studies would have important implications for the government policy in the area of lifelong learning in those economy, since our review gives an inconclusive evidence that in the lower income countries, state regulations regarding professional accreditation, qualification requirements for the job, etc., might be employers' sole motive for sponsoring training.

Limitations

The study is limited to research articles and conference papers included in the two reference databases Scopus and Web of Science since 2015 onwards. Also, it focuses on a limited number of scientific fields: Business, Management, Administration, Economics, Econometrics and Finance. Other scientific domains have not been reviewed.

Acknowledgements

I express my gratitude to the Editor and the two anonymous Reviewers for their valuable remarks and suggestions.

Funding

This study was financed by the Bulgarian National Science Fund (BNSF), contract № КП-06-H65/12 from 12.12.2022.

References

Acemoglu, D., & Pischke, J.-S. (1998). Why do firms train? Theory and evidence. *Quarterly Journal of Economics*, 113(1), 79-119. <https://doi.org/10.1162/003355398555531>

- Acemoglu, D., & Pischke, J.-S. (1999). The structure of wages and investment in general training. *Journal of Political Economy*, 107(3), 539-572. <https://rb.gy/7bo4mq>
- Aeppli, M., Kuhn, A., & Schweri, J. (2021). Culture, norms, and the provision of training by employers: Evidence from the Swiss language border. *Labour Economics*, 73, Article 102057. <https://doi.org/10.1016/j.labeco.2021.102057>
- Ahmad, Y., & Khan, M. R. (2022). How business strategy drives human resource practices in small and medium enterprises? Evidence from Pakistani autoparts industry. *International Journal of Organizational Analysis*, 31(7), 2866-2888. <https://doi.org/10.1108/IJOA-03-2022-3207>
- Allmang, S., Jou, J., Gadoth, A., Rozhenkova, V., Raub, A., & Heymann, J. (2019). Legislative protection from discrimination in access to employer-provided training. *International Journal of Training and Development*, 23(4), 276-290. <https://doi.org/10.1111/ijtd.12162>
- Angeloni, S., & Borgonovi, E. (2016). An ageing world and the challenges for a model of sustainable social change. *Journal of Management Development*, 35(4), 464-485. <https://doi.org/10.1108/JMD-07-2015-0101>
- Anlesinya, A. (2018). Organizational barriers to employee training and learning: Evidence from the automotive sector. *Development and Learning in Organizations*, 32(3), 8-10. <https://doi.org/10.1108/DLO-03-2017-0022>
- Aranda Jiménez, J. R., Campos-García, I., & De-Pablos-Heredero, C. (2022). Vocational continuing training in Spain: Contribution to the challenge of Industry 4.0 and structural unemployment. *Intangible Capital*, 18(1), 20-38. <https://doi.org/10.3926/ic.1870>
- Aslam, T., Goienetxea, A., & Svensson, H. (2022). Education of the future: Learnings and experiences from offering education to industry professionals. *Advances in Transdisciplinary Engineering*, 21, 665-676. <https://doi.org/10.3233/ATDE220185>
- Aurrekoetxea-Casaus, M., & Díez, F. (2020). Facilitators of informal learning in the workplace: The case of two cooperatives in the machine tool sector. *REVESCO Revista de Estudios Cooperativos*, 134, Article e69166. <https://doi.org/10.5209/REVE.69166>
- Autor, D. H., & Dorn, D. (2013). The growth of low-skill service jobs and the polarization of the US labor market. *American Economic Review*, 103(5), 1553-1597. <https://doi.org/10.1257/aer.103.5.1553>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
- Barry, M., Gomez, R., Kaufman, B. E., Wilkinson, A., & Zhang, T. (2020). Is it 'you' or 'your workplace'? Predictors of job-related training in the Anglo-American world. *International Journal of Training and Development*, 24(3), 173-203. <https://doi.org/10.1111/ijtd.12192>
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis with special reference to education*. Columbia University Press.
- Becker, R. (2019). Economic change and continuous vocational training in the work history: A longitudinal multilevel analysis of the employees' participation in further training and the effects on their occupational careers in Germany, 1970-2008. *Empirical Research in Vocational Education and Training*, 11, Article 4. <https://doi.org/10.1186/s40461-019-0079-x>
- Bednall, T. C., & Sanders, K. (2017). Do opportunities for formal learning stimulate follow-up participation in informal learning? A three-wave study. *Human Resource Management*, 56(5), 803-820. <https://doi.org/10.1002/hrm.21800>
- Bellmann, L., Gerner, H.-D., & Leber, U. (2014). Firm-provided training during the Great recession. *Jahrbücher für Nationalökonomie und Statistik*, 234(1), 5-22. <https://doi.org/10.1515/jbnst-2014-0103>
- Bishop, D. (2020). Firm size and workplace learning processes: A study of the restaurant sector. *European Journal of Training and Development*, 44(2/3), 305-320. <https://doi.org/10.1108/EJTD-08-2019-0139>
- Božič, K. (2019). Can I be trained too? An analysis of determinants of the access to training. *Dynamic Relationships Management Journal*, 8(2), 55-64. <https://sam-d.si/wp-content/uploads/2019/12/DRMJ-vol08-no02-2019-a04-1.pdf>
- Brunello, G., & Wruuck, P. (2020). *Employer provided training in Europe: determinants and obstacles*. (IZA DP 12981). IZA Institute of Labor Economics. <https://bit.ly/3vUQNIC>
- Campaner, A., Heywood, J. S., & Jirjahn, U. (2018). *Flexible work organization and employer provided training: Evidence from German linked employer-employee data*. IZA Institute of Labor Economics. <https://docs.iza.org/dp11696.pdf>
- Cedefop. (2015). *Job-related adult learning and continuing vocational training in Europe: A statistical picture*. Publications Office of the European Union. <http://doi.org/10.2801/392276>

- Cerasoli, C. P., Alliger, G. M., Donsbach, J. S., Mathieu, J. E., Tannenbaum, S. I., & Orvis, K. A. (2018). Antecedents and outcomes of informal learning behaviors: A meta-analysis. *Journal of Business and Psychology, 33*, 203-230. <https://doi.org/10.1007/s10869-017-9492-y>
- Cho, S.-E., & Lee, Y.-M. (2022). Determinants of time investment in education and training of corporate workers by training type. *International Journal of Human Resources Development and Management, 22*(3-4), 119-141. <https://doi.org/10.1504/IJHRDM.2022.124873>
- Davis, P., & Amirbekova, D. (2019). Assessing the challenges to employee training and development in Sub-Saharan Africa: A qualitative exploration. *International Journal of Human Resources Development and Management, 19*(3), 266-280. <https://doi.org/10.1504/IJHRDM.2019.100637>
- Dietz, D., & Zwick, T. (2020). Training in the Great recession - evidence from an individual perspective. *Jahrbucher Fur Nationalokonomie Und Statistik, 240*(4), 493-523. <https://doi.org/10.1515/jbnst-2018-0072>
- Dostie, B., & Javdani, M. (2019). *Immigrants and workplace training: evidence from Canadian linked employer-employee data*. IZA Institute of Labor Economics. <https://docs.iza.org/dp12511.pdf>
- Elson-Rogers, S., & Westphalen, S.-Å. (2000). Funding continuing vocational training in the European Union. *Journal of Vocational Education and Training, 52*(4), 687-708. <https://doi.org/10.1080/13636820000200136>
- Esteban-Lloret, N. N., Aragón-Sánchez, A., & Carrasco-Hernández, A. (2018). Determinants of employee training: Impact on organizational legitimacy and organizational performance. *International Journal of Human Resource Management, 29*(6), 1208-1229. <https://doi.org/10.1080/09585192.2016.1256337>
- European Commission. (2021). *Adult education and training in Europe: Building inclusive pathways to skills and qualifications* (Eurydice Report). Publications Office of the European Union. <https://doi.org/10.2797/788535>
- Felstead, A. (2018). Tracing the connections: Short-termism, training and recession. *International Journal of Human Resource Management, 29*(4), 664-682. <https://doi.org/10.1080/09585192.2016.1184176>
- Filippetti, A., Guy, F., & Iammarino, S. (2019). Regional disparities in the effect of training on employment. *Regional Studies, 53*(2), 217-230. <https://doi.org/10.1080/00343404.2018.1455177>
- Fuchs, M., Westermeyer, J., Finken, L., & Pilz, M. (2021). Training activities in subsidiaries of foreign multinational companies: Local embeddedness in Germany? *International Journal of Training and Development, 25*(4), 414-432. <https://doi.org/10.1111/ijtd.12244>
- García-Cabrera, A. M., Lucia-Casademunt, A. M., & Cuéllar-Molina, D. (2018). Institutions and human resource practices in European countries. *International Journal of Human Resource Management, 29*(21), 3001-3032. <https://doi.org/10.1080/09585192.2016.1239119>
- Grant, R. M. (1996). Towards a knowledge-based view of the firm. *Strategic Management Journal, 17*(SI), 109-122. <http://www.jstor.org/stable/2486994>
- Greaves, D. (2020). Organizational culture: Perspectives and directions for professional development. In P. Griffiths (Ed.), *Proceedings of the 16th European Conference on Management Leadership and Governance, ECMLG 2020* (pp. 88-94). ACI.
- Grześkowiak, A. (2015). Career stages and attitudes to skills development process in Poland. *Mediterranean Journal of Social Sciences, 6*(2 S5), 37-44. <https://doi.org/10.5901/mjss.2015.v6n2s5p37>
- Gussek, L., Schned, L., & Wiesche, M. (2021). Obsolescence in IT work: causes, consequences and counter-measures. *Lecture Notes in Information Systems and Organisation, 48*, 572-586. https://doi.org/10.1007/978-3-030-86800-0_40
- Halldén, K. (2015). Taking training to task: sex of the immediate supervisor and men's and women's time in initial on-the-job training. *Work and Occupations, 42*(1), 73-102. <https://doi.org/10.1177/0730888414555583>
- Han, J. W., Nguyen, T. T. M., Hua, S. M., & Pham, T.-H. (2023). Organizational learning through training effectiveness: evidence from the hospitality industry in Vietnam. *Learning Organization, 30*(5), 532-553. <https://doi.org/10.1108/TLO-03-2022-0036>
- Ho, B. C. Y., Mustamil, N. M., & Jayasingam, S. (2021). Building a conducive, engaged, and learning working environment through sustainable and impactful organisational culture. *International Journal of Innovation and Sustainable Development, 15*(3), 280-304. <https://doi.org/10.1504/IJISD.2021.115959>
- Huerta, M. E., Audet, X. L., & Sabata, M. P. (2012). The GDOR model. A new methodology for the analysis of training needs: the case of Andorra. *Intangible Capital, 8*(2), 406-424. <https://doi.org/10.3926/ic.274>

- Human Resource Management International Digest. (2020). Researchers show women at Spanish SMEs respond positively to high-involvement HRMs. *Human Resource Management International Digest*, 28(6), 49-50. <https://doi.org/10.1108/HRMID-05-2020-0114>
- Jackson, D., Michelson, G., & Munir, R. (2022). New technology and desired skills of early career accountants. *Pacific Accounting Review*, 34(4), 548-568. <https://doi.org/10.1108/PAR-04-2021-0045>
- Johnson, K. R., Park, S., & Bartlett, K. R. (2018). Perceptions of customer service orientation, training, and employee engagement in Jamaica's hospitality sector. *European Journal of Training and Development*, 42(3-4), 191-209. <https://doi.org/10.1108/EJTD-11-2017-0094>
- Kaliannan, M., Darmalinggam, D., Dorasamy, M., & Abraham, M. (2023). Inclusive talent development as a key talent management approach: A systematic literature review. *Human Resource Management Review*, 33(1), Article 100926. <https://doi.org/10.1016/j.hrmmr.2022.100926>.
- Kambayashi, R., & Kato, T. (2020). Do collective bargaining institutions crowd out discussion and implementation of firm-related training programs? Evidence from Japan. *International Journal of Training and Development*, 24(3), 204-230. <https://doi.org/10.1111/ijtd.12193>.
- Kitchenham, B. (2004). *Procedure for performing systematic reviews*. Technical Report TR/SE-0401, Keele University. <https://www.inf.ufsc.br/~aldo.vw/kitchenham.pdf>
- Korpi, T., & Tählin, M. (2021). On-the-job training: A skill match approach to the determinants of lifelong learning. *Industrial Relations Journal*, 52(1), 64-81. <https://doi.org/10.1111/irj.12317>
- Korsakienė, R., Raišienė, A. G., & Bužavaitė, M. (2017). Work engagement of older employees: do employee and work-related factors matter? *Economics and Sociology*, 10(4), 151-161. <https://doi.org/10.14254/2071-789X.2017/10-4/12>
- Koster, F., & Benda, L. (2021). Explaining employer-provided training. *Journal of Social Policy Research/Zeitschrift für Sozialreform*, 66(3), 237-260. <https://doi.org/10.1515/zsr-2020-0011>
- Kramer, A., & Tamm, M. (2018). Does learning trigger learning throughout adulthood? Evidence from training participation of the employed population. *Economics of Education Review*, 62, 82-90. <https://doi.org/10.1016/j.econedurev.2017.11.004>
- Kroese, I. (2022). Is employee training really gender-neutral? Introducing a sex/gender-sensitive model of training. *Human Resource Management Review*, 32(4), Article 100890. <https://doi.org/10.1016/j.hrmmr.2021.100890>
- Lee, G. J., & Davison, A. (2018). Designing payroll levies for firm training. *International Journal of Manpower*, 39(6), 766-781. <https://doi.org/10.1108/IJM-01-2017-0009>
- Mason, G. (2020). Higher education, initial vocational education and training and continuing education and training: Where should the balance lie? *Journal of Education and Work*, 33(7-8), 468-490. <https://doi.org/10.1080/13639080.2020.1755428>
- Mitrevva, E. (2019). Management with the system of education and motivation of employees in hotel industry in Macedonia. In M. Stefanović (Ed.), *Proceedings on Engineering Sciences 13th International Quality Conference* (pp. 687-698). PES. <https://doi.org/10.24874/PES01.02.070>
- Mohr, S., Troeltsch, K., & Gerhards, C. (2016). Job tasks and the participation of low-skilled employees in employer-provided continuing training in Germany. *Journal of Education and Work*, 29(5), 562-583. <https://doi.org/10.1080/13639080.2015.1024640>
- Mohrenweiser, J., Zwick, T., & Backes-Gellner, U. (2019). Poaching and firm-sponsored training. *British Journal of Industrial Relations*, 57(1), 143-181. <https://doi.org/10.1111/bjir.12305>
- Möller, J. (2010). The German labor market response in the world recession – de-mystifying a miracle. *Journal for Labor Market Research/Zeitschrift für ArbeitsmarktForschung*, 42, 325-336. <https://doi.org/10.1007/s12651-009-0026-6>
- Mousa, M., Massoud, H., & Ayoubi, R. (2022). Contexts of organizational learning in developing countries: The role of training programmes in Egyptian public banks. *Personnel Review*, 51(3), 1169-1186. <https://doi.org/10.1108/PR-06-2020-0453>
- Neycheva, M., & Baltov, M. (2024). Factors and obstacles determining the investments in continuing education and training of managers: The case of Bulgarian enterprises. *European Journal of Training and Development*, 48(1/2), 1-22. <https://doi.org/10.1108/EJTD-03-2022-0033>
- Nguyen, L., Luu, P., & Ho, H. (2020). Factors influencing life-long learning: an empirical study of young people in Vietnam. *Journal of Asian Finance, Economics and Business*, 7(10), 909-918. <https://doi.org/10.13106/jafeb.2020.vol7.no10.909>

- Oseghale, R. O., Malik, A., Nyuur, R. B., Pereira, V., & Ellis, F. Y. A. (2018). Drivers of training and talent development: insights from oil and gas MNCs in Nigeria. *Human Resource Development International*, 21(5), 509-531. <https://doi.org/10.1080/13678868.2018.1472479>
- Panagiotakopoulos, A. (2015). Creating a high-skills society during recession: issues for policy makers. *International Journal of Training and Development*, 19(4), 253-269. <https://doi.org/10.1111/ijtd.12061>
- Pathak, A. A. (2017). Enabling lifelong learning: the key to agility at thought works India. *Human Resource Management International Digest*, 25(1), 4-6. <https://doi.org/10.1108/HRMID-07-2016-0108>
- Pedrini, G. (2013). Law and economics of training: A taxonomy of the main legal and institutional tools addressing suboptimal investments in human capital development. *European Journal of Law and Economics*, 43, 83-105. <https://doi.org/10.1007/s10657-013-9384-1>
- Pedrini, G. (2020). Off-the-job training and the shifting role of part-time and temporary employment across institutional models. Comparing Italian and British firms. *Industrial Relations Journal*, 51(5), 427-453. <https://doi.org/10.1111/irj.12303>
- Piasecki, P. (2021). The influence of employee membership on training intensity: The case of Polish co-operative banks. *Journal of Co-operative Organization and Management*, 9(2), Article 100144. <https://doi.org/10.1016/j.jcom.2021.100144>
- Polo, F., Cervai, S., & Kantola, J. (2018). Training culture: A new conceptualization to capture values and meanings of training in organizations. *Journal of Workplace Learning*, 30(3), 162-173. <https://doi.org/10.1108/JWL-01-2018-0024>
- Poullissen, D., de Grip, A., Fouarge, D., & Künn, A. (2021). *Employers' willingness to invest in the training of temporary workers: a discrete choice experiment* (GSBE Research Memoranda No. 010). Maastricht University. <https://doi.org/10.26481/umagsb.2021010>
- Rego, A., Vitória, A., Pina e Cunha, M., Tupinambá, A., & Leal, S. (2017). Developing and validating an instrument for measuring managers' attitudes toward older workers. *International Journal of Human Resource Management*, 28(13), 1866-1899. <https://doi.org/10.1080/09585192.2015.1128462>
- Richter, S., Kortsch, T., & Kauffeld, S. (2020). Understanding learning spillover: The major role of reflection in the formal-informal learning interaction within different cultural value settings. *Journal of Workplace Learning*, 32(7), 513-532. <https://doi.org/10.1108/JWL-01-2020-0008>
- Roshchin, S., & Travkin, P. (2017). Determinants of on-the-job training in enterprises: The Russian case. *European Journal of Training and Development*, 41(9), 758-775. <https://doi.org/10.1108/EJTD-05-2017-0050>
- Rowe, L. (2019). Educating for the modern world: A report review. *Journal of Work-Applied Management*, 11(1), 5-16. <https://doi.org/10.1108/JWAM-06-2019-0014>
- Sampson, H., & Tang, L. (2016). Strange things happen at sea: Training and new technology in a multi-billion global industry. *Journal of Education and Work*, 29(8), 980-994. <https://doi.org/10.1080/13639080.2015.1102213>
- Sharafizad, J. (2018). Informal learning of women small business owners. *Education + Training*, 60(1), 82-103. <https://doi.org/10.1108/ET-01-2017-0006>
- Silvennoinen, H., & Nori, H. (2017). In the margins of training and learning. *Journal of Workplace Learning*, 29(3), 185-199. <https://doi.org/10.1108/JWL-08-2016-0072>
- Smith, E., Callan, V., Tuck, J., & Smith, A. (2019). Employer training in Australia: Current practices and concerns. *International Journal of Training and Development*, 23(2), 169-183. <https://doi.org/10.1111/ijtd.12152>
- Stacho, Z., Stachova, K., & Raisiene, A. G. (2019). Change in approach to employee development in organizations on a regional scale. *Journal of International Studies*, 12(2), 299-308, <https://doi.org/10.14254/2071-8330.2019/12-2/19>
- Sung, S. Y., & Choi, J. N. (2023). What drives firms to invest in training and developing employees? Time-dependent effects of firm internal and external contingencies. *International Journal of Human Resource Management*, 34(2), 223-252. <https://doi.org/10.1080/09585192.2021.1965007>
- Taheri, M., Motealleh, S., & Younesi, J. (2022). Workplace fun and informal learning: The mediating role of motivation to learn, learning opportunities and management support. *Journal of Workplace Learning*, 34(3), 229-241. <https://doi.org/10.1108/JWL-05-2021-0062>
- Tsui, A. S., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997). Alternative approaches to the employee-organization relationship: Does investment in employees pay off? *Academy of Management Journal*, 40(5), 1089-1121. <https://www.jstor.org/stable/256928>

- van den Berg, G. J., Dauth, C., Homrighausen, P., & Stephan, G. (2023). Informing employees in small and medium-sized firms about training: Results of a randomized field experiment. *Economic Inquiry*, 61(1), 161-178. <https://doi.org/10.1111/ecin.13111>
- Verma, A., & Venkatesan, M. (2021). Industry 4.0 workforce implications and strategies for organisational effectiveness in Indian automotive industry: A review. *Technology Analysis and Strategic Management*, 35(10), 1241-1249. <https://doi.org/10.1080/09537325.2021.2007875>
- Vodenko, K. V., Ivanchenko, O. S., Shvachkina, L. A., Shilkina, E. L., & Rodionova, V. I. (2017). Formation of the national management system in the field of personnel training for modern innovative economy. *International Journal of Applied Business and Economic Research*, 15(11), 197-205. <https://bit.ly/4b0dfc5>
- Waddoups, C. J. (2014). Union membership and job-related training: Incidence, transferability, and efficacy. *British Journal of Industrial Relations*, 52(4), 753-778. <https://doi.org/10.1111/j.1467-8543.2012.00909.x>
- Wahda. (2017). Mediating effect of knowledge management on organizational learning culture in the context of organizational performance. *Journal of Management Development*, 36(7), 846-858. <https://doi.org/10.1108/JMD-11-2016-0252>
- Webster, E., & Jensen, P. H. (2006). Investment in intangible capital: An enterprise perspective. *Economic Record*, 82(256), 82-96. <https://doi.org/10.1111/j.1475-4932.2006.00296.x>
- Whysall, Z., Owtram, M., & Brittain, S. (2019). The new talent management challenges of Industry 4.0. *Journal of Management Development*, 38(2), 118-129. <https://doi.org/10.1108/JMD-06-2018-0181>
- Wotschack, P. (2020a). Drivers of training participation in low skilled jobs: the role of 'voice', technology, innovation and labor shortages in German companies. *International Journal of Training and Development*, 24(3), 245-264. <https://doi.org/10.1111/ijtd.12195>
- Wotschack, P. (2020b). When do companies train low-skilled workers? The role of institutional arrangements at the company and sectoral level. *British Journal of Industrial Relations*, 58(3), 587-616. <https://doi.org/10.1111/bjir.12503>
- Xiao, Y., & Watson, M. (2019). Guidance on conducting a systematic literature review. *Journal of Planning Education and Research*, 39(1), 93-112. <https://doi.org/10.1177/0739456X17723971>