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Article

Flexible Work Arrangements in Central and Eastern Europe: Effects on Organizational Outcomes

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Abstract

Flexible work arrangements (FWAs) have attracted growing attention in recent years for their ability to help employees better balance personal and professional responsibilities. By catering to diverse needs, such as caregiving, education, and mental health, FWAs foster inclusivity and employee satisfaction. Previous research has shown that organizations that embrace flexibility often experience stronger organizational performance, including profitability, productivity, and even innovation. Additionally, flexible work policies can reduce employee turnover and absenteeism, ensuring a more stable and productive workforce. Despite their importance, studies examining FWAs in Central and Eastern European (CEE) countries remain limited. The main aim of this paper is to investigate how flexible working arrangements cluster into distinct bundles in CEE countries and how these bundles relate to organizational outcomes, based on Cranet survey data from organizations in ten CEE countries. The authors used principal component analysis (PCA) to extract bundles of FWAs and hierarchical linear modelling (HLM) to identify the relationships between these bundles and organizational level profitability, innovation, employee turnover, and absenteeism, across 1073 organizations in ten countries. Three distinct bundles of FWAs were identified from eight individual FWAs across the sample. Bundle 1 represents flexitime and remote work; Bundle 2 represents shift work and weekend work; and Bundle 3 represents part-time, temporary, and contract work. The results show that Bundle 1 and Bundle 3 are significantly associated with innovation, employee turnover, and absenteeism in organizations in CEE. Bundle 2 is not related to any of the dependent variables (organizational or human resource) outcomes. Furthermore, none of the identified FWA bundles were found to be related to profitability. The paper offers novel insights into the implementation of FWAs in CEE countries.

Keywords: flexible working arrangements; bundles; organizational outcomes; Central and Eastern Europe; Cranet
JEL: M12, J81, M54

1. Introduction

Although flexible work arrangements (FWAs) are not a new phenomenon (Dilmaghani, 2021), they are becoming increasingly popular for organizations in terms of time and place of work (Stavrou et al, 2015; Berkery et al, 2017). Changes in the work arrangements resulted from the changing needs of both employees and employers, offering both parties the opportunity to adjust how, when and where work is done (Berkery et al, 2017). Such arrangements include weekend work, shift work, or overtime work, home-based work, teleworking, reduced hours, and compressed working week (Coenen and Kok, 2014; Berber and Slavić, 2019; Soga et al, 2022; Kumar et al, 2023). COVID-19 significantly influenced the shift of companies from traditional ways of working toward flexible working arrangements, in which organizations seek ways to overcome crises and sustain successful operations. As a result of COVID-19, a notable increase was observed in the use of flexitime and telework, bringing job flexibility to the forefront of organizational priorities across Europe and beyond (Heffron et al, 2021; Sretenović et al, 2022).

Different theoretical approaches may explain FWAs and their relation to organizational outcomes. For the purpose of this research the authors used theories concerning FWA usage on both company and country levels. In relation to the company-level, the social exchange theory (Tsen et al, 2022) was relied on. When employees perceive that their company and managers are implementing positive practices, beneficial for employees, then employees will reciprocate with positive behavior towards the organization. If employees perceive FWAs in the sense that those practices provide them better possibilities for work-life balance and well-being, they will respond with greater efforts, higher engagement, and higher individual productivity on the job. Indeed, previous research found that FWAs are positively related to employee engagement (Weideman and Hofmeyr, 2020; Gašić and Berber, 2023; Gašić et al, 2024), commitment (Hashmi et al, 2023), job satisfaction (Kröll and Nüesch, 2019; Mullins et al, 2021; Berber et al, 2022), lower turnover intentions (Azar et al, 2018), actual turnover and absenteeism (Stavrou, 2005; Berkery et al, 2020; Choi, 2020); but also with higher rate of innovation of organizations (Azeem and Kotey, 2023; Wang and Xie, 2023) and

profitability (Mariappanadar and Kramar, 2014; Berkery et al, 2020). In the case of macro-level, the adoption of FWAs is usually shaped by country-level institutions (laws, labor market norms, cultural expectations, and competitor's behavior). In turn, the authors draw on institutional theory to take into account institutional pressures (DiMaggio and Powell, 1983; Goodstein, 1994) that affect organizations in their implementation of FWAs.

Both organizational and national levels may differently affect the implementation of FWAs and their relationship to certain outcomes. De Menezes and Kelliher (2011) noted that previous studies based on the effects of FWAs on organizational performance showed unconvincing results and that these relationships need to be additionally examined. No clear results have yet been obtained regarding the effects of FWAs on organizational outcomes (Kossek and Lautsch, 2018). While such research has been conducted in Western Europe and the USA, comparative studies in Central and Eastern Europe (CEE) countries are limited. Based on the notions mentioned above, the main goal of the paper is to investigate the relation between FWA bundles and human resource (HR) outcomes (employees' turnover and absenteeism), as well as performance outcomes (rate of profitability and rate of innovation) in ten CEE countries. The main research questions are:

RQ: What is the relationship between the usage of FWA bundles and organizational HR outcomes and performance outcomes in the Central and Eastern Europe countries?

The rationale for proposing this research question stems from the fact that, according to the presented literature review, the majority of researchers in the CEE focused on single FWA practices rather than investigating their effects as bundles. Furthermore, most existing studies were conducted within a single country rather than across multiple countries. Therefore, the goal was to explore FWA bundles in the CEE region and examine their relationship with organizational and HR outcomes.

The methodology of the paper is based on the Cranet network approach (Parry et al, 2021). Organizational data were taken from the Cranet database for ten CEE countries, namely Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Serbia, and Slovenia, encompassing 1073 organizations. The methodological approach consisted of several steps. First, principal component analysis and confirmatory factor analysis were performed to define FWA bundles. Second, Spearman's correlations were computed to investigate associations between the observed variables. Finally, due to the hierarchical structure of the data, multilevel modelling, hierarchical linear modelling (HLM) was used (Raudenbush et al, 2004; Peretz et al, 2018; Berkery et al, 2025). By using multilevel modelling, the authors were able to analyze the data in a way that accounted for the nested nature of the data.

This study is considered a genuine contribution to the relevant literature on different bases. First, it applies a bundle approach to FWAs in the CEE, rather than focusing on individual FWA practices, offering a more comprehensive picture of their effects on proposed dependent variables. Second, it centers on an analysis of ten CEE countries. Most of the FWA studies in the CEE were implemented in a single state. Third, the study combines firm- and national-level frameworks to explain the results, providing a deeper understanding of the dynamics of FWAs across different institutional contexts.

The paper consists of five sections. The introduction is presented in Section one. Section two outlines the theoretical background and development of hypotheses. Section three contains the methodology description of the research, the sample, data analysis procedures, questionnaire, and data collection. This is followed by Section four with the data analysis results and their discussion. The last section offers conclusions as well as theoretical and practical implications.

2. Theoretical Background and Hypotheses Development

Flexible work arrangements represent work practices that allow employees to maintain a balance between their job and private life, and to choose how much, where, and when they will work (Glass and Estes, 1997; Kelly and Moen, 2007; Leslie et al, 2012). Spreitzer et al (2017) identified three dimensions of flexibility inherent in different types of alternative work arrangements: (a) flexibility of employment relationship, (b) flexibility of work scheduling, and (c) flexibility of work location. Wang and Le (2023) gave a different approach for FWAs classification as a multi-dimensional taxonomy where FWAs can be classified according to the degree of autonomy with respect to "spatial and temporal flexibility, and the degree of freedom from supervision" (Wang and Le, 2023, p. 315). Spatial flexibility is related to the degree of flexibility in choosing work locations (remote, on-site, or home-based working). Temporal flexibility means the degree of flexibility in controlling work schedules (like fixed-time, flexitime, or working any time). Finally, concerning the degree of the freedom from supervision, it means that work arrangements could be classified based on the outputs of the work. The authors proposed three models: result-based (no need for control by supervisors), behavior-observation based (more intensive monitoring), and data analytics based (with more digitalized and algorithmic performance monitoring, less direct control needed). Yet another approach to classify FWAs is employee *vs.* employer driven arrangements (Stavrou, 2005). Employee-driven FWAs are those that create possibilities to resolve or to decrease work-life conflict and increase work-life balance. Employer-driven FWAs are those that "allow organizations to adjust costs of employment in line with production volume or to secure a

more competitive and motivated workforce" (Klindžić and Marić, 2019, p. 92). This last approach was used in the classification of FWAs into employee and employer driven ones, to enable a comparison with previous results in other contexts and countries, especially studies using Cranet data like ours.

The most frequently identified employer-driven FWAs in literature include: (a) weekend scheduling or work, where employees either work during weekends or complete two extended shifts across the weekend with compensatory days off; (b) shift systems, in which workers rotate across time slots to ensure organizational activity extends beyond the standard hours of a single employee; (c) overtime, as additional hours worked beyond the contractual agreement; (d) annual hours contracts, which define a total number of working hours to be distributed across the year; and (e) fixed-term contracts, whereby employees are engaged for a specific period, either short or long in duration (Brewster et al, 1997; Stavrou, 2005; Kotey and Sharma, 2016; Peretz et al, 2018; Gašić and Berber, 2023). Conversely, employee-driven FWAs are typically represented by: (a) part-time work, referring to regular employment for fewer hours than a standard full-time week; (b) job sharing, where two part-time employees jointly cover one full-time position; (c) flexitime: ability to choose working hours from a pre-defined schedule, to vary working hours' start, end or even the entire working hours; (d) temporary employment: employment is offered on a temporary basis; (e) home-based work: employees work from home; (f) teleworking: employees work away from the office for some/all of working week, maintaining an electronic presence in the office (Brewster et al, 1997; Stavrou, 2005; Kotey and Sharma, 2016; Peretz et al, 2018; Gašić and Berber, 2023; Brega et al, 2023).

As mentioned above, flexible work arrangements can be beneficial for both employers and employees. For employees, benefits include greater work-life balance and lower work-family conflict as well as greater autonomy and control over work (Russell et al, 2009; Buruck et al, 2020). For companies, FWAs can be beneficial in terms of decreased turnover, organizational commitment and greater efficiency and effectiveness, measured by profitability, innovation and productivity (Stavrou, 2005). Zapf and Weber (2017) and Berber and Slavić (2019) also stated that FWAs are used to deal with fluctuations in demand and save costs, realize shorter delivery times, and meet customer needs, as well as increase. In turn, in this study the authors examined relations between FWAs and outcomes such as employee turnover, absenteeism, profitability and innovation. We divide our analysis into the effects of FWAs in reducing the negative outcomes, namely absenteeism and turnover, and increasing positive ones, namely profitability and innovation.

Given FWAs potential aforementioned effects on employee and organizational outcomes, FWAs can be examined within the context of Social Exchange Theory (SET). Social exchange theory states that "positive behavior of one person (sender) to another (receiver) in an interdependent relationship would create the potential for the receiver to feel obligated to reciprocate with returned positive behavior" (Cook et al, 2013; Cropanzano et al, 2017). At the core of social exchange lies the norm of reciprocity, which means "returning benefits to those who provide benefits" (Berkery et al, 2020, p. 592). Accordingly, if employees perceive the actions and practices of their employers as positive or beneficial, they will respond with similar positive attitudes and behaviors toward work. Conversely, if employees perceive the practices of their employers as unfair or negative, they will exhibit negative behaviors and attitudes, resulting also in negative organizational outcomes. Prior study has shown that employees who are offered the use of FWAs can achieve greater autonomy and control over their work lives, improve work-life balance, and experience higher levels of energy and mental resilience while at work (Gašić and Berber, 2023, p. 3). Also, they can feel a stronger involvement, significance, enthusiasm, inspiration, pride and challenge, and higher concentration and preoccupation with work (Timms et al, 2015). As a returning benefit to employers, employees can respond with greater organizational commitment and lower turnover and absenteeism (Stavrou et al, 2015; Onken-Menke et al, 2018; Peretz et al, 2018; Kröll and Nüesch, 2019; Tsen et al, 2022). Social exchange in this sense creates strong personal commitment, gratitude and trust in the organization (Berkery et al, 2020).

Organizations, however, do not operate in a vacuum but within a national context. Berber et al (2020) emphasized that, while limited, comparative studies in the CEE region are important because they could offer understanding of practices and patterns of human resource management (HRM) at both the organizational level and the wider context as well. Focusing on the CEE context, it is vital to emphasize that up until the 1990s, most of CEE countries experienced socialistic regimes and planned economy. After the 1990s, significant changes occurred in the CEE region. Economies of CEE started their growth process, mostly achieved through the inflow of foreign direct investment (FDI), multinational companies (MNCs), and joining the European Union (EU), which brought investments, jobs, technology, and different organizational and management know-how. Today CEE countries are reaching high gross domestic product (GDP) growth rates and better life standards. Wieser et al (2024) stated that national reform programs in CEE countries should include, among others, innovation, competitiveness, and the promotion of transparent institutions, since the EU needs strong a CEE. With the significant presence of MNCs in this region, more effective methods of human resources management were required (Poór et al, 2023); most decisions concerning HR practice are made on a professional basis, mainly by HR managers

or line managers of the organizations in cooperation with HR departments. HR managers are increasingly engaged on top management boards, working on the business strategies from the outset, and dealing with more HR issues and practices, than before.

Regarding FWAs and context, Chung and Van der Lippe (2020), examined the data from the European Working Conditions Survey in 2015 and found that Northern European countries offered both schedule control and home-based work more than countries of Southern and Eastern Europe. Similarly, Magda and Lipowska (2022) found that employers in CEE countries were less likely to offer flexitime, especially to women, and flexibility for parents, compared to other European countries. Research after the COVID-19 pandemic showed that countries from the CEE region followed the pattern of HRM of more developed countries (Cranet, 2023), in introducing more flexibility and making work different than before, especially during and after the COVID-19 pandemic. However, FWAs are still not widespread in Poland, Slovakia, Czech Republic and Hungary (Bende, 2023). Poór et al (2025) and Vasić (2020) stated that remote work and home-based offices spread due to personal distancing in CEE in the COVID-19 pandemic period, while Kirov et al (2023) pointed out that during the crisis, social partners in CEE wanted to reduce the negative consequences caused by the economic downturn. The authors found that the focus was on FWAs, short-time working arrangements and wage subsidies.

Moreover, Berkery et al (2017) identified bundles of FWAs from organizations in seven EU countries based on the Cranet research and found significant associations between the bundles and employee turnover, absenteeism and productivity. Companies offering traditional work with offering fixed-term contracts, temporary work, overtime, and part-time (less than 10%) showed a positive relation to turnover. In the case of the CEE region, Berber and Slavić (2019) established that an FWA bundle with flexitime, home-based working and teleworking had a negative relation to turnover. Contrary to this, bundles of FWAs including weekend work, shift work, overtime, compressed working week, job share and part-time work were associated with higher employee turnover (Berber and Slavić, 2019). Berkery et al (2020) conducted further research using the Cranet dataset, with 1064 organizations from France, Germany, Hungary, Ireland, Italy, Sweden and the United Kingdom. They observed that flexitime was negatively related to employee turnover and positively to profitability. However, they did not find significant effect in the flexitime-absenteeism link.

Given the interaction between organizational and national level contexts in the use of FWAs and their possible effects, in addition to SET at the organizational level, the authors introduced the Institutional Theory (IT) at the national level. Based on IT, organizations adopt different practices for efficiency reasons and as a response to institutional isomorphic pressures (DiMaggio and Powell, 1983). According to DiMaggio and Powell (1983), those pressures are coercive pressures, which arise from legal and regulatory frameworks; normative pressures, which stem from professional norms, workforce demographics, and broader societal expectations; and mimetic pressures, whereby organizations imitate others in the face of uncertainty. These dynamics suggest that organizations in different institutional contexts implement different FWAs to maintain legitimacy and align with external expectations, rather than solely for internal strategic or economic reasons. The IT approach starts with the assumption that there is growing institutional pressure on employers to develop work–family arrangements, as demographic changes in the workforce have increased the salience of work–family issues, while public attention and state regulations have heightened the need for organizations to respond to employees' demands for integrating work and family life (Lewis, 2003). Public sector and large private sector organizations are most likely to implement such policies due to concerns about their public image, and competitive pressure because other organizations in the same sector adopt flexible practices (Goodstein, 1994; Lewis, 2003). The institutional theory also acknowledges that organizations possess strategic discretion in responding to external pressures, like cost–benefit assessments, the necessity of retaining skilled employees, and broader innovation-related objectives (Goodstein, 1994). Taken together, these insights suggest that institutional environments, strategic business decisions, and local contextual factors interact to shape the adoption and implementation of different approaches in organizations (Dex and Scheibl, 2001; Lewis, 2003), in this case, FWAs.

Previous research identified that FWAs are negatively related to turnover intentions (Azar et al, 2018; Gašić and Berber, 2023), and to actual turnover and absenteeism (Stavrou, 2005; Peretz et al, 2018; Berber and Slavić, 2019). This is mainly seen from the social exchange theory.

Zooming in on turnover and absenteeism, Moen et al (2017) have found that FWAs used for enhancing work-life balance reduce employees' intention to leave and voluntary turnover over about three years. Employees that were offered to use FWA practices like flexitime, home-based work, and teleworking had 40 percent lower intention to leave compared to their colleagues using traditional work assignments. Kröll and Nüesch (2019) found that flexitime and working from home, significantly increase job satisfaction. Further, working from home (but not flexitime) significantly decreased turnover intention as well as leisure satisfaction in Germany (Kröll and Nüesch, 2019). These findings indicate that organizations in Germany can decrease employee turnover intention by offering certain FWAs. Gašić and Berber (2023) researched a sample of 514 highly educated employees from service sector organizations that operate in the Republic of Serbia. They discovered that FWAs have a positive effect on decreasing

turnover intentions, and that employee engagement mediates this relationship.

Previous research based on the Cranet data also examined proposed relations.

However, results from comparative studies may vary. To illustrate further, Stavrou and Kilaniotis (2010) used GLOBE clusters, Anglo and Nordic, to investigate the relationship between FWAs and turnover. They established that in the Anglo societal cluster, overtime and part-time arrangements are positively associated with employee turnover, while in the Nordic societal cluster scheduled flexibility is negatively related to turnover. In the case of teleworking, Caillier (2016) did not detect an impact on employee turnover. The research was based on the 4-year panel data. The research of Timms et al (2015) identified a negative relationship between the use of FWAs and work engagement over time. These results underlined the importance of national context. Bearing in mind contextual effects, where most of the CEE countries had significant effects of MNCs on their HRM models, and drawing from the social exchange and institutional theory, the authors propose that FWAs, including remote work and flexible working hours, and practices that include part-time and contract work can boost HR outcomes, and have a positive effect in terms of decreased turnover and absenteeism in CEE countries. The first two hypotheses are:

H1: Employee-driven bundles of FWA in CEE countries exert a positive effect on reducing employee turnover. Specifically, higher utilization of employee-driven FWA bundles is expected to be associated with reduced levels of employees' turnover.

H2: Employee-driven bundles of FWA in CEE countries exert a positive effect on reducing employee absenteeism. Specifically, higher utilization of employee-driven FWA bundles is expected to be associated with reduced levels of employees' absenteeism.

Changing the focus to productivity, performance and innovation, previous research on flexible working has found some ambiguous results concerning their effect on performance. Some research pointed towards a positive relationship between FWAs and organizational profitability (Stavrou, 2005; Mariappanadar and Kramar, 2014; Berkery et al, 2020) organizational innovation (Azeem and Kotey, 2023; Wang and Xie, 2023). Namely, the notion that FWAs can increase organizational profitability is based on the fact that FWAs can be used to attract higher quality candidates and increase the marginal productivity of existing employees (Konrad and Mangel, 2000; Berkery et al, 2017). Using SET to hypotheses for higher employee commitment, followed by decreased overhead costs and costs related to employee turnover and absenteeism, can result in higher productivity and profitability in organizations.

Berkery et al (2017) stated that workforce flexibility may boost productivity and innovation, culminating in an overall increase in financial performance. Indeed, Klindžić and Marić (2019) analyzed twelve FWA practices from large Croatian organizations, also based on Cranet methodology. They found that financial and non-financial organizational performance indicators were higher in the employee-driven group of FWA practices (telework, work from home, compressed work week). Berkery et al (2020) also determined that flexitime has a significant positive relationship with organizational profitability. In the case of innovation, Martínez-Sánchez et al (2008) found that innovation performance is positively associated with internal functional flexibility (which includes FWAs such as part-time contracts, flexitime, workload reduction, overtime, and job-sharing), in a sample of 156 Spanish companies. Coenen and Kok (2014) observed that telework positively influences new product development performance and improves the speed and quality of product development. They conducted an exploratory case study approach on two large companies in the telecommunications sector that implemented telework and flexible work schedules in new product development processes. This is especially relevant for the relation between FWAs and innovativeness. Further, Azeem and Kotey (2023) revealed that flexitime and flexi-leave enhance innovation. Namely, those FWAs were beneficial for creation, sharing and exploitation of new knowledge (Azeem and Kotey, 2023, p. 92).

Conversely, Mariappanadar and Kramar (2014) found that flexible high-performance work arrangements, such as teleworking and compressed working weeks, could harm organizational performance. They found negative relations between teleworking and compressed working weeks and profitability and employee absenteeism. Employee benefits and influence of trade union, an institutional factor, moderated the proposed relations, resulting in improved organizational profitability at the end. Also, Wang and Xie (2023) investigated the double-edged sword effect of FWAs on employee innovation. In a study of knowledge-based employees within technology-driven companies in China, the findings revealed a dual effect of FWAs on innovation performance. On the one hand, FWAs heightened employees' role ambiguity, which subsequently decreased their innovation performance. On the other hand, FWAs fostered greater psychological empowerment, thereby enhancing innovation performance. From a SET standpoint, the research demonstrated that under flexible work conditions, employees with wide spectrum of roles self-efficacy were better able to strengthen their sense of psychological empowerment and to mitigate role ambiguity, ultimately facilitating higher levels of innovation performance. Furthermore, Michie and Sheehan (2003) found a negative relation between the use of fixed-term, temporary contracts and organizational innovation while research by Arvanitis (2005) identified positive relations yet explained this by the fact that those temporary staff where specialized and engaged in temporary contracts to implement innovation.

Given the discussion points, the authors propose that organizations in CEE will implement employee-friendly FWAs that, through SET and institutional forces, affect higher innovativeness and profitability. This reflects the growing institutional pressure on organizations in the region to strengthen their competitive position, especially as CEE economies take on an increasingly significant role in global value chains. Against this backdrop, the third and fourth hypotheses are:

H3: Employee driven FWA bundles in CEE countries have a positive effect on organizational profitability. Specifically, higher utilization of employee-driven FWA bundles is expected to be associated with increased levels of organizational profitability.

H4: Employee driven FWA bundles in CEE countries have a positive effect on organizational innovation. Specifically, higher utilization of employee-driven FWA bundles is expected to be associated with increased levels of organizational rate of innovation.

3. Materials and Methods

3.1 Cranet Network Approach

The research in this paper was based on data from the Cranet research network. The purpose of this network is to provide cross-national data for a wide range of stakeholders (researchers, teachers, managers, HR professionals) and to create new knowledge about human resource management practice in various countries of the world (Berber et al, 2020). The Cranet approach is based on a multi-country and multi-time-point survey. It has been undertaken regularly over the past 30 years, involving researchers from over 40 countries (Parry et al, 2021, p. 274).

The respondents were senior HR professionals or HR directors in the organizations with more than 100 employees. This is because smaller organizations are less likely to have formal HRM practices (Einarsdottir et al, 2025). The questionnaire is structured into sections, encompassing HRM activities within the organization, staffing practices, employee appraisal and development, rewards, as well as employee relations and communication. It primarily consists of closed-ended and factual questions, requiring respondents to select their answers from predefined alternatives. These preformulated response options comprehensively cover the relevant domains of HRM (Szabó et al, 2019). The survey design emphasizes the collection of "hard data", such as percentages and ratios, while deliberately minimizing reliance on attitudinal or perceptual information. To limit respondent-related and cross-country biases, only a small number of open-ended questions are included. The translation–back-translation procedure is systematically applied in each country and during every survey wave, thereby ensuring consistency and validity across contexts (Morley et al, 2016). During the data collection process, all sectors of the economy are usually represented in the database in each country, which in turn demonstrates the representativeness of countries' industry structures (Stavrou, 2005).

For this study, the authors used the Cranet data from the 2021/2022 research.

3.2 Sample

The greatest share of organizations is large (250+ employees) organizations (54%), while small and medium sized (SME, 1-249 employees) organizations make up 46% of the sample. The average number of employees is 1049. 75.5% of the sample is made up of private sector organizations, and the rest, with 24.5% covers the public sector. A total of 35% of organizations in the sample operate in the manufacturing sector, while the majority of 65% work in the service sector. The service sector is represented by wholesale and retail trade and other services (23%), telecommunications, IT and other information services (7%), and public administration and compulsory social security (6.3%). Most of the companies serve their national markets (56%), while 44% serve the international market. Table 1 displays the share of organizations from ten CEE countries.

Table 1. Sample of organizations across countries in CEE.

	Frequency	Percent	Valid percent
Croatia	114	10.6	10.6
Estonia	73	6.8	6.8
Hungary	149	13.9	13.9
Latvia	20	1.9	1.9
Lithuania	108	10.1	10.1
Poland	63	5.9	5.9
Romania	184	17.1	17.1
Serbia	106	9.9	9.9
Slovakia	145	13.5	13.5
Slovenia	111	10.3	10.3
Total	1073	100.0	100.0

CEE, Central and Eastern Europe. Source: Authors based on the Cranet data 2021.

3.3 Variables

The independent variables in the study were 8 flexible working arrangements: proportion of workforce on weekend work; proportion of workforce on shift work; proportion of workforce on overtime; proportion of workforce on contract work; proportion of workforce on part-time work; proportion of workforce on flexi-time; proportion of workforce on temporary/casual work; and proportion of workforce on remote work/teleworking (following the COVID-19 pandemic). Respondents were asked to indicate the percentage of employees using these ten FWAs on a scale: Not used (0), 1–5% (1), 6–20% (2), 21–50% (3), and more than 50% of employees (4).

The dependent variables were the rate of absenteeism (expressed in the number of days, mean (M) = 9.28, Standard deviation (SD) = 9.30), rate of voluntary turnover (expressed in % of the workforce, M = 9.17, SD = 10.47), profitability (M = 3.68, SD = 0.98), and rate of innovation (M = 3.58, SD = 1.082). The last two measures of organizational performances were assessed on a scale from 1 (poor) to 5 (superior), by comparing profitability and rate of innovation with their main competitors. Because these variables did not have a normal distribution, the authors applied logarithmic transformation to reduce skewness and approximate normality of the absenteeism and turnover variables and made z-score for profitability and innovation before the analysis.

The control variables were selected based on previous research in the field (Berkery et al, 2020; Berber et al, 2020; Berkery et al, 2025): (a) Organizational size—the size was measured by the number of employees (this variable was transformed into binary variable, (1) SME (up to 250 employees), (2) large (more than 250 employees)); (b) Industry—the authors recoded the 16 industrial sectors to 2 sectors, namely: (1) manufacturing and (2) services; (c) Sector—was coded as private (1); public (2); (d) Market—defines the main market which the organization operates on; (1) local, (2) regional, (3) national, (4) continent-wide, and (5) world-wide. This variable was recorded: 1 as national markets (codes 1, 2, and 3) and 2 as international (codes 4 and 5) (according to Berkery et al, 2020); (e) Trade Union (TU) influence—respondents were asked to rate the influence of TUs in their organization (from 0-not at all to 4-to a very great extent). This variable was also transformed by z-score calculation.

3.4 Analytical Procedure

The methodological approach involved several steps. First, principal component analysis (PCA) and confirmatory factor analysis (CFA) was performed to investigate relationships among the 8 FWAs and to create FWA bundles, in SPSS version 26 (IBM Corp., Chicago, IL, USA) and R (R Foundation for Statistical Computing, Vienna, Austria). Second, the Spearman's correlations were computed to investigate associations between the observed variables. Finally, multilevel modelling was used to estimate the authors' hypotheses because the relevant data contained a hierarchical structure. Each organization in the sample was located within a specific country in the CEE region. Authors opted for utilizing HLM (Raudenbush et al, 2004; Peretz et al, 2018; Berkery et al, 2025). By using multilevel modelling, the authors were able to analyze the data in a way that accounted for the nested nature of the data. The data were analyzed using SPSS software. The multilevel models were estimated using Restricted Maximum Likelihood (REML) with Satterthwaite approximations of denominator degrees of freedom (Luo et al, 2021). This approach accounts for the small samples (Level-2 units) and produces more conservative tests (Maas and Hox, 2005). Thus, although the small number of higher-level units reduces power for detecting Level-2 effects, the estimation procedure ensured that the fixed effects remain unbiased and that the statistical tests are not inflated by treating firms as independent observations. Also, Austin (2010) and Maas and Hox (2004) found that the small number of level 2 units (which in this study involves 10 countries) does not affect the estimations and confidence intervals of the models in large samples (which in this study numbers 1073 organizations).

3.5 Common Method Bias

The Cranet survey is designed to "elicit factual self-report information relating to HRM policies and practices within the organization and subjective measures of organizational profitability" (Berkery et al, 2020, p. 594). A single-respondent methodology is applied; namely although there are issues with subjective and self-reported information in research, this format has become highly popular in the management field. There are challenges arising in data collection process in different countries, i.e., data completeness, quality and availability of the data, and the lack of comparable objective measures (Berkery et al, 2020). However, Singh et al (2016) demonstrated that rigorously collected subjective data can yield valid results. Similarly, Wall et al (2004), in their comparison of objective indicators and self-reported measures of organizational performance, revealed a high degree of convergence between the two approaches.

In this present study, the authors guaranteed anonymity to the respondents to avoid common method variance (CMV). During the first e-mail/direct contact, each of the respondents received an invitation letter with a detailed explanation of the research reasons and the guarantee that the collected data would be for academic use only. The control, independent, and dependent variables are from different sections of the questionnaire, thereby reducing the possibility that respondents would provide consistent answers across items. Moreover, Huselid and Becker (2000) emphasized that the validity of single-source measures is related to factors like the size of organizations included in the sample, the expertise of the respondents, and the clarity of the survey items. In the present study, the average organizational size inside the sample is 1050 employees; the respondents are members of the corporate HR team; and the international Cranet survey design team ensures methodological rigor and item clarity, thus minimizing potential ambiguity (Berkery et al, 2020, p. 595). Also, to test CMV, the authors used the Harman's single factor test, the percentage of variance associated with the first component. The first factor explained 26.61% of the variance, suggesting that common method bias is not a concern in this study (since the rule states that the first factor needs to be lower than 50% of the variance). Also,

Table 2. Rotated component matrix with Eigen values.

	Component		
	Bundle 1	Bundle 2	Bundle 3
Proportion of workforce on remote work/teleworking	0.844		
Proportion of workforce on flexitime	0.830		
Proportion of workforce on shift work		0.838	
Proportion of workforce on weekend work		0.821	
Proportion of workforce on overtime		0.688	
Proportion of workforce on temporary/casual work			0.779
Proportion of workforce on contract work			0.736
Proportion of workforce on part-time work			0.495
Eigenvalues	2.129	1.747	1.076
Explained variance	26.611	21.836	13.454

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Source: Authors based on the Cranet data 2021.

variance inflation factors (VIF) and tolerance are within acceptable limits (VIF <3.00; tolerance <1.00).

4. Results

The first part of the result section presents the Principal Component Analysis conducted to extract the FWA bundles. The Kaiser-Meyer-Olkin and Bartlett spherical test was implemented to assess the adequacy of the sample for factor analysis. Bartlett's spherical test needs to be significant ($p < 0.05$) for the application of factor analysis to be justified. The Kaiser-Meyer-Olkin (KMO) indicator ranges from 0 to 1; and 0.6 is recommended as the least acceptable value (Marzouk and Elkadi, 2016). In this analysis, the KMO is 0.633, and Bartlett's test of sphericity is 1201.140 ($p < 0.00$). The mentioned tests have confirmed suitability of the data for factor analysis.

The factor analysis has identified three factors, which describe 61.90% of the total variance. The first factor (Bundle 1) represents Flexible and Remote Work consisting of remote work and flexitime, with an eigenvalue of 2.129 and 26.611% of variance explained. This one is an employee-driven FWA bundle. The second factor (Bundle 2) represents Non-Standard Working Hours, consisting of weekend work, overtime, and shift work, with an eigenvalue of 1.747 and 21.836% of explained variance. This one is considered as an employer-driven FWA bundle. The third factor (Bundle 3) represents Non-Standard Working Arrangements (Kalleberg, 2000, p. 341) consisting of contract work, part-time work, and temporary work, with an eigenvalue of 1.076 and 13.454% of explained variance (see Table 2). The last one is also considered as more employee-driven FWA bundle. Due to non-normal distribution of the data in three new bundles, the authors performed z-score calculation for all three variables (Bundle 1, Bundle 2, Bundle 3).

In addition to PCA, confirmatory factor analysis (CFA) was performed in the programming language R. The hypothesized three-factor solution showed a good fit to the data ($\chi^2(17) = 170.22, p < 0.001$; CFI = 0.986; TLI = 0.977; RMSEA = 0.086; SRMR = 0.047). All factor loadings were statistically significant and ranged from 0.67 to 0.86, indicating strong associations between indicators and their respective bundles. The three latent bundles were moderately correlated (r = 0.25–0.70), suggesting related but distinct constructs. Overall, these results provide strong empirical support for the validity of the proposed three-bundle solution.

After the presentation of the FWA Bundles in the CEE, the authors investigated the associations and effects of FWA bundles on organizational outcomes. Tables 3,4 display the results of Spearman's correlation and multi-level model analysis.

Correlation analysis (Table 3) indicated mostly weak correlation between the independent and the dependent variables. Larger organizations are positively correlated with two bundles and dependent variables, meaning that larger organizations with more employees are associated with higher levels of turnover (rho = 0.165), absenteeism (rho = 0.189), higher levels of profitability (rho = 0.086) and rate of innovation (rho = 0.091). Also, size is correlated with Bundle 1 (Remote work) (rho = 0.089), Bundle 2 (Non-standard working hours) (rho = 0.130), which is expected, if we bear in mind that large organizations usually work more shifts, during weekends, and even overtime to fulfil process demands. The industry is associated only with profitability, regarding dependent variables. In the case of bundles, industry is associated positively with Bundle 1 (rho = 0.170) and 3 (rho = 0.120), while negatively with Bundle 2 (rho = –0.200). The service industry had a higher usage of remote work and temporary work, while the manufacturing industry implemented non-standard working hours to a greater extent. The type of the market (international) is positively correlated with Bundle 1 (rho = 0.126) and Bundle 2 (rho = 0.170), turnover (rho = 0.134), profitability (rho = 0.132), and rate of innovation (rho = 0.111). Sector (private and public) was associated with

Table 3. Means, standard deviations, and correlation among observed variables.

	Mean	SD	Size	Industry	Sector	Market	TU influence	Bundle 1	Bundle 2	Bundle 3	Turnover	Absenteeism	Profitability	Innovation
Size	1.54	0.50	1.00											
Industry	1.65	0.48	0.03	1.00										
Sector	1.25	0.43	0.02	0.31**	1.00									
Market	1.44	0.50	0.06	–0.27**	–0.352**	1.00								
TU influence	1.17	1.35	0.209**	–0.04	0.394**	–0.04	1.00							
Bundle 1	1.91	1.13	0.089**	0.17**	–0.074*	0.126**	–0.06	1.00						
Bundle 2	1.62	1.24	0.130**	–0.20**	–0.158**	0.170**	0.122**	–0.145**	1.00					
Bundle 3	0.85	0.60	0.00	0.12**	0.02	–0.01	0.01	0.239**	0.05	1.00				
Turnover	9.17	10.47	0.165**	0.01	–0.185**	0.134**	–0.05	0.081*	0.086*	0.153**	1.00			
Absenteeism	9.28	9.30	0.189**	0.01	0.116**	–0.01	0.169**	–0.08	0.165**	0.118**	0.27**	1.00		
Profitability	3.68	0.98	0.086**	0.07*	–0.080*	0.132**	–0.02	0.108**	0.071*	0.04	0.080*	0.14**	1.00	
Innovation	3.58	1.08	0.091**	0.05	–0.086**	0.111**	–0.04	0.144**	0.00	0.156**	0.088*	0.08	0.49**	1.00

Source: Authors based on the Cranet data 2021.

** Statistical significance at the 0.01 level (2-tailed).

* Statistical significance at the 0.05 level (2-tailed).

TU, trade union; SD, standard deviation.

Table 4. Results of HLM.

Parameter	Turnover		Absenteeism		Profitability		Innovation	
	Null	Model 1	Null	Model 1	Null	Model 1	Null	Model 1
Intercept	0.765**	0.611**	0.793**	0.807**	–0.00257	0.104	0.031	0.08
Size		–0.044		–0.068		–0.087		–0.147**
Industry		–0.082**		–0.011		–0.153**		–0.092
Sector		0.262**		–0.032		0.099		0.086
Market		0.020		0.041		–0.191		–0.11
TU influence		0.020		0.017		0.002		–0.04841
FWA Bundle 1		–0.005		–0.041**		0.047		0.10**
FWA Bundle 2		–0.005		0.028		0.058		–0.01226
FWA Bundle 3		0.052**		0.019		0.022		0.10**
–2 Log(L)	807.684	670.263	478.784	442.389	2571.568	2276.63	2600.79	2323.266
AIC	811.68	674.263	482.784	446.389	2575.57	2280.63	2604.79	2327.266
BIC	821.00	683.284	491.418	454.69	2585.21	2290.02	2614.47	2336.711
$\sigma_\varepsilon{}^2$	0.16**	0.13703**	0.137**	0.129**	0.946**	0.909**	0.913**	0.877**
τ_{00}	0.0982*	0.041528**	0.09145*	0.027660**	0.0513	0.030288	0.06867	0.031851*
ICC	0.386	0.2326	0.413	0.1803	0.051	0.0322	0.070	0.035
~R2	12.25%	57.71%	5.84%	69.78%	3.91%	40.96%	3.94%	53.61%

Source: Authors based on the Cranet data 2021.

Notes: *$p < 0.05$; ** $p < 0.01$; ~R2 according to Snijders and Bosker (2011); Estimations: REML with Satterthwaite approximations. HLM, Hierarchical Linear Modeling; FWA, flexible work arrangement; AIC, Akaike Information Criterion; BIC, Bayesian Information Criterion; ICC, Intraclass Correlation Coefficient; –2 Log(L), –2 Log Likelihood; ~R2, Pseudo-R^2.

Bundle 1 (rho = –0.074) and Bundle 2 (rho = –0.158), and with all 4 dependent variables, turnover (rho = –0.185), absenteeism (rho = 0.116), profitability (rho = –0.080), and rate of innovation (rho = –0.086). The private sector organizations had a higher level of the usage of remote work and non-standard working hours, as well as, higher turnover, profitability, and innovativeness, yet also a lower level of absenteeism, compared to the public sector organizations. Trade union influence is correlated positively to Bundle 2 (rho = 0.122), and absenteeism (rho = 0.169).

In the case of bundles, Bundle 1 is positively correlated to profitability (rho = 0.108) and innovation (rho = 0.144), and turnover (rho = 0.081). Bundle 2 has a positive correlation with turnover (rho = 0.086), absenteeism (rho = 0.165), and profitability (rho = 0.071). Bundle 3 (Non-standard working arrangements) shows a weak statistically significant positive correlation with turnover (rho = 0.153), absenteeism (rho = 0.118), and rate of innovation (rho = 0.156).

Finally, the authors ran an HLM. Hierarchical linear modelling, as multilevel modelling, is used to analyze the data because of their nested or hierarchical structure. They investigated individual cases (e.g., organizations) nested within larger groups (e.g., countries of the CEE region).

Table 4 summarizes the coefficients of the regression model for dependent variables. Regarding the size of an organization, measured by the number of employees, the negative coefficient (β = –0.147, $p < 0.01$) confirms that size is a predictor of innovativeness of the company and that smaller companies (SMEs) are associated with a higher rate of innovativeness when the other variables in the model are controlled. The industry (manufacturing and services) is negatively related to turnover (β = –0.082, $p < 0.01$) and profitability (β = –0.153, $p < 0.01$). This means that the service sector is associated with higher profitability and employee turnover. In the case of the sector (private and public), the positive beta coefficient shows that the public sector has a higher level of employee turnover ($\beta = 0.262$, $p < 0.01$). The final control variable was trade union influence. No statistically significant predictive effect of trade union influence was detected in any of the four models.

Following the independent variables, 3 FWA bundles, the results showed that Bundle 1 (remote work and flexitime) has positive statistically significant relation to innovation (β = 0.10, $p < 0.01$), and negative to absenteeism (β = –0.041, $p < 0.01$). A higher proportion of employees that work remotely and on flexitime is associated with lower absenteeism, and a higher rate of innovation. Bundle 2, which consists of weekend, shift, and overtime work, does not have a statistically significant predictive effect on any of dependent variables. Bundle 3 shows a positive statistically significant relation to turnover (β = 0.052, $p < 0.01$), and to innovation ($\beta = 0.10$, $p < 0.01$). A higher proportion of employees that are offered part-time, contract or temporary work is a predictor of a higher rate of innovation and higher employee turnover in an organization.

In multilevel modelling (HLM), $\sigma_\varepsilon{}^2$ refers to the Level 1 residual variance—that is, the variance within groups (e.g., within organizations), while τ_{00} (tau), variance of the random intercept (between-group variance),

refers to Level 2 (variance between groups, between countries and different sectors, public and private). Based on the results in Table 4, the authors confirmed that for three out of four models, those were statistically significant. About 23.3% of the total variance in employee turnover is between countries, and the remaining 76.7% is within countries. In the case of absenteeism, 18.03% of the total variance is between countries, while in the case of rate of innovation 3.5%. The model lets both dependents (turnover, absenteeism, and rate of innovation) and the impact of being in the private *vs.* public sector vary by country, recognizing that these differences may change depending on the country context. While there is significant within-country variability in profitability ratings ($p < 0.001$), the variation between countries is only marginally significant ($p = 0.057$), suggesting limited country-level influence. The low ICC values of profitability and innovative models show that only a small proportion of the total variance can be attributed to country-level differences. This suggests that cross-national contextual factors may play a limited role in explaining variation in models for profitability (ICC was 0.0322) and for innovativeness (ICC was 0.035). It implies that the explanatory power of country-level predictors is weaker than initially expected, and that most of the variance is concentrated at the organizational level.

As seen from Table 4, most of the reported effects, though statistically significant, are generally small in magnitude. From the methodological perspective, these small but significant effects may suggest that the study had sufficient statistical power (due to the large enough sample) to detect associations. However, it might indicate that many other variables mediate/moderate the relationship, as found in the research of Timms et al (2015), Tsen et al (2022), Peretz et al (2018).

5. Discussion and Conclusions

The main goal of this paper was to investigate the relation between FWA bundles and their potential negative relationship to human resource (HR) outcomes (employees' turnover and absenteeism), as well as their potential positive relationship with performance outcomes (rate of profitability and rate of innovation) in ten CEE countries. The obtained results revealed three bundles: Bundle 1 consisted of remote work and flexitime, named Flexible and Remote Work; Bundle 2 represented Non-Standard Working Hours, consisting of shift work, weekend work, and overtime; and Bundle 3 represented contract work, part-time work, and temporary work, called Non-Standard Work Arrangements. These results were similar to those of previous studies such as Stavrou (2005) for Western Europe countries, Berber and Slavić (2019) for CEE, and Berkery et al (2017, 2020) for Western countries, with the difference of one more bundle in previous research. Flexible and Remote Work and Non-Standard Working Hours were revealed in all previous research.

Furthermore, the authors' results exposed that Flexible and Remote Work (Bundle 1) has a positive statistically significant relation to innovation, and a negative one to absenteeism, meaning that a higher proportion of employees that work remotely and on flextime is associated with a lower absenteeism, and a higher rate of innovation. This result is consistent with previous studies (Martínez-Sánchez et al, 2008; Coenen and Kok, 2014; Azeem and Kotey, 2023). However, this bundle was not related to turnover, which is an unexpected result, since in most previous studies this relation did exist, and it was usually negative, which means that this kind of FWA decreases turnover of employees (Stavrou and Kilaniotis, 2010; Peretz et al, 2018; Berkery et al, 2020). In respect to this result, Protsiuk (2025) also did not find direct relations between employee- and employer friendly FWA and turnover intentions. However, perceived supervisor support meditated these relations, as well as total reward approach. It is necessary to have a wider picture and, relying on the works of Protsiuk (2025) and Tsen et al (2022), analyze the effects offered by FWAs together with other important HR activities (rewards, career development, performance management, training) and managerial behavior (support, communication, decision-making) to understand the nature of FWA-turnover relation. One more possible explanation for this result could be that in some cases (Timms et al, 2015) FWAs are even associated with lower employee engagement, which in turn could be a reason for employees' decision to leave a company. Finally, this bundle was not related to profitability in the sample of CEE, which is again different from existing studies. Previous research found that FWAs that are more related to the needs of employees, like flexitime, remote, homework, or similar have positive relations to profitability (Stavrou, 2005; Mariappanadar and Kramar, 2014; Klindžić and Marić, 2019; Berkery et al, 2020; Gašić, 2021), and rate of organizational innovation (Martínez-Sánchez et al, 2008; Coenen and Kok, 2014; Azeem and Kotey, 2023). Following institutional theory, in some settings, remote work and flexitime are not yet fully institutionalized as standard HR practices, and employees may perceive them as isolated initiatives rather than as part of a comprehensive employee-centered HR system. This can weaken their expected effect on retention and profitability compared to Western Europe, where such arrangements are more deeply embedded in organizational cultures.

Non-Standard Working Hours (Bundle 2) did not reveal any statistically significant predictive effect to any of dependent variables. This is contrary to findings in different contexts, like in Western EU countries, where this bundle was related with increased employee turnover (Berkery et al, 2017). This phenomenon can be understood in the context of several interrelated institutional factors. First, hourly labor cost is generally lower in CEE compared to other EU regions (Eurostat, 2025), making employees more willing to engage in nonstandard working hours to increase their

earnings. Second, there is a higher concentration of manufacturing firms in the region, which typically rely on shift systems to sustain continuous production processes. Moreover, companies in CEE are more strongly oriented toward fabrication and assembly activities, while research and development (R&D) and service functions are predominantly located in Western European countries (Pellényi, 2020, p. 4). In this regard, it can be expected that turnover and absenteeism are not significantly associated with such forms of FWAs. Furthermore, this bundle had no direct effect on profitability or innovation, which can be also attributed to the industrial structure of the region, where shift work, weekend work, and overtime are largely perceived as necessary and as standard given the nature of economic activities. Consequently, these arrangements may be culturally perceived not as "flexible options" but as standard employment conditions, which explains why they do not exert the same negative effects on retention as documented in Western contexts.

Bundle 3 (Non-Standard Working Arrangements) shows a positive statistically significant relation to employee turnover and innovation. A higher proportion of employees that are part-time workers, contract or temporary workers is a predictor of a higher rate of turnover and innovation. This can be explained in the sense that employees who are engaged temporarily during specific projects, with specific knowledge, skills, and abilities, and who serve companies temporarily while project execution and work on specific innovative tasks, increase overall companies' innovativeness (Rodríguez-Ruiz et al, 2021). The authors explain these results in terms that employees who are offered FWAs that provide them with advantages, will be more engaged in their work, will work more productively, and have more time and energy to deal with new ideas, solve new problems, and even be involved in more creative process than if they are in some more traditional and time-consuming practices. As for turnover, it is expected that companies that have more employees in temporary arrangement and contracted will experience a higher rate of turnover due to the shorter duration of employees' contracts that are associated with limited employment protection, less developed welfare systems, and weaker traditions of long-term employer–employee reciprocity.

Regarding the theoretical background and previous research, these results support SET, because the authors identified different positive relations between FWAs and turnover, absenteeism, and innovation. According to the theory, organizational practices that are beneficial for employees, increasing their work-life balance, enabling them with possibilities to increase their autonomy, save time, and make more time for family and private life, may influence employee behavior that will lead to more productive behaviors and attitudes, that would enhance their results and the overall results of an organization. They would be more satisfied with their jobs, more committed, with decreased turnover intentions, but also actual turnover and absenteeism (Moen et al, 2017; Berber and Slavić, 2019; Berkery et al, 2020; Gašić and Berber, 2023). In the case of IT, the authors' findings suggest that institutional and cultural specificities in CEE shape FWAs in ways that diverge from patterns observed in Western Europe and other global contexts. For example, some of FWAs are not yet fully institutionalized as standard HR practices, and employees may perceive them as isolated initiatives rather than as part of a comprehensive employee-centered HR system. Also, trade union strength, labor market structure, cultural norms, values, and similar institutional effects are different in CEE compared to Western Europe. Perceived differences could be attributed to the institutional factors in CEE.

To sum up, it can be stated that Bundle 1 as employee-friendly FWAs had statistically significant relation to employee absenteeism (but not to turnover), while Bundle 3, also employee-friendly FWAs, had statistically significant relation to turnover. Regarding the third and fourth hypotheses, Bundle 1 and Bundle 3 (employee-driven FWA bundles) had positive statistically significant relation to innovativeness, but not to profitability. Finally, H2 and H4 hypotheses were confirmed, while H2 and H3 were not.

5.1 Theoretical Implications

This present research adds to the theoretical base of social exchange theory, institutional theory, FWAs and comparative HRM. The results support the social exchange theory concerning the effects of implementation FWAs on employee attitudes and organizational performances. It is mainly expressed by the obtained results regarding Bundle 1 (Remote Work and Flexitime), which demonstrate a clear alignment with this theory, as they are associated with reduced employee absenteeism and increased rate of organizational innovation. These outcomes highlight the role of FWAs in enhancing work-life balance and autonomy, which in turn encourage more engaged and productive employee behavior.

The research results add to institutional theory, too, as they extend the implications of the premise that organizations adopt different practices for efficiency reasons and as a response to institutional isomorphic pressures. These implications are in line with previous research results (Morley et al, 2016) highlighting that there are significant structural, institutional, and configurational differences along with significant practice differences in HRM between CEE and other regions. The obtained results demonstrate the specific characteristics of the employee-employer relations and effects of FWAs on employee behavior and organizational performances in the analyzed ten CEE countries. The research results concerning Bundle 2 are different from those from Western Europe, and it can be explained by the influence of economic, social, and cultural context. Central and Eastern Europe has a specific labor market situation with lower hourly labor costs than in Western countries and

manufacturing-prevailing economic structure. These kind of FWAs are still seen as a standard work rather than offered flexibility or employee-centered HR strategy. Therefore, they might lose the potential to increase retention and profitability.

The present study ensures a deeper insight into the theory of FWAs, refining it, because underscores the need to distinguish among different FWA bundles when assessing their impact. While remote work and flexitime foster innovation and reduce absenteeism, temporary, contract, and part-time work showed a mixed effect on organizational outcomes in CEE. Those types of FWAs contributed to the rate of innovation but affected higher employee turnover. This outcome suggests that while temporary, part-time and contract work can bring necessary specialized skills and creativity into organizations and add to the innovativeness, they may also influence a decrease in long-term retention, which is one of the most important issues in contemporary HR. Besides, Bundle 2, consisting of weekend, shift and overtime work, did not show effects on organizational outcomes, which is a different result from previous research which revealed that non-standard hours were related to higher job stress or reduced employee satisfaction. This result may indicate that such arrangements are context-dependent, warranting further exploration of industry-specific or cultural factors.

Concerning comparative HRM, the present study revealed that effects of FWAs on organizational outcomes and the impact of operating in the private *vs.* public sector vary by country, recognizing that these differences may change depending on the country context. Within institutional theory, this perspective emphasizes a contextual approach to HRM, where country-specific institutional, cultural, political, and social configurations shape both individual and organizational behavior. Different social policy regimes, structures of labor markets and employment relations, require organizations to adapt their HR strategies and practices accordingly. In this way, HRM not only reflects prevailing institutional pressures, but also contributes to organizational adaptation and legitimacy in different national contexts (Dewettinck and Remue, 2011, p. 42). Moreover, it contributes to the understanding of the FWAs-performance relationship in the CEE region, which still lacks comprehensive international research.

5.2 Practical Implications

The most important practical implication of this research is connected to the implementation of remote work and flexitime. The obtained results show that both FWAs have positive relation with innovation and negative relation with absenteeism. Based on this, the authors recommend managers in CEE region to provide more possibilities of remote work and flexitime for their employees. These employee-driven FWAs will have positive effects not only on employees' attitudes and well-being but increasing innovation and decreasing absenteeism will have positive effects on other organizational performances, too. The implementation of remote work and flexitime working arrangements is not possible in every organization and every workplace. Based on the obtained research results the authors recommend HR managers to consider introducing these FWAs especially for two employee groups. The implementation of remote work and flexitime for talents and professional staff will lead to increased innovation. On the other hand, the use of FWAs which give employees better management of their time, i.e., remote work and flexitime will decrease absenteeism. It is recommended for employee groups and positions where regularly staying away from work without good reason is common, causing problems and costs to the organization. HR managers will face new challenges in terms of performance management of employees working away from the office; therefore, careful planning of this process is mandatory.

The other area of practical implications is connected to Non-Standard Working Arrangements. In the ever-changing business context, most companies use some arrangements different from typical full-time, permanent employment. Contract work, part time and temporary work have significant positive relations with innovations and turnover. Therefore, HR managers must be aware of the possible advantages and disadvantages of these FWAs before implementing them. These employee-driven FWAs may contribute to the flexibility and diversity of workforce, let professionals work on innovative company projects for a given time, and contribute to its success. Conversely, the non-standard working arrangements may lead to higher turnover rate and due to uncertainty and changing group dynamics connected with these FWAs it may have negative effect to the employees who stay in the company. Managers must consider the possible benefits and their cost before implementing non-standard working arrangements in CEE region.

The results of this empirical research are important for managerial practice since they reinforce the effects of FWA bundles on HR outcomes (turnover and absenteeism) and performances (profitability and innovation) in CEE countries. The recorded results also point to the importance of differentiating different FWA practices: employer-driven FWAs and employee-driven FWAs (Klindžić and Marić, 2019; Berkery et al, 2020).

The results may be the most applicable for managers in large, service and manufacturing companies, primarily in the private and public sector, which are oriented to the global market. Since Bundle 2 with weekend work, overtime and shift work is dominant in the region, managers need to make highly sensitive decisions and ensure that those FWAs are adequately implemented. They bring benefits mostly for the employers, they do not harm employees' health, mental and physical state; and do not harm their attitudes like commitment and satisfaction on the job, because

it would create a negative effect on outcomes. The authors have not found significant relations to the dependents and therefore, this Bundle should be investigated deeper to discover its potential effects.

Also, as Bundle 1 and Bundle 3 showed positive effects, in terms of decreasing absenteeism and increasing innovativeness of companies, organizations in CEE region may implement more Remote work and flexitime, as well as Non-Standard Working Arrangements. The use of the above-mentioned employee-driven FWAs may have a positive influence on organizational performances. Remote work and flexitime can reduce absenteeism and enhance innovativeness, but their effects on turnover depend on integration with broader HR practices such as rewards and career development. Non-standard hours should be monitored carefully in manufacturing settings to avoid overuse, while temporary and contract work requires planning to balance innovation benefits with turnover risks. Overall, FWAs should not be treated as stand-alone measures but embedded in a holistic HR and policy framework that promotes both competitiveness and employee wellbeing.

The summary of practical implications of this research may be that there is a need for proper planning and considering contextual factors (economic, political, law, cultural, etc.) for the adequate implementation of certain FWAs. This model acknowledges that the effects of operating in the private versus public sector and turnover, absenteeism, and the rate of innovation can vary by country. These insights emphasize the need for organizations to tailor their flexible work arrangements to the specific cultural, economic, and organizational contexts in which they operate.

5.3 Limitations

Regarding the limitations of the study and future research, this study relies on self-report data. Measures of profitability and innovation are subjective, on a scale. More detailed objective data would help in reaching more concrete results. However, Singh et al (2016) concluded that carefully collected subjective data could be valid, while Wall et al (2004) reported a high degree of equivalence between objective and self-report measures of organizational performance. Also, FWA bundles were created through PCA, while there are other possible approaches, like hierarchical clustering algorithm (Berkery et al, 2017), which would allow the identification of how each individual FWA was used in each FWA bundle. However, the authors confirmed their approach with PCA and the additional CFA. Also, while statistically significant, the effect sizes were modest, suggesting limited practical relevance of our study. Future research may assess this approach and contribute to the deeper analysis of the construction of FWA bundles.

Regarding future research, several directions may be possible. As seen in the literature, FWAs can have different effects over a long time, so longitudinal research would be beneficial for gaining a clearer picture of these relations over time. Also, qualitative research approach would be beneficial to deepen the understanding of FWAs in different institutional settings. Involving new moderator variables would be also useful for the understanding bundles of FWAs in the CEE. Some of them should be cultural dimensions and elements of institutional context in terms of market regulation (liberal or coordinated market economy) since prior research works have found that relations between FWAs and national and organizational culture and market regulation can have significant effects on the adoption and implementation of FWAs (Stavrou and Kilaniotis, 2010; Peretz et al, 2018), and since these two variables showed significant effects on other HRM activities in the CEE region (Morley et al, 2016; Berber et al, 2017). Finally, despite the fact that the HLM results indicated a statistically significant effects of country and sector in the models, the coefficients were of very low magnitude, suggesting the need for further research into the differences and similarities that may exist within these countries. Moreover, additional investigation is required to determine whether specific subgroups may emerge within the CEE region.

In conclusion, this study advances knowledge in the HRM of the CEE region in relation to FWAs and bundles approach, based on the Cranet worldwide research methodology. The bundles remain in some patterns like in other European countries, but also in the USA and the rest of the world. In terms of the relations, the obtained results pointed to some new relations, such as that Remote and Flexible work do not necessarily decrease turnover or increase profitability but can enhance innovative performances of organizations. Regarding absenteeism and profitability, the results follow those from other countries of the world, though there is still an ambiguous pattern. It must be stressed that this is one of the first papers that presents the practice of FWAs grouped into bundles in the CEE countries, and it can serve as a basis for future research, which needs to take contextual elements and longitudinal approach into account.

Availability of Data and Materials

All data reported in this paper will be shared by the corresponding author upon reasonable request, if in accordance to Data Management Plan (DMP) of the Cranet network.

Author Contributions

NB and AS designed the research study. ES provided help and advice on statistical analysis and theoretical background. NB and ES analyzed the data. AS and DG performed interpretation of data for the work and drafting the work. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

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Conflict of Interest

The authors declare no conflict of interest.

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