

# Labor market impacts and human resource management practices: Croatian manufacturing companies perspective

## Abstract

*The purpose of this paper is to examine how impacts from the labour market affect human resource management (HRM) practices in Croatian manufacturing companies. The goal of this paper was to find out do companies acknowledge labour market impacts; with what intensity mentioned impacts are related to HRM practices and do companies have developed practices of dealing with such issues. The research was conducted during 2021 and 2022 on the sample of 31 large Croatian manufacturing companies. Four labour market impacts were observed: population ageing, deficiency of vocationally educated employees, deficiency of highly educated employees in specific deficit occupations, automation and robotization, and young employees' characteristics. The results showed that the companies did not acknowledge the presence of these impacts and/or did not react adequately to them by specially designed HRM practices. Since the research on relationship between labour market impacts and HRM practices are rare in the Croatian context, and wider, the insights of this paper could be a unique contribution to new knowledge enhancement. This paper showed that the companies' acknowledgment of certain negative labour market impacts was poor and accordingly have undeveloped strategic HRM. The stated results are not in accordance with the theoretical assumptions and data on the unfavourable impacts from the labour market in Croatia. A pro-active approach of companies was expected in the application of various activities available to them, in the form of their independent practices, and in the use of stimulating legislation, which was also not determined by the results of this research. The reasons for this should be determined by some future research, with the expectation that there have been some recent changes in this area. The small research sample oriented only on one industry and only one country is the first research limitation. Additional limitation is the self-created questionnaire and self-reported measures. The cross-sectional analysis is also a research limitation. The awareness of these limitations could be additional base for further research in order to clarify the meaning and importance of strategic HRM.*

**Keywords:** labour market impacts, employees, HRM, companies.

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## 1. INTRODUCTION

In the Croatian context, there is a lack of research on labour market impacts and HRM practices. However, some authors have researched labour market issues. Nejašmić and Toskić (2013) dealt with the ageing population in Croatia, and suggested that increasing fertility, immigration and employment rate among young people could be measures to cope with the consequences of an ageing population. Pološki Vokić and Grgurić (2011) according to their research on an ageing population proposed a model for effective age management in Croatian organizations. Obadić and Majić (2013) investigated the problem of unemployment among highly educated people in Croatia, and listed some measures to reduce unemployment rates. These authors also addressed the significant Croatian problem of mismatch between educational and employment policies. Paić (2020) discovered that there are significant changes in the labour market demand, as well as changes in demanded skills. In that context, the author discovered an increasing demand for highly skilled labour as well as for workers with IT skills. Bedeneković (2017), as the result of his research into youth unemployment and the NEET population in Croatia, concluded that youth unemployment in Croatia has become a structural problem. He emphasised a mismatch between the needs of the labour market and the system of education, and suggested that youth employment policies need to be the political priority. Butković (2017) pointed out significant differences in the skills of employment seekers and the needs of the labour market in Croatia.

The aforementioned research are mostly focused on the impact of certain factors on the labour market, but not on HRM practices related to those impacts. Observing that gap, the research of this paper analyses some unexplored influences from the labour market, with a special focus on the activities that companies undertake in the context of HRM as a reaction to these influences. In that context, four labour market impacts are examined: population ageing, deficiency of vocationally educated as well as highly educated employees in specific deficit occupations, automation and robotization, and young employees' characteristics.

Therefore, the goal of this paper was to investigate how large Croatian manufacturing companies react to these impacts and how they adapt HRM practices to them. More precisely, the goal of this paper was to find out do companies acknowledge labour market impacts; with what intensity mentioned impacts are related to HRM practices and do companies have developed practices of dealing with such issues. The only manufacturing companies were selected and researched since their importance for every national economy; their business cycle is more complex and lasts longer than business cycle in trade or service companies; those companies are very depending on vocational educated employees who are generally lacked (Paić, 2020).

The results can contribute to the HRM as important guidelines for coping with labour market impacts. Those impacts are present within all industries. Therefore, the research results of this paper could help companies in the elaboration of their activities in the HRM field, in order to mitigate the negative impacts of the aforementioned factors.

## 2. LITERATURE REVIEW AND RESEARCH HYPOTHESES DEVELOPMENT

HRM is conditioned by many impacts coming from both internal and external company's environment. Considering the fact that employees are the most valuable asset of every business, labour market impacts make a great impact on managing their potential. This paper segregated four major labour market impacts, including population ageing, deficiency of vocationally educated employees, deficiency of highly educated employees in specific deficit occupations, automation and robotization and young employees' characteristics.

Population ageing presents a major problem at a global level. Over the past decades, the percentage of people aged 65 years or more has increased, and has a tendency to continue to increase due to a long-term fall in fertility rates and increased life expectancy (Cristea, et al., 2020). According to Eurostat (2022), there were 93.2 million older people living in EU27 at 2021.

During the next three decades, the number of older people in the EU is projected to follow an upward path, peaking at 129.8 million inhabitants in 2050 (European Commission, 2020). Since population ageing is common to all developed countries, it causes particular researcher attention. Bloom et al., (2011) stated that population ageing can cause slower economic growth, since elderly people rely on their savings to support their spending. Population ageing demands HRM adaptation. Klaske et al., (2017) discovered that the relationships between HRM and employee outcomes are not substantially moderated by age. Thus, organizations should ensure the availability of particular development of HRM practices for all age groups to result in the enhancement of positive employee outcomes at work. Taylor (2005) discovered that the most common flaw of older workers is unwillingness to adapt to new technologies. On the other hand, they have discovered that older workers tend to be more loyal, motivated and reliable. Šidlo et al., (2020) stated that elderly people tend to be more educated, agile and with better cognitive abilities than their ancestors. Bloom et al., (2011) suggested allowing part-time work and telecommuting for older workers who wish to continue working and allocating demanding physical tasks to younger employees in order to reduce the risk of injuries at workplace. Croatian law allows retirees to be employed part time and keep their pensions, which encourages them to return to the labour market. In relation to this, the first research hypothesis of this paper was stated.

*H1. There is a positive statistically significant correlation between employment of retirees on a part-time basis, and HRM practices specially designed for older employees (flexible working hours, job division, easier work tasks).*

Skill deficiency is present both in the case of highly educated and low (vocationally) educated employees. This represents a significant challenge to today's labor market. It is hard to define skill deficiency. A raw definition would be a disproportion between demanded and existing skills. This definition should be taken with caution since the supply of certain jobs must not be the same as the number of people willing to do the job they are educated for (Richardson, 2007). In

addition, Green et al., (1998) suggested that the meaning of the word "skill" is not necessarily connected only with technical skills, but with a range of behavioural attributes such as reliability, ability to work without supervision, and stability of employment. Morris and Vanino (2019) pointed out another problem with measurement of skill deficiency - educational qualifications do not capture variation in the skills across the workforce with the same level of education. Not all potential employees with the same educational level have the same skill range. The most common reason for this phenomenon is a mismatch between the education system and labour market. On the one hand, young people can attain a high level in the educational system without acquiring adequate knowledge and skills. At the same time, they avoid vocations that require a lower level of education. According to a European Labour Authority's publication (2021), the most widespread shortage of occupations in the EU were concrete placers, bricklayers, cooks, roofers in terms of low qualified positions, and nursing professionals, accountants, web developers, software and applications developers in terms of highly educated positions. In addition to this, two hypotheses were set.

*H2. There is a positive statistically significant correlation between the deficiency of vocationally educated employees, and some HRM practices designed to obtain them (e.g. scholarship, retraining, labour import, recruitment campaigns).*

*H3. There is a positive statistically significant correlation between the deficiency of highly educated employees in specific deficit occupations, and some HRM practices to obtain them (e.g. student scholarships, headhunting agencies, import of labour force, internship).*

We live in an era of constant technological progress. Today, automation and robotization are present in all industries. Parschau and Hauge (2020) stated that the most affected sector is the manufacturing industry, especially in developing countries. The effect of this phenomenon is two-sided. On the one hand, it strongly contributes to productivity and reduces production costs; while on the other hand, it represents a threat to some jobs (Parschau and Hauge, 2020). However, Koch et al., (2019) discovered positive

employment effects in companies that use robotization for both vocationally educated and highly educated positions. Additionally, they have not found a correlation between the use of robotization and a decrease in wages. Certainly, robots will replace most routine and predictable tasks in the future. However, non-routine tasks are not easily replaceable with computers. Considering those facts, Spitz-Oener (2006) stated that the demand for labour in the future would lean towards employees with higher levels of educational attainment, who are presumed to have a comparative advantage in performing non-routine cognitive tasks. Ford (2015) claimed that technology would develop to the point where low wages no longer outweigh the benefits of further automation, and that will be the end of routine jobs done by humans. However, this claim should be taken with caution. Arntz et al. (2016) provided a different view of this issue and determined that every occupation consists of numerous tasks, and not all of them can be easily replaced by technology. Therefore, the potential for automating entire occupations and workplaces may be much lower than suggested. Historically, according to Spitz (2005), most of the adjustment to the development of automatization occurred through changing task structures within occupations, rather than changing employment shares between occupations. In the context of this issue, two hypotheses were defined.

*H4. There is a positive statistically significant correlation between the use of automation and robotization, and the need to change organization and work context.*

*H5. There is a positive statistically significant correlation between the use of automation and robotization, and labour displacement.*

Characteristics of young employees are significant contemporary labour market characteristics as well as a challenge for companies. Three groups of young employees today are present in the labour market: job hoppers, NEET group and freelancers. Bhattacharjee (2017) explained the term job hopping as the tendency of individuals to hop from one job to another. As main reasons for such behaviour is a constant search for new challenges, better salaries and conditions, the

consideration of change as a driving force in their lives, the feeling of freedom, and the desire to boost knowledge. Leidner and Simon (2013) stated that fast-growing economies and changing demands in the workforce have caused that lifetime employment becomes an increasingly outdated concept. Previously, on average, employees did not change their employer more than three times in their working lifetime. Nowadays, studies have shown increasing staff turnover rates. The term NEET is an abbreviation of young people aged 15 to 34 years that are Not in Education, Employment or Training. Mascherini et al., (2012) divided the NEET group into five subgroups: conventionally unemployed, unavailable, disengaged and opportunity-seekers. According to Eurostat (2021), 13.1 % of 15-29 year-olds in the EU in 2021 in NEET status ranged from 5.5 % in the Netherlands to 23.1 % in Italy. A freelancer is „an individual who earns money on a per-job or per-task basis, usually for short-term work as an independent contractor (Downey, 2022). A freelancer is not an employee of a firm and may therefore be at liberty to complete different jobs, unless contractually committed to working exclusively, until a particular project is completed. Burke (2015) highlighted numerous advantages of hiring freelancers for companies, like enabling businesses to use greater specialisation of labour or enabling businesses to reduce entrepreneurial risk. Hiring freelancers enable the use of exceptional talent and diverse skills that would otherwise not be economically feasible to hire on employee contracts. In context of challenge related to young employee characteristics, the following hypothesis was made.

*H6. There is a positive statistically significant correlation between the change in characteristics of young employees, and increased turnover of the young workforce.*

### 3. METHODOLOGY

#### 3.1. Research objective

The aim of this research was to clarify HRM practices of Croatian manufacturing companies to cope with specific labour market impacts that include an ageing population, deficiency

**Table 1.** Spearman’s rank correlation coefficient between employment of retirees on a part-time basis and HRM practices specially designed for older employees

		How often does your company employ pensioners on part time basis?
How often does your company apply flexible working hours for older employees?	Spearman’s rho	-.133
	Sig.	.493
	N	29
How often does your company apply job division for older employees?	Spearman’s rho	.006
	Sig.	.974
	N	30
How often does your company apply assigning easier tasks for older employees?	Spearman’s rho	.161
	Sig.	.386
	N	31

\*.Correlation is significant at the 0.1 level.

\*\* Correlation is significant at the 0.05 level.

\*\*\*. Correlation is significant at the 0.01 level.

of vocationally educated employees, deficiency of highly educated employees in specific deficit occupations, automation and robotization and young employees’ characteristics.

### 3.2. Research sample and procedure

Empirical research was conducted on a sample of large Croatian manufacturing companies, according to number of employees (more than 250). There were 101 such manufacturing companies in Croatia. The research was continued during 2021 and 2022. The survey was conducted by e-mail. Managers in the HRM department completed the questionnaire. Data on 31 companies was collected, which made a response rate of 30.7 percent.

### 3.3. Research instrument

This research was a part of large investigation containing 43 questions trying to examine la-

bour market impacts and HRM practices in Croatian companies. Analyses of 11 questions were used for the purposes of this research. A Likert scale of 5 degrees of intensity was used to examine the participants’ answers to those questions. In the introductory part of the questionnaire, respondents were informed about the purpose of the research, the goals of the research, anonymity and voluntary participation, the possibility of withdrawal at any time, and using the collected data in a confidential manner only in for scientific purposes.

### 3.4. Statistical analysis

The collected data was processed with the SPSS 25 software package (Statistical Package for Social Sciences). Correlation analysis was used for data processing and analysis. Namely, due to ordinal level data Spearman’s correlation coefficient was used. The results were interpreted at the level of significance \*\*\*  $p \leq .001$ ; \*\* $p < .01$ ; \* $p \leq .05$ .

**Table 2.** Spearman's rank correlation coefficient between the deficiency of vocationally educated employees and some HRM practices designed to obtain them

		How often do you notice a deficiency of vocationally educated employees on the labour market?
How often does your company undertake scholarships in order to obtain the vocationally educated employees?	Spearman's rho	.342*
	Sig.	.075
	N	28
How often does your company undertake retraining in order to obtain vocationally educated employees?	Spearman's rho	.139
	Sig.	.472
	N	29
How often does your company undertake labour force import in order to obtain vocationally educated employees?	Spearman's rho	.098
	Sig.	.607
	N	30
How often does your company undertake campaigns to obtain vocationally educated employees (e.g. student internships, trips to schools, company open days, etc.)?	Spearman's rho	.347*
	Sig.	.056
	N	31

\*.Correlation is significant at the 0.1 level.

\*\*. Correlation is significant at the 0.05 level.

\*\*\*. Correlation is significant at the 0.01 level.

#### 4. RESEARCH RESULTS

The research results will be presented according to the defined research hypotheses. The first hypothesis assumed that there is a positive statistically significant correlation between employment of retirees on a part-time basis and HRM practices specially designed for older employees (flexible working hours, job division, easier work tasks). In order to test this hypothesis, Spearman's rank correlation coefficient was calculated and presented in Table 1.

There was no statistically significant correlation between the part-time employment of retirees, and any of the presented HRM practices specially designed for older employees. Therefore, hypothesis H1 could not be accepted.

The second hypothesis assumed that there is a positive statistically correlation between the deficiency of vocationally educated employees, and some HRM practices designed to obtain them (e.g. scholarship, retraining, labour import, recruitment campaigns). The results of testing are presented in Table 2.

Spearman's rank correlation coefficient, presented in Table 2, showed a statistically significant, positive moderate correlation between the deficiency of vocationally educated employees and scholarships for vocational school students ( $\rho=0.342$ ;  $p<0.10$ ), as well as positive moderate correlation between the deficiency of vocationally educated employees and recruitment campaigns for these employees ( $\rho=0.347$ ;  $p<0.10$ ). According to these results, hypothesis H2 could be accepted.

**Table 3.** Spearman’s rank correlation coefficient between the deficiency of highly educated employees in specific deficit occupations and some HRM practices to obtain them

		How often do you notice a deficiency of highly educated employees on the labour market (e.g. IT specialists, engineers, managers, etc.)?
How often does your company undertake student scholarships in order to secure highly educated employees in specific deficit occupations?	Spearman’s rho	-.022
	Sig.	.909
	N	30
.How often does your company use headhunting agencies in order to obtain highly educated employees in specific deficit occupations?	Spearman’s rho	.229
	Sig.	.223
	N	30
How often does your company undertake importing of labour force in order to obtain highly educated employees in specific deficit occupations?	Spearman’s rho	.262
	Sig.	.155
	N	31
How often does your company organize internships in cooperation with faculties in order to obtain highly educated employees in specific deficit occupations?	Spearman’s rho	.052
	Sig.	.781
	N	31

\*.Correlation is significant at the 0.1 level.  
 \*\*. Correlation is significant at the 0.05 level.  
 \*\*\*. Correlation is significant at the 0.01 level.

The third research hypothesis assumed that there is a positive statistically significant correlation between the deficiency of highly educated employees in specific deficit occupations, and some HRM practices to obtain them (e.g. student scholarships, headhunting agencies, import of labour force, internship). This hypothesis was also tested by Spearman’s rank correlation coefficient, presented in Table 3.

Spearman’s rank correlation coefficient did not establish any statistically significant correla-

tion between the deficiency of highly educated employees in specific deficit occupations, and any HRM practices to obtain them. Therefore, hypothesis H3 could not be accepted.

The fourth research hypothesis assumed that there is a positive statistically significant correlation between the use of automation and robotization, and the need to change organization and work context. The results of the hypothesis testing are presented in Table 4.

**Table 4.** Spearman’s rank correlation coefficient between the use of automation and robotization and the need to change organization and work context

		How often do you notice within your company that technological trends, such as automation and robotization, affect transformation of organization and work context?
Does your company apply any forms of automation and robotization?	Spearman’s rho	.386**
	Sig.	.032
	N	31

- \*.Correlation is significant at the 0.1 level.
- \*\* . Correlation is significant at the 0.05 level.
- \*\*\*. Correlation is significant at the 0.01 level.

**Table 5.** Spearman’s rank correlation coefficient between the use of automation and robotization, and labour force displacement

		Does technological progress (automation and robotization) in your company cause labour displacement?
Does your company apply any forms of automation and robotization?	Spearman’s rho	-.282*
	Sig.	.065
	N	30

- \*.Correlation is significant at the 0.1 level.
- \*\* . Correlation is significant at the 0.05 level.
- \*\*\*. Correlation is significant at the 0.01 level.

There was a statistically significant positive weak correlation between the use of automation and robotization, and the need to change organization and work context ( $\rho=0.386$ ;  $p<0.05$ ). Therefore, hypothesis H4 could be accepted.

The fifth hypothesis stated that there is a positive statistically significant correlation between

the use of automation and robotization, and labour displacement. This hypothesis was also tested by Spearman’s rank correlation coefficient (Table 5).

There was a statistically significant negative weak correlation between the use of automation and robotization, and labour force displacement



**Table 6.** Spearman’s rank correlation coefficient between the change in characteristics of young employees, and increased turnover of young workforce

		How often do you notice a large turnover of young people within your company?
How often do you notice changes in the characteristics of young employees on the labour market (more frequent job changes, an increasing number of freelancers, young people falling into NEET status?)	Spearman’s rho	.500***
	Sig.	.005
	N	30

\*.Correlation is significant at the 0.1 level.

\*\* . Correlation is significant at the 0.05 level.

\*\*\*. Correlation is significant at the 0.01 level.

( $\rho=-0.282$ ,  $p<0.10$ ). Therefore, H5 could not be accepted.

Finally, the sixth hypothesis stated that there is a positive statistically significant correlation between the change in characteristics of young employees, and increased turnover of young workforce. The results of testing are given in Table 6.

A statistically significant positive medium correlation was found between the change in characteristics of young employees, and increased turnover of young workforce ( $\rho=0.500$ ;  $p<0.05$ ). So, hypothesis H6 could be accepted.

## 5. DISCUSSION, THEORETICAL AND PRACTICAL IMPLICATIONS

### 5.1. Discussion

The aim of this paper was to clarify HRM practices of Croatian manufacturing companies to cope with specific labour market impacts that include population ageing, deficiency of vocationally educated employees, deficiency of highly educated employees in specific deficit occupations, automation and robotization, and young employees’ characteristics.

Population ageing is a contemporary issue in all developed countries. Projections of the population of Croatia until 2051 showed that the pro-

portion of the elderly population will increase by 40.8 percent, and their share in the total number of inhabitants will be 31 percent (Akrap, 2015). The situation is similar in other EU countries. In order to cope with this labour market situation, Croatian law allows retirees to be employed on a part-time basis and keep their pensions. Boehm et al., (2021) recognized that older employees are a special category, so they determined that HRM practices should be adapted to them, especially practices related to work tasks, working conditions, workplace design, health care, flexible working hours, compensation programs, organizational support and recognition, lifelong learning, etc. The research of this paper was focused on the relationship between employment of retirees on a part-time basis, and HRM practices specially designed for older employees, more precisely on flexible working hours, job division and easier work tasks. The results did not show a correlation between the employment of retirees on a part-time basis, and any observed HRM practices. Therefore, although some authors suggested that HRM practices should be adapted to older employees (Pahos and Galanaki, 2020; Boehm et al., 2021), the case of Croatian manufacturing companies did not confirm that. The same results were also evident in the case of Croatian services companies (Bakotić and Vulić, 2022). All of these results are in accordance with the results of Pahos and Galanaki (2020), who found out that despite calls to adapt HRM practices according to age, examples of such adaptation in practice are rare.

The deficiency of vocationally educated employees in Croatia is caused by several factors including education system failures to satisfy the demand on the dynamic labour market (HGK, 2015). Generally, young people are not motivated to enrol into vocational schools that will lead them to jobs that require physical work; and institutional measures that would encourage them in this direction are poor. Additionally, potential employees no longer accept low-paid jobs and poor working conditions in Croatia, and prefer to go to work in other EU countries, or retrain (Radanović, 2020). In this context, this paper was focused on HRM practices of manufacturing companies in Croatia in order to obtain vocationally educated employees. Observed HRM practices were scholarships, retraining, labour import, recruitment campaigns (e.g. student internships, trips to schools, company open days, etc.). Among presented HRM practices, research results showed that companies used scholarships and undertook recruitment campaigns in order to obtain vocationally educated employees. Through these HRM practices, manufacturing companies in Croatia, on their own, try to solve the problem of deficiency of vocationally educated employees, but institutions should also contribute to this problem.

Besides the deficiency of vocationally educated employees, this paper observed the relationship between deficiency of highly educated employees in specific deficit occupations, and some HRM practices to obtain them (e.g. student scholarships, headhunting agencies, import of labour force, internship). The research results showed that there was no correlation between the deficiency of highly educated employees in specific deficit occupations, and any of observed HRM practices to obtain them. These results could indicate that Croatian manufacturing companies did not face a significant deficiency of highly educated employees that would require them to develop specific HRM practices in order to obtain them. However, these results should be further verified. Connecting these results with those related to the deficiency of vocationally educated employees, it could be observed that Croatian manufacturing companies are more focused on finding vocationally educated employees than highly educated employees. This could be understandable regarding to the specifics of

manufacturing industry and domination and importance of vocational educated employees within it. On the other side, Croatian service companies noticed a lack of highly educated employees, and even more a lack of vocationally educated employees. However, the specific activities they undertook to attract these employees were very modest (Bakotić and Vulić, 2022).

Automation and robotization were observed as labour market impacts since they caused changes in organization, jobs, required knowledge, skills etc., and employees are significantly affected by them. Many authors are afraid that the further development of automation and robotization will cause the disappearance of some jobs (Frey and Osborn, 2013; McKinsey & Company, 2017; Parschau and Hauge, 2020), especially those that are characterized by routine tasks. On the other hand, most agreed that automation and robotization will also create a large number of new jobs that were unimaginable to exist in the not-so-distant past (Paić, 2020). Related to this, research results of this paper suggested the existence of correlation between the use of automation and robotization, and the need to change organization and work context, but did not show the correlation between the use of automation and robotization, and labour displacement. Moreover, the vast majority of Croatian service companies did not consider introduction of automation and robotization (Bakotić and Vulić, 2022). Therefore, the fear that new technology will replace them very quickly, that have 40 percent of workers in Norway (Schwabe and Castellacci, 2020), is not justified by the results of these Croatian researches. However, these results should be further verified.

Recently, young people have become a specific category of employees. Contrary to past times, today for young people it is unthinkable to work for the same company for more than a few years. In addition, in the last few years the increasing number of young people turned to alternative types of work like freelancing. On the contrary, many young people decided to stop looking for a job and became part of the NEET group. This paper observed young employees characteristics and have discovered correlation between the characteristics of young employees, and their increased turnover rate in manufacturing

companies. Moreover, Croatian service companies perceived high turnover rate of their young employees (Bakotić and Vulić, 2022). Although in many countries, young people experienced a high turnover rate (Treadway et al., 2020; Climek and Jeong, 2022), this is especially the case within the former socialist countries where working at the same company one's whole life was not an unusual phenomenon. However, with the development of capitalism, there was a change in the characteristics of employees, especially amongst the young.

## 5.2. Theoretical Implications

Since the research on relationship between labour market impacts and HRM practices are rare in the Croatian context, and wider, the insights of this paper could be a unique contribution to new knowledge enhancement. This paper showed that the companies' acknowledgment of certain negative labour market impacts was poor and accordingly have undeveloped strategic HRM. The stated results are not in accordance with the theoretical assumptions and data on the unfavourable impacts from the labour market in Croatia. A pro-active approach of companies was expected in the application of various activities available to them, in the form of their independent practices, and also in the use of stimulating legislation, which was also not determined by the results of this research. This awareness could be the base for further research in order to clarify the meaning and importance of strategic HRM.

## 5.3. Practical Implications

This paper has significant practical implications. Research results indicate that, in the situation of an ageing population, companies should develop and use HRM practices adapted for older employees. The HRM practices in order to obtain vocationally educated employees should be extended, while HRM practices for highly educated employees in specific deficit occupations should be developed and applied. In the context of automation and robotization, companies the need to change organization and work context. Regarding young employees, although their

characteristics are caused by social development, they and their needs regarding work context need to be the focus of companies in order to try to reduce turnover rate, since this represents notable cost for company.

## 6. CONCLUSION

The aim of this paper was to examine how impacts from the labour market affect human resource management (HRM) practices in Croatian manufacturing companies. Four labour market impacts have been observed: population ageing, deficiency of vocationally educated employees, deficiency of highly educated employees in specific deficit occupations, automation and robotization and young employees' characteristics. The results showed that companies did not apply HRM practices specially adapted to older employees. In order to obtain vocationally educated employees, companies pursued some but not all proposed HRM practices, while they did not apply any HRM practices to obtain highly educated employees in specific deficit occupations. Concerning automation and robotization, research results suggested that companies changed organization and work context. Finally, research results, relating to their special characteristics, showed an increased turnover rate of young employees.

Some research limitations obstruct conclusion generalisation. The small research sample oriented only on one industry and only one country is the first research limitation. Additional limitation is the self-created questionnaire and self-reported measures. The cross-sectional analysis is also a research limitation. Related to these limitations, future research could be continued on a larger sample. It would be interesting to investigate these labour market impacts on a wider scope and compare results, as well as to pursue a longitudinal study. In addition, other labour market impacts could be examined.

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## Utjecaji sa tržišta rada i upravljanje ljudskim resursima na primjeru hrvatskih proizvodnih poduzeća

### Sažetak

*Svrha ovoga rada je ispitati kako utjecaji sa tržišta rada djeluju na praksu upravljanja ljudskim resursima u hrvatskim proizvodnim poduzećima. Cilj rada bio je saznati uviđaju li poduzeća utjecaje na tržište rada; kakva je veza između ovih utjecaja i prakse upravljanja ljudskim resursima, te imaju li poduzeća razvijene prakse u cilju suočavanja s ovim utjecajima. Istraživanje je provedeno tijekom 2021. i 2022. godine na uzorku od 31 velikog hrvatskog poduzeća. Promatrana su četiri utjecaja sa tržište rada: starenje stanovništva, nedostatak strukovno obrazovanih zaposlenika, nedostatak visokoobrazovanih zaposlenika određenih deficitarnih zanimanja, automatizacija i robotizacija te karakteristike mladih zaposlenika. Rezultati su pokazali da poduzeća nisu prepoznala prisutnost ovih utjecaja, i/ili nisu adekvatno reagirala na njih posebno osmišljenim aktivnostima upravljanja ljudskim resursima. Budući da su u Hrvatskoj istraživanja utjecaja tržišta rada na upravljanje ljudskim resursima prilično rijetka, uvidi ovoga rada mogli bi biti jedinstven doprinos stvaranju novih znanja. Ovaj je rad pokazao da poduzeća nisu prepoznala određene negativne utjecaje na tržište rada te da sukladno tome imaju nedovoljno razvijeno strateško upravljanje ljudskim resursima. Navedeni rezultati nisu u skladu s teorijskim postavkama i podacima o nepovoljnim utjecajima s tržišta rada u Hrvatskoj. Očekivao se proaktivan pristup poduzeća u primjeni različitih aktivnosti koje su im dostupne, u obliku njihove samostalne prakse, te u korištenju poticajne zakonske regulative. Međutim, rezultati ovoga istraživanja to nisu utvrdili. Razlozi za ovo trebali bi se utvrditi nekim budućim istraživanjima, s očekivanjem da je u novije vrijeme došlo do nekih promjena u ovom području. Mali uzorak istraživanja orijentiran samo na jednu industriju, i samo jednu zemlju, prvo je ograničenje istraživanja. Dodatno ograničenje je samostalno kreiran upitnik te subjektivnost odgovora ispitanika. Svijest o ovim ograničenjima također bi mogla bi biti temelj za daljnja istraživanja u cilju razjašnjenja značenja i važnosti strateškog upravljanja ljudskim resursima.*

**Ključne riječi:** utjecaji sa tržišta rada, zaposlenici, upravljanje ljudskim resursima, poduzeća.