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Article

HR Marketing as a Supporting Tool of New Managerial Staff in Industry 4.0

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Abstract: Human resource marketing (HRM) is focused on the creation of job-position while including all relevant parameters such as work specification, wage, and adequate communication of a job offer. Wage is possible to understand as not only the amount of money received but also as all kinds of reward for the work that has been completed. Forms of staff remuneration have received more interest during the last decade, especially in regards to managers and the concept of industry 4.0. Job offer descriptions help to find suitable applicants for specific managerial positions. The main objective of this paper is to state the relationship between gender and the chosen variables (job sources). For this purpose, there was a realized questionnaire survey, focused on HRM in the business environment in the Czech Republic. The sample population for the survey consisted of 522 people, though feedback was only received from 185 participants (a return rate of 35.44%). To process the data, we employed Pearson's chi-square test for independence and cluster analysis. Graphical design was made using an ROC curve (Receiver Operating Characteristic). According to the results obtained, there were defined relationships between gender and job servers as job sources, and between gender and social networks as job sources. This dependence is supported by the ROC curve, which shows the expectations of wage incomes according to the work-experience of the employee.

Keywords: HR marketing; remuneration package; benefit; labor market; human resources; senior managers; Industry 4.0

1. Introduction

The Czech economic environment has shown increasing tendencies which reflect the growing Czech gross domestic product (GDP). In 2018, it increased by 3% after correcting for price impacts and seasonality. This growth has been created mainly by calculating household consumption due to general salary increases. This booming economy is has been affected by a lack of potential high-quality staff applicants with specific requirements. One potential solution to the problem for adapting companies to this social situation involves the application of the Industry 4.0 concept, which helps to implement the automatization and digitalization of production systems. Therefore, this concept is currently being considered as a relevant tool which supports the competitive strengths of the company, and supports its adaptation to its changing environment (Fettig et al. 2018; Ematinger 2017; Kurzy.cz 2019).

The marketing field has entered the 21st century in highly dynamic form, especially in the fields of informatics and communication technologies (ICT). Because of this dynamic, there are often changes in the relationship between both sides of business transaction—suppliers and customers. Marketing is usually connected with customers, but a customers' role could be internal and external. An external customer is located outside the company (as a traditional consumer and a customer of the final product), while an internal customer can be found inside the company (both full-time and part-time employees). The processes of getting new staff (hiring) are considered to be a key part of

HR management. [Chambers et al. \(1998\)](#) presented a situation discussing changes to actual business environment, which has become strongly competitive in the field of human resources. The subject of competition is talented staff, in spite of the fact that there are no obvious processes and staff care solutions. It is difficult to reach a universal solution of hiring talented staff because each industry field could have different requirements and conditions for hiring. Therefore, companies focus their interest on human resource marketing (HRM) which recommends focusing on various areas such as the structure of a company, its work culture, and its disposition towards work. These areas help the company to reach out to the right potential employees ([Van Dierendonck et al. 2016](#); [Aprofes 2016](#); [Van Esch et al. 2019](#)).

Because of the rapid changes in the market environment and development needs of companies, it is possible to see differences in remuneration in individual companies and industries. Formerly used remuneration systems focused on a simple financial assessments are being replaced by complex evaluation models, reflecting present trends in the benefits area (there is modeling of the total reward). The type parameter of the whole change process is complex. Contact between the employers and potential staff has become more difficult because there are a lot of changes in technologies and “staff behavior” relevant to searching for a new job position. The hiring of high-quality employees creates a huge problem for companies how should they utilize the HRM, given its importance? There are a lot of communication activities (either online or offline) influencing the decision-making process of how to reach potential employees. According to staff behavioral research, companies only have 10–20 s obtain interest from potential staff while they are checking job offers. The importance of HRM is increasing, even though there is little knowledge of this marketing concept. A lot of Czech companies have found out this concept to be important and have learned how to reach potential employees in an innovative way that is different from their competitors. All companies (whether they are small, medium, or large) try to find the most suitable persons for their organizations, but they usually do not match their first contact correctly ([Fettig et al. 2018](#); [Van Dierendonck et al. 2016](#); [Nayak et al. 2015](#)).

The first part of this paper includes the theoretical background of the topic, taken from professional and scientific sources. The second part describes proven research, which was collected using a questionnaire survey focused on HR marketing (especially in terms of job seeking) in a business environment in the Czech Republic.

2. Literature Background

The concept of industry 4.0 (IR) facilitates smart factory creation to suit the requirements of the market. The basic essence of the smart factory includes strong integration, automatization, and continuous optimization of the working environment in linking the factory to production facilities and equipment within cyber-space and cyber systems. The development of innovative solutions, followed by their implementation in corporate environments, requires intensive investments, which help to quickly complete previously time-consuming projects on the way to boosting the long-term competitiveness of Czech industrial companies. Producers of equipment, software, and industrial companies need a specific platform, which provides the development, function verification, and compatibility of new solutions in semi-industrial conditions and within actual technologies ([Fettig et al. 2018](#); [Ematinger 2017](#); [Koren and Shpitalni 2010](#); [Nayak et al. 2015](#)).

IR 4.0 consists of a mix of technologies which help to make flexible production systems (including robotic manipulation, cutting, additive production, or smart conveyors). Due to both the flexible connections of universal production devices and sophisticated driving systems, it is possible to use the same equipment in different operations, which are planned in optimal ways according to specific needs. Simulation processes and virtual environments could be employed, in which companies could eliminate potential threats as a kind of optimization before starting a new production line and launching a new product on the market. The whole simulation process provides a reduction of waste time and supports cost-effectiveness before launching. A lot of companies use cloud services to support both data collection and data processing of the whole production, which help to improve individual

areas in the company such as quality management and equipment maintenance are usually marked as a crucial part of Industry 4.0 for modern and future production ([Český Institut Informatiky, Robotiky a Kybernetiky 2018](#)).

At the same time, new thinking and mindsets of staff are required because of their skills and abilities. From a general point of view, IR 4.0 combines both rational and irrational thinking of staff, who provides a specific value for building self-confidence of target customers as well as being enquiring and more judicial to offering ([Hecklau et al. 2016](#); [Tomek and Vávrová 2017](#)).

[Gatullo et al. \(2019\)](#) describe IR 4.0 in regards to its influence on different management approaches. These approaches are as follows:

1. Staff time capacity (time data collection in real-time, providing fast reaction to potential falls and risks, and its connection to key documents because of real-time updates);
2. Orientation on services (orientation is assessed for a future base, including how to create products, which meet customer's requirements, solving their problem in the combination of virtual space, humans, services, and internet to offer product composition);
3. Virtual production (creation of virtual production environment supporting management of physical flows, using GPS systems and eliminating potential risks);
4. Decentralization (material's requirements in the company are decentralized to lower levels; upon failure, there is applied centralization to higher levels to help to solve the failure);
5. Modularity (a modular approach maintains prompt reaction in the case of changing product setup; production documentation must be modular to integrate new procedures, technologies, and other required items);
6. Interoperability (providing communication between individual elements of a virtual world such as human, production units and systems which could be marked as crucial).

All of these elements reflect the strategy of the company, reacting to the current situation in different fields under specifications such as the business model used, the context of innovation employment needs, or technology development. Due to virtualization being a key part of IR 4.0 workers can find critical elements in production system and state product solutions to prevent or minimize these critical elements, which leads to elimination of staff injuries and increased safety of the working environment ([Winge et al. 2019](#); [Reissová et al. 2017](#)).

HRM is considered a new concept in some places, especially in the Czech Republic. Worldwide, it is well known, because the term HRM was first published shortly after 1960 in Germany as a specific kind of hiring, oriented on applicants ([Vojtěch 2013](#)). It helps to build and strengthen the brand of the company, not only by communication of logo or website, but through corporate culture and reputation, which is shared both internally and outside the company. In this context, a new applicant has the ambition to work in the good-evaluated company instead of a bad one ([Aprofes 2016](#)).

Similar to the general form of marketing, HRM offers the possibility to use the marketing mix as a tool, describing whole corporate philosophy in the human resource area. As individual parts of the marketing mix for HRM, there are ([Spielmann 2015](#); [Vysokajová et al. 2011](#); [Wickham and O'Donohue 2009](#)):

- Product: This includes the job position, which an employer offers to an applicant (a potential employee) because of his/her skills and abilities. The most important aspect for the product is a correct specification of the job position, including circumscription of adequate attributes, to which a potential worker could reply and the employer will consider them.
- Price: Price itself represents total labor costs, which the employer must pay. It includes costs for hiring, training and other ways of supporting employees. To motivate staff for performance production, both tangible (e.g., salary and wage, bonus, quittances, financial dues), and nontangible benefits (e.g., skill training, language courses) are used. From a staff point of view, the price has specific conditions such as (1) work time one must spend; (2) work organization one must accept; (3) required production level; (4) work conditions one must accept; and (5) requirements of physical effort.

- Place: The place reflects requirements, which influence potential staff during the decision-making process about accepting or rejecting a job offer. A main determining factor during decision-making is corporate culture and renown of the company, which provide specific behavior patterns in staff level, internal communication, workforce relationships, staff-problem solving, or general values and norms.
- Promotion: This item includes all activities, which companies use for an effective job offer presentation. The goal of the presentation is a clear description of the job position to both actual and potential employees. All companies regardless whether they operate in the consumer market (B2C) or industrial market (B2B), can use a wide spectrum of communication tools, which have both formal and informal characteristics (e.g., intranet, wall poster, and bulletin). In case of using multiple communication tools, all must contain the same message without any discord.

A job offer is usually the typical tool for first communication contact between company and applicants during the filling of jobs. Job formulation is usually described according to the requirements of the workplace, skills, and abilities of the employee. The formulation must reflect the following points, whether it is published to internal staff, external staff, or both, whether job applicants match the conditions, the difficulties of getting new staff, the social profile of applicants, and the chosen hiring method (Koubek 2015; Šikýř 2014; Tian and Liu 2018).

Remuneration and evaluation of employees are crucial for the company because the financial evaluation of work support the motivation of the individuals and makes the company attractive to applicants with specific qualifications, experience, and knowledge. Personnel costs represent the highest cost group in a company (Gerhart et al. 2009). Dalton et al. (2007) and Wowak and Hambrick (2010) describe the situation of remuneration, and they state the undeniable impact of staff costs on corporate strategy. One of the main reasons is that companies want to hire experienced managers with application of performance based pay. The managers' contracts could be divided into two possible variants: (1) reward is connected to shares' development and it serves as an indicator of share market price. This necessary for companies, which would enter into the capital market (Klein and Coffee 2007; Fried and Shilon 2011); (2) reward is linked to economic value added (Stern and Willett 2014; Moujib et al. 2011; Sabol and Sverer 2017; Walsh 2017).

Walsh (2017) presented research results focused on relevant rules in the present industrial situation and under conditions of the digital area. That research was realized in 140 countries within 10,400 companies. In the case of companies in central Europe, the most important element was found to be career planning and education in HR management instead of the needs of robotization and automation which were found to be the least important. Various research focused on expectation and reality of human capital were done by Deloitte and LinkedIn. The main result of both kinds of research the importance of the personal recommendation of companies and job portals, which also confirmed the findings of Schnidman et al. (2017). Schnidman et al. (2017) pointed out that corporate culture usually reflects corporate values, benefits, vision, and mission of the company.

Research on the topic of HRM and management specifies trends which help to direct job offers to potential applicants and support hiring successes, which leads to cost savings (Van Dierendonck et al. 2016; Rodríguez-Sánchez et al. 2018).

3. Methodology

The main objective of the paper was to state the relationship between gender and the chosen variables (job sources). According to the objective the defined hypothesis are as follow:

- H_0 : gender of an applicant does not influence job source choice;
- H_1 : gender of an applicant influences job source choice.

For the processing of collected data, IBM SPSS Statistics 25 was applied. The statistical methods applied was Pearson's chi-square test for independence of two variables, followed by descriptive statistics. Pearson's chi-square test for independence compares two parameters if they are in mutual

relationship. Confirming alternative hypotheses (i.e., that there is a relationship between variables) is based on the 95% significance level when test criteria meet a certain value in the critical subject (Gravetter and Wallnau 2009; Vaughan 2003).

If a potential relationship has significance under 0.05 (on the significance level 95%), it is possible to consider, that statistical dependence exists between two variables. In case of higher significance value over 0.05 is not possible to declare statistical dependence. The intensity of observed dependencies is given by the contingency coefficient, which supports the situation of dependence. The intensity of the relationship is measured by the contingency coefficient. This coefficient belongs to interval $\langle 0; 1 \rangle$. When the value is close to 1, this intensity is considered to be high. Vice versa, a value close to 0 is explained as having low or no intensity.

A questionnaire survey with both open and closed questions was utilized. The basic population was defined as several applicants for all kinds of managerial positions in various companies (all levels of managerial position were considered). All graduating students in economic study programs (both bachelor and master levels) at Faculty of Business and Management, Brno University of Technology (BUT) were considered as relevant applicants. This basic population consisted of 925 students, which passed university education and enter the labor market as managerial applicants. From the defined basic population, 522 people were chosen as a sample population in a random way, and were asked to participate in the questionnaire survey. This survey was returned by only 185 participants, from which five uncompleted questionnaires were removed. The final number of fulfilled forms consisted of 180 items, which represented 34.48% return. This return confirmed the research results on BUT graduates, that three out of ten graduates had reached managerial position by 2 years after graduation (Brno University of Technology 2018).

The questionnaire survey was designed as mass personal research with the questionnaire in paper form, which was distributed and collected during May 2019 (the end of the academic year). The questionnaire was suggested by authors (see Appendix A).

4. Results and Discussion

To verify the defined hypothesis, a pivot table was created in focus on chosen job sources and approaches of applicants (from a gender point of view). The significance of gender in a job offer and other human characteristics (e.g., occupation, nationality, raises policy, promotions) were discussed by several studies (Avent-Holt and Tomaskovic-Devey 2010; Tomaskovic-Devey et al. 2009; Tomaskovic-Devey 2014; Castilla 2011; Dobbins et al. 2011).

The pivot table shows relations between potential job sources and the gender of applicants. Applicants chose their work positions mainly due to online communication tools, consisting of job offers. The pivot table (Table 1) includes qualitative approaches of applicants, namely where they looked for a job offer. The most used approaches for searching job offers was job servers. According to answers of the respondents, 166 absolutely agree or rather agree, that they used job servers (166 agree with, resp. 66 men, 100 women). Social networks (142, resp. 52 men, 90 women) and websites (140, resp. 57 men, 83 women) were similarly used. According to results of the present study, offline tools such flyers (52, resp. 18 men, 34 women), and ads in newspapers (31, resp. 11 men, 20 women) received minimal usage. Personal agencies as a tool of job-searching represent a specific way of getting new employees because they usually focus on specific job positions.

Table 1. Usage of job sources according to the gender of applicants.

| Job Sources | Absolutely Disagree | | Rather Disagree | | Rather Agree | | Absolutely Agree | | Missing | |
|---------------------------|---------------------|-------|-----------------|-------|--------------|-------|------------------|-------|---------|-------|
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| Work office | 43 | 58 | 20 | 25 | 10 | 10 | 0 | 10 | 0 | 4 |
| Job servers | 3 | 1 | 4 | 6 | 29 | 36 | 37 | 64 | 0 | 0 |
| Ads in newspapers | 33 | 35 | 28 | 47 | 9 | 17 | 2 | 3 | 1 | 5 |
| Social networks | 4 | 3 | 16 | 13 | 41 | 48 | 11 | 42 | 1 | 1 |
| Published flyers | 16 | 22 | 39 | 47 | 17 | 28 | 1 | 6 | 0 | 4 |
| Websites of the companies | 2 | 6 | 13 | 17 | 37 | 49 | 20 | 34 | 1 | 1 |
| Personal agencies | 14 | 22 | 43 | 47 | 12 | 24 | 3 | 9 | 1 | 5 |

Human resources are typically connected to the difference between genders. This difference is possible to be found both in remuneration of work, and also in the hiring of applicants. At present, there is pressure from politics to remove the difference of genders, especially in terms of remuneration equality, minimizing of gender-oriented crimes, or equality approach at high-level job positions. In the results of the Pearson’s chi-square test of independence (Table 2), dependencies were found between (1) gender and social networks (significance = 0.05), and (2) gender and job servers (significance = 0.03). Both results matched the required level of significance of potential error (till 5%). Vice versa, there were no confirmed statistical dependencies between gender and work office, ads in newspapers, flyers and personal agencies. To specify observed dependencies, contingency coefficients were calculated. For both relationships, contingency coefficients were calculated as follows (see Table 2):

- The intensity of dependence between gender and job servers as job source was 0.265, which is rather low;
- The intensity of dependence between gender and social networks as job source was 0.283, which is rather low.

The rest of the analyzed relationships of job sources and gender of applicants did not provide statistical significance. All other relationships are far from accepting on the 95% level of confidence because their significances were higher than 0.16 (this value represents the probability of error in the case of alternate hypothesis application). Therefore, there is an accepted null hypothesis with the independence of individual variables. Quite close to the required 5% error value was only work office, which could be put under monitoring process. At this moment there is no statistically significant dependence. All values are shown in Table 2.

Table 2. Results of independence test between job searching sources and gender of applicants.

| Job Sources | Significance | Value | Contingency Coefficient | p-Value |
|---------------------------|--------------|--------|-------------------------|---------|
| Work office | 0.161 | 11,785 | 0.245 | 0.804 |
| Job servers | 0.030 | 13,952 | 0.265 | 0.199 |
| Ads in newspapers | 0.317 | 9313 | 0.219 | 0.330 |
| Social networks | 0.050 | 13,681 | 0.262 | 0.010 |
| Published flyers | 0.241 | 10,350 | 0.230 | 0.634 |
| Websites of the companies | 0.845 | 4136 | 0.148 | 0.751 |
| Personal agencies | 0.191 | 11,195 | 0.239 | 0.597 |

All values are calculated on the 95% level of confidence.

The last column in Table 2 contains the p-value, which expresses the probability of validity of the null hypothesis. The lower the p-value, the lower the probability of a null hypothesis. It can, therefore, be concluded from the above data that we can accept alternative hypotheses about the validity of the relationship between gender and selected sources of job offers only for job servers and

social networks. Furthermore, we should consider the level of significance chosen. We are working with a 5% significance level in the paper, so the p -value should be lower than this significance level. Only for social networks the p -value $< \alpha = 0.05$, therefore we reject the null hypothesis and accept the alternative hypothesis about the dependence of selected elements.

Observed dependencies could support managers of human resources in creating an effective campaign as a way to target a specific segment of the applicants, suitable for a job offer. It is important to reflect the design and describe all job-specific details in the ads in the chosen media. The inclusion of attractive aspects of the job and company, which could be reasons for accepting a job offer, is important for an effective hiring campaigns. Unfortunately, a potential problem concerns what information employers want to present and release, because of the issue of lucidity. If an ad consists of a lot of text and information, it is usually skipped by applicants (it is important to gain interest in the first 10 s of viewing).

According to information in the job offer, potential applicants look at location (168; 68 men, 100 women), salary (168; 66 men, 102 women) and specification of job-position (159; 62 men, 97 women). All other benefits reached middle values. All relations are showed in Table 3.

Table 3. Desirable benefits from applicant's perspective according to gender.

| Benefits | Absolutely No | | Rather No | | Rather Yes | | Absolutely Yes | | Missing | |
|-------------------------------|---------------|-------|-----------|-------|------------|-------|----------------|-------|---------|-------|
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| Salary | 0 | 1 | 6 | 4 | 34 | 48 | 32 | 54 | 0 | 1 |
| Specification of job position | 1 | 0 | 10 | 9 | 36 | 54 | 26 | 43 | 0 | 1 |
| Tangible benefits | 3 | 11 | 36 | 48 | 27 | 38 | 7 | 9 | 1 | 0 |
| Intangible benefits | 2 | 3 | 24 | 29 | 36 | 59 | 11 | 15 | 0 | 1 |
| Name of employer | 7 | 12 | 24 | 37 | 24 | 40 | 18 | 15 | 0 | 1 |
| Location of employer | 1 | 1 | 4 | 6 | 36 | 47 | 32 | 53 | 1 | 0 |

The average wage in the Czech Republic has increased in the last five years, in connection with GDP. The actual average wage is 31,516 CZK (€1233), and the median wage is 27,719 CZK (€1084.47) as 87.95% of the average wage. There is an impact of high-reward positions in large companies (usually at the manager level). The size of the company impacts the wage requirements of applicants (Merhebi et al. 2006; Jančíková 2018). At the level of managerial positions there was a rapid increase in the amount of salary during the last nine years. The number of potential managers with high qualities is strictly limited. Therefore, they could ask for almost any wage. The Ministry of Labor and Social Affairs released managerial wage data for the years 2010–2018. In that period the average wage was rose by 69.38% (median wage increased by 19.92% increasing). All values are showed in Table 4.

Table 4. Results of gross wage and median wage in the Czech Republic.

| Year | Gross Wage per Month | | Median | | Year-on-Year Median Change |
|------|----------------------|----------|--------|----------|----------------------------|
| | CZK | EUR | CZK | EUR | |
| 2018 | 121,493 | €4753.25 | 67,353 | €2635.09 | – |
| 2017 | 104,189 | €4076.25 | 58,573 | €2291.59 | 104.00% |
| 2016 | 102,332 | €4003.60 | 56,342 | €2204.30 | 108.90% |
| 2015 | 95,747 | €3745.97 | 55,339 | €2165.06 | 99.40% |
| 2014 | 93,883 | €3673.04 | 55,686 | €2178.64 | 104.80% |
| 2013 | 90,395 | €3536.58 | 53,130 | €2078.64 | 105.10% |
| 2012 | 95,510 | €3736.70 | 50,554 | €1977.86 | 122.70% |
| 2011 | 81,942 | €3205.87 | 41,189 | €1611.46 | 106.40% |
| 2010 | 71,726 | €2806.18 | 56,164 | €2197.34 | not defined |

CZK/EUR exchange rate is 25,560 in 17.06.2019 according to Czech National Bank.

Data were collected data about the average and median gross salary per month at managerial level and at the same time median value according to the Ministry of Labor and Social Affairs. These values were monitored only at the level of the highest representatives of large companies, which is defined as top-management level. All values are shown in Table 4.

In the questionnaire survey, there was a question about the expectation of a given salary at a top-management level in a large company. According to the results of the survey, potential applicants expect an average monthly value of 40,458 CZK (€1582.86). Salary response median reaches 35,000 CZK (1369.33 €). After five years of working at the managerial position, applicants expect an increasing amount of salary to an average amount 56,890 CZK (€2225.74) and the salary median is 48,000 CZK (1877.93 €). In the horizon of ten years after entering to company, applicants want to reach at least 77,608 CZK (3036.31 €), and the median is 60,000 CZK (€2347.42). These expectations about future salary at the top-managerial level in ten years meet together (both average and median value), especially in large and international companies. The expectation of managerial applicants at an average level almost matches real median salaries in 2018, as it is declared in data of the Czech Ministry of Labor and Social Affairs (see Table 4).

Supporting the relevance of a job offer, there is a necessary specification namely which benefits are relevant to note in job offers. According to many kinds of research (Vojtěch 2013; Spielmann 2015; Vysokajová et al. 2011; Wickham and O'Donohue 2009; Walsh 2017), cluster analysis was applied, by which two clusters were defined. These clusters were employed as a base for evaluation by wage levels required by applicants according to their work-practice experience. All of the wage levels, which applicants want to receive after entering a new company could be considered as a general average wage. Individual wage values are an inadequate level of acceptance. Both their sensitivity and specificity values reflect a combination of true and false-positive rates. In case of all variables being applied (i.e., wage at the onset; after 5 years; and after 10 years), the size of areas over the curve reach accurate values in the interval $(0.5; 0.75)$. Individual results are shown in Table 5. In 95% confidence level specific bounds are stated, which define the significant area over the reference line as the mean.

Table 5. Results of gross wage defined under ROC curve.

| | Area | Standard Error | Significance | Asymptotic 95% Confidence Level | |
|---------------------------------|-------|----------------|--------------|---------------------------------|-------------|
| | | | | Lower Bound | Upper Bound |
| Wages at the onset | 0.572 | 0.049 | 0.015 | 0.472 | 0.673 |
| Wages after 5 years in company | 0.593 | 0.048 | 0.026 | 0.493 | 0.692 |
| Wages after 10 years in company | 0.606 | 0.050 | 0.042 | 0.508 | 0.703 |

Visualization of areas over the reference line is shown in Figure 1. It is obvious, that during the development of work skills and abilities the gaining of experience strengthens the self-confidence of employees, reflecting wage amount.

According to many types of research, the present technology level and the digital environment, there is a large problem of obtaining the interest of target applicants. Research from LinkedIn declares job servers and social networks to be the most frequent sources from, where applicants search for job offers. This research also declares dependence between these two sources and gender of applicants. In the case of job servers, they are used by 90.41% of men and 93.46% of women. Social networks are used for searching job offers by 71.23% of men and 84.11% of women (Schnidman et al. 2017).

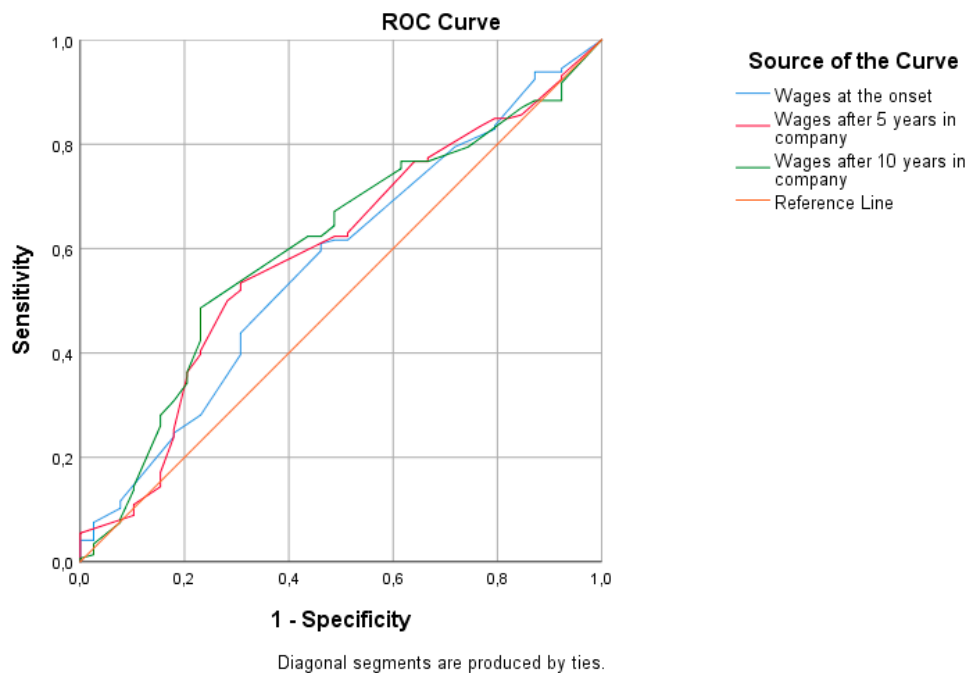


Figure 1. The trend of wages requirement according to the work-time.

5. Conclusions

The main objective of the paper is to state the relationship between gender and the chosen variables (i.e., job sources). According to gained data and their processing, it is possible to confirm, that statistical dependence exists between gender of applicants and job servers, and between gender and social networks. The significance of these dependencies are confirmed by significance. For the relationship between gender and job-servers, significance is 0.030 and the intensity of the dependence is 0.265. For the relationship between gender and social networks, significance is 0.050 and the intensity of the dependence is 0.262.

Rapidly changing economic environment in the context of labor creates the necessity of new approach definitions and HR management methods. It is crucial to define and to monitor actual trends within flexible reactions to various changes for successes in the company. This context becomes of higher importance during a period with a low unemployment rate, as it is in the Czech Republic and similarly in the whole European region (HR NEWS 2016; Ematinger 2017; Merhebi et al. 2006).

A job offer is a typical tool, which is made through communication between employers and potential applicants in the process of hiring new people for free job positions. Content of the job offer and its location in specific media must be evaluated because of differences in perception of the message (in connection to the gender of applicants). This relationship has been studied in various countries (Vladislavljević and Perugini 2019; Shams and Tomaskovic-Devey 2019; Tian and Liu 2018). Important new technologies, which require virtualization, automatization and other elements of Industry 4.0, impact the job offer process and individual media (Van Esch et al. 2019).

The issue of remuneration of high-level managers is a key area of personnel management. This is still a much discussed topic, with answers still being sought for important concerns, such as: how to set rules of management, and how to ensure that all parties behave effectively. The very high position of managers is of particular importance, especially in regards to the creation of remuneration contracts in which their performance is paired with measurable company indicators. The consequences of these decisive choices are clear for up to several years, and therefore the optimization of scales is of the highest importance.

Currently, there is a topic related to the modification of contracts. How should a contract be concluded between the two parties in such a way that both of them exclusively ensure the best possible

solution? Otherwise, it is not even in the company where the contractual principal agent exists. As the principal person, imagine a shareholder or business owner as a managing agent. How to best set up rules in companies so that all stakeholders behave effectively?

Connection of individual activities in HR management and marketing fields has become more significant according to the present business environment and requirements of stakeholders, which is considered a difficult process of embodiment.

As a limitation, we consider the focus of the research only on the Czech labor market, especially for university graduates seeking managerial positions. Therefore, this study should serve as a base for further examination in similar countries such as Slovakia, Poland, Austria or Hungary.

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Appendix A

The questionnaire for the research was focused on the Czech labor environment, therefore it was in Czech language. For purpose of the article, the whole questionnaire was translated. In questions 4–6 there were the following possible choices: 0—Absolutely disagree/no, 1—Rather disagree/no, 2—Rather agree/yes, 3—Absolutely agree/yes.

- (1) What is your age?
- (2) I will graduate as a:
bachelor; master
- (3) My gender:
male; female
- (4) In what sources you look for job offers?
Work office; Job servers; Ads in newspapers; Social networks; Published flyers; Websites of the companies; Personal agencies; Other
- (5) In job offers, the following is important for me:
Salary amount; Explicit description of job position; Defined tangible benefits (car, handy, laptop);
Defined intangible benefits; Name of employer; Work location
- (6) If you answered on benefits in previous question in “Agree” form, what specific benefits you will expect at a managerial position?
Duty car with possibility of usage for personal purposes; Duty handy with possibility of usage for personal purposes; Duty laptop; Various financial contribution without specific purpose; Extra vacation; Sick days; Home-office; Possibility to get proportionate ownership with no matter to legal form
- (7) What salary do you expect at a managerial position in a large company:
After hiring; After 5 years; After 10 years

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