


## Article

# Determinants of Motivation to Work in Terms of Industry 4.0—The Gen Z Perspective

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**Abstract:** The mentality of Generation Z differs markedly from the approach to social and economic issues presented by earlier generations. These young people have had access to the internet and other innovative technologies since birth. A tape recorder or a floppy disk is a museum exhibit for them. They are unfamiliar with the everyday problems that citizens of Central and Eastern Europe faced during the socialist era, such as the lack of necessities on the shelves. The aim of this article is to present the results of the authors' survey on the identification of work motivation factors relevant to Generation Z. The survey involved 649 respondents, young Poles who are currently entering the labor market. It was also an interesting research task for the authors to compare the results of surveys among young Poles with the results of international surveys. The research provided insight into young people's expectations, values, and preferences regarding work. The results of the survey can provide valuable guidance for employers in shaping sustainable human resource management strategies. In addition, studying the competences of Generation Z can identify the gap between the requirements of the labor market and the skills possessed by young workers. The study conducted by the authors is among the first of its kind in Poland after the pandemic, emphasizing the growing trend in remote work. Earlier research was undertaken in a different economic climate. The current investigation took place following the COVID-19 outbreak and amidst heightened military operations in Ukraine. It also takes into account the effects of recent technological progress related to the rapid development of Industry 4.0. Notably, the questionnaire used in this study is unique as the authors categorized motivational factors into three essential groups, highly relevant in today's markedly altered labor market.

**Keywords:** Industry 4.0; motivation to work; motivational factors; sustainable HRM; Gen Z



**Citation:** Bińczycki, B.; Łukasinski, W.; Dorocki, S. Determinants of Motivation to Work in Terms of Industry 4.0—The Gen Z Perspective. *Sustainability* **2023**, *15*, 12069. <https://doi.org/10.3390/su151512069>

Academic Editors: Younghoon Chang, Jaehyun Park, One-Ki Daniel Lee and Wong Siew Fan

Received: 3 July 2023  
Revised: 31 July 2023  
Accepted: 3 August 2023  
Published: 7 August 2023



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## 1. Introduction

By 2025, 27% of the workforce in OECD countries will be Gen Z [1]. This generation has a different set of priorities, caring more about flexibility, values, and diversity than others that came before them [2]. A tape recorder or a floppy disk is a museum exhibit for them. Generation Z includes young people born from 1997 onwards who are open to green transformation and remote working and are creative and ambitious. Thanks to their mobility and language skills, they can establish relationships with people from various parts of the world. They have been brought up in a world where modern technology has become popular, making this generation's representatives inclined to develop technical competence [3]. Generation Z is characterized by tolerance for multiculturalism and diversity, self-confidence, and acceptance of a certain instability in career paths. For them, the need to adapt to change and a willingness to expand their competences are the norm [4].

The authors conducted this research with the intention of identifying crucial factors that hold significance for individuals from Generation Z, particularly in the aftermath of

the COVID-19 pandemic and within the context of the emerging economic reality (marked by inflation, intensified military operations in Ukraine, and progressive technological advancements). The authors' primary aim was for the findings of this study to be valuable in formulating human resource management (HRM) strategies for businesses operating in the contemporary economic and social landscape.

The basis for effective human resource management is for employers to have properly motivated employees. The effective selection of motivational factors can bring about the desired behavior of employees, from their point of view, thus playing a key role in the success of the organization [5,6]. From the point of view of the future, Generation Z, which is currently entering the labor market and has the qualities to be effective in an Industry 4.0 enterprise, seems particularly relevant [7]. It seems that this generation will adapt most readily to the new reality, will accept the necessary changes, will most readily accept automation and digitization, and will be willing to develop the competences necessary to obtain information about the problems that occur and the ways in which data can be collected and analyzed, allowing for rational decision making [8,9].

In this context, the authors decided to conduct a study aimed at identifying the work motivation factors relevant to Generation Z. Furthermore, it was an interesting research task for the authors to compare the needs regarding working conditions that young Poles have with the results of international surveys. This research is a continuation of the authors' project on young people's perception of the new professional reality created by Industry 4.0. The results of this research were described in 2022 in the journal *Sustainability* [10].

In their research, the authors chose to focus on Generation Z's perceptions of the competences of the future for several reasons. Firstly, it allows us to understand young people's expectations, values, and preferences regarding work. Indeed, Generation Z has a different approach to this area of life than previous generations. The results of the survey can, therefore, provide valuable guidance for employers in shaping sustainable human resource management strategies (approaches to recruitment, development programs and the design of incentive systems, and the effective use of employee potential). In addition, studying the competences of Generation Z can identify the gap between the requirements of the labor market and the skills possessed by young workers. It was decided that a questionnaire survey would be the appropriate research method to achieve the above-mentioned goals.

It will be possible to achieve the stated objectives through global literature studies and surveys to verify the following research hypotheses:

**H1.** *The key motivators for representatives of Generation Z in Poland are high salaries and the possibility of promotion.*

**H2.** *There is a clear difference between the motivators indicated by residents of large cities and smaller towns and villages.*

**H3.** *For women in Generation Z, low stress levels and a good working atmosphere are important motivating factors, while for men, a correspondingly high salary is important.*

**H4.** *A high self-assessment of the quality of the work conducted and motivation to work correlates with the expectation of professional development opportunities.*

**H5.** *Those who rate their professional competence highly emphasize the role of intangible factors.*

## 2. Literature Review

Generation Z is characterized by goal orientation, openness to change, dynamism, high self-esteem, good digital and language skills, the ability to take on different roles (multitasking), innovation, and logical, out-of-the-box, and creative thinking [11,12]. These young people are focused on seizing opportunities and new experiences and, therefore, seek a workplace that allows them to develop their passion and provide professional growth. Keeping them in the organization requires creating opportunities for personal development

and working conditions that they will accept [13]. Significant importance should be attributed to the ability of managers to select motivators that will induce Generation Z to develop their competences and adapt them to the requirements of Industry 4.0 [1,14].

Keeping an organization competitive requires digital transformation. This is possible when companies employ staff with the right skills. In addition to technical competences, social skills are also important, including developed interpersonal skills, conditioning effective cooperation with others in the new economic reality. International cooperation requires employees to be proficient in foreign languages and open to other cultures and political and religious beliefs. A company's ability to succeed is contingent on an orientation towards the values hidden in intangible assets, which has a direct impact on competitiveness in Industry 4.0 [15].

Germany Trade and Invest (GTAI) recognizes Industry 4.0 as a paradigm shift driven by technological developments that condition product-machine communication. This means that the machine no longer processes the product, but that the product communicates with it to tell it exactly what to do [16]. H. Kagermann sees Industry 4.0 as a network of resources used in manufacturing processes that can adapt flexibly to situations and can configure themselves. For this, they need, among other things, the ability to use knowledge and modern solutions [17]. Industry 4.0 requires the in-depth digitization and automation of processes [18]. Thus, cyber security and workforce competence should be considered as key challenges to be addressed in the future.

A report by the World Economic Forum shows that 43% of organizations are looking to cut costs by reducing their workforce using innovative technology solutions. However, 34% plan to increase it for the same reason, hiring people with the required competences [19]. The jobs being created require professionals capable of finding their way in the new conditions. Artificial intelligence specialists and data analysts are currently in demand.

An Industry 4.0 employee should have analytical, problem-solving, and decision-making skills. It should be characterized by flexibility, resilience to stress, self-organization, and self-control [20]. With the implementation of the principles of the Industry 4.0 concept, new tasks have been set for leaders who must manage human resources knowing that in Enterprise 4.0, decisions are increasingly made by algorithms. Significant importance is attributed to flexibility and autonomy. Their aim becomes to take action that conditions employee engagement [21]. This requires the creation of an organizational culture oriented towards mutual trust, drawing on diversity and multiculturalism and eliminating discrimination and inclusive measures.

The issue of work motivation is one of the classic research areas in management science. Nevertheless, new concepts are emerging in the field of HRM to expand the HRM context. Such a concept is sustainable human resource management, the aim of which is not only to achieve the economic objectives of the company, but also to balance intergenerational needs in the long term and thus prevent serious environmental and social problems from occurring in the future. Skilled employees of Industry 4.0, who understand and apply the principles of sustainability in their work, play a significant role in transforming companies into sustainable organizations [22,23].

Motivation is a process that takes place in the human consciousness or subconscious that intensifies the desire to act. It is the willingness to try to achieve the organization's goals. This means that the desire to satisfy individual needs drives people to make an effort [24]. Today, it is becoming evident that employee motivation has an impact on productivity losses, while increased levels of work motivation, organizational commitment and job satisfaction are linked to the level of productivity among employees. Improved attitudes and increased levels of work motivation limit the decline in employee productivity [25].

Research shows that salaries, promotions, bonuses and other types of rewards are used in organizations to improve employee satisfaction and performance [26]. Material benefits affect an employee's standard of living. Their award is often conditional on the position held, which further enhances the status of the person who receives them. However, a motivator in the form of money is only able to influence an employee in an effective way

up to a certain point [27]. Over time, its motivational function loses its importance, which means that organizations should look for new factors to increase employees' commitment to tasks, making their work more effective [28].

In addition to the timely payment of salaries or bonuses, job security, work atmosphere, the competence of colleagues, the content of tasks performed, and leadership style are important [29]. Among employees in Central and Eastern European countries (Slovakia, Lithuania, and the Czech Republic), the level of employee motivation is influenced by the atmosphere at work, remuneration, additional benefits and the attitude of the supervisor, a fair employee appraisal system, a good team, communication in the workplace, and safety [30]. Attention is also given to personal development and career aspirations, including competence, career advancement, social benefits, education, and personal development. However, respondents in all three countries identified basic salary as a key factor. At the same time, the authors found that its importance was high regardless of gender and age.

Research conducted by Kovačević et al. [31] shows that interesting work, adequate supervision and leadership, scope of responsibility, influence over decisions, a sense of involvement in relevant issues, security, and a sense of fulfilment are significant. For young employees, opportunities for promoting, development, and improving their competences are important. It is important to promote a culture based on trust and cooperation, resulting in increased solidarity, kindness, willingness to help, and altruism. It is expedient to strive for teamwork and orientation towards common goals, which is effective for the development of the organization [32].

An analysis of the domestic and international literature allowed us to conclude that many surveys have been conducted without structuring the motivational factors. Therefore, for the purposes of this study, the authors arranged the motivators into three groups: tangible factors (financial and job security), intangible factors related to a positive organizational climate, and intangible factors related to career development opportunities. The conclusions drawn from the analysis of the research of the predecessors allowed us to develop their own questionnaire referring to these three threads. This made it possible to identify the ways of emphasizing motivational needs by representatives of Generation Z.

### 3. Materials and Methods

The survey was conducted in 2022 and 2023 among 649 people aged 19–28 years. More than 60 percent of respondents came from cities, with the largest centers with more than 500,000 inhabitants having the highest proportion (Table 1). In 76% of cases, respondents had work experience and their length of service was usually up to 5 years.

**Table 1.** Breakdown of respondents by gender and place of residence.

Sex	City (Population in Thousands)			Village	Total	
	<100	100 to 500	>500		Persons	%
Female	58	35	152	158	403	62.1
Male	42	20	96	88	246	37.9
Total	100	55	248	246	649	100

Source: own research.

The following statistical methods were used to analyze the results of the study: Kendall's concordance coefficient, Cronbach's consistency coefficient, chi-square test and Mann–Whitney U test, as well as mean values and measures of variation (coefficient of variation based on standard deviation). Statistica 13.3 software was used. A pilot study was conducted before the survey to test the reliability (Cronbach's  $\alpha = 0.86$ ).

The purpose of the survey was to answer the question of which factors, according to the proposed factors, most motivate effective work in the 4.0 enterprise, and to determine the importance of these factors. The following characteristics of the respondents were considered: gender, place of residence, length of service, level of self-assessed motivation

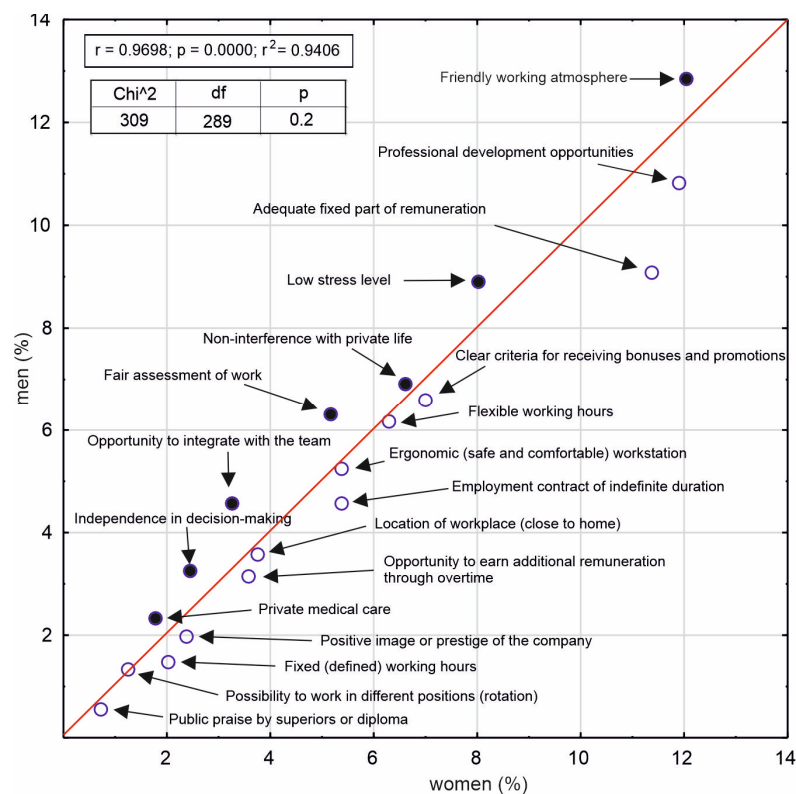
to work and self-assessed competence to work in Industry 4.0. The set of motivational factors included three groups: tangible factors (financial and job security), intangible factors related to a positive organizational climate, and intangible factors related to career development opportunities.

#### 4. Results

Referring to the results of the survey conducted by the authors, among the factors proposed in the survey, a friendly atmosphere at work, chosen by 12.3% of respondents, ranked first among the number of indications. The opportunity for professional development was mentioned in second place, with around 11.5% of respondents selecting this option. In third place, with 10.5% of indications, was adequate remuneration. In total, these three characteristics accounted for around 34% of the responses and differed significantly in the number of choices from the other factors proposed by the researchers in the survey.

In addition to these three factors, a low stress index was also indicated by respondents, which was selected by 8.4% of respondents. Of these four key motivators for employees in Industry 4.0, significant differences can be seen by gender. While a friendly working atmosphere and low stress levels were indicated more often by men, the opportunity for professional development and a correspondingly high salary were indicated more often by women. This may be indicative of the continuing discrimination against women in the work environment and the problem of achieving career advancement and wage discrimination against men. On the other hand, this may also demonstrate that women are more responsible and committed to their professional lives than men [33]. However, for all responses and based on the chi-square test, it cannot be concluded that gender significantly differentiated responses about motivation to work, apart from the three most frequently indicated factors.

Regarding the lowest rated motivating factors for Generation Z to work in Industry 4.0, public praise from superiors or a diploma (only 8% of respondents) and the opportunity to work on different workstations (rotation) (15%) were indicated (Figure 1).



**Figure 1.** Proportion of responses on motivation to work effectively in Enterprise 4.0 by gender of Generation Z respondents. Source: own research.

Also in the case of place of residence, it cannot be considered that there is a statistical difference between the share of responses on the motivation to work effectively, due to the place of origin of the respondents. For rural residents, respondents attached greater importance than urban residents to factors such as public praise from superiors or a diploma, the possibility of additional remuneration through the realization of overtime, fixed working hours (defined working hours) or a fair job evaluation. Urban residents, on the other hand, were more likely to indicate a positive image or prestige of the company, private medical care and the opportunity to integrate with the team. However, these were factors of lesser overall importance.

In the case of small-town residents, they also attached greater importance to public praise from superiors or a diploma, an ergonomic (safe and comfortable) workstation and the opportunity to work on different workstations (rotation). While residents of large cities more frequently indicated private medical care, the possibility to earn additional remuneration through the realization of overtime, and autonomy in decision making and the opportunity for professional development (Table 2).

**Table 2.** Share of responses on motivation to work effectively in Enterprise 4.0 by type of residence.

Factors	City (Thousand Inhabitants)			City	Village	City < 100/City > 500	Village/City
	<100	100 to 500	>500				
Friendly working atmosphere	13.46	13.65	11.39	12.22	12.55	1.18	1.03
Professional development opportunities	10.77	12.18	12.23	11.86	10.88	0.88	0.92
Adequate fixed part of remuneration	10.35	9.96	10.64	10.47	10.54	0.97	1.01
Low stress levels	8.70	8.12	8.21	8.32	8.45	1.06	1.02
Clear criteria for receiving bonuses and promotions	6.42	5.90	7.96	7.29	6.11	0.81	0.84
Non-interference with private life	7.04	6.27	6.20	6.42	7.20	1.14	1.12
Flexible working hours	6.42	4.43	7.12	6.57	5.69	0.90	0.87
Fair assessment of work	5.38	7.01	4.44	5.03	6.53	1.21	1.30
Ergonomic (safe and comfortable) workstation	6.83	5.17	4.61	5.24	5.44	1.48	1.04
Employment contract of indefinite duration	4.35	5.54	4.61	4.67	5.69	0.94	1.22
Opportunity to integrate with the team	4.14	4.06	4.02	4.06	3.26	1.03	0.80
Location of workplace (close to home)	3.93	2.95	4.19	3.95	3.26	0.94	0.83
Opportunity to earn additional remuneration through overtime	2.07	2.58	3.02	2.72	4.52	0.69	1.66
Independence in decision making	2.90	1.11	3.35	2.93	2.43	0.87	0.83
Positive image or prestige of the company	2.28	5.17	2.26	2.67	1.51	1.01	0.56
Private medical care	1.24	2.21	2.76	2.31	1.42	0.45	0.62
Fixed working hours (defined working hours)	1.86	1.11	1.59	1.59	2.18	1.17	1.37
Possibility to work in various positions (rotation)	1.24	1.85	1.01	1.18	1.42	1.24	1.20
Public praise by superiors or diploma	0.62	0.74	0.42	0.51	0.92	1.48	1.79

Source: own research.

In order to test whether gender and place of residence influenced the answers given on motivation, the chi-square test was applied at the significance level (0.05), where the critical value for a given number of freedom was 7.8. As can be seen in Table 3, only two factors, clear criteria for receiving bonuses and promotions and an ergonomic (safe and comfortable) workplace, showed a relationship between gender and place of residence. The following also had higher values, although not statistically significant: public praise from superiors or a diploma and the location of the workplace (close to home).

**Table 3.** Chi-square test results by response on motivation to work effectively in Enterprise 4.0 by place of residence and gender.

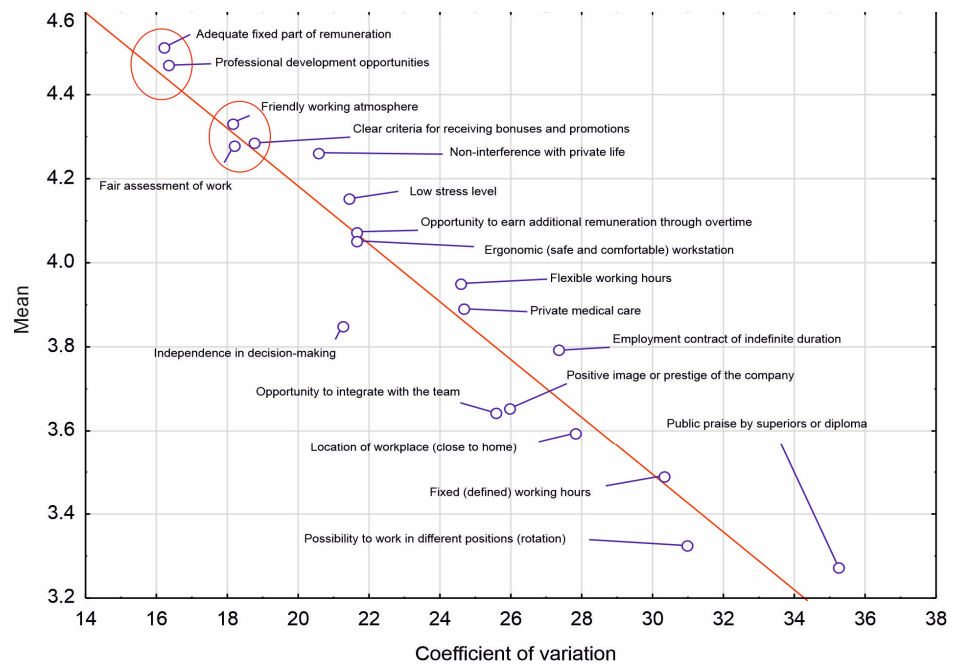
Factors	Chi Value
Clear criteria for receiving bonuses and promotions	48.438
Ergonomic (safe and comfortable) workstation	14.982
Public praise by superiors or diploma	5.786
Location of workplace (close to home)	5.767
Opportunity to earn additional remuneration through overtime	4.893
Flexible working hours	4.765
Opportunity to integrate with the team	2.918
Possibility to work in various positions (rotation)	2.586
Friendly working atmosphere	2.408
Fair assessment of work	2.027
Private medical care	1.847
Independence in decision making	1.801
Non-interference with private life	0.893
Employment contract of indefinite duration	0.830
Fixed (defined) working hours	0.702
Professional development opportunities	0.691
Adequate fixed part of remuneration	0.641
Low stress level	0.371
Positive image or prestige of the company	0.052

Source: own research.

Also considering the seniority of the respondents, it cannot be concluded that there are statistically significant differences in the answers given on the motivation to work in Industry 4.0. Both Kendall's concordance coefficient and chi-square testify to the high concordance of the answers given, regardless of the length of work experience (concordance coefficient = 0.93,  $p = 0.00000$ ). Similarly, no statistically significant differences could be found in the answers given when assessing their professional competence (concordance coefficient = 0.94,  $p = 0.00000$ ) (Table 3).

In a further survey, Generation Z was asked to rank the numerous factors influencing motivation to work effectively in Industry 4.0. The reliability analysis of the test showed a high (Cronbach's  $\alpha = 0.86$ ) consistency of the scale used. The results of the survey can therefore be considered dependable. Respondents assigned points from 5 (the highest value) to 1 (the lowest value) to individual employee motivation proposals.

According to the average value, motivators such as a high fixed salary (4.51) and the opportunity for professional development (4.47), respectively, were rated highest. These variables had the same mean values at the 95% confidence level. Another group with remarkably similar average values were a friendly working atmosphere, clear criteria for receiving bonuses and promotions and a fair job evaluation (around 4.3). Also, a similar average value was given to the factor of undisturbed private life (4.26); however, its variability in responses was much greater than for the previous three responses. In total, the first five indications account for 29.2% of the total points, which is above quartile (Q1) of the total of all values. The lowest-rated as motivators were public praise from superiors or a diploma (3.27) and the opportunity to work on different workstations (rotation) (3.3) (Figure 2, Table 4).



**Figure 2.** Average response score and coefficient of variation on motivators to work in Industry 4.0 in Generation Z. Source: own research.

**Table 4.** Mann–Whitney U test results based on questionnaire results on factors influencing work motivation compared to selected characteristics of respondents.

Factors	Sex	Residence	Seniority	Quality of Work	Motivation to Work	Competence
Ergonomic (safe and comfortable) workstation	−2.26 *	1.49	2.27 *	2.92 *	1.73	1.62
Low stress levels	−1.96 *	0.99	1.63	0.79	−0.20	−0.80
Opportunity to integrate with the team	−1.87	0.84	−0.01	1.72	0.49	0.16
Friendly working atmosphere	−1.44	1.17	0.46	1.55	0.60	0.75
Employment contract of indefinite duration	−4.69 *	−1.71	−2.10 *	0.97	2.17 *	−0.50
Professional development opportunities.	−4.90 *	0.66	0.13	2.13 *	2.55 *	0.13
Clear criteria for receiving bonuses and promotions	−4.92 *	0.68	0.56	2.00 *	2.66 *	0.92
Fair assessment of work	−4.01 *	1.47	0.54	2.83 *	1.51	0.17
Location of workplace (close to home)	−3.21 *	1.41	−0.22	0.73	0.26	−0.51
Adequate fixed part of remuneration	−3.76 *	1.11	0.29	0.25	1.67	1.28
Opportunity to earn additional remuneration through overtime	−3.07 *	−0.79	1.17	0.44	2.02 *	−0.38
Independence in decision making	−1.53	2.67 *	−1.80	3.18 *	3.08 *	3.13 *
Non-interference with private life	−2.85 *	1.08	0.53	1.36	1.95	1.01
Positive image or prestige of the company	−3.64 *	−0.22	−0.33	−0.08	1.59	−0.21
Flexible working hours	−0.79	2.25 *	1.01	0.20	0.78	1.81
Fixed working hours (defined working hours)	−2.69 *	−1.68	−0.54	1.17	0.00	−1.39
Possibility to work in various positions (rotation)	−3.09 *	0.83	−0.71	2.38 *	1.89	0.67
Private medical care	−2.89 *	0.63	−0.11	1.60	2.35 *	0.60
Public praise by superiors or diploma	−4.56 *	0.23	−0.16	0.97	1.27	1.50

\* for statistical significance level 0.01. Source: own research.



At the end of the analysis, the results of the obtained values of the individual factors were compared with the characteristics of the interviewees using the Mann–Whitney U test (Table 4; red indicates the values are statistically significant). Of the selected respondent characteristics, the strongest responses were linked to the gender of the respondents. Factors such as the opportunity for career development, clear criteria for receiving bonuses and promotions, and an indefinite employment contract were the most strongly linked. That is, these were motivators that were chosen differently by women and men.

By place of residence, only two characteristics showed a correlation with the answers given. These included the opportunity for independent decision making and flexible working hours. The seniority of the respondents, in turn, influenced the choice of two motivational factors: an ergonomic workstation (those with long seniority) and an indefinite contract (those with short seniority).

Those who are convinced of the decent quality of their work highlighted the following factors: autonomy in decision making, an ergonomic (safe and comfortable) workstation, fair job evaluation, the possibility to work on different workstations (rotation), the opportunity for professional development and clear criteria for receiving bonuses and promotion. On the other hand, in terms of feelings about initiative taking at work, respondents indicated the following factors: autonomy in decision making, clear criteria for receiving bonuses and promotions, opportunities for professional development, private medical care, an indefinite employment contract and the possibility of obtaining additional remuneration through the realization of overtime. When it comes to feeling highly competent professionally, only independence in decision making was indicated by the respondents at a high level.

The detailed statistical analysis of the research results presented above allowed a verification of the research hypotheses mentioned in the Introduction. Hypothesis H1, stating that the key motivators for Generation Z representatives in Poland are high remuneration and the opportunity for professional development, was verified positively. According to the average value, motivators such as a sufficiently high fixed salary and the opportunity for professional development were rated highest. The third most crucial factor motivating young Poles is a friendly atmosphere at work. At the same time, the majority of respondents most often chose a friendly working atmosphere and the possibility of promotion.

Hypothesis H2, stating that there is a clear difference between the motivators indicated by residents of large cities and smaller towns and villages, is also true. For rural residents, respondents attached greater importance than urban residents to factors such as public praise from superiors or a diploma, the possibility of additional remuneration through the realization of overtime, fixed (defined) working hours or a fair job evaluation. Urban residents, on the other hand, were more likely to indicate a positive image or prestige of the company, private medical care and the opportunity to integrate with the team. However, these were factors of lesser overall importance.

Hypothesis H3 that low stress levels and a good working atmosphere are important motivating factors for women of Generation Z, while a correspondingly high salary is important for men, was verified negatively. While a friendly working atmosphere and low stress levels were indicated more often by men, the opportunity for professional development and a correspondingly high salary were indicated more often by women.

Hypothesis H4, indicating a relationship between a high self-assessment of the quality of work performed and motivation with the expectation of professional development opportunities, was found to be true. At the same time, those who are convinced of the decent quality of their work also emphasize the prominent role of autonomy in decision making, ergonomics, rotation, as well as clear criteria for receiving bonuses and promotion. Those with high levels of work motivation also indicated a prominent role for autonomy in decision making and private medical care.

Hypothesis H5, that those who highly evaluate their professional competence accentuate the role of intangible factors, was not confirmed. Indeed, the research showed that, when it came to having a belief in their own high professional competence, only independence in decision making was indicated by the respondents at a high level.

## 5. Discussion

The results of the research conducted by the authors of this article are partly convergent and partly divergent from the results achieved by other Polish and international research teams.

According to research conducted by Dolot [34], the following are of particular importance to Generation Z: the atmosphere at work, including their well-being at work, created, among other things, by their coworkers; the amount of remuneration and job security (employment contract); experienced and friendly management; factors related to development (for example, training); and the compatibility of the tasks performed with the employee's interests and passion. Less important to them are nonstandard and unprecedented motivational factors, such as a meal consisting of fruit. According to the survey, the most prioritized factor for respondents appeared to be the working atmosphere—93%. In second place was the material factor—the amount of remuneration—with 91%. Analyzing the respondents' answers, their expectations, in terms of non-wage factors, were high. In third place was the factor related to job stability (88% of respondents). This choice indicates that young people want to feel safe and secure in the workplace. Respondents ranked nonstandard benefits in the form of, for example, going to the spa, fruit at work or massage at work as the factor having the least impact on their motivation to perform their job (60%).

Also, research conducted by Ratajczak [35] before pandemic shows that representatives of Generation Z pay attention to adequately high remuneration, a good working atmosphere, employment stability, respect for the employee and job constancy. Access to training, a contract of employment or flexible working hours and work–life balance were mentioned less frequently.

On the other hand, research conducted by Gajda [36] shows that high salaries, access to modern technologies and work–life balance are important for representatives of Generation Z. In general, they expect their employer to respect them and provide opportunities for development, adequate remuneration, and flexible working hours, which strongly influence their level of motivation. What is important to them is creative thinking and the ability to learn quickly, as well as performing unusual, innovative tasks. Generation Z employees want to collaborate rather than compete and value relationships with colleagues, expecting to be taken seriously and recognized. Even though representatives of Generation Z expect opportunities for self-fulfillment, for the majority of respondents, work is mainly a way to earn money.

Kukla and Nowacka's [37] research shows that financial independence is important to Generation Z employees as the main reason for taking up employment. It should also be noted that respondents consider starting their own business since they can earn more than in another organization and that they are independent.

Research conducted by Domagalska-Gędys [38] shows that for Generation Z, self-fulfillment, interpersonal relations and atmosphere at work, remuneration, as well as the ethics of employers are important. They are looking for a workplace where they can perform their assigned tasks in a good atmosphere that supports the possibility of their self-fulfillment.

Wanting to explore the sources of employee motivation, Wolpiuk-Ochocińska [39] distinguished between employees by dividing them by seniority. The results of this research show that the dominant motivating factor for workers with longer tenure is the need to support their families and professional fulfilment. Employees with less seniority are most motivated by the desire to own their own money and gain new experience. The other motivations are at a similar level of significance and are less important for both groups.

Research by Sadłowska-Wrzesińska and Nejman [40] shows that people under 40 particularly value a reduction in stress and the opportunity for advancement. For employees with more than six years of seniority, it is important to reduce stress and opportunities for promotion. In contrast, respondents with less seniority expect praise and recognition from their supervisor. The possibility of promotion is particularly important for employees with a secondary education, while employees with a university education value stress reduction much more.

The findings of the authors of this article coincide with the conclusions of the study ‘Generation Z on the labor market’, which was conducted by a team from the Institute of Management and Quality Sciences at the Humanitas University. The survey was conducted in February and March 2023 on a sample of 1300 students, undergraduates and graduates from schools of diverse types. The team’s research showed that Generation Z representatives prioritize personal life goals, including the pursuit of their own passions and hobbies, above career and professional success. Work and career are not a priority or goal in themselves for Generation Z representatives. Among the values most frequently mentioned by respondents were those not related to labor market activity: happiness, family, the opportunity to pursue passions, ecology, and freedom. Generation Z representatives demonstrate a strong need for work–life balance, prioritizing the latter sphere. The ability to combine work and personal life seamlessly was the most frequently selected answer by respondents when asked about subjectively valued features of the employer’s organization (indicated by up to 75 percent of respondents). This answer received more indications than attractive earnings (67 percent). The qualities that respondents value most in their employer are showing respect (66 percent of indications), individual treatment, and kindness [41].

It is interesting to see which factors motivate representatives of Generation Z according to international research. Nabahani and Riyanto showed that representatives of Generation Z are more likely to change jobs than previous generations. They do not feel obliged to stay in one place of employment for any length of time. The salary is important to them, but it does not come first. The most frequently cited factor is providing the employee with development opportunities. Young people aspire to acquire competences that provide opportunities for self-development and promotion. They are looking for work that enhances their skills and abilities, to gain experience and practice. It may come as a surprise to some that Generation Z representatives also value having a supportive workplace, as well as good relationships between colleagues [42].

We can also see confirmation of the importance of remuneration for Generation Z in the research compiled by Dwidienawati and Gandasari [43]. The results of the survey clearly confirm that Generation Z representatives in Indonesia, in addition to salary, expect job security and satisfactory employment conditions. The study confirms that Generation Z expects stability and security when looking for a job.

A study by Fratričová and Kirchmayer [44] showed that young people expect to gain experience and enjoyment from their work, which is determined by the right team atmosphere.

The findings of the authors of this article on the expectations of Polish representatives of Generation Z are partly consistent with the global research conducted by Deloitte [45]. Surveys were conducted in 44 countries around the world, including Poland. Globally, 22,856 people took part, of which just over 60 percent represented Generation Z (born between 1995 and 2004) and the remaining almost 40 percent Generation Y (born between 1983 and 1994). Deloitte’s [45] research showed that the rising cost of living, rising unemployment and climate change appeared to be the biggest concerns of the younger generations. Financial insecurity can have a direct impact on mental health, which is proving to be a particularly important topic for young people. Although mental problems, caused by excessive workloads, are becoming more common, young people are more likely to look for extra work. In Poland, 30 percent of Generation Z earn their basic salary. The desire to gain another source of income is the biggest motivation for workers from Poland and other countries to take on additional work. More than half of those surveyed admit to living very modestly (5 percentage points more than the previous year). Work–life balance is particularly important for the younger generations: 26 percent of Generation Z representatives identified the ability to balance work and life priorities as the trait they most admire in their peers. As many as 77 percent of Generation Z representatives who work from home said they would consider seeking new employment if their employer asked them to return to the office full-time.

Also, research by the World Economic Forum [2] has shown that Generation Z values salaries less than any previous generation and sees remote working as a top priority. Young

people from this generation are also the most diverse and are not as willing to compromise as other generations of workers in a workplace that does not match their values. The WEF [2] research is also in line with the results obtained by the authors of this article regarding attitudes to autonomy and work–life balance. Around half say they would quit their job if it interfered with their work–life balance.

Research on the role of work in the lives of Generation Z was also conducted in 2022/2023 by the world’s leading data, insights and consulting company Kantar [46]. Kantar Global Office in London conducts research in more than 90 markets. This research was conducted online among 10,055 full or part-time workers (whose job function could be performed remotely at least part-time) across ten global markets: US, UK, France, Germany, India, Singapore, Spain, South Africa, Mainland China, and Brazil. According to the Kantar study, younger generations who are at key points in their careers are driven by opportunities for employee development and advancement. In contrast, older generations value productivity-based qualities. Generation Z is twice as likely as their older counterparts to consider looking for work and to perform additional work to earn extra income. On average, 40% of Generation Z representatives have at least two jobs, while boomers (21%) and Generation X (30%) are less likely to have more than one job. On the topic of the proposed move to a 4-day working week, 7 out of 10 Generation Z representatives believe that work can be completed in less than 5 days a week.

## 6. Conclusions

One of the requirements for effective work in a sustainable development environment, on which the concept of Industry 4.0 is based, is the employment of competent employees, oriented towards organizational learning, innovation, and diversity. Today, employees are expected to have the ability to work together in international teams and an appreciation of green transformation. Thus, the social aspect of sustainable development becomes extremely important. Such work requirements are hitting the right ground, which is Generation Z.

The authors’ findings show that the expectations of young Poles generally do not differ from the results of research conducted by international teams. A friendly working atmosphere, recognition from superiors, and opportunities for professional development are important to them. Slightly more important, compared to some global surveys, is their base salary. This can be linked, on the one hand, to the income disparities that still exist when compared with Western European countries. On the other hand, young people are aware of the possibility of easily finding employment abroad, which is made possible by membership of the European Union and good knowledge of foreign languages.

The presented results of our own and third-party research show the large generational differences that exist in the way employees think, feel, and behave in relation to new ways of working. An important task for today’s employers is to attract young talent and keep the employees who are currently entering the labor market highly engaged. Companies aspiring to be attractive workplaces should adapt as best they can to the expectations of younger generations. What is needed is a commitment on the part of business leaders to skillfully tap into the potential of youth that Generation Z possesses. It is also important to recognize and utilize the life experience of older workers and the benefits of working in multicultural teams. This approach will allow employers to benefit from the advantages of diversity.

In further research, the authors will try—at least to some extent—to overcome the limitations of overlooking the factors that demotivate Generation Z to work. The analysis of demotivators, conducted as part of our own survey and extended by the analysis of the results of European and global research teams, will be the subject of the next publication of the authors.

The authors’ further plans include also research on the role of organizational leaders in shaping employees’ commitment to work. Criticism of the Industry 4.0 concept focuses on emphasizing the role of digitization at the expense of appreciating human efforts. It seems that the role of leaders will be crucial in the process of developing a competitive advantage, considering greater care for people, which is one of the pillars of Industry 5.0.

**Author Contributions:** Conceptualization, B.B. and W.Ł.; methodology, B.B. and W.Ł.; software, S.D.; validation, B.B. and W.Ł., formal analysis, B.B.; investigation, B.B., W.Ł. and S.D.; resources, B.B. and W.Ł.; data curation, B.B.; writing—original draft preparation, B.B., W.Ł. and S.D., writing—review and editing, B.B.; visualization, S.D.; supervision, B.B.; project administration, B.B.; funding acquisition, B.B. All authors have read and agreed to the published version of the manuscript.

**Funding:** The publication was funded by MDPI and co-financed from the subsidy granted to the Cracow University of Economics.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Not applicable.

**Acknowledgments:** Many thanks to the respondents of the study.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

1. OECD Employment Outlook 2022. Available online: [oecd.org/employment-outlook/2022](https://oecd.org/employment-outlook/2022) (accessed on 3 June 2023).
2. Bloomgarden, K. Gen Z and the End of Work as We Know It. Available online: [weforum.org/agenda/2022/05/gen-z-don-t-want-to-work-for-you-here-s-how-to-change-their-mind](https://weforum.org/agenda/2022/05/gen-z-don-t-want-to-work-for-you-here-s-how-to-change-their-mind) (accessed on 21 May 2023).
3. Katz, R.; Ogilvie, S.; Shaw, J.; Woodhead, L. *Gen Z, Explained: The Art of Living in a Digital Age*; University of Chicago Press: Chicago, IL, USA, 2021.
4. Mahmoud, A.B.; Fuxman, L.; Mohr, I.; Reisel, W.D.; Grigoriou, N. 'We aren't your reincarnation!' Workplace motivation across X, Y and Z generations. *Int. J. Manpow.* **2021**, *42*, 193–209. [[CrossRef](#)]
5. Rosłon, J. Motivators and Demotivators for Employees. *Olszt. Econ. J.* **2020**, *15*, 327. [[CrossRef](#)]
6. Pauli, J.; Guadagnin, A.; Ruffatto, J. Values relating to work and future perspective for generation Z. *Rev. Ciências Adm.* **2020**, *22*, 8–21. [[CrossRef](#)]
7. Bieleń, M.; Kubiczek, J. Response of the labor market to the needs and expectations of Generation Z. *E-Mentor* **2020**, *4*, 87–94. [[CrossRef](#)]
8. Schwab, K. The Fourth Industrial Revolution: What It Means, How to Respond. Available online: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond> (accessed on 3 July 2023).
9. Karacsony, P.; Izsák, T.; Vasa, L. Attitudes of Z Generations to job searching through social media. *Econ. Sociol.* **2020**, *13*, 227–240. [[CrossRef](#)]
10. Bińczycki, B.; Dorocki, S. Industry 4.0: A Chance or a Threat for Gen Z? The Perspective of Economics Students. *Sustainability* **2022**, *14*, 8925. [[CrossRef](#)]
11. Bencsik, A.; Machova, R. Knowledge Sharing Problems from the Viewpoint of Intergeneration Management. In *International Conference on Management, Leadership & Governance*; Academic Conferences International: Kidmore End, UK, 2016.
12. Bencsik, A.; Horváth-Csikós, G.; Juhász, T. Y and Z Generations at Workplaces. *J. Compet.* **2016**, *8*, 90–106. [[CrossRef](#)]
13. Graczyk-Kucharska, M.; Scott Erickson, G. A person-organization fit model of Generation Z: Preliminary studies. *J. Entrep. Manag. Innov.* **2020**, *16*, 149–176. [[CrossRef](#)]
14. Chillakuri, B. Understanding Generation Z expectations for effective onboarding. *J. Organ. Change Manag.* **2020**, *33*, 1277–1296. [[CrossRef](#)]
15. Mayer, C.-H.; Oosthuizen, R.M. Sustainability in Industry 4.0 Business Practice: Insights from a Multinational Technology Company. *Front. Sustain.* **2022**, *3*, 886986. [[CrossRef](#)]
16. Sniderman, B.; Mahto, M.; Cotteleer, M. *Industry 4.0 and Manufacturing Ecosystems*; Deloitte University Press: New York, NY, USA, 2016; Available online: <https://www2.deloitte.com/us/en/insights/focus/industry-4-0/manufacturing-ecosystems-exploring-world-connected-enterprises.html> (accessed on 5 June 2023).
17. Kagermann, H.; Wahlster, W.; Helbig, J. Recommendations for Implementing the Strategic Initiative INDUSTRIE 4.0. Final Report of the Industrie 4.0 Working Group. Acatech—National Academy of Science and Engineering. 2013. Available online: <https://en.acatech.de/publication/recommendations-for-implementing-the-strategic-initiative-industrie-4-0-final-report-of-the-industrie-4-0-working-group> (accessed on 12 May 2023).
18. Elstner, S.; Feld, L.; Schmidt, C. *Bedingt Abwehrbereit: Deutschland im Digitalen Wandel*; Working Papers of German Council of Economic Experts; No. 3; German Council of Economic Experts: Wiesbaden, German, 2016; Available online: <https://www.econstor.eu/bitstream/10419/144796/1/864782705.pdf> (accessed on 24 June 2023).
19. The Future of Jobs Report 2020. World Economic Forum. Available online: [www.weforum.org/reports/the-future-of-jobs-report-2020](https://www.weforum.org/reports/the-future-of-jobs-report-2020) (accessed on 2 May 2023).
20. Ligarski, M.J.; Rożałowska, B.; Kalinowski, K. A Study of the Human Factor in Industry 4.0 Based on the Automotive Industry. *Energies* **2021**, *14*, 6833. [[CrossRef](#)]
21. Moczydłowska, J.M. *Industry 4.0 (?)*; People and Technologies: Warsaw, Poland, 2022; pp. 100–102.

22. Zalesna, A.; Wyrzykowska, B. Sustainable human resource management in companies: The Polish case. *Organ. Manag.* **2017**, *1*, 151–161. Available online: [https://ssl-kolegia.sgh.waw.pl/pl/KZiF/czasopisma/oik/numery/Documents/2017\\_1\\_175/zalesna-wyrzykowska-zrownowazone-zarzadzanie-zasobami-ludzkimi-w-praktyce-przedsiębiorstw-w-polsce.pdf](https://ssl-kolegia.sgh.waw.pl/pl/KZiF/czasopisma/oik/numery/Documents/2017_1_175/zalesna-wyrzykowska-zrownowazone-zarzadzanie-zasobami-ludzkimi-w-praktyce-przedsiębiorstw-w-polsce.pdf) (accessed on 23 April 2023).
23. Kramar, R. Beyond Strategic Human Resource Management: Is Sustainable Human Resource Management the Next Approach? *Int. J. Hum. Resour. Manag.* **2014**, *25*, 1069–1089. [[CrossRef](#)]
24. Sugiarti, E. The Influence of Training, Work Environment and Career Development on Work Motivation That Has an Impact on Employee Performance at PT. Suryamas Elsindo Primatama in West Jakarta. *Int. J. Artif. Intelligence Res.* **2021**, *6*, 1. [[CrossRef](#)]
25. Lohela-Karlsson, M.; Jensen, I.; Björklund, C. Do Attitudes towards Work or Work Motivation Affect Productivity Loss among Academic Employees? *Int. J. Environ. Res. Public Health* **2022**, *19*, 934. [[CrossRef](#)] [[PubMed](#)]
26. Lorincová, S.; Štarchoň, P.; Weberová, D.; Hitka, M.; Lipoldová, M. Employee Motivation as a Tool to Achieve Sustainability of Business Processes. *Sustain. Hum. Resour. Manag.* **2019**, *11*, 3509. [[CrossRef](#)]
27. Ivasciuc, I.S.; Epuran, G.; Vuță, D.R.; Tescașiu, B. Telework Implications on Work-Life Balance, Productivity and Health of Different Generations of Romanian Employees. *Sustainability* **2022**, *14*, 23. [[CrossRef](#)]
28. Barbosa da Silva, A.; Castelló-Sirvent, F.; Canós-Darós, L. Sensible Leaders and Hybrid Working: Challenges for Talent Management. *Sustainability* **2022**, *14*, 16883. [[CrossRef](#)]
29. Aghayeva, K.; Ślusarczyk, B. Analytic Hierarchy of Motivating and Demotivating Factors Affecting Labor Productivity in the Construction Industry: The Case of Azerbaijan. *Sustainability* **2019**, *11*, 5975. [[CrossRef](#)]
30. Hitka, M.; Balazova, Z.; Grazulis, V.; Lejskova, P. Differences in Employee Motivation in Selected Countries of CEE (Slovakia, Lithuania and the Czech Republic). *Eng. Econ.* **2018**, *29*, 536–547. [[CrossRef](#)]
31. Kovačević, M.; Blagojević, S.; Kuzman, B. Sustainability of the Motivation Policy Model for Employees in State Administration. *Sustainability* **2020**, *12*, 7974. [[CrossRef](#)]
32. Thi Diem Vo, T.; Velasquez Tuliao, K.; Chen, C. Work Motivation: The Roles of Individual Needs and Social Conditions. *Behav. Sci.* **2022**, *12*, 49. [[CrossRef](#)]
33. Lipińska-Grobelny, A.; Ciesielska, O. Commitment to work and attachment to the organization. Intergenerational and cross-gender analysis. *Hum. Resour. Manag.* **2018**, 122–123, 129–144. Available online: <https://journals.indexcopernicus.com/api/file/viewByFileId/552570.pdf> (accessed on 15 April 2023).
34. Dolot, A. What motivates generation Z to work—Selected issues—Results of an empirical study. *Entrep. Manag.* **2018**, *19*, 227–242. Available online: <http://piz.san.edu.pl/docs/e-XIX-8-3.pdf> (accessed on 15 May 2023).
35. Ratajczak, J. The recruitment process of Generation Z in the context of demographical changes on the labor market. *Zesz. Nauk. Pol. Tow. Ekon. W Zielonej Górze* **2018**, *8*, 125–137. Available online: <http://ptezg.pl/Files/files/zn8/art09.pdf> (accessed on 2 July 2023).
36. Gajda, J. Expectations of representatives of generation Z towards professional work and employer. *Res. Pap. Wrocław Univ. Econ.* **2017**, *491*, 158–171. Available online: <https://www.dbc.wroc.pl/dlibra/docmetadata?id=39478> (accessed on 2 July 2023).
37. Kukla, D.; Nowacka, M. Characteristics of the approach to work of representatives of generation Z—The preferred life model and professional work. *Pol. J. Contin. Educ.* **2019**, *4*, 176–181. Available online: [https://edukacjaustawicznadoroslych.eu/images/2019/4/15\\_4\\_2019.pdf](https://edukacjaustawicznadoroslych.eu/images/2019/4/15_4_2019.pdf) (accessed on 20 May 2023).
38. Domagalska-Gędyś, M. Values at work for young generations Y and Z. *Ann. Pol. Assoc. Agric. Agribus. Econ.* **2017**, *19*, 2. [[CrossRef](#)]
39. Wołpiuk-Ochocińska, A. Motivations to work and work engagement of young employees at Polish work market. *Zesz. Nauk. Wyższej Szkoły Zarządzania Ochr. Pr. W Katowicach* **2015**, *1*, 72–83. Available online: <https://www.semanticscholar.org/paper/Motywacje-do-pracy-i-zaanga%C5%BCowanie-w-ni%C4%85-m%C5%82odych-na-Wo%C5%82piuk-Ochoci%C5%84ska/5a5b0dc7448734bee96bd2865abc2e9b1528a4b8> (accessed on 15 April 2023).
40. Sadłowska-Wrzesińska, J.; Nejman, Ż. Safety at Work—A Non-wage Factor Motivating Employees. *Entrep. Manag.* **2016**, *17*, 399–414. Available online: <http://piz.san.edu.pl/docs/e-XVII-6-2.pdf> (accessed on 6 April 2023).
41. Kaczmarczyk, M. Generation Z on the Labor Market. Higher School Humanitas, Sosnowiec-Warsaw. 2023. Available online: [https://www.humanitas.edu.pl/resources/upload/zetki%20wyniki%20bada%C5%84\\_RAPORT.pdf](https://www.humanitas.edu.pl/resources/upload/zetki%20wyniki%20bada%C5%84_RAPORT.pdf) (accessed on 16 April 2023).
42. Nabahaniand, P.R.; Riyanto, S. Job Satisfaction and Work Motivation in Enhancing Generation Z’s Organizational Commitment. *J. Soc. Sci.* **2020**, *1*, 234–239. Available online: <https://jsss.co.id/index.php/jsss/article/view/39> (accessed on 15 June 2023). [[CrossRef](#)]
43. Dwidienawati, D.; Gandasari, D. Understanding Indonesia’s Generation Z. *Int. J. Eng. Technol.* **2018**, *7*, 245–252. [[CrossRef](#)]
44. Fratričová, J.; Kirchmayer, Z. Barriers to work motivation of generation Z. *J. Hum. Resour. Manag.* **2018**, *21*, 28–37. Available online: <https://www.jhrm.eu/2018/11/28-barriers-towork-motivation-of-generation-z> (accessed on 2 July 2023).
45. 2023 Global Gen Z and Millennial Survey. Available online: <https://www.deloitte.com/global/en/issues/work/content/genzmillennialsurvey.html> (accessed on 23 June 2023).
46. New Ways of Working from Gen-Z to Boomers 2023. Available online: <https://www.kantar.com/north-america/inspiration/research-services/new-ways-of-working-from-gen-z-to-boomers-pf> (accessed on 3 June 2023).

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