

METHODS OF MANAGING MULTIGENERATIONAL HUMAN RESOURCES IN THE ERA OF THE FOURTH INDUSTRIAL REVOLUTION

Ewa STAWIARSKA^{1*}, Zuzanna KLASA², Julia WONS³

¹ Silesian University of Technology; ewa.stawiarska@polsl.pl, ORCID: 0000-0003-1198-1134

² zuzakla759@gmail.com, ORCID: 0009-0000-5994-2308

³ julia.wons01@gmail.com, ORCID: 0009-0006-6636-8061

* Correspondence author

Purpose: The article presents a literature review of management methods (applicable to multi-generational work environments of enterprises remaining in constant digital transformation). The primary objective of the literature research was to identify universal principles for methods of managing a multigenerational workforce of digitalizing enterprises and to point out the generational diversity that must be taken into account by a manager using the selected methods.

Results: Special attention was paid to recommending management methods and instruments that compensate for digital competence gaps in older generations and relational gaps in younger generations.

Practical implications: The results of the research highlighted the integrative role of managers in organizations where employees come from different generations. The findings underscore the importance of each employee having a sense of his or her place in the organization. The results are an inspiration for managers to appreciate the value of multi-generational personnel in the era of Industry 4.0.

Social implications: Modern management in a multi-generational work environment poses numerous challenges for managers, but also opens up new opportunities. A key aspect is the adaptation of management methods to the specifics and expectations of different age groups in the era of the fourth industrial revolution.

Originality/value: The addressee of the work is the manager of a company with multi-generational employees. The novelty of the consideration is the formulation of recommendations that serve managers of companies undergoing digital transformation to adapt to the requirements of Industry 4.0.

Keywords: Human resources management, multigenerationality, Industry 4.0.

Introduction

The reason for writing this article is the recognized research gap on recommending methods for managing human resources in the era of the fourth industrial revolution. For the purpose of identifying the research gap, a review of recent global literature (publications from 2017-2024) focused on 4.0 competencies of multigenerational and multicultural workforce was conducted. The literature on the fourth industrial revolution is mainly concerned with the implementation of technology, change management in the enterprise undergoing transformation. Meanwhile, there is a lack of publications on the support of HR managers in this difficult period of digital transformation of enterprises. Recognizing this research gap, a research question was posed, viz: What management methods to recommend in a multi-generational work environment in the era of the fourth industrial revolution? The primary objective of the literature research was to formulate and recommend universal principles for management methods for multigenerational workforce of digitalizing enterprises. The indirect objectives were: - to familiarize the selected management methods, - to identify the strengths and weaknesses of these methods used in transforming organizations (the strengths and weaknesses of these methods were pointed out in the context of personnel management of generations X, Y, Z). In proceeding with the literature research, it was assumed that there is generational diversity. The manager must take into account this diversity using management methods. Another assumption was that a manager can use known methods while managing a multi-generational workforce if he sticks to universal principles.

Literature review

A Technologies introduced into the business processes of enterprises require new predispositions and skills from human resources. Selected literature studies have analyzed the key dimensions: education and qualifications of employees (Benesova et al., 2017); key employee skills required of workers in the era of the fourth industrial revolution. In addition to the need for competence in digitization, AI, robotics and big data (Sima et al., 2020), soft skills (Pejic-Bach et al., 2020), a disposition for continuous training (Flores et al., 2020) and flexibility and a collaborative attitude (Matt et al., 2020) are essential. Some studies have looked at the relationship between social trends and Industry 4.0 technologies (Bednar, Welch, 2020). Researchers have highlighted the changing demographics of the workforce in the context of Industry 4 challenges (Calzavara et al., 2020; Javaid, Haleem, 2020). The researchers, seeing that the demographics of the workforce are changing (there is a general aging of the population and a higher average age of the workforce worldwide), found it worthwhile to study the

relocation and distribution of work (remote and smart work) in this context (Calzavara et al., 2020).

Other works have emphasized that the introduction of Industry 4.0 systems and technologies entails opportunities and pitfalls for organizations and management (Benesova, Tupa, 2017; Nahavandi, 2019; Xu et al., 2021). Like any transition to a new production paradigm, a new organization of business processes, leadership styles and personnel management methods is required. Educating and qualifying managers (Benesova et al., 2017); managing human-machine interaction, i.e., the connections between the mind of a (human) worker and the (artificial) intelligence of robots to increase collaboration and reduce competition is a new challenge for managers (Nahavandi, 2019; Xu et al., 2021). Extreme connectivity between organizations, employees, workers and robots in a digitized organization creates new social power structures. Existing management methods, may no longer be acceptable in digitally transformed enterprises, may lead to various personnel problems, authoritarian rule by one person. Researchers say that new management methods should be proposed in the social sciences and humanities for effective and efficient implementations of Industry 4.0 and 5.0 technologies (Dezi et al., 2018; Ozdemir, 2018) especially in multi-generational environments.

Research Methodology

The next chapter of the research includes a systematic literature review. A systematic literature review is a method of integrating scientific evidence that uses explicit methods to identify, select, critically evaluate and analyze data from relevant studies qualified for review. Literature for the review was qualified by keywords, i.e., human resource management, management methods, multigenerational workforce, digital transformation. Those evidences were selected that indicate the possibility of using the selected methods to manage a multigenerational workforce. The literature subject to systematic review was published over a period of many years, i.e. from 1987 to 2024. Such a period of time confirms the utilitarian nature of the management methods described, but also the universal principles that should guide a manager managing multigenerational staff in times of difficult economic transition.

Research results from a systematic literature review

Management methods used in multigenerational work environments in the era of digital transformation

Management by communication - Essence of the method

The main features of this method are: exposure in the organizational structure of the company of positions and cells oriented to information and communication processes; use a rich spectrum of various methods and technical means of information and communication; improvement of information and management processes leading to the improvement of the existing information and communication system in the company. The method assumes broad participation of employees at various levels (from the highest - the company's board of directors and management, through the managers of functional departments, to the positions of specialists in various fields supporting the operation of the information system). Significant emphasis is also placed on the use of information technology as a tool to support the implementation of management by information and communication (Nowicki, 1998).

Messages should be comprehensible, transparent and structured in such a way that they motivate the work to be done.

- Communication barriers of generation X; Communication expectations of generation X

In the process of creating appropriate communication conditions with Generation X, the manager should pay attention to the fact that their representatives value direct contact "face to face" far more. Therefore, the exchange of information via instant messaging may not be effective (Wasylewicz, 2016). However, this does not mean that X are completely closed to the new technology. Phone calls and emails are acceptable, but should not dominate active meetings. Email is an effective form of information exchange. Information exchange using social media can make X uncomfortable and distracted (Rogulska, 2018).

- Communication barriers of generation Y; Communication expectations of generation Y

Generation Y is one of those generations that values face-to-face contact, but is equally keen to use modern forms of long-distance communication. Generation Y values a good atmosphere at work. It functions much better in a flat organizational structure that gives freedom of communication between employees. Communicating praise has a positive effect on Y. They tolerate criticism less well, so every effort should be made to ensure that communicating mistakes does not cause them stress. Y are proponents of feedback. Managers can use IT tools, such as collaboration platforms, while maintaining attention to trust and openness.

- Communication barriers of generation Z; Communication expectations of generation Z

Managers increasingly perceive a problem with building an appropriate channel for exchanging information with Generation Z employees. Deficits in communication affect the reduced level of satisfaction with the duties performed by both the subordinate and the supervisor. This is mainly due to the fact that young people are just beginning to enter the labor

market, which is not yet prepared for radical changes in communication. Generation Z finds itself perfectly at home in a flat organizational structure, where you can communicate everything to everyone. Quick feedback and rapid exchange of messages is best and preferred for Generation Z. Young people also appreciate being able to communicate with them in a way that is relevant to their trends in language, words, etc. Therefore, it is worth trying to delve into the subject of the phrases young people use and what topics interest them to create a favorable environment for professional communication (Sulyma, 2022).

Management by delegation of authority - the essence of the method

Management by delegation of authority should properly be defined as the delegation of authority, duties and responsibilities (Niemczyk, 2000) and be included among the methods of motivating employees. The essence of delegation is the transfer of specific decision-making capabilities along with the burden of these decisions to lower levels of management (Niemczyk, 2000). Observing the work carried out by managers, it is often noticeable that the number of tasks assigned to them can cause numerous overloads due to the temporal overlapping of individual duties. The accumulation of such a number of activities to be performed can negatively affect work efficiency and the achievement of positive results. This is mentioned in a passage found in the Bible, in which Jethro notes Moses' hardship at being burdened with too many things and advises him to entrust some of his duties to trusted people (Scripture) Entrusting employees with specific tasks to perform involves partially transferring responsibility for the delegated activities to them. By bestowing a task on an employee, the manager simultaneously manifests trust. It thus builds the employee's sense of worth and raises the desire for self-development. It allows the employee to identify with the results of the project and build awareness that the role performed in the implementation of a given project was important for the proper functioning of the company (Timescu-Dumitrescu, 2019).

- Effective delegation of tasks to generation X

Employees belonging to representatives of Generation X highly value the opportunity to make independent decisions. They want to influence the final implementation of tasks. For this reason, the delegation process itself should be created in a way that allows active participation in decisions related to delegated responsibilities. X like to feel responsibility for tasks. In the process of delegating tasks for Generation X, it is also important to take into account the possibility of adapting the schedule of the assigned work to individual preferences. The need for flexibility in their approach to their duties will affect their effectiveness and satisfaction with their assigned work (Kronke, 2015).

- Effective delegation of tasks to Generation Y

Generation Y are very good candidates for delegating tasks that will be performed in teams. For them, interacting with other employees on projects is an opportunity to exchange knowledge, gain new experiences and develop interpersonal skills. The process of delegating tasks should be closely linked to the opportunity to promote team action. Delegation of tasks

should include regular feedback sessions to enable them to track their progress, understand what they are doing well and what they can still improve. Specific messages reflecting perceptions of their work will stimulate their commitment and continued professional development. They are digital natives, which means they are very familiar with modern communication tools. In the process of delegation, it is worth applying new technologies, taking into account their preferences for using modern platforms, apps or tools for effective communication and task delegation (Kronke, 2015).

- Effective delegation of tasks to generation Z

Delegation of task responsibility should be communicated in an appropriate and understandable way so that the employee understands its context and purpose. Coding the delegated task will be easier for the young employee if every little detail is explained to them. The explanation should include information such as how the task is to be performed, what is the purpose of its performance, what is the idea of the final result. It is worthwhile to systematically consult the results of each stage of the activity, since the feedback message is very important for Z. While performing the duty, it is important to listen to his dilemmas or suggestions that he feels should improve the whole process. Creating space to express the employee's thoughts and suggestions creates an attractive work environment for Z. In addition to paying attention to the aforementioned aspects of effective delegation to young employees, modern communicators should be used. An interesting way to increase employee efficiency is to set a deadline that is embedded in a specific time. It is necessary for the manager to be sure that the employee understands what needs to be done. To this end, the employee can be encouraged to present his interpretation of the task received. When the implementation of the instruction is successful, the manager should reward the people involved using, for example, verbal praise and celebration of success (Zubelewicz, Kardasz, 2017).

Management by motivation - The essence of the method

Management by motivation aims to make employees perform tasks with the impact of various incentives. There are many different approaches and ways to motivate employees, such as rewards, employee evaluations and punishment systems. It is also important to understand the needs and goals of employees and create an appropriate motivational system. The effectiveness of a motivational system depends on the values and preferences of employees (Gellerman, 1968). Meeting the motivational needs of employees is a challenging task for a manager. It is important to keep in mind that each employee may respond differently to motivational stimuli, which often becomes a test of managerial creativity. Employees are different in terms of temperament, experience, qualifications or character traits. A manager must be creative enough to have the ability to arouse the desire for action in his subordinates. He should pay attention to two aspects, i.e. the company's goals and self-actualization, self-development and the creation of space to achieve one's own goals, which are reflected in the positive performance of the entire organization (Buchbinder, Shanks, 2007). Motivation

involves providing the employee with an appropriate incentive in response to meeting a need. Rewards can take many forms. The manager should select them in a manner consistent with the needs arising from the form and type of work performed. By providing the right motive, which in essence should evoke a productive and engaging attitude, the manager increases the chances of valuable results.

- Supporting the development of Generation X using management by motivation

Generation X, is characterized by specific values and traits that influence their approach to work, team relations and work-life balance. X are loyal employees, teamwork and maintaining a life balance between work and private time (Syper-Jędrzejak, 2014) is already a motivation for X. Managers can focus on fostering community in the workplace, developing programs to encourage collaboration, organizing team-building events or offering team-building opportunities. This generation needs to be motivated by proclaiming their contribution to teamwork. Rewarding individuals and teams for their contributions can increase their commitment, as well as create an atmosphere where everyone feels important. Moreover, recognizing employees' commitment to balance, for example by offering rewards, increases their commitment (Smolbik-Jęczmień, Żarczyńska-Dobiesz, 2017).

- Supporting the development of Generation Y using management by motivation

For Generation Y individuals, maintaining a work-life balance is crucial. They tend to take on tasks that provide them with satisfaction and allow them to achieve their goals. At the center of their motivation are primarily intangible incentives (Syper-Jędrzejczak, 2014). By offering flexible work opportunities, such as remote work or flexible working hours, representatives of Generation Y can better manage their time and personal lives, which increases their motivation to perform their professional duties. By allowing this generation to choose more flexible tasks, tailored to individual skills and preferences, employers can achieve greater efficiency. Creating a work environment where employees can focus on projects they are passionate about and find professional fulfillment can significantly increase engagement. Investment in professional development, including training, mentoring and career development programs, can be a powerful source of motivation for Y (Smolbik-Jęczmień, Żarczyńska-Dobiesz, 2017).

- Supporting the development of generation Z in using management by motivation

The use of coaching methodologies in the workplace makes it possible to help employees increase their productivity and support them in the challenges of their tenure. Z focuses on skills and developmental outcomes. It values scheduled sessions with an expert as well as ongoing conversation. It is seen as a way to cope with any organizational changes, uncertainty and build quality conversations (Gran, 2016). Mentoring provides an opportunity to transfer skills and knowledge acquired by a more experienced expert to an individual. It focuses on maximizing potential and increasing the chances of achieving goals. The mentor is a kind of role model (Connor, Pokora, 2017). Counselling is a method appreciated by the Y that helps directly diagnose an emerging problem. It is perceived by the Y as psychological counseling to provide

support in stressful situations, which makes it possible to reduce the causes of undesirable situations, conduct coaching and achieve developmental progress (McLeod, Henderson, 2003).

Management by controlling - the essence of the method

An effective method of management is controlling. The instruments adopted in controlling improve management. The use of controlling solutions is possible due to the collected data, processed into information. Based on the information, strategic, tactical and operational plans are built. Employees performing assigned tasks are also controlled. The employee should act according to the standards set, but in order for the manager to be sure that the action is being carried out, he or she performs control (Dědečková, 2020). Control also serves the employee by providing a sense of correctly performed tasks. Control of the correctness of tasks complemented by control of other parameters such as time influences the evaluation of the employee. Control creates respect among subordinates for managers. Control and evaluation can become a source of inspiration to perform assigned tasks more diligently and be a source of satisfaction with tasks well performed (in case of positive evaluation of results).

- Reengineering the control process of Generation X

The importance of autonomy and independence at work is evident to Generation X. X have a relaxed approach to performing duties, to enable them to approach tasks individually and make decisions independently. As a result, they require a flexible approach to tracking progress. They prefer to work in a way that allows them to manage their time and tasks according to their own preferences. When evaluating their performance, it is useful to maintain clear standards and benchmarks that can motivate them to achieve their goals. In addition, periodic appraisal meetings provide an opportunity to discuss progress, set new goals and receive constructive feedback (Wasylewicz, 2016). For Generation X, it is crucial to find a balance between autonomy and support from the organization. Flexible forms of monitoring, performance appraisals and development conversations create a comprehensive approach that meets their preferences and promotes efficiency and professional development.

- Reengineering the control process for Generation Y

Employees of the Millennial generation expect continuous feedback as part of their ongoing professional development efforts. By receiving regular feedback on their performance, they can adjust their results, respond quickly to changes and achieve their goals. However, in addition to feedback, it is important to recognize their contribution to achieving organizational goals. Recognizing them as key players in the company's success is a great motivator and increases their value. Periodic progress monitoring is another factor that this generation values. Millennials prefer a variety of performance appraisal tools and methods, from traditional meetings to digital tools that allow them to tailor the appraisal process to their needs and work style (Gadomska-Lila, 2015).

- Reengineering the control process for Generation Z

When undertaking control activities, it is important to keep in mind that it will involve an employee's expectation of feedback. The younger generation feels more engaged if the inspection ends with a specific feedback message about whether they are satisfied or dissatisfied with their work, which allows them to make changes/improvements. In the second case, they expect a detailed answer as to what should be changed in the conduct and how to avoid given inconveniences in the future (Swierkosz-Hołyś, 2016). The feedback message must exhibit clarity of understanding, the manager's intention. Communicate the message in a sincere and specific way, referring only to the given behavior and not personally (Niermeyer, 2009).

Management by objectives - the essence of the method

Management by objectives is a method of building a coherent set of goals for all cells and participants in the organization and assessing the level of their execution (Carrolls, 1978). The supervisor and his subordinates are supposed to be in agreement on the goals that will be in effect over a set period of time. In the 1960s', psychologist Douglas McGregor distinguished two approaches to motivational issues for employees. One, called the X theory, is the belief that an employee has a natural disinclination to do his or her job consistently and consciously shirks it. The other, called theory Y, says that employees are committed to achieving effective results from their actions. This approach is characterized by a willingness to work and develop and be members in achieving the organization's goals (Tamtekin Aydin, 2012). Communicating an action plan that will be set in terms of time and showing results is central to the Y theory. Co-creating goals with the workforce can have many benefits. The employee feels a commitment to a mutually agreed upon plan, which exerts additional motivation and focus on the tasks at hand. He or she shows integrity and ambition, and this often comes with the reward of a promotion or raise (Thomson, 1998).

- Goal setting for generation X

Work-life balance is a priority for Generation X, which is reflected in their desire for flexibility in their approach to career goals. They value the ability to shape their own career path, which means that goals should be in line with their individual career aspirations. The goal-setting process for X should take into account their need for autonomy and self-reliance. Goals that elicit the commitment of Generation X are those that allow them to develop their individual skills, allow them to gain experience, and at the same time are in line with overall organizational goals. The goal-setting process requires open communication and dialogue, in which employees have the opportunity to express their personal opinions and career goals, and the organization can adjust its expectations flexibly. Flexibility in achieving goals is a key aspect for Generation X. They are keen to have methods and deadlines for achieving goals that fit their own pace of work and personal life. Employees of this generation value the ability to decide how and when they achieve their goals (Smolbik-Jęczmień, 2013).

- Building the organization's goals and personal development plan for Generation Y employees

Generation Y is one of those people who are focused on the pursuit of achievements, satisfying results and ambitious goals set (Warwas, Wiktorowicz, Jawor-Joniewicz, 2018). The individual development plan for employee Y is closely related to the identification of specific development goals, the preparation of a schedule that includes a range of training that provides the opportunity to acquire knowledge and skills attractive in the workplace. The schedule allows individual goals to be specified and pursued through consistency with company goals (United States Nuclear Commission, 2008). In the initial phase, strengths, interests, inspirations and development paths should be identified. The manager should focus attention on activities and behaviors that determine the willingness to commit to company goals. The next step should be to identify competencies and skills based on work experience and acquired knowledge. An employee's career path developed in this way will contribute to the success of the enterprise. Discussing and analyzing the company's performance in the context of employee development is the essence of management by objectives for Generation Y.

- The use of gamification with the achievement of goals by generation Z

An interesting solution to increase employee engagement is the so-called gamification. This tool is not related to the use of computer games, but the use of mechanisms applicable to games. Gamification ensures that the employee achieves goals in an interesting way without triggering the stress of competition. This tool is especially recommended for management by objectives of personnel of departments such as marketing or purchasing (Singh, Gamification, 2012). Express feedback on performance (Wozniak, 2015) is very much appreciated by young people. In addition, with high scores, the player can count on a reward, which in turn builds confidence and a sense of winning, which is also perceived as positively influencing feedback in the context of development and awareness of the growth of one's competence. With the help of gamification, employee behavior can be guided. Scoring can be used in evaluation, in which correct behavior will be rewarded. Organizing competitions with rankings, determining winners, ending with bonuses is expected by generation Z (Wozniak, 2015).

Management using organizational culture - The essence of the method

The success and broadly understood results of an enterprise's operations depend not only on the managerial skills of the management staff and the material and financial resources available. They also depend on the difficult-to-determine atmosphere, style of conduct, history of the company's development, its technical level, management style, demographic and psychological characteristics of employees, adopted patterns of conduct, and together they create what is called organizational culture. Considerations of many authors have proven that organizational culture influences the management methods used (Kinar, 2022). Organizational culture is built by the values guided by the manager. Organizational culture sets standards for quality of action and ethical conduct. Every attempt to modify or change organizational culture becomes

an opportunity to develop the enterprise (Davis, Dolson, 2018). The management staff has a decisive influence on the development of organizational culture, because every action of managers, gestures and attitudes are closely observed by employees (Urbański, 2015).

- Important elements of organizational culture for generations X, Y, Z

Bearing in mind how significantly each generation differs from each other, one could theorize that this diversity will also be visible in the importance of organizational culture. Each generation has experienced various social, cultural, political, etc. situations, which have become decisive factors shaping their worldview, values and needs regarding professional life. It turns out, however, that despite so many differences, there is something that unites each generation. This bond is certainly the preferences regarding the selection of an appropriate organizational culture. Empirical research shows that regardless of the age of the respondents, they had a common opinion that the best choice for their personal beliefs is the so-called clan culture (Wziątek-Staško, 2019). Thanks to obtaining such data, it can be concluded that each employee, regardless of their age and experience, needs to stay in a place with a family and friendly atmosphere, focused on joint achievement of set goals. In clan culture, team activities are of the utmost importance. Where there is cooperation, people feel appreciated (Wyrwicka, 2014). Issues of loyalty, trust and building common well-being are important to them (Kot, 2016).

Discussion

A systematic review of the literature has confirmed that the digital technologies being implemented into companies require new aptitudes and skills from human resources (Benesova et al., 2017); It has also been confirmed, following Sima et al., 2020, Pejic-Bach et al., Matt et al., 2020, that there are differences between generations not only in the possession of digital competencies, but also in the possession of so-called soft competencies. Researchers who highlighted the changing demographics of the workforce in the context of the challenges of Industry 4.0 (Calzavara et al., 2020; Javaid, Haleem, 2020) hinted at the research assumption that “there is generational diversity that must be taken into account using selected management methods during the digital transformation of the enterprise.” In turn, those who emphasized that the introduction of Industry 4.0 systems and technologies entails opportunities and pitfalls for organizations and management (Benesova, Tupa, 2017; Nahavandi, 2019; Xu et al., 2021) inspired the establishment of another premise of this article, that “a manager should use utilitarian management methods, and look for universal principles to guide him or her in managing a multi-generational workforce during a difficult time of transformation”. Seeking to recommend was guided by the research of Nahavandi, 2019; Xu et al. (2021). The aforementioned authors believed that the existing methods of management, may no longer

be acceptable in enterprises implementing new technologies of Industry 4.0 and 5.0. Following Dezi et al. (2018) and Ozdemir (2018), it was confirmed that it is possible, however, to look for golden rules at the same time using utilitarian methods of managing multi-generational human resources. By recommending re rules, the basic objective of the research was realized.

Conclusions

Methods of managing multi-generational staff are evolving in the era of the fourth industrial revolution. The dynamics of changes in an enterprise undergoing digital transformation and the challenges related to managing multi-generational staff in the transformation process require new management methods. It should be remembered that each generation represents unique values, preferences, needs and digital competences. The obtained results of literature research allowed the following conclusions to be formulated:

- When working with a multi-generational workforce, the manager must demonstrate great flexibility in the management methods used. Previously known methods should be modified for each generation. It is therefore worth considering introducing full freedom in their selection and use.
- When using the management by communication method, there is one utilitarian rule, i.e. providing quick feedback. The key is the efficient flow of messages in the company, based on the concept of fast feedback. However, it is worth paying attention to the different messengers preferred by the three generations described. It is also worth noting that the intonation of messages and the words and phrases used should be adapted to the generation. Certainly, preparing guidelines for differentiating messengers and messages would improve the atmosphere in the digitalized workplace. It is definitely necessary to create space for friendly relations between multi-generational staff. at least so that they can support each other in the difficult transformation process.
- When using the management method by delegating authority, it is worth using the universal principle that tasks should always be delegated. Only the difficulty of the tasks should be selected, depending on the experience, skills and qualifications of the employees. It is important for people to have causative power, decision-making and to be able to demonstrate themselves and perhaps even self-actualize. By assigning more and more ambitious tasks, the manager will certainly have a positive impact on the perception of the employee's importance in the company and his affiliation, and therefore loyalty. Different generations require different clarification of delegated tasks. Generation Z is the most demanding in this matter.

- When using the management by motivation method, the principle that the manager should create conditions enabling continuous professional development of employees seems to be universal. However, Generation Z will play a key role in digital transformation, having the least experience but the highest digital competences. The most effective form of motivating Generation Z seems to be the implementation of gamification. Other generations may not accept this form, and their motivation should take traditional forms, e.g. appointing X and Y to friendly transformation teams where they will be appreciated for their experience.
- When using the management by controlling method, it is worth considering building control into everyday activities and processes (developing a transparent control and evaluation system). Generation Z lacks mental and emotional stability, and at-hock controls could increase the sense of uncertainty and be a catalyst for stress. Older generations will also perceive systemic solutions positively. In the era of digitization of processes, constant control of work is possible and will most likely have a positive impact on the well-being and effective performance of tasks of all generations. If it is necessary to give an employee a low evaluation, the manager should be able to convey a non-invasive critical message. This is important in the case of Generation Z, which is very sensitive to any unfavorable and uncomfortable situations and prone to feeling negative emotions.
- By using the management by objectives method, the iron rule can be applied again - even in a multi-generational work environment. Everyone should be involved in building goals, starting from operational goals (lower-level employees should be included in their formulation) and ending with strategic goals (built with higher-level employees). It should be remembered that all generations agree on the possibility of expressing their own thoughts and suggestions resulting from their job position. The manager should listen carefully and, whenever possible, combine the employees' goals with the company's goals. Especially for Generation Z, it is important that their career path coincides with the technological development of the company. When working with Generation Z, we should pay attention not to downplay their abilities and try to break down the barrier that may result from a lack of trust in their experience and competences.

- Applying a management method using organizational culture is very difficult for a manager. It requires first of all controlling your own emotions. The manager must remember that any change in the practices in force in the organization will be interpreted differently by generations shaped by a different socio-cultural reality. The most important thing in the difficult process of building a new organizational culture is for the manager to be willing to understand the motives of each generation in their professional life and to be understanding in the context of differences and values. The most valuable attribute of any organizational culture being built is mutual respect between generations and inclusiveness, which in the difficult time of digital transformation will be helpful in filling the competence gaps of members of multigenerational teams.

Modern management in a multi-generational work environment poses numerous challenges for managers, but also opens up new opportunities for them. The key to success is the skillful use of generational diversity by adapting methods of motivation, control, setting goals and building organizational culture to the specificity and expectations of each age group.

It is important for managers to create a space for professional development in which employees of all generations can prove themselves and realize their aspirations. Particular attention should be paid to Generation Z, which, although it may lack experience, has high digital competences, which is crucial in the era of technological transformation. Motivating this group through gamification can bring great results, while older generations will respond better to traditional forms of recognition and inclusion in decision-making processes.

Management by controlling also requires delicacy and systematicity. A transparent evaluation and control system can reduce stress and increase the sense of stability among employees, especially younger ones who are more sensitive to uncertainty. The introduction of regular and clearly defined control mechanisms benefits both younger and older employees, increasing overall work efficiency.

The management by objectives method, in turn, enables the involvement of all generations in the process of creating the company's strategy, which in turn increases their sense of belonging and motivation. It is important that individual goals of employees are consistent with the goals of the organization, and managers must listen carefully and integrate different perspectives and suggestions.

References

1. Aydin, O.T. (2012). The Impact of Theory X, Theory Y and Theory Z on Research Performance: An Empirical Study from A Turkish University. *International Journal of Advances in Management and Economics*, no. 1(5), pp. 24-30.
2. Bednar, P.M., Welch, C. (2020). Sociotechnical perspectives on smart work: Creating meaningful and sustainable systems. *Borders of Information Systems*, no. 22, pp. 281-298.
3. Benešova, A., Tupa, J. (2017). *Requirements regarding education and qualifications of people in Industry 4.0*. Proceedings of the 27th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM2017.
4. Buchbinder, S.B., Shanks, N.H. (2007). *Introduction to health care management*. US, pp. 23-25.
5. Calzavara et al. (2020). Managing an aging workforce in manufacturing systems: State of the art and future research agenda. *International Journal of Manufacturing Research*, no. 58, pp. 729-747.
6. Carroll, S. (1973). *Management by Objectives and Research*. New York: Macmillan.
7. Connor, M., Pokora, J. (2017). *Coaching and mentoring at work. Developing effective practice*. London, pp. 11-12.
8. Davis, D. (2012). *Individual Development Plan*. University of Alberta, pp. 6-35.
9. Davis, M.W., Dolson, N. (2018). Managing Organizational Culture and Design During Succession. *Journal of Practical Consulting*, no. 6(1), pp. 45-46.
10. Dědečková, N. (2020). Control, controlling and its objectives in the organization. *SHS Web of Conferences*, no. 83, pp. 2-3.
11. Dezi et al. (2018). The relationship between mergers and acquisitions and innovation: a systematic review of the literature. *Management Research Review*.
12. Druga Księga Mojżeszowa (2003). In: *Pismo Święte* (p. 83). Poznań: Pallottinum.
13. Flores et al. (2020). Human capital 4.0: Typology of employee competencies for Industry 4.0. *Journal of Manufacturing Technology Management*, no. 31, pp. 687-703.
14. Gadomska-Lila, K. (2015). Pokolenie Y wyzwaniem dla zarządzania zasobami ludzkimi. *Zarządzanie Zasobami Ludzkimi*, no. 1, pp. 29-36.
15. Gellerman, S. (1968). *Management by motivation*. New York: American Management Association.
16. Gran, A.M. (2016). The third 'generation' of workplace coaching: creating aculture of quality conversations. *Coaching and International Journal of Theory, Research and Practice*, no. 10(1), pp. 3-7.
17. Javaid ey al. (2020). Industry 5.0: Potential applications in Covid-19. *Journal of Industrial Integration and Management*, no. 5, pp. 507-530.

18. Kinal, M. (2022). *Wybrane teoretyczne aspekty kultury organizacyjnej instytucji oświatowych. Podejście interdyscyplinarne.*
19. Kot, P. (2016). Preferencje typu kultury organizacyjnej u przedstawicieli różnych generacji. *Realia Rynku. Rynek i Marketing*, 2, p. 35.
20. Kroenke, A. (2015). Pokolenie X, Y, Z w Organizacji. *Zeszyty Naukowe Politechniki Łódzkiej*, no. 1202, z. 61, pp. 94-97.
21. Matt et al. (2020). Urban manufacturing - a socially sustainable factory concept to overcome skills shortages in smart SMEs. *Computers and Industrial Engineering*, no. 139.
22. Mcleod, J., Henderson, M. (2003). Does workplace counselling work? *British Journal of Psychiatry*, no. 182(2), pp. 103-104.
23. Nahavandi, S. (2019). Industry 5.0 – a human-centric solution. *Sustainability*, no. 11, pp. 4371-4390.
24. Niemczyk, J. (2000). *Metody organizacji i zarządzania*. Poznań: Terra.
25. Niermeyer, R. (2009). *Motywacja. Jak zachęcić pracowników, aby dali z siebie wszystko*. Warszawa, pp. 4-5.
26. Nowicki, A. (ed.) (1998). *Informatyka dla ekonomistów. Studium teoretyczne i praktyczne*. Warszawa: PWN.
27. Özdemir, V., Hekim, N. (2018). *The birth of Industry 5.0: Making sense of Big Data with artificial intelligence, the "Internet of Things" and next-generation technology policies*.
28. Pejic-Bach et al. (2020). Text mining in a job advertisement in industry 4.0. *International Journal of Information Management*, no. 50, pp. 416-431.
29. Roguska, A. (2018). *Generation. Język komunikacji i konsekwencje budowania relacji z innymi pokoleniami „x” i „y”*. *Iskusstvo slova v dialoge kultur: literaturnye ierarhii, Meždunarodnoj naučno-praktičeskoj konferencii*, pp. 133-136.
30. Sima et al. (2020). The impact of the industry 4.0 revolution on human capital development and consumer behavior: a systematic review. *Sustainability*, no. 12, p. 4035.
31. Singh, S.P. (2012). Gamification: A Strategic Tool for Organizational Effectiveness. *Anveshak-International Journal Of Management*, no. 1, p. 108.
32. Smolbik-Jęczmień, A., Żarczyńska-Dobiesz, A. (2017). Zróżnicowane podejście do rozwoju zawodowego wśród przedstawicieli pokoleń koegzystujących na rynku pracy. *Zarządzanie Zasobami Ludzkimi*, 3-4, pp. 174-180.
33. Smolbik-Jęczmień, A. (2013). Rozwój Kariery Zawodowej Wśród Przedstawicieli Pokolenia X i Y – Nowe Wyzwania. *Modern Management Review*, Vol. XVIII, 20(4), pp. 194-200.
34. Sulyma, A. (2022). Klasyfikacja barier komunikacyjnych z pokoleniem Z w miejscu pracy. *Nowoczesne systemy zarządzania*, no. 2(17), p. 22.
35. Świerkosz-Hołyśz, M. (2016). Pokolenie Z wkracza na rynek pracy. *Społeczeństwo i Edukacja*, no. 21(2), p. 445.

36. Syper-Jędrzejak, M. (2014). Pracownicy pokolenia Y a kultura organizacyjna współczesnych przedsiębiorstw. In: *Rozwój kapitału społecznego organizacji w warunkach różnic kulturowych* (p. 134). Łódź: Wydawnictwo Politechniki Łódzkiej.
37. Thomson, T.M. (1998). *Management by objectives*. US, pp. 1-2.
38. Timescu-Dumitrescu, C., Mihai, E.A. (2019). Delegation as a management method. *Annals Economy Series, no. 3*, p. 182.
39. United States Nuclear Commission (2008). *The Individual Development Plan (IDP). Process An Employee's Guide for Individual Development Career Planning*. US, p. 2.
40. Urbański, M. (2015). Manager w zarządzaniu kulturą organizacji. *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie, z. 80*, pp. 327-330.
41. Warwas, I, Wiktorowicz, J., Jawor-Joniewicz, A. (2018). *Kapitał ludzki a zarządzanie wieloma pokoleniami w organizacji*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego, p. 79.
42. Wasylewicz, M. (2016). Transformacja sposobu komunikowania się pokolenia X, Y, Z – bilans zysków i strat. *Zeszyty Naukowe Wyższej Szkoły Humanitas. Pedagogika, z. 13*, pp. 135-138.
43. Woźniak, J. (2015). Grywalizacja w zarządzaniu ludźmi. *Zarządzanie Zasobami Ludzkimi, no. 2(103)*, pp. 14-19.
44. Wyrwicka, M. (2014). Kultura przedsiębiorstwa a odczucie bezpieczeństwa. *Zeszyty Naukowe Politechniki Poznańskiej. Organizacja i Zarządzanie, no. 63*, p. 201.
45. Wziątek-Staško, A. (2019). Różnorodność pokoleniowa pracowników a preferowany model kultury organizacyjnej. *Acta Universitatis Lodziensis. Folia Oeconomica, no. 343*, pp. 94-97.
46. Xu et al. (2021). Industry 4.0 and Industry 5.0 – creation, concept and perception. *Journal of Production Systems, no. 61*, pp. 530-535.
47. Zubelewicz, M., Kardasz, E. (2017). Human skills, czyli motywowanie pracowników i delegowanie zadań. *Biuletyn Naukowy Wrocławskiej Wyższej Szkoły Informatyki Stosowanej. Informatyka, no. 2(7)*, p. 18.