

Managing Human Capital With Employee Clustering through the Interplay of the Persona Concept

Anastasia Mikhlina and Juha Saukkonen

Jamk University of Applied Sciences, Jyväskylä, Finland

anastasiia.mikhlina@jamk.fi

juha.saukkonen@jamk.fi

Abstract: Nowadays, employees are seen as active Human Capital Management (HCM) consumers. Megatrends such as individualization and flexible work impact the workforce, especially generations Y and Z. Finding and retaining talent is a challenge that companies try to address, from employer branding to covering the whole lifespan of the company-employee relationship. Management is likely to know every employee in small and medium-sized enterprises (SMEs); however, larger companies need to categorize their human capital into certain entities. This paper explores the usability of the Persona concept for HCM. Persona is a service design approach widely applied in marketing, and a few research papers have argued that personas may have a role in improved people-oriented HCM. In short, personas aim to create a limited set of archetypes that differ from each other regarding demo- and psychographics. Generally, they are a mix of real-life people and some imaginary attributes. Different personas will likely request different services to feel fully motivated and supported. The core target of this article was to identify the common awareness of personas among HCM experts across industries and countries. Also, the ideation of future use of Personas was studied with marketing experts actively using personas in their professions. The qualitative study based on twelve semi-structured individual interviews was conducted in November-December 2022. The results indicate that the HCM community is well aware of the persona concept, which is widely used. However, the current usage of personas is mainly focused on employer branding and recruitment, and only in a few cases the usage covered the design of internal HCM processes. The study also revealed some limitations for HCM that are not present in the marketing field. Demands for transparency, equality, data privacy, and personal integrity set challenges in clustering the workforce. The results indicate the further need for research on best practices of creating and using Personas in a way that ethically serves the interests of both the company and the employee.

Keywords: Human capital, Persona, People clustering, Employer branding, HRM/HCM services

1. Introduction

While human resource management (HRM) covers employees' core needs and an administrative agenda, human capital management (HCM) represents the organization's overall human side of the organization, like skills, intelligence, and expertise (Hossain, Roy, 2016). HCM is of utmost importance in any organization, and its management requires constant optimization and development. The efficiency of HCM processes determines how well an organization can improve its results, extend goals, and increase competitiveness (Karahoca, 2008). The work environment has been changing rapidly in recent years due to factors such as globalization, an increased need for flexibility, a shift towards online environments, and a new generation entering the workforce. These factors contribute to the need to re-examine and re-evaluate traditional practices and approaches in HRM and HCM (Rodriguez - Fernandez, 2017). Also, a new generation entering the workforce brings change and challenges that organizations must adapt to attract new employees (D'Incerti, 2022). However, organizations still need help developing and improving their HCM services to respond and adapt to the abovementioned transformations. There has been a clear need for a more individual and personalized approach to employees in organizations and new solutions (Averbook, 2022). Organizations can individualize their policies and services through employee clustering to serve employees better (Sitaram, 2021). There are several employee clustering methods, but this research focuses on the method called the employee persona concept. The persona concept represents one of the clustering methods for user-centered design. Alan Cooper created the persona concept in the 1990s as a goal-directed design tool. According to Blomkvist (2002), the persona is a model initially used in product design. This tool is used to represent archetypical users instead of average users. The persona captures users' features such as behaviors, needs, and motives and combines them into a single individual representative.

The research questions of this study are 1) to identify the awareness of the persona concept among HRM/HCM professionals and 2) in what HRM/HCM processes personas can be used. This research paper is structured as follows. First, the authors overview and examine the existing research on the key concepts in the literature review. The authors explore employee clustering, its rationale, and the persona concept. The authors explain the research methodology in section three and the empirical findings in section four. The fifth section highlights the main conclusions and discussion.

2. Literature Review

The literature review represents a comprehensive review of existing literature about the topic in question and is used to strengthen the knowledge base (Paul, Criado, 2020). The subchapters below investigate the principal concepts of this research paper, such as employee clustering, the persona concept, and the rationale behind it.

2.1 Employee Clustering

Several global HCM trends, such as changing demographics, digitalization, flexibility, individualism, and skills shortage, urge organizations to adapt to changes and rethink their HCM processes (Farndale et al, 2022). This research concentrates on some significant trends that can be seen as the rationale behind employee clustering, which can be done using the persona concept.

The concept of flexible work has existed in professional and academic HCM discussions for most of the 2000s. Flexible work arrangements (FWA) have been seen as practices that help employees manage work and non-work responsibilities (Allen et al, 2013). FWA can be defined as work options that permit flexibility regarding where and when the work is done. (Rau & Hyland, 2002). Before Generation Z's entrance and the pandemic-driven shift to remote working, FWA practices were considered critical parts of the strategy to attract, motivate, and retain key talent (Hill et al, 2008).

A simultaneous trend to added HCM flexibility has been the rise of individualism as a larger societal current and as a trend directly impacting how HCM will be conducted. Linthorst and DeWaal (2020) note that "organizations need to address this increasing demand for individual attention. Client experience and employee experience have become key performance indicators that need close monitoring". As a result, corporate training and mentoring approaches are becoming more tailor-made to fit the employees' career ambitions better (Linthorst & DeWaal, 2020). According to Dundon and Rafferty (2018), this individualistic view has impacted organizations' reward systems, performance evaluation, and talent management practices. Mass tailoring companies aim to offer each customer a unique and individually considerate product/service. However, companies build these offerings by modularizing and standardizing some components to gain efficiency in their processes (Skjevdal & Idsoe, 2005).

The generational difference between Generation Z and Y has been actively researched in recent years as Gen Z enters the workforce, bringing change and challenges into the labor market. Although different sources define generation timeframes differently, it is often considered that people born in 1980–1994 belong to Generation Y and people born after 1995 belong to Generation Z. Pinto et al (2015) argue that the ageing population and new generation entering the workforce have a significant impact on human resource and human capital management processes. Each generation requires a different approach based on needs, characteristics, motivation, and expectations. The study by Urick, Hollensbe & Fairhurst (2017) argues that Gen Z is more prone to technology use, which can lead to challenges within the multigenerational team. According to Novotna (2019), Gen Z is the first interconnected generation, as its representatives have used the internet and digital tools throughout their lives. Gen Z shows a clear motivation for life-long learning, on-site training, location-independent work, flexibility, and focused work-life balance. Instead, they are looking toward changes in their roles, tasks, and education. Unlike Generation Y, Gen Z's career path is not linear as they will be changing employers frequently, and many will change their careers entirely. (Klein, 2020). For employers, it means that they have to adapt to the needs of a new generation and simultaneously develop processes to fit both Gen Z and Gen Y. All these factors call for more individual arrangements. Research by Sitaram (2021) argues that clustering techniques can help organizations develop personalized approaches.

Clustering is a statistical method that groups similar objects (or people) into categories based on set shared variables (Cornish, 2007). This method can be used in many industries. For example, customer segmentation/clustering has been used for many years in the marketing field to improve customer experiences, customer satisfaction, and increase customer quality. Similarly, this approach can be applied in HRM analytics since employees are increasingly seen as active customers of HCM (Sitaram, 2021). By clustering employees based on shared characteristics, organizations can make informed decisions to improve recruitment and retention, training, employee engagement, workforce diversity, and performance management. Several clustering algorithms have been used, for example, k-means or Fuzzy c-means. Such clustering algorithms divide massive chunks of data into smaller clusters based on shared similarities. Fan (2021) argues that the K-means clustering algorithm can be used to improve the employee performance evaluation process. A recent case study by Fernandes et al (2017) showed that it is possible to cluster employees into groups using multivariate clustering analysis using both algorithms.

Despite the societal trends and employee expectations, some forces are counteractive to the clustering of the human capital, i.e., the people that the organization employs and, as a result, offer these people differing levels and types of HCM services. These forces can be divided into ethical, (data) privacy, and legal matters. Generally, the concept of ethics can be understood by, e.g., how Cornock and Johns (1995) define its contents: acting with fairness, decisions on what is right and wrong, practices, and rules that stress responsible conduct between individuals and stakeholder groups. Ekuma and Akobo (2015) claim that "the ethics of HRM, while sharing many features with general organizational ethics, must at least be relatively unique in several respects". In HCM, ethical dilemmas have been described to cover the subcategories of misrepresentation and collusion, data misuse, manipulation and coercion, value and goal conflict, and technical ineptness. (Ekuma and Smith, 2012; Wooten, 2001). On the legal front, the frameworks and risks that set limits to the usability of some principles and techniques of modern employee clustering approaches, such as employee personas, are an inadvertent violation of Title VII of the U.S. Civil Rights Act, the Equal Employment Opportunities Act, the Americans for Disabilities Act (ADA), equivalent European Union regulations such as the Employment Equality Framework Directive (Hamilton and Sodeman. 2020). The European Union-wide General Data Protection Rights -directive (GDPR) and other job discrimination laws and regulations nationally and globally also impact how and how far organizations can use novel approaches and techniques. The non-legal guidelines and standards of sound and fair HCM operations, such as ISO Standard 30408:2016 on Human Governance (International Standardization Organization, 2016), as well as the more commercial approaches of Investors in People-analysis and Great Place to Work At-framework, stress the engagement of all members of the working community, fairness, and trust that the novel approaches may hurt, especially in case if not managed and communicated correctly.

To summarize, in HCM practice, the ethics, privacy, and law concerns oblige the companies to act based on equal treatment for all working community members. In the same vein, the objects of the HCM action, employees have a right to know what data is collected of their behavior and performance, how that data is used and by whom, what is the purpose of that data collection and analysis, and even up to the right to ask the personal data not necessary to the employer to be destroyed. All this is in the spirit of transparency. However, equity and equality are not the same things. According to Rodriguez & Morrison (2019), equity refers to implementing policies and practices that enable opportunities for success for everyone. For equality, treating every individual the same way would suffice. To be equitable, the organization needs to treat individuals according to their needs, and multiple opportunities for success must be created (Rodriguez & Morrison, 2019).

2.2 The Persona Concept

Personas are by origin a concept deriving from marketing discipline but have been increasingly used in generic design thinking processes with practical approaches of the method ranging from educational systems (Siricharoen, 2021) to cybersecurity systems (Almahri, Bell and Arzoky, 2019) and sustainable development (Carey et al., 2019).

According to Haak (2017), the concept of a user persona, traditionally used in marketing, has also been actively spreading to human capital management. Employee persona represents groups of employees with common characteristics in a fictional figure, which can vary from demographics to skills and competencies. When applying the persona concept, it is crucial to establish desired goals and objectives. For some companies, the goal may be developing a new talent acquisition initiative and, for some – strengthening the employer brand (McLeod, 2022).

Employee personas can be created using different methods depending on the end goal and available resources. It can be created by conducting surveys, interviews, or holding focus groups. Combining data collection methods, e.g., holding focus groups/interviews supplemented by a survey, is shown to improve the application of the employee personas (Brennan, 2017). Based on the research by Ditton, Swinbourne & Myers (2022), there is a tendency towards automated persona development since manual persona development can be both time and resource-demanding. That is especially relevant to larger companies. Currently, a semi-automated persona approach is based on manual guidance and data filters entered by a human. With increased data analytics in HCM, the persona concept can be fully automated using algorithms and big data analytics. A study by Jansen, Jung & Salminen (2021) shows that automated persona generation (APG) allows combining big data and persona concepts, creating a multi-layered cast of personas that can enrich the result in comparison to traditional data collection such as surveys or interviews. APG can identify unique behavioral patterns and associate them with demographic groups. Such solutions open new opportunities for decision-makers.

McLeod (2022) argues that the persona method can be used in talent acquisition and employer branding as it can help attract suitable candidates. Using personas in employer branding allows HR to identify key employee drivers, motivations, needs, and expectations of the workplace. A study by Zhao et al (2018) shows that

employee personas can be used in recruitment, training, performance appraisal, and employee engagement. According to Brennan (2017), there are several benefits that organizations can get from adopting a persona approach, such as a better and deeper understanding of the current human resource capital, its experiences from various processes like onboarding, performance reviews, and company policies; keeping the focus on what matters for HCM; more effective employee management; improved communication with stakeholders; mapping out existing and potential challenges; more appealing image for potential candidates; building a stronger employer brand to reduce bias in recruitment.

3. Methodology

This research is exploratory, indicating that its primary purpose is to explore the research questions and identify the current situation of the topic. Exploratory research does not imply any final solutions to the problem (Saunders et al, 2012). Chosen research approach enabled authors to change the direction based on the acquired data. The primary data was collected in the form of twelve semi-structured individual interviews. Semi-structured interviews are often used in qualitative research and allow discussion to evolve during the interview while following the structure (Magaldi & Berler, 2020).

Candidates for interviews were chosen from the authors' professional network. In order to increase validity, the authors selected candidates from different fields and in different positions. In addition, the work experience and the age of candidates varied a lot. Table 1 below provides an overview of the informants based on their field of expertise, the size of their company in terms of personnel number, and their current country of residence. The interview outline was designed and sent to all interviewees in advance. The interviews were conducted as face-to-face or online interviews lasting from 25 to 45 minutes. The authors recorded interviews with the interviewees' consent and transcribed them verbatim. The data was then analyzed, and the main findings were presented in the following chapter.

Table 1: Background of Informants

Field of expertise	The size of the company in terms of the personnel number	Country
HRM	500+	Canada
HRM	500+	Finland
HRM	20-49	Finland
Marketing	100-250	Netherlands
Marketing	11-50	Finland
HRM	500+	Finland
HRM	251-500	Germany
Marketing	500+	Finland
HRM	500+	Finland
Marketing	500+	Finland
HRM	500+	Finland
HRM	500+	Finland

4. Results

Results highlight the increasing need for a more individualized approach in organizations. More flexibility is expected from employers as the workforce is looking for more personalized solutions that would fit them precisely. Many informants outlined cultural differences occurring even within one country that requires certain employee clustering/ segmentation to accommodate their needs better. Results indicate a need for a mindful understanding of retainment, organizational culture development, and flexible work arrangements. Most informants from HR field confirmed that flexibility and individual arrangements are what matter for their employees. More and more employees take job positions that can offer flexibility, possibility for remote work, work-life balance, and other benefits. Employees more often appreciate the culture of individual arrangements and expect to be given the freedom of choosing own schedule.

Some informants noted that younger employees (Gen Z) have different career and work expectations than their older colleagues. While the research did not explore the generational differences in expectations, numerous informants touched upon this topic pointing out that Gen Z's way of work and work expectations differ drastically. For example, Gen Z expect more work-life balance, flexibility, and on-site learning, while being online 24/7. Informants highlight that when creating personas in multigenerational company, it is important to account for Gen Z differences and expectations.

As described in the literature review, the user persona concept can be perceived as a marketing tool. Based on the data collected from professionals from the marketing field, they have been actively using the user persona method to segment and identify their potential customers and their needs when designing new products. One informant noted that the user persona concept allows them to customize the approach and expand the customer base. Some experts have been using personas according to different markets, while others based on experience. Results indicate that before informants decide whether to use the user personas, it is necessary to understand the goal and objectives. Some HR experts pointed out that their current roles are interconnected with marketing, for example, when recruiting talent. One informant expressed a strong opinion that although not very popular yet, employee personas are coming to the HR field, and their use in HR and HCM will increase in the coming years. Below are some of the quotes from informants.

“Even before personas, we categorized our teams to get a better understanding. We used mapping and used categories.”

“We did think that in this case technology is better at making personas than a person because we are all biased.”

“When making personas, it’s important to understand generational differences. With the new generation, we need to understand how they want to be led or hired.”

“Generation Z is completely different from others, so the persona thinking can be beneficial.”

“There’s a big employee power now, and they need more autonomy, they want more flexibility, but at the same time, we see the rising need for support, for counseling, and we want to do things in equal and ethical way.”

Regarding HR, talent acquisition can be partly perceived as a marketing process since getting the best talents to the company requires effective and suitable marketing when advertising the position. Results highlight that some methods of employee segmentation are actively used according to several categories, such as employee types, roles, needs, skills, etc. Informants pointed out that employee personas allow the company to identify what matters to their employees. They discussed that for personas to work and add value to the business, they must be concrete and simple enough to be understood by employees and management and, simultaneously, not oversimplified or too generic. Table 2 below is based on the results and summarises the application of the persona concept across different HRM/HCM functions.

Table 2: Where and why to use Personas

Where to use personas	Why to use personas
Employer branding	For employer branding to strengthen the employer image and increase competitiveness, to modify the audience to target the suitable candidates
Recruitment	To tailor job descriptions/ advertisements to appeal to eligible candidates. Later, it can be used to tailor recruitment efforts
HR initiatives	To develop targeted initiatives and/or programs that respond to the unique needs/ expectations of different employee clusters
Training & career development	To gain a deeper understanding of the competencies and experiences employees have and would like to have
Diversity and inclusion	To better understand Gen Z, their expectations, motivations, and need for leadership to manage a heterogeneous workforce. To better respond to the needs of a diverse workforce

Results indicate that the persona concept has multiple advantages when used in HCM. It allows HR professionals to relate to groups of employees more personally and emotionally, creating personalized approaches and supporting individual career paths. The concept is visually simple, easy to use, scalable, and transparent and

allows employees to choose where they belong. Also, it improves the analysis of potential recruits and assists in decision-making. However, the results also underline several disadvantages of the concept. The concept might be misleading if oversimplified or too generic. It can lead to a more homogenous and one-minded workforce if recruiting processes rely only on this concept. It may require data analytics and AI skills, as well as it can be expensive and time-consuming. Another disadvantage is that it creates an unwanted possibility of comparing employees with each other, which can lead to missing out on their unique strengths and abilities. Also, it might be too restrictive and limited due to GDPR. If and when Personas are created systematically especially in a large organization, it should be rule-based/algorithm-based and working based on data of e.g. existing successful employees (in order to train others to reach the same potential or to recruit new ones who would be likely to succeed). However, based on EU-wide General Data Protection Regulation (GDPR) the organizations have limitations on how to store and use such information about their employees. According to the regulation, sensitive data is a set of special categories that should be handled with extra security. These special categories are: 1) Ethnic or racial origin. 2) Political opinions. 3) Cultural or social identity 4) philosophical or religious beliefs. (GDPR, 2023). On the other hand, leaving out these debatable “soft issues” out of the personas would reduce the personas back to skill/competence listings, and thus offer no added value to earlier HCM practices.

To sum up, employee personas can be used as a supportive tool in decision-making but cannot be the only source of information.

5. Conclusions and Discussion

This study served as an introduction to the persona concept. It aimed at exploring the awareness of the personas among HRM/HCM experts and in what HRM/HCM processes personas can be used. In order to reach research objectives, a knowledge database was created based on the existing research. Previous research has identified the need for a more personalized approach and recognized the use of the persona concept for employee clustering.

Based on the results, the persona concept is well-known among HRM/ HCM professionals. It is used in the following processes: employer branding, recruitment, HR initiatives, and training. While the use of personas is mainly perceived as human-driven, the actual clustering cannot be done without the help of technology, including artificial intelligence. Some organizations use software to cluster the data. Based on the results, the following can be confirmed: the persona concept has been used for a while in marketing, and now HR is catching up with the concept. Also, results demonstrate a need for a more individualized approach and flexibility.

The research has certain limitations. Most interviews were conducted among companies with more than five hundred employees. The validity of the results is affected by a small number of interviews. Despite the limitations, the study provides the foundation for further research on this particular topic. Further research is needed to understand the real implications of the concept and how it can be applied efficiently in organizations. A larger data sample can increase the validity of the results and allow authors to explore the practical side of the persona concept more in-depth and to identify the process of persona development in HCM functions.

References

- Allen, T. D., Johnson, R. C., Kiburz, K. M., & Shockley, K. M. (2013) Work–family conflict and flexible work arrangements: Deconstructing flexibility. *Personnel psychology*, 66(2), 345-376.
- Almahri, A. A. J., F., Bell, D., & Arzoky, M. (2019). Personas design for conversational systems in education. In *Informatics* (Vol. 6, No. 4, p. 46). MDPI.
- Averbook, J. (2022) E to ME: Personalizing Workforce Experience. Oracle Fusion Cloud Human Capital Management Blog, [online], <https://blogs.oracle.com/oraclehcm/post/e-to-me-personalizing-workforce-experience>.
- Blomkvist, S. (2002) Persona - an overview (Extract from the paper The User as a personality. Using Personas as a tool for design. Position paper for the course workshop "Theoretical perspectives in Human-Computer Interaction" at IPLab, KTH, September 3, 2002).
- Brennan, M. (2017) Viewpoint: Use Personas to Design Better Solutions for Your Workforce, [online], <https://www.shrm.org/resourcesandtools/hr-topics/employee-relations/pages/personas-to-design-solutions-for-your-workforce.aspx>.
- Carey, M., White, E. J., McMahon, M., & O'Sullivan, L. W. (2019). Using personas to exploit environmental attitudes and behaviour in sustainable product design. *Applied Ergonomics*, 78, 97-109.
- Cornish, R. (2007) Statistics: 3.1 Cluster Analysis. Mathematics Learning Support Centre.
- Cornock, C., & Johns, T. (1995) *Ethical leadership*. London: CIPD.
- Ditton, E., Swinbourne, A., Myers, T. (2022) *Selecting a clustering algorithm: A semi-automated hyperparameter tuning framework for effective persona development*. *Array*, Vol 14, July 2022, 100186

- D'Inserti, G. (2022) The Generational Shift in Workforce Culture, [online], <https://www.forbes.com/sites/forbesbusinesscouncil/2022/12/21/the-generational-shift-in-workforce-culture/?sh=67a73af5dff7>.
- Dundon, T., & Rafferty, A. (2018) The (potential) demise of HRM? *Human Resource Management Journal*, 28(3), 377-391.
- Ekuma, K., & Akobo, L. (2015) Human resource management ethics and professionals' dilemmas: A review and research agenda. *Human Resource Management Research*, 5(3), 47-57.
- Ekuma, K. J & Smith, J. (2012) *Ethics in human resource management: Contemporary dilemmas of the practitioner*. Saarbrücken, Germany: LAMBERT Academic Publishing.
- Fan, C. (2021) Evaluating Employee Performance with an Improved Clustering Algorithm. *Informatica* 46 (2022) 123-128.
- Farndale, E., Horak, S., Piyanontalee, R., Vidovic, M. (2002) Looking Back to Look Forward: Disruption, Innovation and Future Trends in International Human Resource Management. CfP, special issue, *International Business Review*.
- Fernandes A.B., Anzanello M.J., Tortorella, J.L., Fries, C.E. (2017) Employee's Clustering Based on the Big Five Model in a Fitness Franchising. *Proceedings of the International Conference on Industrial Engineering and Operations Management Rabat, Morocco, April 11-13, 2017*.
- GDPR (2023): "GDPR personal data – what information does this cover?" (online) <https://www.gdpreu.org/the-regulation/key-concepts/personal-data/>
- Haak, T. (2017) The Use of Personas in HR. HR Trend Institute, [online], <https://hrtrendinstitute.com/2017/05/11/personas/>.
- Hamilton, R. H., Sodeman, W. A. (2020) The Questions We Ask: Opportunities and Challenges for Using Big Data Analytics to Strategically Manage Human Capital Resources. *Business Horizons* vol 63, Issue 1, January-February 2020, Pages 85-95.
- Hill, E., Grzywacz J., Allen S., Blanchard V., Matz-Costa C., Shulkin S., Pitt-Catsoupes M. (2008) Defining and conceptualizing workplace flexibility. *Community, Work & Family*, 11(2), 149–163.
- Hossain, M. U., Roy, I. (2016) HUMAN CAPITAL MANAGEMENT: THE NEW COMPETITIVE APPROACH. *International Journal of Economics, Commerce and Management*. United Kingdom Vol. IV, Issue 5.
- International Standardization Organization (2016) ISO Standard 30408:2016 Human Resource Management – Guidelines on human governance, [online], <https://www.iso.org/standard/63492.html>.
- Jansen, J., Jung, S., Salminen, J. (2021) Making better decisions with big data personas, [online], <https://www.technologyreview.com/2021/03/11/1020207/making-better-decisions-with-big-data-personas/>.
- Karahoca, A., Karahoca, D., Kaya, O. (2008) DATA MINING TO CLUSTER HUMAN PERFORMANCE BY USING ONLINE SELF-REGULATING CLUSTERING METHOD. 1st WSEAS International Conference on Multivariate Analysis and its Application in Science and Engineering (MAASE '08), Istanbul, Turkey.
- Klein, P. (2020). *NEW GENERATIONS: CHANGING VALUES OF GENERATION Y & Z Impact on today's organizations, human resource management and leadership* (Doctoral dissertation, soe).
- Linthorst, J., & de Waal, A. (2020) Megatrends and Disruptors and Their Postulated Impact on Organizations. *Sustainability*, 12(20), 8740.
- Magaldi, D., Berler, M. (2020) *Semi-Structured Interviews*. *Encyclopedia of Personality and Individual Differences* pp 4825–4830.
- McLeod, K. (2022) How to Create Personas in Employer Branding, [online], <https://www.themartec.com/employer-branding-brandwagon/how-to-create-personas-in-employer-branding>.
- Novotná, M., & Gottwald, D. (2019) Increasing the Level of Human Capital Through Suitable Recruitment Communication with Generation Z. In *CLC 2018-Conference Proceedings*. TANGER, spol. s ro.
- Paul, J., Criado, A.R. (2020) *The Art of Writing Literature Review: What Do We Know and What Do We Need to Know?* *International Business Review*, vol 29, Issue 4, August 2020, 10717.
- Pinto, A.M.G.L.R.S., da Silva Ramos, S.C.M., Nunes, S.M.M.D. (2015) Managing an aging workforce: What is the value of human resource management practices for different age groups of workers? DOI: 10.1016/j.tekhne.2015.01.007.
- Prund, C. (2021) Why Generation Z Is Redefining the HRM Processes. *Studies in Business and Economics no.16(3)/2021*, 190-199.
- Rau, B.L., Hyland, M.M. (2002) Role conflict and flexible work arrangements: The effects on applicant attraction. *Personnel Psychology*, 55(1), 111–136.
- Rodriguez, A. J., & Morrison, D. (2019) Expanding and enacting transformative meanings of equity, diversity and social justice in science education. *Cultural Studies of Science Education*, 14(2), 265-281.
- Rodríguez-Fernández, M. (2017) *The Contemporary Human Resources Function*. XXVII Jornadas Hispanolusas de Gestión Científica.
- Saunders, M., Lewis, P. & Thornhill, A. (2012) "Research Methods for Business Students" 6th edition, Pearson Education Limited.
- Siricharoen, W. V. (2021). Using empathy mapping in design thinking process for personas discovering. In *Context-Aware Systems and Applications, and Nature of Computation and Communication: 9th EAI International Conference, ICCASA 2020, and 6th EAI International Conference, ICTCC 2020, Thai Nguyen, Vietnam, November 26–27, 2020, Proceedings 9* (pp. 182-191). Springer International Publishing.
- Sitaram, R. (2021) An employee segmentation model. Tilburg University. School of Humanities and Digital Sciences Tilburg, The Netherlands. Accessible at <http://arno.uvt.nl/show.cgi?fid=158075> .Retrieved 15.4.2023.

- Skjevdal, R., & Idsoe, E. A. (2005) The competitive impact of product configurators in Mass Tailoring and Mass Customization Companies. In *3rd MCPC Conference, Hong Kong*.
- Urick, M., Hollensbe, E. C., Fairhurst, G. (2017) Differences in Understanding Generation in the Workforce, *Journal of Intergenerational Relationships*, 15:3, 221-240, DOI: 10.1080/15350770.2017.1329583.
- Wooten, K.C. (2001) *Ethical dilemmas in human resource management: an application of a multidimensional framework, a unifying taxonomy, and applicable codes*. *Human Resource Management Review*, 11, 159 – 175.
- Zhao, Y., Lou, X., Jia, W., Yang, S. (2018) A new Model of Human Resources Management Based on Employee Personas. *International Journal of Social Science and Education Research* Vol 1 No 10 2018.