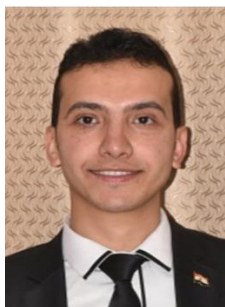


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THE EVOLUTION OF WELL-BEING APPROACH WITHIN THE INDUSTRY 5.0 CONCEPT



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Abstract. Well-being is one of the main factors in the success of organizations and creating a positive and prosperous society that allows individuals to grow, develop, and innovate. As technology and business grow more interconnected, technology has become able to support and improve corporate welfare, significantly impacting the work environment and employees. In addition, the concept of Industry 5.0 presents a new vision that aims to go beyond productivity and efficiency as single goals but instead focuses on the social role and placing employee well-being at the center of the production process. The development of mobile digital technology aligns very well with Industry 5.0's human-centric perspective. Wearable technology and portable sensors help monitor employees' physical, mental, and psychological changes, allowing managers to intervene to make immediate and accurate decisions to improve workplace wellness. This article discusses some conceptual aspects regarding employee well-being under the industry 5.0 concept. It also highlights the state of well-being pillars within the new technological environment.

Keywords: Industry 5.0; Well-being; Digital Wellness; Human Resource Management; Digitalization.

JEL codes: I31; O15.

Introduction

Well-being can be defined as being comfortable, healthy, happy, safe, and secure. Its concept indicates a positive state of mental and physical wellness, mood, and emotion (Nielsen et al., 2017). It covers various aspects of a person's health, habits, activities, and preferences. Employee health is regarded as a sub-factor of overall employee well-being. Well-being involves psychological consequences like the absence of anxiety, fatigue, and distress and physiological consequences like heart problems, blood pressure, and overall physical exhaustion (Rohde et al., 2020).

The workplace has a significant impact on employee well-being, it could be the major contributor to changes in a worker's well-being, or it could be the place of harmful well-being practices. Indeed, companies can take a proactive well-being approach by offering health promotion information and using different tools to satisfy their employees' mental, physical, and social needs (Johnson et al., 2020; Abdullah et al., 2021).

Now comes well-being 5.0, a tech-driven concept redefining traditional well-being as we know it. Well-being 5.0 is a recently formed term from Industry 5.0, representing the fifth manufacturing revolution. Basically, the concept revolves around smart devices and artificial intelligence, which can make fast and accurate decisions by analyzing large amounts of data (Cillo et al., 2021). Whereas Industry 4.0 focused on the internet of things joining devices on the production line, Industry 5.0 is concerned with the cooperation between humans and robots. As it is evident that humans work alongside robots in the workplace, Industry 5.0 will continue to push for more advanced collaboration between humans and robots. It will result in enhanced integration, allowing for quicker, more effective automation when paired with the intelligence of humans (Demir et al., 2019; Xu et al., 2021).

The main characteristic of Industry 5.0 is personalization, which produces personalized products, ensures human relations, and increases human value through human-robot coworking. Previous, Industry 4.0 provided the concept of mass customization, but this was inadequate. Leaders are now seeking mass personalization with a human touch; hence, Industry 5.0 is pushing them to shift from mass customization to mass personalization (Aslam et al., 2020; Alvarez-Aros and Bernal-Torres, 2021). Digital wellness refers to the invaders made to maintain and enhance mental, physical, and emotional well-being through digital tools instead of interacting directly with the users (Specker Sullivan and Reiner 2021). Therefore, this article seeks to discuss changes that occur to employee well-being within industry 5.0 and highlights the importance of new technology for employee

wellness. This research is the first attempt to introduce well-being 5.0, and it contributes to the literature on industry 5.0 and employee well-being.

The overview of well-being pillars under the industry 5.0

Physical well-being 5.0

The theme of the challenging physical and mental interaction is that poor mental health may be a risk factor for developing severe diseases. Further, the rapid development of teleworkers and teams in response to the epidemic significantly lowered employee-employer engagement (Carolan et al., 2017). This new movement greatly impacted workers' social and psychological well-being, leading businesses to look for solutions that could recognize and manage the effects of being restricted to isolated locations where interaction is mainly conducted via computers and digital gadgets. As a result of COVID-19, stress has emerged as a significant risk factor for staff mental health, with anxiety and depression levels increasing rapidly. Although a few pressures are standard in work, excessive stress could negatively affect well-being and productivity. Employers must be aware that mental health issues might arise at any moment. Moreover, several studies have shown the large number of individuals suffering from various illnesses and how to detect, treat, and maintain their well-being effectively. Collaborative and integrated care initiatives have been established worldwide and have achieved substantial progress in treating individuals with significant mental and physical disorders (Colenberg et al., 2021).

Physical resources are not enough to deal with the various health problems, and technology may play a critical role regarding health conditions. Fortunately, the development of new health technology is lightning fast. Thus, it is necessary to concentrate on the technology solutions that provide outcomes and determine how to integrate them into operations effectively (Ranney et al., 2020). Intelligent sensors are getting more sophisticated in their monitoring and detecting capabilities. Besides, mobile devices such as smartphones and wristwatches can now track our heart rate, daily steps, skin temperature, and alcohol use. They may, for example, use GPS technology to track movements, measure speech speed and pace to identify mood differences and utilize AI to observe the changes in text patterns that might predict a probable depressive episode. These technologies already have the potential to be integrated with digital platforms that provide individuals with therapy using information that is specifically customized to their needs (Khakurel et al., 2018; Juchnowicz and Kinowska, 2021).

SilverCloud Health offers a broad selection of healthcare services, some of which are specifically designed to address mental and physical health. SilverCloud Health plays a central role in solving the various mental and physical disorders issues, using internet technology to track people's

progress and improve their mood and symptoms (Richards et al., 2020). In addition, the new Apple Watch has a variety of health-related functions. It can estimate heart problems and sleep disruption when paired with an AI-based tool. DeepMind, a Google-purchased artificial intelligence business, promises to revolutionize medical diagnosis and treatment. The healthcare system needs new technology, creativity, and change to offer effective treatments to many people in a short time (Ho et al., 2022).

Human resources departments in corporations are starting to embrace virtual reality technology, combined with applications that deliver self-help information and counselling. For example, Genentech now provides free meditation app subscriptions to workers, while Bell provides staff with 24-hour access to premium mental health resources (Juchnowicz and Kinowska, 2021). Furthermore, corporations provide financial, mental, and social health efforts to enhance standard physical health benefits and guide workers using different virtual health components, including telemedicine and e-pharmacy, to get real-time, personalized care and treatment. Nowadays, companies seek to use digital technology and virtual health venues to improve their employees' well-being while partnering with medical providers to better control healthcare expenses. Technology will assist in bridging the gap between human requirements and healthcare supplies by providing flexible plans, recommending appropriate uses of earned rewards, and assisting in creating benefits packages customized for each employee (Hillekamp and Rupp, 2021).

Consequently, healthcare will place a greater emphasis on well-being rather than responding to sickness. Healthcare will gradually utilize personal data to adopt patient empowerment and patient-centered treatment, emphasizing keeping talent and integrating varied workforces. Recently, value-based care has been getting more attention, and it will become more common for employees to expect their benefits to be paid for by outcomes rather than by a fee for a service or procedure. Attention to employee health care is long overdue. Even though the pandemic may have led to much-needed changes, data and technology will still play a significant role in the future of staff benefits (Weerakkody et al., 2021).

Career Well-being 5.0

Due to the removal of pandemic limitations, organizations will have to be ready for a more competitive job market as people reconsider their professional goals and expectations for the future of work. According to studies, employees still want to seek a new job after the epidemic is over and prepare to leave their positions in search of higher compensation. They would prefer a job that provides career growth and a better work-life balance (Marino and Capone, 2021). For companies, this translates into various talent initiatives to attract workers, such as better compensation, expanded

training and development activities, new opportunities for talent mobility, and flexibility to help workers adapt to the new work environment. Businesses should continue to provide new ways to offer flexibility to their workers. Leading companies will recognize that this allows employees to work through their schedules from any place globally as long as the task is completed. Additionally, one-size-fits-all employment is no longer effective. Workers should be offered to work full-time, part-time, or on a contract, depending on their individual needs (Siu and Koo, 2021; King et al., 2021).

Before 2020, there were significant skills gaps, which have expanded dramatically in the last two years. As the epidemic eases, bringing workers' skills up to speed is crucial to maximizing career opportunities (Reis et al., 2021). The talents employees have to provide will determine job security in the future, and businesses will be ready to pay higher benefits for competent candidates. Simultaneously, organizations must invest in their employees by providing learning skills and expanding on-the-job training programs. Even if technology skills and tools allow telework to be ranked among the essential talents, problem solving, and creativity will be more useful in the future (Aguinis and Burgi-Tian, 2021).

Working from home makes employees feel lonely. Many workers have likely felt this way since the epidemic outbreak since they have had to restrict their social connections outside work (Lal et al., 2021). Fortunately, leaders and their coworkers may change this by implementing more one-on-one meetings that have been shown to improve global worker morale dramatically. Studies show a lack of empathy employees have reported, and leaders must show more empathy for what their employees have faced in COVID-19. Effective communication and providing employees with the right resources and support can handle challenges (Meechan et al., 2022).

Financial Well-being 5.0

Financial well-being, also known as financial wellness, refers to an individual's financial status and the lack of money-related problems. Financial well-being is a crucial component of total employee satisfaction, and it has a direct impact on absenteeism and presenteeism. Money-stressed employees are more likely to take time off than their colleagues who are not financially worried. In addition, employees concerned about money may have various health concerns, ranging from anxiety and depression to ulcers or even heart troubles (Verne, 2014). Organizations may eliminate financial concerns from the equation, which is a step toward a healthier and peaceful workforce. According to the American Psychological Association, the issue is spreading to the workplace as workers indicate that financial concerns create the most significant stress in their lives, are less productive, and are more willing to change firms for a better salary. Thus, employees' financial well-being directly impacts the company's bottom line (Riyazahmed, 2021).

The Internet of Services (IoS) and robotics have become crucial tools for promoting human well-being. Current technological development offers new promises and possibilities that might lead to significant changes in how new goods and profits are created. For instance, a considerable number of small and medium-sized enterprises (SMEs) can minimize operating and production expenses and enhance the profitability of organizations (Munna and Khanam, 2021). Furthermore, big data and digitalization can increase organizational performance, improve the environment, and provide social and economic advantages. Big data has a moderating role in the decision-making process for the supply chain of the circular economy. There is statistically robust evidence that digital technology has a favorable effect on households (Xu et al., 2021).

Companies are introducing financial wellness initiatives for their workers. Financial wellness programs support workers to handle their finances better and reduce financial worries. Employees may identify and assess their degree of financial stress using technology-based financial wellness initiatives, which can take various forms (Riyazahmed, 2021). *Best Money Moves* is an innovative application that provides employees with specialized financial analysis and e-coaching services to eliminate financial concerns. The tool measures staff financial pressure and reduces it with customized solutions using artificial intelligence and a human-centered design. The user-friendly program offers employees a variety of financial plans and instructional tools, with approximately 800 articles, calculators, videos, and more. Whether workers need assistance with saving money, paying bills, improving their credit scores, planning for retirement, or purchasing a home, *Best Money Moves* is available for them (Verlinden, 2018; Johnson, 2021).

Social Well-being 5.0

According to self-determination theory, individual well-being is controlled by competence, relatedness, and autonomy. Relatedness is the condition of being related to others. This connectivity allows people to feel "human among humans" and helps the individual understand his closeness to people and the outside world (Ryan and Deci, 2001). As a result, social connectedness (SC) encompasses all aspects of social contact and includes friendship, affiliation, and connectivity. As a result, SC is a favorable condition that helps people progress in life since it gives them a feeling of identity, interpersonal connection, and a position in society (Hwee Ang et al., 2017).

In previous research, SC has been correlated to a feeling of belonging, personal purpose, satisfaction, increased well-being, and cognitive performance. People with a strong feeling of belonging have more meaningful relationships, get more social acceptance and support, and utilize their relationships to help them interact with problems more constructively and positively (Deci et al., 2017; Harris and Orth, 2019). One of the most significant aspects of long-term happiness is having

meaningful connections in both personal and professional life. It may act as a stress reliever during challenging situations. Besides, this affects not just the bottom line of a company but also absenteeism, presenteeism, organizational loyalty, and performance. Therefore, building interconnected relationships at work can relieve the feeling of loneliness that has become prevalent with the epidemic (Plessis, 2021).

Industry 5.0 and Society 5.0 represent a significant transformation in communities and economies toward a new paradigm for balancing economic progress with solutions to social and environmental concerns and addressing obstacles related to human-robot interactions and talent matching (Breque et al., 2021). The value of knowledge in this new paradigm is evaluated not just by competition and work efficiency but also by the development of social well-being and the influence on people's lives based on public-private collaboration. It also emphasizes that no technology, no matter how sophisticated, should be placed before humans (Carayannis and Morawska-Jancelewicz, 2022).

Studies have indicated that employees are experiencing a sense of loneliness due to the pandemic. These pressures influence both the professional and personal lives of employees. Employers are recognizing this trend and developing new social experiences for remote employees (Plessis, 2021). Thus, HP has developed a digital social platform, Employee Resource Groups (ERGs), allowing remote employees to interact with each other and exchange resources as they continue to manage remote work and home education. ERGs are also known as (business network groups or affinity groups), groups of workers who get together because they have similar qualities or life experiences. In general, ERGs are mainly focused on offering assistance, improving career development, and contributing to self-improvement in the workplace (Welbourne and Butler, 2022). Traditionally, ERGs have concentrated on characteristics or personality traits such as gender, sexual orientation, women, etc. With the re-emergence of ERGs in the organization, they are expanding to include "interest-based" groups centered on specific activities. These include natural resource conservation, job tasks, community service and volunteering, and workplace well-being. Besides, the presence of ERGs is significant for reference and knowledge in the corporate sector as a developing component of HR and employee engagement. Employee resource groups might provide helpful information for corporate workers and young entrepreneurs learning about a new industry (Byrd, 2022).

Emotional Well-being 5.0

Emotional wellness or well-being is the capacity to generate pleasant feelings, thoughts, and moods and adapt to changes and stressful working conditions. Resilience is one of its pillars since it

helps individuals deal with difficult life circumstances. Maintaining good mental health requires a high level of emotional well-being. It enhances decision-making abilities, improves interpersonal interactions, and supports the recovery from stressful experiences or diseases. Research has revealed that much of the well-being budget is directed to mental and emotional well-being activities (Di Fabio and Kenny, 2019; Kakunje et al., 2020). Companies are becoming more proactive in reducing the social stigma associated with mental health and making new promises to accommodate hybrid work environments better. These commitments to well-being, flexibility, and inclusion reflect a philosophy that work is defined by what to do to achieve outcomes, not by where to go. Managers must show compassion, adaptability, and flexibility in what works best for each person and team. Providing psychiatric care and guidance using digital technology is crucial to effective solutions during and beyond the pandemic crisis (Lahat and Ofek, 2022).

Telepsychiatry seems to have the potential for individuals due to the technical advancement of telecommunication. Telepsychiatry is a subfield of psychiatry that consults and treats patients by digital means. It started with a digitized data management system and has now expanded to include video conferencing and, most recently, artificial intelligence in therapy (Sharma and Devan, 2021). In recent years, technological advancements have made telepsychiatry more available and practicable in rural and urban areas. Most psychiatrists used to avoid it because of the absence of direct human contact, physical indicators, and emotional connection. Telepsychiatry is beneficial in treating various mental problems and is effective in disasters and emergency consultations. As a result, telepsychiatry has become very important in the current environment. With more individuals suffering and fewer resources available for mental and emotional health, the system is shown to be very beneficial (Markert et al., 2021).

Even though telepsychiatry is very efficient nowadays, it is not without restrictions. The most significant issue is that it lacks personal connection. During communication, the intensity and expression of the speaker are lowered, and it may be mitigated to some degree by being louder and more adaptable during telepsychiatry sessions. Due to technical difficulties, videoconferencing may be delayed, which the patient must expect. In most cases, introduction meetings and demonstrations are beneficial in assisting patients in adapting to modern consultation techniques. Telepsychiatry has also been inefficient with extreme intoxication and borderline personality disorder (Magal et al., 2021; Omboni et al., 2022).

Purpose Driven Well-being 5.0

Organizations are established on core values by their purpose, and workers increasingly desire to work for a firm whose values align with their own. Further, purpose-driven advantages are policies

and procedures that meet members' preferences and priorities and where they plan to be through choice, personalization, and influence. Purpose-driven benefits place employees at the heart of the talent experience and improve daily life (Amy and Catherine, 2019). In addition, the Deloitte Study of Global Human Capital Trends 2021 showed that 49% of Generation Z and 44% of Millennials have expressed that their business decisions will be based on their ethics. The willingness of employees to work for companies whose values match theirs will be the essential criteria in selecting new jobs. Work has become a sterile series of duties and check-box exercises for many. Thus, traditional management techniques involve obtaining every ounce of production from employees and considering them as replaceable cogs in a production wheel. Employees cannot grow if their job is boring, meaningless, and repetitive. If individuals cannot grow, then the company they work for will not be successful. Today's successful firms have a workforce engaged, flourishing, and inspired by a sense of purpose (McKee-Ryan, 2021).

Industry 5.0 focuses on humans, gives greater importance to the environment and aims to change the human role at work from performing tedious and routine tasks to more human functions (Xu et al., 2021). Recently, several big organizations have realized the importance of developing a purpose-driven mission statement. For example, Twitter's goal statement is to encourage everybody to create and share ideas and information immediately without restriction. Similarly, Whole Foods Market has created a mission statement: "With great courage, love, and integrity, we take full responsibility for building a world in which everyone of us, our society, and our globe can grow while enjoying the pure love and pleasure of food." These would be the new purpose-driven initiatives that inspire workers and generate a strong sense of purpose to improve happiness, meaning, and well-being. Thus, workers are inspired to bring their complete selves to work, leading to more outstanding results for both the employee and the company (Dupret and Pultz, 2021; Hajdas and Kłeczek, 2021).

Conclusion

With continuous technological development, organizations have become increasingly flexible, global, and interconnected, leading to the possibility of employees moving across organizational boundaries throughout their working lives. The impact of technology on well-being is determined by its implementation, organizational principles and standards around its application, and employee perspectives on its value in their work (Juchnowicz and Kinowska, 2021). The study presents the development of employee well-being within industry 5.0 and discusses the state of well-being pillars under the industry 5.0 concept.

Indeed, modern technology can provide micro-interventions through non-invasive wearables or smartphones. For instance, detecting mental health deterioration and using Just-in-Time adapted

interventions to offer assistance, encourage behavioral change, and trigger early help-seeking can be incredibly beneficial. While there are numerous benefits to using passive mobile sensing, there are also some difficulties, including the fact that it may be costly, risky, and create privacy and security considerations, such as who controls the data, especially in the workplace. Therefore, to carry out the necessary research, there must be clear procedures surrounding informed permission, data management, sharing, and actions (Umans et al., 2018).

With the Industry 5.0 approach, data will be analyzed immediately by a sensor with AI. Devices accurately monitor and measure human bodily variables to create high-level decisions based on employees' needs. Besides, it connects healthcare services and accurately delivers information digitally. All devices are connected to the internet to collect, analyze, and provide the necessary reports for improving employee well-being (Orlova, 2021). This revolution will help accelerate employee recovery, enhance the well-being experience, and help provide better, more efficient treatment.

Consequently, in response to the new revolution, there will be a lifelong collaboration with users, characterized by an emphasis on the quality of life and well-being of patients and the whole workforce. Companies will transform from providing medical insurance for employees to ensuring lifelong connections with people and making therapy an exception. Closer cooperation is needed between academics, psychologists, user experience professionals, industry, and government authorities to obtain more profound knowledge of the effects of technology through many lenses to develop workplaces where people benefit from innovation. This partnership might benefit from a preventative approach directed by excellent job design (Ho et al., 2022).

Evidence is increasing that digital technologies may effectively treat mental health issues in the workplace (Khakurel et al., 2018; Stankov and Gretzel, 2021). Companies looking to enhance their employees' well-being can benefit from digital solutions and select the most suitable options to be implemented in the workplace. Nevertheless, bots and intelligent clothing are still in the early phases of development, and the first indications reveal that they have the potential to transform the workplace for the benefit of both employers and employees.

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ЭВОЛЮЦИЯ ПОДХОДА К БЛАГОПОЛУЧИЮ РАБОТНИКОВ В РАМКАХ КОНЦЕПЦИИ ИНДУСТРИЯ 5.0

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Аннотация. Благополучие является одним из главных факторов успеха организаций и создания позитивного и процветающего общества, которое позволяет отдельным людям расти, развиваться и внедрять инновации. По мере того, как технологии и бизнес становятся все более взаимосвязанными, технологии становятся способными поддерживать и улучшать корпоративное благосостояние, оказывая значительное влияние на рабочую среду и сотрудников. Кроме того, концепция Industry 5.0 представляет новое видение, направленное на то, чтобы выйти за рамки производительности и эффективности как отдельных целей, но вместо этого сосредоточиться на социальной роли и поставить благополучие сотрудников в центр производственного процесса. Развитие мобильных цифровых технологий очень хорошо согласуется с перспективой Industry 5.0, ориентированной на человека. Пригодные для ношения технологии и портативные датчики помогают отслеживать физические, умственные и психологические изменения сотрудников, позволяя руководителям вмешиваться для принятия немедленных и точных решений по улучшению здоровья на рабочем месте. В этой статье рассматриваются некоторые концептуальные аспекты, касающиеся благополучия сотрудников в рамках концепции Industry 5.0, а также определяется состояние основ благосостояния в новой технологической среде.

Ключевые слова: индустрия 5.0; благополучие; цифровое благополучие; управление человеческими ресурсами; цифровизация.

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