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HYPERAUTOMATION IN ORGANIZATION MANAGEMENT – EXPLORATORY RESEARCH

Introduction

There is no doubt that the world in general and the professional one in particular are becoming increasingly digital. Digital processes determine the economic development of modern countries, societies and organizations. The outcomes of such development include: intersection of economic sectors, strong presence of organizations on the Internet and in business ecosystems [Thomas, Autio, 2020], new models of company management that are characterised by great flexibility, increasing degree of customisation and ultra-modern forms of communication with customers, or the ability to continuously accept changes occurring in the environment, which are turbulent and – often – multidirectional. Consequently, although opinions on this subject do not converge, digital solutions in holistic terms reduce the gap in global inequalities between poor and rich countries (regions) [Stiglitz, 2012]. This is due to digital and manual practices being gradually displaced by algorithmic and numerical processes, in all sectors of the economy. It is also significant that in our understanding, which has evolved over the last two decades, there are no limits, mainly in the context of globalisation and the theory of the flat world by T. Friedman [2005]. So far, the most well-known – though, not new – and most widely used technology in the modern world of organization and management, is automation [Malewski, 1958]. However, its basic and most innovative contemporary tool, in the form of robotic process automation (RPA), has not been well received by all managers [Taulli, 2020]. Thus, in economic practice, we can still observe events in which organization managers,

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despite the broad and unquestionable benefits of using RPA tools in improving business methods, are engaged only to a small degree in the process of their implementation. This behaviour is the result of a number of concerns about the fact that, inter alia, RPA must have a convincing business case, but also it is a solution mainly dedicated to processes of a repetitive and routine nature, and it can create real tensions between management and employees, in the context of e.g., job losses (as a result of automation) and – most importantly – RPA is a temporary solution that is not able to fully – or substantially – fill the gap that exists between manual and digital processes [Tunissen, 2019]. While many modern organizations are strongly influenced by the trend of digital technology development and the pressure to find new sources of competitive advantages, they need to embrace the process of continuous improvement in order to survive. From the synthetic perspective, it focuses primarily on the efficiency of strategic planning and management of the organization as a whole [Chang, 2005]. With this in mind, many companies are therefore very determined to improve their internal processes and operations that involve their customers and other stakeholders. Nevertheless, improving business processes, especially in a novel or innovative way, creates many challenges and obstacles that can negatively affect the morale of many managers, resulting in a reluctance to take any improvement actions. Then, hyperautomation may be a good solution. The purpose of this article is theoretical-cognitive and involves a synthetic assessment of the current state of knowledge in the sciences of management and quality regarding hyperautomation, with the additional filling-in of conceptual and definition gaps occurring in this field. This objective will be pursued based on two approaches. In the first one, a comprehensive analysis and evaluation of the current state of the art within hyperautomation will be carried out. The second approach involves theoretical-definitional structuring of terminology and the naming associated with it, together with supplementing them with new typologies and criteria.

1. Methodology

In pursuing the main objective, as formulated above for this publication, its authors – in a *per se* manner – were also required to choose the appropriate research method. Thus, using the typology of literature reviews proposed by G. Paré et al. [2015] and taking into account the fact that science as a cumulative endeavour creates new awareness in the process of interpreting and combining existing knowledge [vom Brocke et al., 2009], for the literature research on the issue of hyperautomation, the research apparatus was chosen in the form of methods of reviewing the scope of literature (scoping review) [Verdejo et al., 2021] and those of literature critical review [Booth et al., 2016]. Before proceeding to their presentation, it is worth

mentioning at this point that going beyond the boundaries and framework of the literature belonging exclusively to the management sciences (interdisciplinarity of science), the article benefited from literature from other sciences as well, including primarily engineering and technical disciplines. The first method chosen, which was indicated above, was intended to determine, both quantitatively and qualitatively, the scale and nature of the scientific literature related to the subject of hyperautomation. Furthermore, it was intended to synthesise knowledge about it, taking into account the main concepts – including the differences and similarities between them – and the gaps identified in its area of both definitional and research nature [Colquhoun et al., 2014]. The final stage of the first selected research method is focused on summarising and narratively presenting existing literature in the area of hyperautomation [Arksey, O'Malley, 2005]. The second of the research methods, i.e., analysis and criticism of literature, reviewed in a theoretical and ontological context, scientific works (the study excluded: popular science, journalism, methodological studies and articles in the press and publications of mass scope) related to the term hyperautomation. It aimed to achieve the following specific objectives: demonstrating the scientific relevance of the concept of hyperautomation in the context of management and quality sciences, including management organization theory, setting out the context and circumstances in which hyperautomation is most frequently undertaken, and identifying epistemological gaps and opportunities to enrich existing knowledge about hyperautomation [Madhavaram et al., 2015]. This study, based on empirical findings, aimed to identify and evaluate previously published scientific papers related to the term hyperautomation, with particular reference to those that have been classified by bibliometric sources as work in the area of management and/or business management. Only peer-reviewed scientific articles, studies in the form of books or individual chapters and conference reports were analysed. This meant that information about hyperautomation obtained from non-reviewed studies (including messages, industry journals, reports, market analyses, newspapers, blogs, podcasts, websites) was not the subject of this study. With this in mind, an objective review of the previously unexamined literature on hyperautomation [Cronin et al., 2008] was carried out in five stages [Ramdhani et al., 2014]:

- In stage I, a basic research objective was formulated,
- In stage II, a selection of scientific databases was made,
- In stage III, the results of the studies were presented in quantitative terms,
- In stage IV, the results of the studies were presented in qualitative terms,
- In stage V, a critical analysis of the available literature on hyperautomation was completed, together with an indication of conceptual and definition gaps.

Moving to the implementation of stage I, it should be pointed out that the objective of the study was the same as the objective already formulated in this article, in the section entitled "objective of the article". Thus, its next stages – in practice – will

present an attempt at its materialisation. As part of the phase II implementation, eight bibliographic databases were selected for the research (indexing only peer-reviewed scientific publications, conference reports and books): Wiley Online Library (WOL), Web of Science (WoS),[1] Scopus, Emerald Insight, Oxford Journals, Sage Journals, ProQuest One Business (PQOB) and BazEcon. Among these, seven of them are English-language databases containing scientific publications only in this language, while one – BazEkon – is a Polish-language[2] bibliographic/full-text database in the field of economics and related sciences. At the same time, each of these databases, a fact which has also been taken into account, has its own *differentia specifica* that can distinguish it from the others, both in terms of coverage, number of volumes, number of citations, level of data aggregation, representativeness of the scientific activity examined, timeliness, consistency or searchability of keywords. Thus, the selection of databases proposed by the authors – peer-reviewed with an established reputation in the world of science – was intended to serve the quality and scientific integrity of the literature research conducted on the concept of hyperautomation [Chapman, Ellinger, 2019]. At the beginning of stage III, a timeframe was defined that set the boundaries within which literature items related to the concept of hyperautomation were identified. In practice, their scope was very wide and covered the years 1960–2021. A total of 68 publications related to the word hyperautomation were then identified from phrases written in three different variants (see Tab.1), i.e., "hyperautomation" (written together), "hyper-automation" (written together, with a hyphen), and "hyper automation" (written separately, with a space). After the exclusion of duplicates in each database, the number of publications found decreased by 24 items and reached 44 (Tab.1). The most studies were found for: WOL – 10 items, PQOB – 9, Emerald Insight – 7, Scopus and Sage Journals – 6 items and WoS – 4, and least for BazEkon – 0 items. Thus, the latter was excluded from further research, due to its lack of impact on the final effects of the in-article investigations. Later in the research, the collection of 44 identified publications was subjected to two more independent restrictions at the same time. Firstly, those items that appeared to be duplicates in more than one scientific database were removed (e.g., the same publication, of the same name, appeared in both the WoS and Scopus databases). Secondly, the scope of publications was reduced by those that were not classified in bibliographic databases as works in the area of management and/or business management[3]. As a result of the limitations introduced, which are detailed in Table 1, the final number of peer-reviewed scientific publications related to the hyperautomation phrase (as written in 3 different variants), in the area of management (cf. Figure 1), decreased to 15.

[1] WoS and Scopus are two of the world's leading reviewed scientific bases that are direct competitors.

[2] Nevertheless, the BazEcon online database website is also available in an English version.

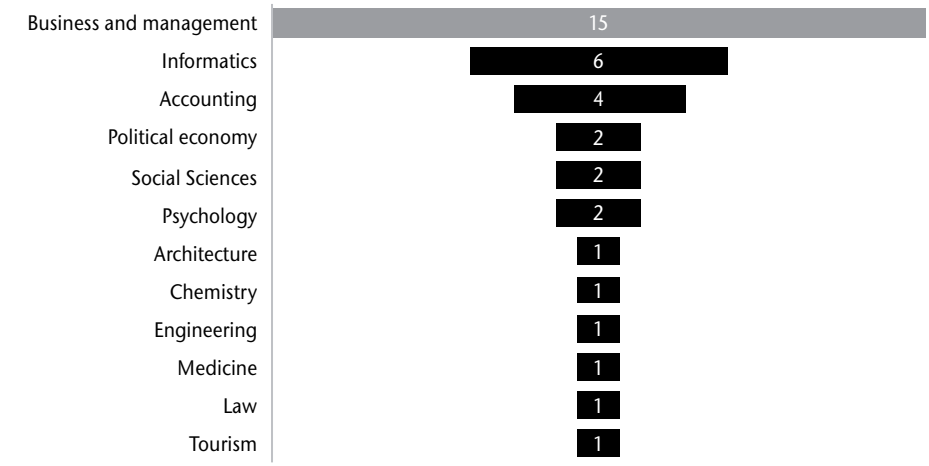
[3] There were works related directly to the areas of accounting, architecture and planning, chemistry, computer science, telecommunications, law, medicine, psychology or tourism.

Table 1. General number of scientific publications containing the phrases "hyperautomation", "hyper-automation" and "hyper automation" identified in scientific databases between 1960 and 2021

Field / Database	Wiley Online Library	Web of Science	Scopus	Emerald Insight	Oxford Journals	Sage Journals	ProQuest One Business	BazEkon
phrase: "hyperautomation" (1)								
phrase: "hyper-automation" (2)								
phrase: "hyper automation" (3)								
Total for a single database: (1)+(2)+(3)								
Duplicates for a single database: (4)								
Total for a single database: (1)+(2)+(3)-(4)								
Total for all database: (5)								
Total of duplicates in all database: (6)								
Total: (5)-(6)								
Scientific publications from outside the field of management and business management: (7)								
Total: (5)-(6)-(7)								

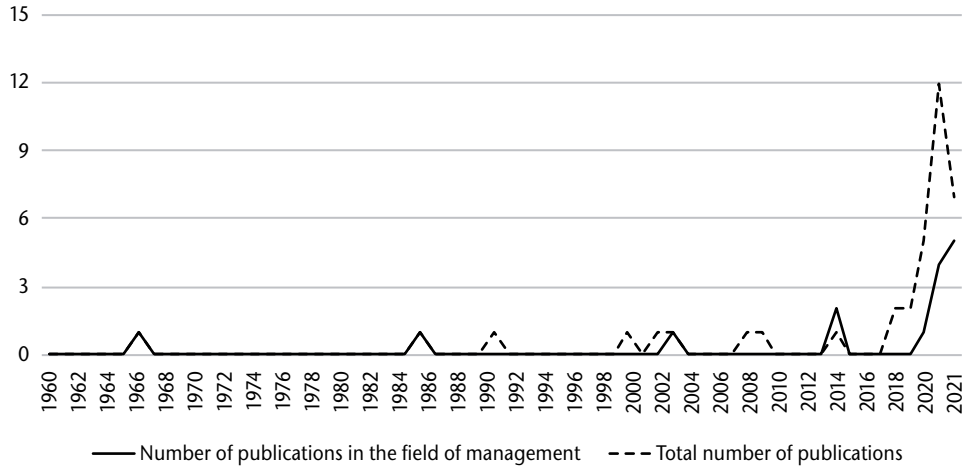
Source: own study.

Figure 1. The total number of peer-reviewed scientific publications related to hyperautomation, hyper-automation and hyper automation identified in scientific databases, 1960–2021, broken down by research area



Source: own study.

Figure 2. Number of published scientific papers related to the concept of hyperautomation between 1960 and 2021.



Source: own study.

At the end of this phase, it is worth noting Figure 2 that presents the total number of peer-reviewed scientific publications related to the concept of hyperautomation, which were published worldwide between 1960 and 2021. Its detailed analysis makes it possible to draw several important conclusions, in particular from the point of view of the review of the literature on hyperautomation:

- Firstly, on the basis of a literature review in the area of hyperautomation, we can assume with a high degree of probability that for the first time the concept of hyperautomation was used in a peer-reviewed scientific paper by F.D. Barrett entitled Managing Robots Strategically, published by Management Concepts Limited in Canada in 1985,[4]
- Secondly, only 37[5] peer-reviewed publications have been published over the last 61 years, which have had any connection with the hyperautomation phrase, of which 15 have been classified in the area of management and quality knowledge. Moreover, as many as 10 of them[6] are publications issued only in 2019–2021 (Figure 2), which clearly indicates that simultaneously this is a new and not yet investigated concept,

[4] However, it should be noted that the oldest publication related to the concept of hyperautomation identified in the WOL database, as part of the ongoing research, is the article entitled: "Occupational Training of Women under the Manpower Development and Training Act", published in 1966 by the U.S. Department of Labor, Office of Manpower, Automation and Training. However, the lack of access prevented the authors from verifying it and thus confirming that the term hyperautomation was first used in this publication.

[5] Of which – as many as 28 – in 2017–2021.

[6] The remaining 5 publications were published in: 2013 – two, 2002, 1985 and 1966 – one a year.

- Thirdly, it is clear that in the total number of publications, the biggest number relates to the area of management and business (Figure 1),
- And fourthly, in a time perspective, the concept of hyperautomation is a term closely linked to the development of Industry 4.0 and the digital economy.

Stage IV of this project, which is in practice a complement to Stage III, aims to conduct a weighted assessment of the selected research material in peer-reviewed scientific literature related to the concept of hyperautomation. Moving directly to the task in question, firstly, it should be emphasised that the review of the literature related to the term hyperautomation, in an unequivocal manner exposes the publication gap existing in this area. Its scale is so significant that it effectively limits the possibility of deepening the knowledge associated with this phenomenon, both for all interested parties and for researchers themselves. The reason for this is that hyperautomation is a *novelty* in the world of research into digitisation and its social consequences. Going forward, it should also be noted that a significant part of the publications on this subject, which were identified at the outset, come from fields of science other than economics (Tab.1). This situation is a consequence of the etymological pedigree of the word " (hyper) automation", derived from technical sciences and being close to such scientific disciplines as automation and robotics, computer science, mechanics, engineering or cybernetics. Despite this, it is the area of management and quality sciences that most often – especially in the last three years – have addressed the topic of hyperautomation, and they did so in the context of the development of Industry of the Future or the smart factory concept. However, it does not change the fact that the scientific literature on this subject contains virtually no record of the work that would be devoted to– even if concise – the description of the research that can be carried out in this area. Could this mean that at this stage of the development of hyperautomation, such scientific research is not carried out at all? The answer to this question may be ambiguous. It happens that, on the one hand, the lack of research may indicate the originality of the issue raised, while on the other hand, the inability to identify such research due to the early stage at which it is currently at. Therefore, in view of the above, the availability or suitability for use of literature on hyperautomation should be considered insufficient and not fulfilling high expectations, especially of the scientific community. The aim of the penultimate, meaning the fourth research stage, was to provide both a critical review of the available literature on hyperautomation and to identify conceptual gaps. The subject of the analysis included a list of 15 previously selected (see Tab. 1) scientific publications in the field of management and business management, whose topics, authors, year of issue and number of citations are presented in Table 2 below.

Table 2. List of publications identified in scientific databases in the area of management and business management related to the concept of hyperautomation

No.	Title of scientific publication	Author / Year of issue	Number of citations
1.	Industry 4.0 and the circular economy: A literature review and recommendations for future research.	[Awan et al., 2021]	5
2.	Attack and defense in patent-based competition: A new paradigm of strategic decision-making in the era of the fourth industrial revolution.	[Chih-Yi, Bou-Wen, 2021]	0
3.	Capacity planning in marketing.	[Pearson, 2021]	0
4.	Enabling situational awareness of business processes.	[Zhao et al., 2021]	0
5.	Digital transformation: What we have learned (thus far) and what is next.	[Schneider, Kokshagina, 2021]	0
6.	Process reference models: accelerator for digital transformation.	[Kirchmer, Franz, 2020]	0
7.	Affective computing in the modern workplace.	[Richardson, 2020]	4
8.	State-of-the-Art Technology Practices in Corporate Communications and Global Talent Operations – Building and Activating a Cognitive Enterprise (NTT Communications Case Study).	[Profiroiu et al., 2020]	0
9.	Smart remanufacturing: a review and research framework.	[Kerin, Pham, 2020]	7
10.	Markets, consumers and society in the age of heteromation.	[Dholakia, Firat, 2019]	6
11.	The Role of Organizational Standards in IT Outsourcing Relations.	[Moretti et al., 2013]	3
12.	The Human Factor within the Context of Systems of Systems.	[Ruault, 2013]	n.d.
13.	Future Organizational Design: The Scope for the IT-based Enterprise.	[Pyöriä, 2002]	n.d.
14.	Managing Robots Strategically.	[Barrett, 1985]	n.d.
15.	Occupational Training of Women under the Manpower Development and Training Act.	[U.S. Department of Labor, 1966]	n.d.

n.d. – no data available.

Source: own study.

As a preliminary point, it should be noted that a literature review[7] devoted to the subject of hyperautomation, being the theme of this article, is intended to extract what is most important, but also what is imperfect and controversial. Moving on to the *meritum,* it should be noted that from the list of publications presented in Table 2, as many as 9 have been published over the last two years, i.e., in 2020 and 2021. The remaining 6 cover the period of 1966–2019. Thus, it is clear that interest in hyperautomation is starting to grow in an evolutionary manner in the scientific

[7] As one of the ways in which research is conducted.

community, which undoubtedly has its origin in the rapidly advancing process of digitisation of organizations and entire economies, especially in highly developed countries. At the same time, the symbolic number of publications affects the absence or negligible number of citations, making it difficult to assess the phenomenon of hyperautomation in the context of a scientific and cognitive approach. Furthermore, it prevents debate with the authors of the quoted statements, which further inhibits the development of research concepts that could be implemented in relation to this issue. The detailed review undertaken during this phase of each of the publications presented in Table 2 has led to several critical reflections:

- First of all, none of the publications contain a statement that informs the reader of the meaning of the term hyperautomation and how it is understood. Thus, the lack of a suitable conceptual apparatus in this area is revealed,
- Secondly, none of the publications contain a typology related to the phenomenon of hyperautomation nor other objects and/or concepts relating thereto,
- Thirdly, none of the publications contain a description of the research work being prepared, let alone work on hyperautomation that has already been carried out in order to advance scientific knowledge in this field or to establish new scientific claims and axioms,
- Fourthly, there is a clear cognitive gap in publications with regard to the differences and similarities that exist between automation and hyperautomation. Furthermore, there is also no discussion, whether in descriptive or graphic form, of the key steps to develop hyperautomation in the world of organization and management,
- Fifth, in the analyzed publications the word hyperautomation is most often mentioned only in the context of modern, global technological trends, defined by the research and advisory firm Gartner. However, there is no reference, for example, to the moral and ethical consequences that will result from hyperautomation, the "recipients" of which will be both workers and societies as a whole,
- Sixth, hyperautomation is linked in publications – and rightly so – not only to Industry 4.0, but also to interpersonal communication in network organizations and societies (hyperconnectivity). Nevertheless, the presented perspectives are too concise and require deeper analyses not only of a comparative nature, but also of a statistical one,
- Seventh, among the examined publications, it is also impossible to obtain an answer to the synthetic but also cardinal question of the implications that, from the point of view of the development of hyper-automation, may arise for countries, organizations, individuals and management itself,
- And eighth, Google Scholar database results support the argument that the number of non-peer-reviewed publications related to the hyperautomation phrase (written in 3 different variants – cf. Table 1) is significantly higher than those peer-reviewed published in scientific databases.

Hyperautomation, being the subject of this analysis, is a new concept and is not utterly relevant in the scientific literature on management and quality issues. It owes its etymological origin to automation, which, as a scientific concept, devoted to the challenge of reducing the share of human participation in the production of goods, and was initiated with the development of the First Industrial Revolution (second half of the 18th century, England). It was then that– for the first time –the work of human muscles was replaced by energy supplied by machines [Malewski, 1958: 216]. However, the first scientific papers on automation appeared much later, in the 1850–60 s, which from the perspective of modern technological trends may come as a surprise [Malewski, 1958]. Nevertheless, as far as hyperautomation is concerned, this concept did not function in public space until the first half of 21st century, with the development of the 4th Industrial Revolution and the smart factory concept. The word hyperautomation is a combination of the prefix "hyper", which in Greek means "above", with the noun "automation". This results in hyperautomation (sometimes written: hyper-automation or hyper automation), which loosely translates to simply a very high level of self-automation, so high that in a certain context it may even raise valid practical, technical or moral concerns. Currently, the most common definition of hyperautomation in the subject literature is the one proposed by Gartner Inc., in which it is perceived as a concept of applying advanced technologies, including artificial intelligence and machine learning, to the increasing automation of processes and human resources. According to Gartner Inc., hyperautomation encompasses not only a wide range of tools that can operate autonomously, but also activities identification, analysis, measurement, monitoring, or reassessment. In other words, we can say that hyperautomation is a process of high-performance unification and tools and activities specific to the Industry of the Future, which can – in a functional and processual manner – consolidate large silos of data from different sources in order to automate business tasks. Thus, we can argue that as the integration of digital processes and technologies increases, there is an over-proportional increase in the ability to self-automate tasks and processes in an organization. Moreover, as Agrawal et al. [2020] point out, the aforementioned technology integration enables the holistic redesign, monitoring and automation of processes, thereby providing the organization with greater added value and a more significant impact on the environment in which it operates. Srivastava et al. [2020] present a similar approach to hyperautomation, considering it to be a sequential process associated with the transition from constant automation to processes based on perception. In their view, RPA tools, enriched with artificial intelligence and machine learning, are becoming a pillar for the implementation of the concept of hyperautomation in the organization, especially with regard to those tasks, processes and locations where this was not previously possible. As a result, the entire system is not only self-sufficient, but also a self-repairing mechanism that goes far beyond task automation

and ultimately leads to the materialisation of the idea – once highly utopian – of the push-button factory (a company launched by pressing a button). That being said, we see that hyperautomation is the next step, which at the same time reduces and replaces human involvement in physical and digital tasks, as well as in decision-making. More importantly, it also leads to the creation of a digital twin organization (DTO) [Jacoby, Usländer, 2020] that helps to achieve greater process efficiency, create more flexible, dynamic and transparent processes that autonomously are supposed to "respond" to changes in its environmental conditions. In view of the above findings on how to understand the issue of hyperautomation, the authors of this work were tempted to formulate their own definition of the term. Thus, in their opinion, hyperautomation is the highest degree of automation and hyperconnectivity occurring between tasks, processes and machines in the organization, implemented using, among others, artificial intelligence algorithms or machine learning, the aim of which is to seek – by exploiting synergies between all the elements that make it up –an independent, self-sufficient, self-driving and self-controlling push-button organization. In other words, hyperautomation will contribute to the emergence of a sophisticated organization that will identify and analyze errors in processes and tasks on its own, repair them and improve them, and finally make own decisions regarding the correctness, effectiveness and efficiency of its operations.

Conclusion

The purpose of this article, of a theoretical and cognitive nature, was to make a synthetic assessment of the current state of knowledge in the sciences of management and quality, on the issue of hyperautomation, together with the possible need to fill the conceptual (definition) gap in this field. The undertaken research has revealed that the scientific (peer-reviewed) literature on hyperautomation shows – and not only in the field of management and quality sciences – significant shortcomings, starting with the definition of the topic. It is particularly noteworthy that none of the scientific articles selected for analysis were strictly devoted to the issue of hyperautomation, whether cognitively, operationally or comparatively. Most of them – not to say all – referred to hyperautomation in an indirect and rather concise manner. Most often, in the reviewed literature hyperautomation was considered either in the context of the strategic global technological trend of the 21st century, or as a conceptual category related to the concept of Industry 4.0. Thus, the literature review did not provide, develop nor deepen scientific knowledge of hyperautomation. Therefore, the authors at the outset attempted to fill the definition gap that was present in this field and introduced their own understanding of the hyperautomation concept. While creating it, they relied on issues within the practical experience of organizations developing

their competences towards digital skills and big data analysis. The next task set by the authors of the publication is to create a series of articles – with two more following this one – devoted to the further study of the phenomenon of hyperautomation and to supplement and deepen scientific knowledge about this topic. Thus, the forthcoming research plans, which will be presented in the following article (i.e. in part II thereof), will include an attempt:

- Firstly, to present a comparative view of hyperautomation against the background of automation,
- Secondly, to visualise the staged development of hyperautomation, leading from self-regulation to comprehensive orchestration on the human-robot-system line,
- And as a third, to present a sequential model for the development of hyperautomation in the organization.

A review of the scope of literature and a critical literature review on the subject of hyperautomation showed that this subject is very poorly described – or even absent – in English-speaking bibliographic databases. The shortcomings relate not only to definitional approaches to hyperautomation, but also towards conceptual, comparative, scenario or quantitative perspectives. This state can be justified by the fact that the concept of hyperautomation is a kind of *novum* compared to other technological trends that have occurred to date, as well as to the science itself, dedicated not only to aspects of management or quality. Hence, it may take more time to complete and properly consolidate the research, especially as the phenomenon of hyperautomation is constantly evolving and is still being shaped. Nevertheless, on a cognitive basis, it should be constated that practice outpaces science when it comes to the existing knowledge of hyperautomation. Therefore, this article – as well as the others mentioned above – is an attempt (the authors believe it is a successful one) to reduce this distance. Its original definition of hyperautomation is therefore intended both to fill the definition gap that has existed in this field and to launch an academic discussion on the impact of this phenomenon on the organization, management and human beings.

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HYPERAUTOMATION IN ORGANIZATION MANAGEMENT – EXPLORATORY RESEARCH

Abstract

Hyperautomation is seen today as one of the most important technological trends of the 21st century. Unlike automation that was initiated with the development of the Industrial Revolutions, hyperautomation is a new, evolving phenomenon that organizations have high hopes for the future. From the perspective of technical and scientific progress, the final goal of hyperautomation will probably be the creation of a push-button organization, which will be launched by pressing the proverbial "button". The purpose of this article, being theoretical-cognitive in nature, is to synthetically assess the current state of knowledge in the sciences of management and quality regarding hyperautomation and to fill any definition gaps in this field. The research was carried out using two methods in the form of a literature review (scoping review) and the critical analysis of literature (critical review). The research subject was peer-reviewed scientific literature related to the issue of hyperautomation, derived from8 selected bibliographic databases. Studies showed that hyperautomation is barely present – or even absent – in English-lingual scientific databases. In addition, there are large definitional and cognitive deficiencies associated with this issue. Therefore, according to the authors, the development (knowledge) of hyperautomation at the practical, application level significantly exceeds that of its research. With this in mind, they recommend the direction of further scientific research that will contribute to reducing this distance.

Keywords: automation, hyperautomation, digital twin organization (DTO), push-button organization, Industry 4.0.

JEL Classification codes: O30, O31, O32

HIPERAUTOMATYZACJA W ZARZĄDZANIU ORGANIZACJĄ – BADANIA EKSPLORACYJNE

Streszczenie

Hiperautomatyzacja jest obecnie uznawana za jeden z najważniejszych trendów technologicznych XXI w. W odróżnieniu od tradycyjnej automatyzacji, która narodziła się wraz z rewolucjami przemysłowymi, hiperautomatyzacja stanowi nowy, dynamicznie rozwijający się fenomen, który budzi wśród organizacji duże nadzieje na przyszłość. Z perspektywy postępu technologicznego i naukowego ostatecznym celem hiperautomatyzacji jest bowiem stworzenie organizacji, która będzie funkcjonować na zasadzie „naciśnięcia przycisku". Celem niniejszego artykułu, mającego charakter teoretyczno-poznawczy, jest syntetyczna ocena aktualnego stanu wiedzy w zakresie nauk o zarządzaniu i jakości, szczególnie w kontekście hiperautomatyzacji, oraz wskazanie ewentualnych luk definicyjnych w tej dziedzinie. Badania przeprowadzono z zastosowaniem dwóch metod: przeglądu literatury (przegląd scopingowy) i krytycznej analizy literatury (przegląd krytyczny). Przedmiotem analizy była literatura naukowa recenzowana, odnosząca się do problematyki hiperautomatyzacji, pozyskana z ośmiu wybranych baz bibliograficznych. Uzyskane wyniki wskazują, że tematyka hiperautomatyzacji jest słabo reprezentowana, a w wielu anglojęzycznych bazach naukowych wręcz nieobecna. Ponadto stwierdzono istotne braki tak definicyjne, jak i poznawcze związane z tym zagadnieniem. W związku z tym autorzy zauważają, że rozwój hiperautomatyzacji na poziomie praktycznym i aplikacyjnym wyraźnie wyprzedza dotychczasowy stan badań naukowych w tej dziedzinie. W konsekwencji wskazują na konieczność prowadzenia dalszych badań naukowych, które pozwolą na wypełnienie tej luki oraz przyczynią się do pogłębienia wiedzy i rozwoju tego obszaru.

Słowa kluczowe: automatyzacja, hiperautomatyzacja, cyfrowy bliźniak organizacji (DTO), fabryka na przycisk, Przemysł 4.0.

Kody klasyfikacji JEL: O30, O31, O32