

Research Article

Digital workplaces as a necessity of the modern world

Los lugares de trabajo digitales como una necesidad del mundo moderno

Elena Kabakova^{1*}

¹ Vologda Research Center of the Russian Academy of Sciences - VolRC RAS

* Correspondence: vologdascience@gmail.com

Abstract: The article presents the impact of technologies and digitization on different spheres of human life, concentrating on the issues devoted to organization of the working process, workplaces, and workers. The researcher marks the barriers that companies face in terms of implementing digital workplaces and workplace innovation in general. Besides, the author stresses the aspects of adopting the changes connected with digitization and workplace innovation processes that should be taken into account. The paper reveals the results of the International Sociological Survey "Modern Successful Person" regarding engagement into the working process, creative activities of people at their workplaces, and satisfaction of respondents with their professional activities. Moreover, the researcher presents the socio-demographic characteristics of respondents. The author emphasizes the inevitability of transformation from traditional to digital workplaces and stresses the significance of implementing workplace innovation for improvement of labor activity.

Keywords: digital workplaces, digitization, workplace innovation, working life, improvement of labor activity.

Resumen: El artículo analiza el impacto de las tecnologías y de la digitalización en diferentes ámbitos de la vida humana, concentrándose principalmente en la organización de los procesos, los lugares de trabajo y los trabajadores. La investigación establece las barreras que enfrentan las empresas en términos de desarrollar lugares de trabajo digitales y fomentar la innovación en el lugar de trabajo en general. Además, se destacan las cuestiones que deben tenerse en cuenta en relación con los cambios generados en el lugar de trabajo producidos por la digitalización y los procesos de innovación. El artículo revela los resultados de la Encuesta internacional de sociología "Modern Successful Person" cuyo objetivo es conocer el grado de participación de las personas en los procesos de trabajo, las actividades creativas en sus lugares de trabajo y la satisfacción de los encuestados con sus actividades profesionales. Adicionalmente, se presentan las características socio-demográficas de los encuestados. Los resultados enfatizan la inevitable transformación de los lugares de trabajo tradicionales hacia contextos digitales y resaltan la importancia de implementar la innovación en los contextos de trabajo para mejorar la actividad laboral.

Palabras clave: lugares de trabajo digitales, digitalización, innovación en el lugar de trabajo, vida laboral, mejora de la actividad laboral.

1. Introduction

During the last decade the digitization phenomenon has conquered the world. Nowadays technologies affect almost every part of any human's life. The rapid development and increasing changes in our lifestyles make us adjust to the present-day state of affairs and alter our way of living.

The elaboration and implementation of technologies greatly influence the sphere of work and workplaces as well. The issues related to the impact of technologies on organizing the working process, workplaces and workers are worth discussing.

In 1993 Charles Grantham and Larry Nichols created the term "digital workplace" in their book called "The Digital Workplace: Designing Groupware Platforms". Digital workplace is defined as a collection of all the digital tools in an organization that allow employees to do their jobs and assist in the general day-to-day functioning of a business (Perks, 2015: 1-7). The digital workplace encompasses all the information, technologies, collaboration tools, and processes workers use to get work done on any device, anytime, and from anywhere. Integrating workplace technologies like mobile, cloud, analytics and social tools into workplace will empower employees to work faster and communicate easier (Attaran et al., 2019: 1-23). The widespread proliferation of information technology forever changed the ways in which employees connect, collaborate and communicate. This change accelerated over the last 30 years due to the emergence of three fundamental trends:

- Aging workforce: as the baby boomers continue to retire, they are taking key knowledge with them, increasing the need to capture their knowledge; businesses struggle to meet the varying needs of a multi-generational workforce.
- Information overload: information is still growing at exponential rates and employees can't find what they need, even with technology advances; businesses are struggling to find, filter and forward information to the right workers at the right time.
- The need for speed: with the rapid pace of today's work environment, employees increasingly need to work faster and collaborate more effectively to get their jobs done (Herrera et al., 2014: 1-16; Attaran et al., 2019: 1-23).

As the use of the Internet and mobile devices grows, the pace of change continues to accelerate. These changes are further exacerbated by ongoing demands to increase productivity and cut costs, making it harder for employees to meet market expectations. Together, these trends are reshaping the work environment (Herrera et al., 2014: 1-16). Organizations that will succeed in this new digital work environment are those that can be open to innovation and adopting new digital methods, while also curating those digital experiences for their employees, including creating distinct lines between work and non-work, and making the workplace overall more human-centered rather than technology-centered (Buchanan et al., 2016: 1-9).

Organizations know that they need to create a digital workplace, but to drive the adoption in practice is quite hard. Rigid corporate cultures, organizational complexities and the rapid pace of change are just some of the barriers companies are facing when it comes to embracing the future. Here are the main barriers companies often deal with in the adoption process:

- Modernization

Planning for change amidst rapid technological innovation means roadmaps must constantly be re-evaluated. They must also cater for the evolving needs and expectations users have of workplace tools to ensure continued productivity. Moreover, the work should be designed in such way allowing people both to develop their talents and abilities, and elaborate proper working conditions. These aspects taken into account can help to increase productivity and efficiency.

- Data privacy

Businesses must manage the vast amounts of data they produce and collect in a way that ensures compliance. They must strike the balance between holding data that gives them a

commercial advantage and ensuring sensitive personal information that should be protected in an age where cyber attacks are rife.

- People and skills

The level of digital literacy across the workforce will vary, from frontline employees to leadership staff. This disconnect in skills can potentially lead to uneven adoption rates, as traditional workers will be reluctant to change.

- Culture

Digital tools can break down long-established ways of communication – which can go against old habits. Building a digital culture requires a restructuring of how information is shared, and an update of legacy culture (Avanade Inc., 2016: 1-8).

In order to drive the adoption of a digital workplace, people and processes need to align. Both IT and HR leaders must work together to match departmental strategic goals with business operational needs. This is the same for any company, regardless of size or sector.

Strong relationships with others in the business, especially other team members, will be crucial for success. This will require an ability to articulate the benefits of digital change – such as greater cost savings, productivity, and agility – and show how a digital strategy can assist wider business goals. While IT is responsible for the technical aspects of implementing new systems, they require the assistance of other departments, particularly HR, to drive user adoption. HR has a key strategic role to play when implementing change. One of the biggest challenges is taking the employees on the adoption journey. They're nervous about what it means to them. As we know, old habits die hard, so adopting the changes in the minds of workers, especially the representatives of the so-called "old generation", could be very difficult.

Only by taking a holistic approach the digital workplace can be implemented. This procedure requires the convergence of technology, people and processes for true adoption to be achieved. Working towards a digital workplace amidst technological disruption can be challenging. Strong leadership, open communication and a desire for innovation are necessary to rise above any roadblocks along the way (Avanade Inc., 2016: 1-8).

2. Views on digital workplaces

The digital workplace exists in every organization and industry today. It will take a different form depending on what your industry is and what your business needs are. The technologies within your organization and how they are used will vary (Herrera et al., 2014: 1-16). Organizations are benefiting from the increased digitization of the workplace through increased productivity, cost savings, a more mobile and agile workforce, and generally increased flexibility and adaptability in an ever increasingly complex marketplace. Enterprises are collaborating more globally, and with more diverse and global staff. Employees can now work all over the world, from the jungle to the arctic, as long as they have reliable Internet. Today's workforces are freer to go where they want to work instead of staying where work originates. People can quickly share ideas, information, and requests at a speed faster than any other in recorded history (Buchanan et al., 2016: 1-9). The digital workplace gives employees the tools they need to improve their communication, collaboration and connections with each other. Implemented effectively, it also allows organizations to mitigate common risks, adhere to their regulatory compliance mandates and ultimately realize enhanced business value. It is quite evident that the key is to adopt the right tools for your employees to do their jobs in a proper way (Herrera et al., 2014: 1-16).

Getting digital workplace transformation right is vital for sustainable business success in a new digital consumer-centric business world. The digital workplace affects physical workplaces, technology and people. Changes made in one area may result in changes in another. Digital workplace creates connections and removes barriers between people, information, and processes. When the barriers are broken, workers do their jobs more

effectively and efficiently, and make the business more agile and competitive (Attaran et al., 2019: 1-23).

Moreover, we have to create the so-called “connected” environments to reach the best effect in the transformation process. A vast array of connected devices will ensure that employees are plugged into their organizations’ wider IT ecosystems from the moment they arrive at work, with the ability to be fed relevant organizational data in real-time as they need it to perform their roles (Fujitsu Technology Solutions GmbH, 2015: 5-39)

The digital workplace is all about the employees’ ability to do their job by collaborating, communicating and connecting with others. The goal is to forge productive business relationships within and beyond natural work groups and to enable knowledge sharing across the organization (Herrera et al., 2014: 1-16).

As we have already mentioned, the shift to digital workplace influence physical workplaces, technology and people. Digital workplace has certain aspects and criteria that we have to take into consideration.

Firstly, we should mark digital environments. The shift from physical to digital workplaces is quite obvious: the traditional offices are inefficient, inflexible, expensive and difficult to modify. We observe the tendency of reducing offices’ sizes due to the changes in the nature of work. Work becomes flexible and mobile. Making more efficient use of space through a variety of different methods creates significant opportunities to reduce office space and therefore the cost of renting or owning a building. It’s worth remembering that it’s not only rental, mortgage or tax costs that drain valuable financial resources, but also the accompanying costs such as office equipment, power and ongoing facilities management (Miller, 2012: 2-34).

Moreover, as M. Vartiainen and his colleagues (Vartiainen et al., 2007: 177; Vartiainen, 2009: 1090-1098) note, we should take into account that workplaces are combinations of physical, virtual, social, and mental spaces, especially in collaborative work. These spaces form a collaborative working environment, which can support or hinder working. Let us give a review of the spaces mentioned above.

A ‘physical space’ refers to those physical places that employees use for working while moving from one place to another; it is the environment where work is conducted, for example, the main workplace, home, cars, hotels, etc.

A ‘virtual space’ refers to an electronic working environment or virtual workspace consisting of various infrastructures, tools and media for individual employees, groups, and whole organizations.

A ‘social space’ refers to the social context and the whole social network where working takes place; that is, for example, other team members, managers, and customers. Social space creates the social capital of an organization.

A ‘mental space’ refers to individual cognitive constructs, thoughts, beliefs, ideas, and mental states through which an employee interprets the other spaces. A mental space can be shared with others. Creating and forming joint mental spaces requires communication and collaboration, such as exchanging ideas in face-to-face or virtual dialogues. Social and mental spaces are usually studied by collecting individual perceptions, attitudes, and conceptions, and then analyzing their contents.

All the spaces are interlinked with each other to form a collective working environment. The use of different spaces varies, depending on the type of work and the interdependence of the tasks to be done (Vartiainen et al., 2007: 177; Vartiainen, 2009: 1090-1098). The proper combination of these spaces can give us quite good results in readiness to adopt new technologies, organizational performance of work and innovative capability among personnel.

Secondly, one more aspect worth mentioning is that the shift to the digital workplace has a clear positive impact on efficiency, productivity and quality of work – with marked financial benefits. There is a strong link between flexible working style at digital workplaces and increased productivity and efficiency of employees. Among the reasons of improved

productivity and efficiency we can name the satisfaction of employees with their new working style. That is why they are eager to do their jobs better and more productively, and moreover, they are more engaged and involved into the working process.

Thirdly, all mentioned above has a positive impact on reducing employee turnover and rates of absenteeism. Due to flexible working style the number of sick days can be significantly reduced. The number of sick days caused by stress and over-working is quite huge. Flexible working can help reduce stress by allowing busy employees to deal with their issues related to work and family faster and easier. They can avoid the pain of commuting and enjoy a less pressurized working environment. Flexible working is also often a reflection of trust between employees and their managers, and here a positive working relationship can significantly improve the working experience. As a general rule, employee dissatisfaction at work is high. Alternative ways of working, which give employees more flexibility and autonomy about how and where they work, can lead to significant increases in employee satisfaction. Happier employees are less likely to leave. Overall, alternative working patterns are incredibly popular among staff and may well prove to be a vital component of any strategy that seeks to keep employee turnover at a minimum, in turn leading to competitive advantage. This is an obvious element to include in any business case for investing in the digital workplace (Miller, 2012: 2-34).

Another aspect is the necessity of a well-designed IT infrastructure. It is quite important to shift to open workspaces, modern devices and advanced technologies. All these novelties can both increase the productivity of current employees, and bring new talented specialists to the company possessing innovative solutions and technologies.

Reasonably enough, the role of information in the modern world is constantly increasing. Information and its flow through an organization are important enablers for the successful execution of business strategy. Information is an integral part of every task that gets executed in an organization and the outputs of these tasks are directly dependent upon information. The amount of digitized data continues to grow at an exponential rate and workplace collaboration tools for information sharing and meeting organizational needs are becoming increasingly important (Attaran et al., 2019: 1-23).

With information flows being more transparent and structures becoming more horizontal, the digital workplace is a chance to forge truly new ways of working. The digital workplace empowers employees to collaborate and connect in ways that truly enhance business value, helping staff do whatever they do, better, faster and more profitably (Avanade Inc., 2016: 1-8). As F. Pot mentions in his article "Workplace innovation for better jobs and performance", one more important aspect that should be taken into consideration is the commitment of management combined with participation of employees, which is definitely the most important condition for success in the quality of working life and performance (Pot, 2011: 404-415).

No wonder that employee engagement allows to involve employees in the process of change and implementation of innovations, in ways that gives them voice. After all, when the jobs of employees are going to change, people favor having a certain level of influence or 'control capacity' (De Sitter et al., 1997: 497-534). Employee engagement and involvement enhances innovation-adoption, and reduces resistance to change and risk-avoiding defensive behaviors, which is not something one can use in the process of innovation. On the contrary, engaging employees can have positive inputs to the innovation process. Workplace innovation is a decisive element for successful technological innovation, better performance, and better jobs (Oeij et al., 2019a: 15-26; Oeij et al., 2019b: 199-207). N.F. Garmann-Johnsen, M. Helmersen and T.R. Eikebrokk (2018) mark the significance of employee engagement as well, specifying that employees are important for innovations, based on their education, experience and contacts upstream and downstream of the value chain. They also know their own organization with its culture, leadership, processes and technology. Employees can also give input on how these

innovations can be implemented in their own enterprise in a better way (Garmann-Johnsen et al., 2018: 55-77).

3. Materials and methods

The present research involved the application of various methods, such as analysis, synthesis, abstraction, generalization, polling techniques, etc. These methods were selected in order to investigate the phenomenon of digital workplaces, current trends and barriers for implementing digital technologies at the workplaces as well as the aspects we have to take into consideration in the process of shifting to digital workplaces. Within the performed research the attempt to summarize and determine the areas dealing with digital workplaces issues was made. According to the acquired data, the following aspects are worth mentioning: digital environments, new working style, the reduction of employee turnover and absenteeism rates, the necessity of a well-designed IT infrastructure, the increasing role of information, and employee engagement into the working process.

In 2018 the International Sociological Survey “Modern Successful Person” was conducted on the basis of Vologda Research Center of the Russian Academy of Sciences (VolRC RAS) in Russia and Belarus involving 395 participants (Kolomna – 94, Vologda and Cherepovets – 100, Petrozavodsk – 100 and Minsk – 101). The comprehensive poll comprised of 78 questions, including the issues related to employee engagement, innovative and creative activities, and the level of satisfaction with their professional occupation. The results of the conducted survey have proved the significance of the aspects mentioned above and confirmed the necessity of further research in this area. For this reason, the research is currently in progress and will be continued in order to investigate other methods and aspects regarding digital workplaces, as well as to examine the experience of different researchers on issues devoted to digital workplaces.

4. Results

As mentioned above, the questionnaire results of the International Sociological Survey “Modern Successful Person” regarding the issues of employee engagement into the working process, innovative and creative activities of people at their workplaces, and the level of satisfaction with their professional occupation, spark certain interest.

The first aspect concerns engagement into the working process (Table 1).

Table 1. Distribution of responses to the questions:

(a). Do you feel responsible for the state of affairs...? (b). Do you consider that you can personally influence the state of affairs today...? (at your workplace) from the questionnaire of the International Sociological Survey “Modern Successful Person” (% from all respondents)

	Average over the survey		
	All	Successful	Unsuccessful
<i>Surveyed, people</i>	395	231	90
Do you feel responsible for the state of affairs...?			
<i>At your workplace</i>			
Yes	77.5	86.6	65.6
No	8.6	4.3	18.9
I find it difficult to answer	13.9	9.1	15.6
Do you consider that you can personally influence the state of affairs today...?			
<i>At your workplace</i>			
Yes	64.8	71.4	52.2
No	15.4	12.6	23.3
I find it difficult to answer	19.7	16.0	24.4

Source: database of VolRC RAS, 2018.

According to the Table 1, we can see that the majority of surveyed people feel themselves responsible for the state of affairs at their workplaces (the average indicator – 77.5%). At the same time the percentage rate of those, who find it difficult to answer, exceeds the number of surveyed that do not feel responsible at their workplaces (due to the average indicator by 5.3%).

Another situation is observed regarding the data analysis on the question devoted to the personal influence over the state of affairs at the workplace (the average indicator – 64.8%). These results allow us to conclude that 2/3 of survey participants consider that they can somehow influence the situation they deal with at their workplaces.

One more interesting aspect worth mentioning is connected with creative activities of people at their workplaces (Table 2).

Table 2. Distribution of responses to the question: (a). To what extent is it typical for you to perform creative/innovative activities? from the questionnaire of the International Sociological Survey “Modern Successful Person” (% from all respondents)

	Average over the survey		
	All	Successful	Unsuccessful
<i>Surveyed, people</i>	395	231	90
To what extent is it typical for you to perform creative/innovative activities?			
I am creative all the time – it is the style of my life	14.9	17.1	9.1
I am creative, when there is certain practical necessity in doing something, and there are no actual solutions at the moment	24.6	32.0	17.0
I am creative only in cases, when my boss gives me such task	22.3	21.5	15.9
I never do anything like that; I only do certain things I was taught earlier or what the others can advise me, what I can read in books or other sources, etc.	38.2	29.4	58.0

Source: database of VolRC RAS, 2018.

According to the Table 2, we can observe that the majority of surveyed people (the average indicator – 38.2%) do not perform any creative/innovative activities by themselves during the working process. In most cases survey participants either do certain things they were taught earlier, or do what the others advised them, or even what they can read in books and other sources. The survey results show us that a significant part of respondents are not eager to be creative during the working process and prefer more traditional ways of doing their jobs. Nearly the same amount of surveyed people consider that they are creative, when there is certain practical necessity in doing something unconventional, and there are no actual solutions to the problem at the moment (the average indicator – 24.6%) or they are creative only in cases, when the boss gives them such task (the average indicator – 22.3%). These figures confirm the fact that in general people can be creative and have possibilities and opportunities to act and do something extraordinary, but they need some motivation to start innovative activities. Unfortunately, according to the average indicator, only 14.9% of survey participants feel creative and engage themselves in such activities during the working process. But the presence of two groups mentioned above gives us some hope and desire to involve these people in innovative activities more often, so in future they possibly can transfer to the group of creative ones and join them.

The survey results regarding the satisfaction of respondents with their professional activities seem to be quite curious as well (Table 3).

Table 3. Distribution of responses to the question: (a). Are you satisfied with your professional activities? from the questionnaire of the International Sociological Survey "Modern Successful Person" (% from all respondents)

	Average over the survey		
	All	Successful	Unsuccessful
Surveyed, people	395	231	90
Are you satisfied with your professional activities?			
Not satisfied at all	4.8	3.0	13.3
Generally not satisfied	5.8	3.0	13.3
Partly satisfied	27.8	25.5	31.1
Generally satisfied	39.7	48.1	24.4
Completely satisfied	13.2	16.9	4.4
I find it difficult to answer	8.6	3.5	13.3

Source: database of VoIRC RAS, 2018.

As we observe in the Table 3, the majority of respondents feel generally satisfied with their professional activities (the average indicator – 39.7%). Due to the average indicator, only 13.2% of surveyed people can say that they are completely satisfied with their working process. Quite significant percentage rate (the average indicator – 27.8%) belongs to people, who are partly satisfied with their professional occupation, so in the long run their employers can somehow change their working conditions to make them feel satisfied with their work. All in all, we can conclude that more than a half of respondents (the average indicator – 52.9%) feel themselves more or less satisfied with their professional activities, and according to the average indicator only 10.6% of survey participants are not satisfied with their working process.

One more interesting aspect for consideration is related to socio-demographic characteristics of respondents (Table 4).

As we can see, the majority of survey participants are women (the average indicator – 58.5%). Nevertheless, according to the average indicator, the percentage rate of male respondents is quite high and equals 41.5%. Another point worth mentioning is connected to age distribution. Overall, we observe that the most part of survey participants belongs to the group of young people – 25-29 years (the average indicator – 16.5%). Another large group of respondents is represented by people of 40-44 years (the average indicator – 15.7%). The same trends are noticed in correlating characteristics of age and gender. The majority of respondents among male and female representatives are young people – 25-29 years (the average indicators are 7.8% and 8.6% respectively). At the same time the group of women aged 40-44 years has the dominant position among the others with the average indicator 9.6%, whereas the male group with same age has the average indicator equaled only 6.1%. The lowest figures belong to the groups of people aged 60-64 years and 65-72 years (the average indicators are 6.8% and 6.6% respectively). The similar situation regarding low positions is observed in correlating characteristics of age and gender.

Table 4. Distribution of socio-demographic characteristics of respondents from the questionnaire of the International Sociological Survey "Modern Successful Person" (% from all respondents)

	Average over the survey		
	All	Successful	Unsuccessful
Surveyed, people	395	231	90
Socio-demographic characteristics of respondents			
Gender			
Male	41.5	40.7	40.0
Female	58.5	59.3	60.0

	Average over the survey		
	All	Successful	Unsuccessful
Age			
25-29 years	16.5	21.2	8.9
30-34 years	12.9	15.2	7.8
35-39 years	8.4	9.5	7.8
40-44 years	15.7	15.6	16.7
45-49 years	12.2	10.4	17.8
50-54 years	9.4	7.4	14.4
55-59 years	11.6	10.8	16.7
60-64 years	6.8	5.6	6.7
65-72 years	6.6	4.3	3.3
Male			
25-29 years	7.8	10.4	4.4
30-34 years	5.3	6.1	4.4
35-39 years	3.5	4.3	3.3
40-44 years	6.1	6.1	6.7
45-49 years	4.8	4.3	5.6
50-54 years	4.3	2.6	7.8
55-59 years	4.1	3.0	4.4
60-64 years	2.8	1.7	3.3
65-72 years	2.8	2.2	0.0
Female			
25-29 years	8.6	10.8	4.4
30-34 years	7.6	9.1	3.3
35-39 years	4.8	5.2	4.4
40-44 years	9.6	9.5	10.0
45-49 years	7.3	6.1	12.2
50-54 years	5.1	4.8	6.7
55-59 years	7.6	7.8	12.2
60-64 years	4.1	3.9	3.3
65-72 years	3.8	2.2	3.3

Source: database of VoIRC RAS, 2018.

5. Conclusions

Taking everything into account, we can summarize that the majority of surveyed people sense their responsibility and importance in working activities, stress their strive for taking the initiative and influence the state of affairs in their organizations, which can be evaluated as the positive moment in teamwork aimed at achieving common goals and tasks. Besides, the majority of respondents can be creative in particular conditions (the average indicator – 61.8%), but the employers have to foster their desire to be innovative and creative. What I find interesting is the rate of surveyed people, who are satisfied with their professional activities. As we can see, due to the average indicator just 10.6% of survey participants are not satisfied with their working activities, so the most part of people feel themselves somehow satisfied with their professional occupation and they can be ready for changes and innovative processes regarding their workplaces and digitization.

The implementation of workplace innovation is worldwide. Workplace innovation allows us to develop new flexible ways of working that will be favorable for both workers, and organizations, because modern working environments will make us be more creative, inspired, competitive, and, consequently, more productive. Nowadays people strive for working in smart offices and in most cases feel that their present workspace and workplaces are not well-equipped enough. This criterion becomes more and more significant for everybody involved in the process of searching for the future jobs and best workplaces.

Digital connectivity is an integral part of how most businesses and institutions organize their working process. It goes without saying that digital workplaces will sooner or later replace or reshape traditional offices, because when they are implemented properly, they increase productivity and efficiency, provide more effective ways of working, give an opportunity for employees to achieve their goals and outcomes faster and also raise the employee engagement. For the present moment not every organization is ready to deal with these drastic changes and it will take time for them to prepare themselves to this new working style. Organizations should change their approach to digital workplaces and digitization processes, and consequently, upgrade their corporate culture. The employees should know what they have to do, how to find the answers they need, and in addition feel supported every step of the way. Anyway, organizations have to prepare for the upcoming changes in workplace innovation and use digital technologies to be competitive and stay up-to-date.

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