The Skills and Use of Technologies in the Home

Office in Times of Pandemic

B. Luna-Benoso

Instituto Politécnico Nacional. Escuela Superior de Cómputo. Av. Juan de Dios
Batíz, esq. Miguel Othón de Mendizábal, México City 07738, México

J. C. Martínez-Perales

Instituto Politécnico Nacional. Escuela Superior de Cómputo. Av. Juan de Dios
Batíz, esq. Miguel Othón de Mendizábal, México City 07738, México

J. Cortés-Galicia

Instituto Politécnico Nacional. Escuela Superior de Cómputo. Av. Juan de Dios
Batíz, esq. Miguel Othón de Mendizábal, México City 07738, México

Abstract

Actually, the workspace that persists due to the appearance of the Covid-19
coronavirus has led Mexican companies to explore and opt for new work schemes
remotely and to ensure that the company continues surviving by eliminating non-
essential work and reducing the risk of contagion by remaining at home. This new
form of work demands even more the exploitation of capacities and abilities of workers
in the management of new technologies, bringing with itself a change in the labor
paradigm, since this new scheme is directed towards the application of new ideas,
customs and practices (cultural change). In accordance with all of the above, the
requirements of companies have opted for the use of technologies where more and
more different platforms facilitate at a pace accelerating work performance with
automation and the application of artificial intelligence allowing to optimize and do
more. efficient interaction between the members of the company, hence the importance

of identifying and knowing the relationship between the main skills and platforms used that affect the performance of work activities efficiently from a distance (home office) through the development of a methodology [1].

Keywords: home office, digital labor platforms, pandemic (Covid-19)

I. Introduction

The confinement present until now due to the appearance of the sar-cos2 virus, has forced a large number of individuals in society to stop attending their physical work activities and opt for a work at home modality (home office), giving way to a new way of meeting work responsibilities and commitments remotely, quickly adapting to the demands of the use of information technologies to meet their work commitments, where in this new way of working are put to the test the abilities and capabilities of employees in the management of a platform that helps them fulfill these tasks required by the position within a company, hence the importance of these, to correctly recruit their staff to add and contribute more to this new modality with the self-control that is required. There is no time for training or a course to handle a technological tool that supports their work activities, since the results demanded by both bosses and management are immediate, that causes the adaptation in the management of technological platforms to be fast, hence the importance of knowing the skills that employees must have to handle and master each technological tool that they face in carrying out these work activities from home, changing to a new physical environment where they will work because it is required by the health authorities of the country and the entire world, giving way to an important change to see how this transformation can be integrated into this new model of carrying out social and work activities [2].

II. Skills and the home office during the pandemic

Prevention measures to counteract contagion by the Covid-19 pandemic, most companies have decided to opt for work at home (home office) as the best option, where people adapt a physical space in their homes to perform their tasks as similar to those carried out in their work centers [3].

The aptitudes and abilities are professional competences, which characterize a person to successfully carry out their duties in the workplace, it could be said that every professional has some skills in which they especially excel. The most valued transversal competences are associated with certain behaviors and attitudes, demands by companies to search for their candidates [3a].

The actual confinement by the coronavirus pandemic requires quickly and effectively the development of socio-emotional skills that positively affect work practice (home office), the most important being: teamwork, creativity, innovation, self-regulation, emotion management and time, etc. [4].

Remote work optimizes resources, manages to communicate remotely with people hundreds of kilometers away, making it more accessible and comfortable for employees, since it avoids traveling distances and generates savings in travel expenses to the facilities of the company, reducing stress and fatigue [5].

Nowadays, online processes optimize and make resources more efficient by interacting with their peers thanks to artificial intelligence that is deeply immersed in the platforms that increasingly facilitate work and academic processes through the automation required by the time that we live in confinement of covid-19.
The activities produced by the home office have caused people to be more creative, because they manage to fulfill their responsibilities and obligations in the way of delivering work and giving the results that the same job requires, where the environment it is different, since they feel comfortable carrying out their activities from home [6].
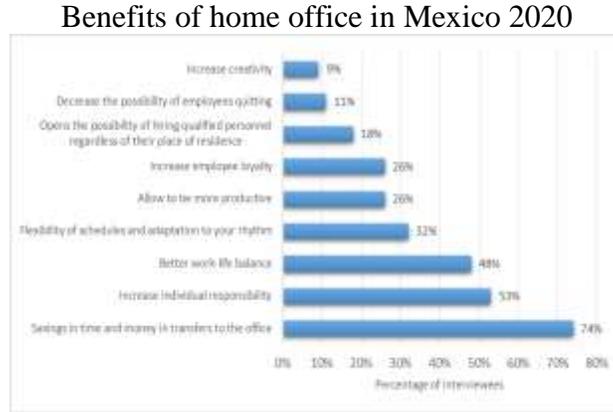
As can be seen in table number 1, the main benefits that home office brings to national companies in times of pandemic.

Benefits of home office

Benefits of home office	• Stimulates creativity.
	• Optimize resources.
	• Reduce stress.
	• Attract and retain the best talent.
	• Promotes mental health and wellness.
	• Saving time and money in transportation, clothing, etc.
	• Information management is secure in the cloud.
	• Collaborative work in real time (time management).
	• Increases the quality of life of the worker.

Table No. 1 Benefits of home office.

Graph number 1 shows the main advantages or benefits that the home office (telework) offers Mexican employees, highlighting the increase in productivity, creativity, greater balance between work and work life, using the technological tools available to meet their work commitments and responsibilities [6a].
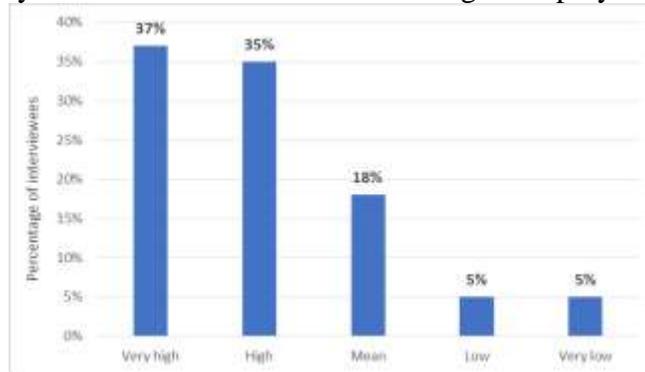
Benefits of home office in Mexico 2020

Graph No.1 Principal benefits of home office.
Source: https://es.statista.com/estadisticas/1143172/beneficios-trabajo-distancia-segun-reclutadores-mexico/

To carry out a good home office planning, it is important to be attentive to detect in which working hours there is a greater concentration, where ideas flow quickly and the worker performs at its best, increasing productivity.

In graph no. 2, it is shown how productivity has behaved during the confinement period in May 2020, where 37% of the workers surveyed commented that productivity has undergone a very high change, while 35% commented that said change has been high, being the most representative, adding up to a total of 72%.

Productivity level in the home office according to employees in Mexico

Graph No.2 Productivity level in the home office
Source: https://es.statista.com/estadisticas/1143172/beneficios-trabajo-distancia-segun-reclutadores-mexico/

According to experts in the field, they recommend some skills and competencies that are essential to develop the home office during this confinement due to the Covid-19 pandemic [7]:

Table number 2 shows the main skills, abilities, attitudes, aptitudes and competencies in the performance of home office (telework) by the employees of Mexican companies in these times of epidemiological emergency.

Skills and competencies used in the home office	
Adaptability and flexibility	The key to change is adaptability in the online mode, where flexibility plays a very important role in communication and commitment in this isolation phase.
Knowledge of the use of technology	In this process that is being lived, companies look for the best technological tools that face their work commitments, therefore: artificial intelligence, robotics, data mining, among others, must be combine and make the most of it.
Creativity and innovation	Let employees use their creativity and innovation in new ways of doing work tasks to further optimize company resources.
Critical Thinking	Decision-making based on critical thinking and analysis of the information will be the supports for the design of the company's long-term strategies.
Leadership	Professionals who have the ability to convince and pull employees in the same direction of organizational goals and have initiative in how to do things better in these times of confinement and putting their ideas into practice, will be the most sought after.

Table No. 2 Skills and competencies in home office.

III. Platforms used in home office during the pandemic

The confinement caused by the pandemic has led to the increasing use of technologies to deal with the operations of the industry and keep it active through the application of home office (remote work) supported with efficient digital communication tools, giving way to a transformation significant, where talent will have a direct impact on the achievement of work goals and objectives. The glimpse of an indelible shift to

increasingly embrace remote work is causing changes in work-from-home habits for employees [8].

The friendly use of platforms and their automation increasingly affect a better performance of workers at home, as they accelerate work processes according to the ease with which these types of platforms are handled. Efficient administration of tasks combined with skills in the use of technologies helps to meet work objectives and to find an emotional balance when performing work activities remotely.

Platforms most in demand in these times of pandemic include: Google Drive, Hangouts, Monday (project management), Skype, Microsoft Teams or Zoom, which are tools that facilitate information transmission tasks, teamwork in time real in the editing of a document, programming of exhibitions and video calls between several workers of the companies.

Currently, Zoom is one of the most used video conferencing tools both in companies and schools. Zoom is a platform that combines video calls and group chats. It is known for the quality of the video and audio of its conferences, as well as for the ease of use. Regarding business use, its potential is exploited for: meetings, conferences, demonstrations, etc., together with its compatibility with Mac, Windows, Android and iOS [9].

Another of the most acclaimed tools by companies in the practice of home office is Google Hangouts Meet, considered as one of the best messaging and videoconferencing platforms for workgroups supported by all the google tools with which it is connected, facilitating: access to calendars, documents, spreadsheets, presentations, etc. [10] [11].

To carry out a good practice and effective activity in the home office (teleworking), table number 3 shows the following digital tools most used by Mexican employees in times of pandemic:

Digital Tools	Main features
1. Whatsapp	Instant messaging tool, facilitates communication in work groups (sharing of text messages, multimedia and video calls).
2 – Zoom	Tool that combines video calls and group chats, very friendly.

3 – Slack	Tool for organizing work teams, by project according to the needs of the company, allowing parallel communication and integration of drive or Dropbox applications.
4 – Google Meet	This Google tool allows the organization of video-conferences and online meetings, together with its Gmail applications, allowing up to 30 participants at the same time in its free version.
5 – Skype	Microsoft tool that combines meetings, video-conferences and online calls by sending smart messages, allowing up to 50 members simultaneously.
6 – Monday	For the management of projects and task flows, issuing a performance report in the resolution of tasks of the members of the work team, taking into account the colors of the emergency traffic light in the delivery of the work.
7 – Trello	Through the use of a personalized board, create and assign tasks using cards that: organize and attach files, comments, workflows, etc.
8 – Evernote	Tool that helps prioritize tasks on deadlines, lists projects, allows collaboration between work teams, as well as being friendly when integrating other applications, etc.
9 – Basecamp	It allows the administration of tasks and projects, takes into account: files, documents, calendar, participating personnel, etc.
10 – Microsoft Teams	Its main function is to promote collaborative work, through the help of video calls, chats, etc., with the help of all Microsoft office applications.

Table No. 3 Most used digital tools.

As can be shown in image no.1, digital skills are adapting to new changes in technology, acting with a critical attitude when processing and using systematic information, assessing the strengths and weaknesses of said technological means, where motivation plays an important role in managing these technological resources [11a].
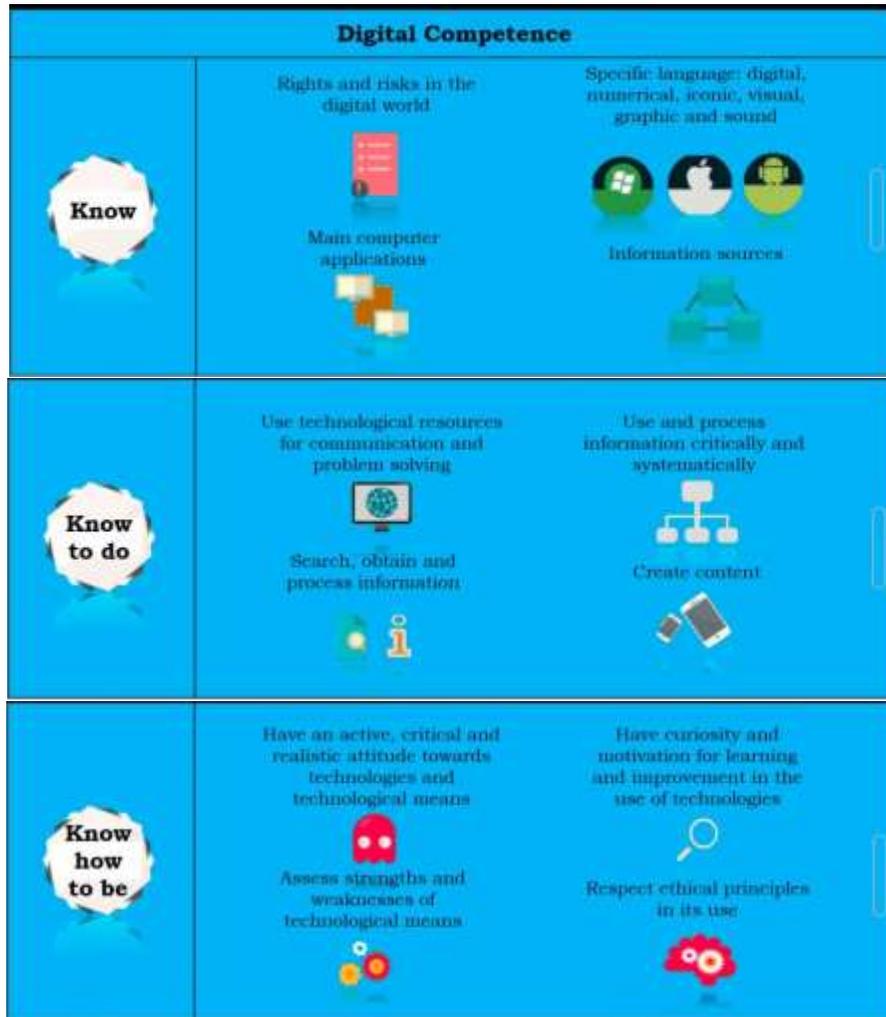
Image no. 1 digital competence
https://www.educacionyfp.gob.es/educacion/mc/lomce/curriculo/competencias-clave/digital.html

IV. Results

In relation to the figures issued by the Ministry of Labor and Social Welfare and the World OCC, and according to the appearance of the covid-19 pandemic, Mexican companies were forced to apply the home office partially or totally, due to that their work and business activities were beginning to be delayed by this health emergency. When practicing this new form of work, it was clearly seen that the technological infrastructure was already in place to develop remote work activities in a more direct way, as well as the human resource with the most

demanding and required skills and abilities to perform activities in the home office more effectively in these times of epidemiological emergency.

Among the main most important skills to carry out this new form of work at home (home office) are: adaptability to the new online modality and flexibility in communication and commitment in this isolation phase; knowledge in the use of technology that provides them with the technological tools that contribute to the fulfillment of labor commitments relying on artificial intelligence, robotics, data mining, etc., where nowadays most of the positions of work is being replaced by automation, speeding up production and lowering costs; Creativity and innovation currently play one of the most preponderant roles in the new ways of doing work tasks, allowing staff to act to search and optimize the scarce resources available to the company and obtain the maximum benefit or utility; Critical and analytical thinking of the information in decision-making will be the pillars of the design of the long-term strategies of the companies, since their survival will be in the hands of their critical advisers or analysts that the company has; the leader whose qualities are: the capacity for conviction and initiative, which leads employees in the same direction of organizational goals by putting their ideas into practice by doing things better in these times of confinement, will be the most demanded.

According to the information collected and analyzed, the main digital tools that are most acclaimed by the employees who work in Mexican companies in this new way of working in home office have that WhatsApp and Telegram is one of the main tools to face your work commitments by having text messages, video calls and multimedia; then we have the digital zoom tool as one of the most used, as it is a very friendly tool when combining group chats and video calls; then Slack is the busiest tool where it combines the organization of work teams by project, as well as allowing parallel communication and integration of drive or Dropbox applications; there is also Google Meet, a tool that allows the organization of video-conferences and online meetings, together with its Gmail applications; and finally the Microsoft Skype tool, which combines meetings, video-conferences and online calls by sending smart messages [12].

According to the information obtained and analyzed, it was found that the main aptitudes (abilities and capacities) most demanded and required to perform more effectively the activities in home office in these times of epidemiological emergency, is the adaptability to the new online mode and flexibility in communication and commitment in this isolation phase; knowledge in the use of technology that provides them with the technological tools that contribute to the fulfillment of their work commitments such as: artificial intelligence, robotics, data mining, etc.; creativity and innovation play one of the most prominent roles in the new ways of doing work tasks,

allowing staff to act to search and optimize the scarce resources available to the company and obtain the maximum benefit or utility; critical and analytical thinking of the information in decision-making will be the pillars of the design of the company's long-term strategies; the leader whose qualities are the ability to convince, initiative and lead employees in the same direction of organizational goals putting their ideas into practice by doing things better in these times of confinement, will be the most demanded [13].

V. Conclusions

The global director of Shaping the Future of Work, stated that the worker will never be replaced by the use of technology, since the thinking entity that controls said technology will always be the human brain. She adds that technology is a complement and helps her increase her capacity. That is why the demands are latent day by day for professionals to update their skills and knowledge in handling new digital tools that are being developed and adapted to new forms of remote work (home office) [14].

The presence of the health emergency caused by Covid-19 has required a series of socio-emotional skills that promote the more efficient and capable development of activities in the home office, to name a few: teamwork, emotion management, resilience, creativity, self-regulation, time management, etc. that will continue to be occupied during the times of recession and economic recovery that come in the future [15].

At the end of the health emergency, the lessons that came to stay are:
- New work dynamics.
- New ways of thinking.
- A broad vision of how to attend the most efficient remote work.

With these new experiences, companies will follow the line of continuous technological improvement, therefore, they must:
- Improve your connectivity.
- Develop or buy software that is adapted to the most efficient development of their work activities.
- Be more cautious in investing in better technological tools appropriate to your workforce and opting to leave your corporate facilities.
- Get rid of the performance of services such as: accounting, human capital, etc., and award them to third parties who are exclusively dedicated to performing these functions.

With the new work environments, companies will seek new horizons that affirm their existence, which will be worth having the most capable personnel, who ensure with their skills and abilities the demands left by the post-covid-19 world demands [16].

With the recent regularization to formalize home office according to its constant growth in this time of pandemic, companies must have an adequate process to select and hire their trained personnel to contribute more in this new modality [17].

References

[1] https://www.udem.edu.mx/es/institucional/noticia/el-desafio-del-home-office-en-los-tiempos-del-coronavirus.
[2] https://factorcapitalhumano.com/mundo-del-trabajo/funcionas-bien-en-home-office-habilidades-basicas-para-hacerlo-permanente/2021/01/
[3] https://tec.mx/es/noticias/santa-fe/educacion/ahorro-y-talento-distancia-enlista-experto-ventajas-del-home-office
[3a] https://bienestando.es/competencias-profesionales/
[4] https://blogs.iadb.org/trabajo/es/frente-a-covid-19-desarrollar-nuevas-habilidades-es-mas-importante-que-nunca/
[5] https://www.udem.edu.mx/es/institucional/noticia/el-desafio-del-home-office-en-los-tiempos-del-coronavirus
[6] https://www.udem.edu.mx/es/institucional/noticia/el-desafio-del-home-office-en-los-tiempos-del-coronavirus
[6a] https://es.statista.com/estadisticas/1143172/beneficios-trabajo-distancia-segun-reclutadores-mexico/
[7] https://cio.com.mx/cinco-habilidades-laborales-necesarias-para-el-empleo-despues-de-la-pandemia/
[8] https://expansion.mx/opinion/2020/05/04/la-pandemia-acelerara-la-revolucion-4-0-el-trabajo-deja-la-oficina
[9] https://factorcapitalhumano.com/opinion/tiempos-de-pandemia-el-home-office-como-fenomeno-social-y-tecnologico/2020/11/
[10] https://negocios-inteligentes.mx/4-herramientas-tecnologicas-para-hacer-home-office-para-la-cuarentena-y-despues/
[11] https://www.icare.cl/contenido-digital/aplicaciones-herramientas-distancia/
[11a]
https://www.educacionyfp.gob.es/educacion/mc/lomce/curriculo/competencias-clave/digital.html

[12] https://www.occ.com.mx/blog/home-office-mexico/
[13] https://cio.com.mx/cinco-habilidades-laborales-necesarias-para-el-empleo-despues-de-la-pandemia/
[14] https://cio.com.mx/cinco-habilidades-laborales-necesarias-para-el-empleo-despues-de-la-pandemia/
[15] https://blogs.iadb.org/trabajo/es/frente-a-covid-19-desarrollar-nuevas-habilidades-es-mas-importante-que-nunca/
[16] https://cio.com.mx/cinco-habilidades-laborales-necesarias-para-el-empleo-despues-de-la-pandemia/
[17] https://factorcapitalhumano.com/mundo-del-trabajo/funcionas-bien-en-home-office-habilidades-basicas-para-hacerlo-permanente/2021/01/