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## Investigation on the future of work: the impact of innovative strategies in a post pandemic scenario

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### ABSTRACT

In the following research work, an experiment of guided innovation is presented. The context is the Innovation for Change (I4C) program, in which we, a group of students, either PhDs or MBAs, are asked to solve a challenge provided by a stakeholder. The problem is “the future of work” in the context of a post pandemic scenario, with a focus on how to manage spaces remained empty due to remote working. The solution obtained is the consequence of a combination of brainstorming sessions, problem definition, benchmarking and interviewing stakeholders, experimental validation, and prototyping. The outcome is a platform, B-Hub, which exploits empty locations to create a network of decentralised co-working spaces in which employees from every company can remotely work.

*Keywords: Work-life balance; shared spaces; co-work; remote working; smart working.*

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### INTRODUCTION

Nowadays, the application of novel and innovative working models is becoming fundamental to tackle the changes that the global economy is facing. One for all, jobs are changing, and the need of reskilling is becoming central for workers (World Economic Forum, 2020). In this context, the coronavirus disease 2019 (COVID-19) pandemic has played, and it is still playing a relevant role. Indeed, the latter represented the driver to shift from an office-based working paradigm to the concepts of remote and smart working. Such terms have been used to describe a radical change in the work culture. Among all, one possible definition of smart working is “Smart working practices are agile, dynamic, and emergent. They are the outcomes of designing organizational systems that facilitate customer-focused, value-creating relationships that are good for business and good for people” (McEvan, 2013). It is evident that the working model is moving towards a hybridization, in which smart working will progressively gain relevant importance. All in all, the shift to a hybrid working model is presenting several challenges both for companies and employees.

Specifically, the working environment must respond not only to productivity and efficiency principles, but also to workers’ needs and wellbeing. Such aspect is also reflected by the United Nations (UNs) Sustainable Development Goals (SDGs) that the present research

tries to tackle. Namely, the 3<sup>rd</sup> and 8<sup>th</sup> SDGs are related to “Good health and well-being” and “Decent work and economic growth”, respectively. In addition to that, the COVID-19 pandemic has caused work migration from city offices to remote locations, often very close or coinciding with the dwelling, resulting in entirely abandoned buildings. The remote working phenomenon was already present before the pandemic, but its efficacy was not yet considered. Data from the Office for National Statistics stated that around 4.2 million people worldwide spent at least half of their working time in the same building where they live (ONS, 2014). Felstead et al. assessed that more and more work is being detached from a physical place (Felstead and Henseke, 2017). In their analyses, remote working results beneficial for employees and employers and it is central in shaping the nature of work in the 21<sup>st</sup> century. In addition, Barrero et al. investigated how United States citizens used the saved commuting time during the pandemic (Barrero, Bloom and Davis, 2020).

The following research describes the methods, processes, and results of a case study of experimental innovation. In this scenario, our group, a multidisciplinary team, tried to tackle a given challenge, through methodological innovation procedures. Initially, the assigned challenge was quite broad. Namely “What would be the future of work after the COVID-19 pandemic? What to do with companies’ empty spaces?”. Throughout brainstorming sessions and benchmarking,



the team tried to narrow down the challenge to its main pillars: employees' work-life balance and working flexibility. The following sections are related to a theoretical background about smart and remote working, a presentation of the methodologies implemented and a discussion about the results obtained, respectively.

Finally, a conclusion summarizes the main research findings.

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## THEORETICAL BACKGROUND

The advent of the COVID-19 pandemic has significantly affected the working environment, increasing the spread of remote and/or smart working worldwide. The two concepts are slightly different. Smart working is a work paradigm that aims at improving both work performance and satisfaction by exploiting novel technologies. *Per se*, it does not necessarily mean that the work has to move from the traditional office to a different location (e.g., home, co-working space, etc.). Rather, it is related to the concept of working smartly, improving the worker comfort and flexibility while increasing the productivity of a company. Differently, remote working is closely related to the actual working place, independently from how much the work is "smart".

Such situation brought some advantages, including the reduction of commuting time and costs, and increased productivity, as reported by the Marketers State of Remote Working 2021 (Buffer, 2021). According to such study, 80% of the respondents believed they are more productive without time obligations and time stamps.

On the other hand, work from home carries substantial disadvantages. Workers were often forced to work from home regardless of their preferences, abilities, and nature of the work. They have encountered difficulties both from a social point of view, as the interactions between colleagues has worsened, and from an organizational point of view, failing to define clear boundaries between home and office. Consequently, working days have lengthened and the risk of stress and associated pathologies increased. Such situation is even worse for parents. In fact, they mostly found themselves having to work from home and manage their children at the same time.

Furthermore, data showed that such phenomenon has impacted women even more. They are feeling more responsible for house and children care, finding it difficult to carry out work assignments. In this regard, the results of the Kaspersky "Women in tech" (Karspersky, 2021) survey showed that 47% of Italian women believe that the pandemic has hampered their working careers.

On the other hand, the pandemic scenario has also impacted companies. They had and still have to face many challenges related to the pandemic, including changes regarding employees and offices management.

The expectations for the future include a hybrid form of work and according to a survey conducted by INPS (Italian National Institute of Social Security) between August and September 2020 (INPS, 2020), 54% of employees would like to alternate periods of remote working and office hours. As a result, one of the priorities for companies is to find new alternatives to reuse office spaces. At the same time, people need to balance work and personal life and they are looking for more flexibility in terms of working time and places. Effectiveness and efficiency at work are no longer conditioned by physical presence (at least for people who can work remotely). Hence, people are no longer forced to travel for work, but technology can reduce distances.

In this scenario, co-working could benefit both workers and companies. On one side, it would guarantee a greater balance between home and work for employees, whereas companies could financially exploit unused spaces. Among other advantages of co-working, such paradigm would allow for ideas exchange and networking. Additionally, work flexibility can be achieved, and employees would be able to take advantage of the spaces and services whenever they want.

The research carried out by Robelski *et al.* (Robelski, Keller *et al.*, 2019) further supports such working scenario, as it compares home office and co-working, taking a psychological and health-related perspective. Among the advantages, the relevant ones are social interactions, self-organization, and perceived productivity. In addition, noise and privacy issues were not found to be relevant driving factors to prefer work from home. In parallel, companies could be in favour of co-working since it helps to manage and maintain social relationships between colleagues, as well as it supports team-building activities.

In addition, the attraction of new talents will no longer be limited to a predefined location where the company operates but can be potentially extended worldwide. Finally, companies that decide to rely on co-working spaces for their employees would be able to reap advantages in terms of branding and public image, showing themselves as rapidly adapting to world changes.

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## METHOD AND DATA

In this section, the methodology used to tackle the change in working habits in a post pandemic scenario is explained. Such methods have been developed within the Innovation for Change (I4C) program. At the early stage of the research, the aim was to identify the strengths and weaknesses of smart and remote working. Thus, a broad-spectrum online survey was the first tool to understand the actual problem. Its focus was related to the impact of smart working on wellbeing, exploiting questions divided in macro areas. The choice to make an online

survey was dictated by the COVID-19 situation. Nevertheless, it allowed to reach a larger and more diverse pool of people. People were recruited through social media channels (e.g., LinkedIn, Facebook) and the university community. Overall, around 200 participants provided their feedbacks about the topic.

The survey therefore aimed at exploring five personal aspects:

- Personal profile.
- Profiling the current working position.
- Commuting time.
- Smart Working: where and how much.
- Smart Working: impact on wellbeing.

First, personal information such as gender, age, highest education certificate, and living arrangements were collected. The second and third aspects were explored by asking to describe current working positions: if the work was mainly based on the interaction with people; whether companies allowed remote working arrangements; or if work flexibility can be achieved.

Then, commuting was accounted for. In particular, the survey was about time and mean of transport, to understand which are the trends of the sector. The last two aspects regard the smart working paradigm. The first block of questions aimed at getting information regarding workers time management (e.g., whether their working day is increased due to the remote working). On the other hand, the work impact on well-being was measured by asking how much their personal life changed from the beginning of the pandemic and in which way such aspect affects their productivity. All in all, the scope of the wide spectrum survey was to contextualize possible working problems in a world heavily changed by the pandemic. In this way, the research question has been narrowed to facilitate the identification of an objective problem.

Subsequently, such phase was followed by several brainstorming sessions within the team and with the assigned stakeholder, in which the aim was to gather research data and analyse the survey results to identify a clear, dominant problem in the working sector and to find possible causes for such issue.

Once a clear research question has been identified, a second online survey served to gather more specific information. The aim was to collect feedbacks about specific topics such as possible working arrangements, importance of relevant issues such as wellbeing, inequalities, and preferred remote working days per week.

Participants were recruited through social media channels and around 100 responded to the survey. Although surveys are helpful to gather quantitative data and to forecast trends, they do not allow to gather elaborated feedbacks. Hence, participants were asked to voluntarily leave their contact information, to conduct one-on-one interviews. In the latter, we started asking for working information useful to contextualize the

interviewee in the society, their habits, and finally, opinions related to remote working.

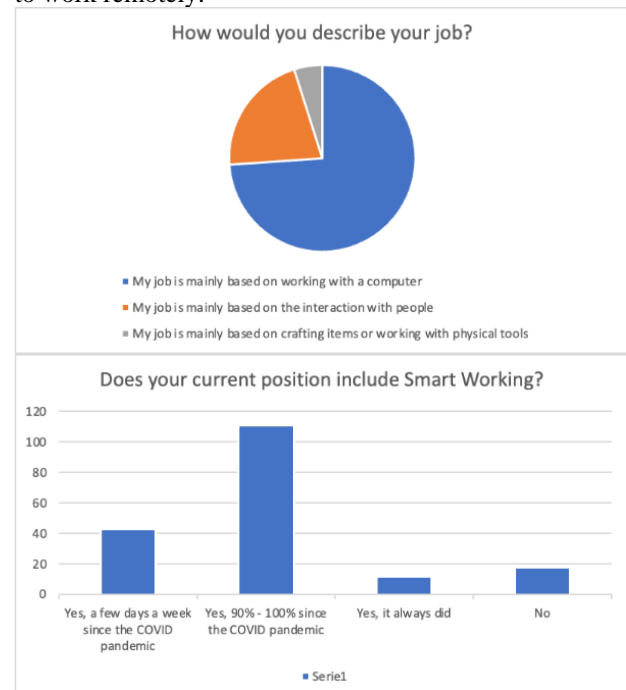
Following the same reasoning, a second set of interviews were conducted, just involving employers. The scope of interviewing also companies and entrepreneurs was to assess whether their feedbacks were different from the workers' ones and also to understand whether the survey results were affected by a participation bias as the majority of the respondents were employees. Overall, 10 interviews were conducted, divided equally by employees and employers.

In addition, the interviews tool was exploited to validate the research question and to gather feedbacks about the proposed solution to tackle such working problem. Interviewees were then asked to state upsides, downsides, and suggestions related to the topic.

Finally, the I4C program was concluded by pitching the proposed solution to the stakeholder first and to a multi-disciplinary jury then.

## RESULTS

The first relevant result pertains to the worker sample analysed during the two online surveys. As it is possible to notice from Fig. 1 top, almost 75% of the interviewees have a computer-based job, theoretically allowing them to work remotely.



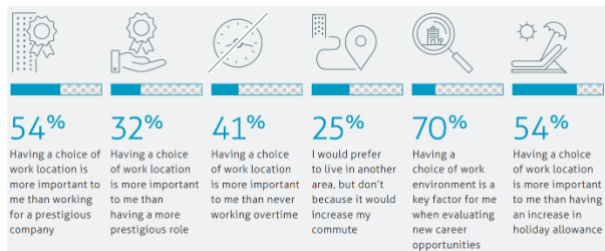
**Fig 1.** People we interviewed are mostly high-educated, less than 30 years-old. After the pandemic situation, they usually moved working (partial or full) remotely. Just few of them (40) continued to go to work 2-3 days a week.

In addition, the interaction with people is valued less than the usage of a computer to work. On the other hand,

the effects of the pandemic are shown in Fig.1 bottom. Namely, during the pandemic, around 10% of the involved people said that smart or remote working was not an option. Such result highlights how the pandemic has rapidly triggered a change in the classical working paradigm. Conversely, just 5% of the interviewees were already experiencing either hybrid or full smart working even before the COVID-19 pandemic.

Another important aspect to highlight is that the majority of people interviewed claimed to spend 90% - 100% of their working time in a different location from their companies' offices. It is worth saying that such working arrangement was not decided by workers themselves; rather, it was imposed by their companies. That is to say that such result could be a biased indicator of the desired working organization of employees.

To supplement for such missing information, the International Workplace Group (IWG) in collaboration with MindMetre Research, conducted an extensive survey including 15 thousand professionals across 80 countries asking respondents for their views on the changing workplace and flexible working (International Workplace Group, 2019). Results showed that 85% of respondents confirmed that they experienced a productivity increase due to greater work flexibility. On the other hand, 65% of the businesses reported a sensible reduction of Capital Expenditure (CapEx) and Operating Expenditure (OpEx) by providing a flexible workplace. Fig. 2 highlights the importance of the choice of the working location for the interviewees.



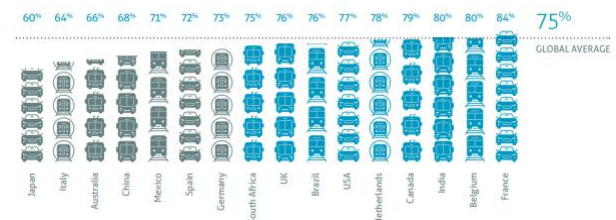
**Fig 2.** Importance of choice of location (International Workplace Group, 2019).

Among all, it is worth to highlight that 70% of the respondents consider the work environment as a key factor in evaluating new carrier opportunities. Moreover, it appears that the ability to be flexible when working has significantly greater importance than work for prestigious companies, have a relevant role or an increase in holiday allowance. Such aspect is also reflected in work-life balance, allowing to combine professional and personal lives.

In addition to that, a major consequence of a flexible working environment is the possibility to sensibly reduce the commuting time to and from the work location. Specifically, the benefit is both for companies, whose workers are less stressed out by lengthy commutes or crowded public transportation, and for workers

themselves, which can save time to spend in other daily activities. Figure 3 highlights the effect of a flexible environment in commuting arrangements.

Namely, on average, 75% of businesses claim to have introduced flexible working with the aim of reducing commuting times. Such result represents a substantial change in the working paradigm, focusing on people rather than on performance. This is particularly amplified for workers with young families or health issues, significantly improving their quality of life.



**Fig 3.** Flexible working used to shorten commute times (International Workplace Group, 2019).

Such reasoning is also reflected in the results of the conducted survey, in which it was asked how important was to save time in commuting to invest differently during the day. Figure 4 shows the obtained results.



**Fig 4.** Importance of saving commuting time to invest in other daily activities.

As it is possible to notice, around 60% of the interviewees believe that saving time on commuting would be beneficial and enable them to invest time on personal matters.

All in all, results highlight a trend towards a novel working paradigm centred on people. Such aspect can be mainly achieved through a flexible workplace, able to adapt to workers' needs. In light of this, the solution proposed in the presented research work focuses on the following statement: "work where you live rather than live where you work".

Traditional co-working places may represent a solution, but they are often limited to city centres, not completely answering to all the demands of workers. On the other hand, the results presented and the forecasts about the

future of work suggest that companies' spaces would need to be employed differently from before, as a hybrid working paradigm seems preferable over either office or completely remote working.

Following such reasoning, the proposed solution aims at combining the needs of both employees and employers. B-Hub is a sharing workplace platform, featuring both traditional co-working spaces in the city centre and small offices in either the countryside or remote locations. Such spaces could be available by repurposing unused companies' spaces. The idea is to give employees the possibility to choose where to live and work, reducing the commuting time and deciding where to live independently.

Target customers of the platform are both companies, which can provide unused spaces, employees, who can choose where to work and "digital nomads", who usually travel and change location very often. In addition to that, B-Hub offers a re-design service for companies to ensure high quality working standards and infrastructures (e.g., Wi-Fi, appropriate desks, ergonomic chairs, shared areas, and meeting rooms), to make the co-working comfortable. Such paradigm would allow to ensure same working conditions everywhere, whether the location is in a crowded city centre or a remote location.

The whole process is thought to be handled by a web application that can be equivalently accessible for clients and suppliers. Moreover, by choosing to share the location with other employees, different users will also be able to find colleagues, organize events and meetings together in person. By exploiting artificial intelligence, an algorithm will be able to suggest ad hoc solutions for each worker, finding the best workplace, or suggesting experts on areas of interest.

The system is based on payments per use, with hourly, weekly, or monthly packages. Each company and entrepreneur can subscribe and can offer unused spaces due to the pandemic.

From the companies' point of view, it would be possible to repurpose empty spaces, reducing maintenance costs and expanding their network. Likewise, small communities and administrations could benefit from the B-Hub network. In fact, abandoned or disused areas of public property could be requalified and attract digital nomads, freelancers, or employees escaping from the crowd of big cities.

B-Hub offers a solution for companies that wish to create an environment of ideas cross-fertilization, but also for employees who prefer or do not have the possibility to work from home. The platform can also match professionals with similar interests. Companies can provide co-working spaces and their arrangements (e.g., available silent offices and mood rooms).

On the other hand, employees have the opportunity to decide, weighing between technical (e.g., equipment) and emotional (e.g., armochromatic walls) needs; getting in touch with colleagues and/or experts or to expand their network.

The business architecture is a Business to Many (B2M), in the sense that companies represent suppliers if they are providing spaces or sponsoring an event; conversely, they become customers when paying the co-working service for their employees. At the same time, target customers are also workers that do not fall in those two main categories, company, and employee, such as freelancers and entrepreneurs.

All in all, the aim of the platform is to offer a customized solution for each worker need such as location, tools, infrastructure, knowledge, and social/professional work interactions. B-Hub could lead to a revolutionary decentralization of workspaces, allowing to improve the workers quality of life and improve work-life balance.

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## CONCLUSION

The presented work aimed at providing an innovative solution to adapt to the changes in the working paradigm after the COVID-19 pandemic. It is contextualized in the Innovation for Change (I4C) program, in which we, a team of either PhDs or MBAs students, were assigned to a stakeholder with the objective to find a solution to a presented problem, in a 6 months period. Namely, the research question was about the future of work and of all those companies' spaces remained empty due to smart working. Two different online surveys were conducted in order to narrow down the main problems and to target the most important needs of workers, respectively. Then, a set of interviews were conducted in order to improve the assessments of the surveys and to validate the proposed solution. The outcome is a platform, B-Hub, which exploits empty locations to create a network of decentralised co-working spaces in which employees from every company can remotely work. With such strategy, companies would be able to cut CapEx and OpEx related costs; whereas employees would have a flexible workplace, allowing to improve their work-life balance. Limitations to the work are related to the small sample used for the survey and interviews and the inability to conduct extensive in person focus groups and brainstorming session with workers, due to the pandemic situation.

Future works will aim at further validating the obtained results to tailored case studies and the development of a preliminary version of the B-Hub platform.

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