

Working from home – experiences and attitudes of Croatian engineers

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Abstract

This paper deals with the sociocultural aspects of working from home, as an increasingly common form of work organization and employment among Croatian engineers. Engineers, as employees whose work is strongly mediated by the growth of technology and corresponding managerial strategies, represent a group that, in the age of growing flexibility, increasingly find themselves integrating paid work into their household. This trend has become even more prominent during the COVID-19 pandemic, when remote work at first became mandatory for the majority of workers, remaining so even today, in a more or less obligatory form. Considering this prevalence of remote work, the main objective of this paper was to single out the key organizational advantages and difficulties that engineers associate with that form of employment. This was done through a preliminary survey on a non-probabilistic sample (N=158) gathering the information on respondents' experiences, attitudes, and overall satisfaction with remote work. The study focused on several aspects of work: organization of workspace and working hours and its supervision and control, work-life balance, productivity, and satisfaction. Although preliminary, research-based insights of this paper contribute to a better understanding of this aspect of flexibility in the work of engineers in Croatia and expand opportunities for (re)organizing their work in a way that would benefit both employed engineers and organizations.

Keywords: Croatian engineers, work from home organization, productivity, satisfaction, work-life balance

1. Introduction

Over the past few decades, social sciences have approached remote work mainly from a point of it being a constituent part of a broader process of work flexibilization and development of non-standard forms of employment. It had found its place in social theory as a phenomenon mediated by the growth of technology, the transformation of western industrial societies in line with neoliberal economic policies, and as an unavoidable segment in the growing new forms of division of labor (Janoski and Lepadatu, 2014).

In its numerous variants, remote work has been considered "work regularly performed at a location remote to the ordinary work site through the use of information and communication technologies" (Donnelly and Proctor-Thomson, 2015:47) and referred to as "remote work", "telework", "telecommuting", "homeworking" etc.

Canonical approaches and textbooks usually explore remote work from an ambivalent perspective pointing out that, most of the time, it can be both advantageous and disruptive in its effects on both employers and employees. Such ambivalence, although applicable to other

types of remote work to some extent, is especially true for homeworking, the form of remote work this article focuses on.

On top of its ambivalent nature, its benefits and disadvantages differ depending on which side remote work is considered. For example, Edgell and Granter (2020) find that, while employers see working from home as a way to streamline production (lowering wage rates, overheads, and employee benefits) and achieve better numerical flexibility, employees find its purpose in attaining better time flexibility in organizing their work, task discretion, autonomy and productivity, but also in quality-of-life improvements by eliminating commuting time and achieving overall better work-life balance.

The disadvantages, as seen from the employers' side range from a persistence of Taylorist organization principles, in terms of issues with motivating employees and organizing teamwork (Edgell and Granter, 2020) to remote control of workers, including trust issues, managers' skills of task assignment and their communication skills, but also in the technological limitations in terms of work organization (Brunelle and Fortin, 2021). On the other hand, employees see working from home disadvantageous both for organizational and identity reasons, arguing they see work intensifying both in time and volume, having it overlap with their personal life (Eurofound and the International Labour Office, 2017), while finding difficulties of managing their own identity, perhaps mostly because we attach emotional meaning to the household, and associate the possible lack of "visibility" at work with professional isolation (Felstead and Jewson, 2000).

Finally, homeworking seems to be impervious to a clear-cut cost-benefit analysis, as Brunelle and Fortin point out "findings are often contradictory and much remains unknown with regard to how it impacts employees' experience" (2021:2).

Additionally, comprehensive insights are complicated when findings about work from home are put in a historical perspective. Over the past 30 years this form of spatial flexibility has been mediated by the growth of the Internet and information and communication technologies (ICTs) and thus complemented by the development of new modalities of teleworking: the traditional pattern of "Home Office" has been followed by the rise of "Mobile" and "Virtual Office" based on smaller and lighter equipment and wireless access. They are not strictly connected to home or a fixed space and – due to the ICTs – facilitate virtual work accessibility regardless of place and time (Messenger and Gschwind, 2016). Similarly, when it comes to work from home statistics in advanced economies, findings show it was slowly growing throughout the 1990s and 2000s, has been increasing in later years (Gschwind, and Vargas, 2019) and finally "skyrocketed as the coronavirus disease 2019 (COVID-19) pandemic forced employees across the world to work from home full-time" (Brunelle and Fortin, 2021:2).

Academic literature, as well as business reports, think-tank centers and various government institutions and non-government organizations are trying to highlight or classify occupations and types of work appropriate to be done from home. Regardless of the nuances in terms of occupations, professions, and types of jobs, they predominantly share a perspective on working from home as suitable for a part of mostly highly qualified, better paid and computer-mediated jobs in the manufacturing and financial/service sectors of knowledge-based economies. In addition, jobs and occupations listed as remote work friendly do not vary substantially in regard to the different definitions of work from home, i.e., whether it's work from home, work at home, homeworking, occasional or permanent work from home etc. Thus, in assessing which jobs can be done from home, Dingel and Neiman (2020) point to computer and mathematical, education, training, legal, business, management occupations, and financial operations. European Commission's Joint Research Center (2020) singles out IT and other communication services and knowledge-intensive business services, while Lund et al. (2021) refer to the

finance, management, professional services, and information as sectors that have the highest potential for remote work. When generalized in the academic literature, such types of jobs and occupations mostly refer to managers and professionals noting that these are categories of employees with higher salaries, who are often middle aged, male, and more likely to have family and young children (Gschwind and Vargas, 2019; Pennington and Stanford, 2020; Vilhelmson and Thulin, 2016).

When it comes to engineers working from home, as the focus of this study, they fit into several aforementioned jobs and occupations. Throughout the 20th century engineering has successfully sought to establish itself as a profession that transcends strictly technical jobs in industrial settings and, due to the growing number of academically educated engineers with problem-solving, mathematical and computer skills, has emerged as an attractive and highly employable occupational segment in the service and financial sectors of contemporary businesses (National Academy of Engineering, 2004). Although engineers are considered key actors in the ongoing digital transformation and promotion of STEM areas in education, they are still mainly referred to as predominantly men (Riley and Claris, 2009) with "fast track" but precarious careers subject to employers' preferences for numerical flexibility (Lynn and Salzman, 2002).

In addition, engineers' work from home can be examined via several related theories. Felstead and Henseke (2017) underline Drucker's idea of knowledge economy and its corresponding historical process in which – as new technologies become more complex – a higher educated workforce is gaining in importance. Drucker (1993) assumed that knowledge-based work would have a strong impact on this historical turn from blue-collar to white-collar work and would result in a growth of educated workers with greater autonomy in their work. According to Felstead and Henseke "more emphasis is placed on educated professionals who access bodies of theoretical, specialized and abstract knowledge, and so add value not with their hands, but with their heads" (Felstead and Henseke, 2017:2). In other words, as a dominant feature of engineering jobs, knowledge-based work is not specifically limited to the employers' premises.

Another theory mentioned by Felstead and Henseke stems from Atkinson and Meager's (1986) model of "flexible firm". Essentially, the idea of flexible firm assumes that technological change, by shortening the working week and reducing union power through the recessions of the 1970s and 1980s, made work-flexibility a more desirable and easily achievable goal. The associated types of functional and numerical flexibility have been significantly manifested in engineering careers and the way engineers work. As Felstead and Henseke point out (2017), the former type of flexibility has become visible in working arrangements that allowed for flexibility in employees' autonomy regarding working hours and place of work, while the latter has enabled employers to gain access to a highly skilled workforce worldwide, with Internet-mediated teleworking proving crucial.

Finally, in addition to the pandemic and the aforementioned theoretical approaches, the interest in researching engineering work from home has been fueled by the professional experience of the authors themselves, as sociologists employed at a technical academic institution. Consequentially, this daily cooperation with engineers led to the aspiration to get deeper insights into the engineering home work as an important, and in Croatia largely unresearched topic.

2. Research design and methods

The main goal of this research was to gather information pertaining remote work arrangements of engineers in Croatia. Considering how remote work has been on the rise in the past decades and seeing the COVID-19 pandemic expedite its adoption in various economic sectors, this paper wanted to explore its incidence and, in the case remote work should come to be norm instead of a temporary response to the current pandemic, its effects on employees. With that in mind the research questions this paper aimed to answer were: how common is the practice of homeworking among Croatian engineers and what are the main work arrangements that take place? How satisfied are remote workers with their employers' level of organization and with the equipment, incentives and perks they provided in order to facilitate remote work? Does remote work affect employees work-life balance, their productivity, and their satisfaction with their work, and if it does, how?

Another goal of this research was to compare these results to the results of engineers who didn't work from home in the past two or more years but, unfortunately, in the total sample, only 15 of such cases were found. Although the total number of respondents was 173, 15 of them were subsequently excluded from the analysis as any comparison and drawing conclusions about the differences between these two groups wouldn't be appropriate because of the disparity in their sizes.

2.1 Sample and data collection

This preliminary survey was conducted on a non-probabilistic convenience sample of a total of 158 mechanical, civil, and electrical engineers in Croatia in the period from July 1st 2021 to October 30th 2021 by using the online questionnaire via LimeSurvey service.

The survey link was first sent to alumni associations of the biggest mechanical, civil, and electrical engineering faculties in Croatia – Faculty of Mechanical Engineering and Naval Architecture and Faculty of Electrical Engineering and Computing of the University of Zagreb, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture of the University of Split, and to Zagreb University of Applied Sciences. Alumni representatives were asked to disseminate the link among the graduates of the mentioned faculties together with the letter of invitation for their participation, in which respondents were also asked to forward the survey to all the colleagues they thought would be interested in participating in the research.

The filling in of the questionnaire was completely anonymous and the respondents were not asked to provide any information that would indicate their identity. Apart from that, before accessing the questionnaire itself, all the research participants were provided with basic information about the subject and purpose of the research, their non-obligatory research participation, and the methods of protecting their anonymity and data confidentiality. In case of any questions and comments regarding the research, respondents were given the option of contacting the research conductors via e-mail.

Since the research used snowball sampling as a recruitment technique there are naturally some sample deficiencies, first and foremost being the potential oversampling of a particular network of peers, i.e., one particular company or economic sector, since respondents tend to send the questionnaire to people who they know well and are physically or psychologically close to them. Apart from that, when using the snowball method, the researcher is denied of any

parameters or estimations of the targeted population, and thus the appropriateness and representativeness of the sample itself.

2.2 Questionnaire

The questionnaire was divided in three parts, totaling 63 questions, eight of which belonged to the first part of the questionnaire were selection questions regarding the respondents' employment status, their place of work and its suitability to become hybrid or remote one. The second part of the questionnaire consisted of 37 items which sought respondents' assessments across the four studied domains of working from home, that is organization and control, work-life balance, productivity, and satisfaction. 36 items asked respondents' assessments on a 5-point scale, ranging from "1 – Don't agree at all" to "5 – Agree entirely", while one item asked if their employers had and should have had provided certain facilities for work from home on a "Yes" or "No" basis. Finally, the third part of the questionnaire had 18 questions referring to respondents' sociodemographic characteristics. Apart from the variables related to the common demographic information, i.e., sex, age, education level and field of study, income level, company position, economic sector of activity and company size, and place of residence, this part of the questionnaire also collected data specifically related to circumstances and conditions of working from home, such as whether respondents lived and worked in the same city, their living arrangements (number of household members and children in particular), their working hours and the nature of work (office-based or fieldwork), and, finally, their office and home workspace organization.

3. Results

3.1 Descriptive analysis

As it can be seen in Table 1, the great majority of respondents were male (77%), which isn't surprising considering that engineering professions are still predominately male. Although the snowball sampling didn't seem to cause an overrepresentation of female respondents, it did however cause it in the case of respondents under the age of 30 who made up more than half (54%) of the sample, as opposed to those over the age of 50 that were seriously underrepresented making up only 3% of the sample. Needless to say, all the respondents were college graduates, however, it should be noted that, again due to the respondent recruitment method, 18% of them even obtained a PhD. Respondents mostly (75%) held the position of professional/technical worker in their companies, while slightly more than 20% of them held managerial positions, which, although the population parameters are unknown, doesn't seem to deviate greatly from the actual distribution of company positions engineers hold. The majority of respondents (73%) held full time positions on permanent contracts or full-time positions with fixed term contracts (21%). Out of all the respondents, less than 6% held either no current employment, were employed part-time or were self-employed. Exactly half of the respondent worked between 35 to 40 hours per week, which is also the national average and the maximum legally allowed number of regular working hours, while 47% of them reported working overtime, either with up to seven (34%) or more than eight (13%) overtime hours per week. Almost half of the respondents (44%) have an average income between 6,000 and 10,000 HRK per month, 32% have an income between 10,000 and 15,000 HRK per month, while almost 20% of them earns more than 15,000 per month.

Table 1: Sample profile

		N (158)	Share (%)
Sex	Male	122	77.20
	Female	36	22.80
Age	20-30	85	53.80
	31-40	48	30.40
	41-50	20	12.70
	>51	5	3.20
Company position	Administrative worker	4	2.50
	Professional/technical worker	118	74.70
	Lower-level management	15	9.50
	Middle-level manager	13	8.20
	Upper-level manager	8	5.10
Contract type	Fixed-term (full-time)	35	22.20
	Permanent (full-time)	114	72.20
	Part-time	4	2.50
	Self-employed	4	2.50
	Unemployed	1	0.60
Income	4,001-6,000	7	4.40
	6,001-10,000	70	44.30
	10,001-15,000	50	31.60
	>15,001	31	19.60

Source: (Authors own table)

Most of the respondents (41%) work for large companies, but those from medium (29%) and small (25%) companies are also sufficiently represented in the sample. The share of those employed in micro enterprises (7%) is significantly lower, which is again not surprising given the use of the snowball method. Most of the respondents (76%) were employed in the private sector, and dominantly from the following economic sectors: professional, scientific and technical activities (37%), information and communication (32%), industry (17%) and education (8%). This relatively high representation of those employed in the sector of education can partially explain the aforementioned overrepresentation of engineers with a doctoral degree. Finally, most of the respondents' enterprises are located in two regions (63% of them in Grad Zagreb and 20% in Dalmatia) and specifically in two largest Croatian cities, i.e., Zagreb and Split.

When it comes to respondents' living and working arrangements, 20% of them live alone or with a roommate, 32% with a partner, 25% with a partner and children, and 20% with extended family. Given the age distribution of the sample, these living arrangement with a smaller of those living with immediate family aren't that surprising. Majority of respondents (65%) live and work in the same town/city, but a significant proportion (35%) of them doesn't. Since most of the respondents work in two biggest Croatian cities, it is not surprising that a good portion of them commute from the surrounding smaller towns and municipalities. Respondents' jobs mostly fall into the category of office-based work (53%), but many of them (42%) describe their job as a hybrid one (predominantly office-based with some field work elements). Hardly any (4%) of respondents reported having a real field work job. Finally, the majority of respondent worked in a shared office, either with up to four co-workers (41%) or in a open space office (43%), while only 15% have their own office.

3.2 Experiences of working from home

Considering the pandemic related employment constraints in the past two years, the fact that 91% of respondents had experienced work-from-home arrangements doesn't come as a surprise; while almost two thirds of respondents (65%) have worked or have been working from home for less than a year less than a third of respondents had worked from home for more than a year (29%) and only 6% of them did that for more than two years.

Although different work arrangements were possible, the majority of respondents said that they either worked from home all the time (45%) or 3-4 days a week (18%), with 28% of employees working from home less than 2 days a week and the rest following a rotational 2-week schedule of office/homeworking arrangements. While working from home, most of the respondents did so either in a proper home office (28%) or in an improvised one (41%). However, a significant share of them (31%) couldn't meet the spatial requirements for it so they worked in a shared family room.

For the most part, it seems that the possibility to work from home was dictated more by equipment related conditions (perhaps some work tasks were impossible to complete without proper equipment, unsuitable for home-offices) than by the unwillingness of employers to let their employees choose where to work from freely. As the data shows, only slightly less than 30% of respondents had no say in their work arrangements whereas the rest said they had a few predefined options to choose from (11%), could somewhat decide where and when they would work from (39%) or had complete freedom in choosing their workplace (20%). On the other hand, only 65% of respondents said all their tasks could be completed from home, 30% of them saying they could complete some of their tasks from home and the rest (5%) who, (un)fortunately, held jobs that were not home compliant. That being said, when asked what they would choose regarding work arrangements, respondents unequivocally showed their desire for spatial flexibility with only 6% opting to work in the office all the time, as well as only 10% opting to work from home full time. Most respondents fell in some of the flexibility options with 31% wanting to work mostly (but not all the time) in the office, 36% opting to combine office and home work equally, and 17% opting to work mostly (but not all the time) from home.

Finally, as working from home often comes with some specific advantages and disadvantages, in this paper we explore its mentioned ambivalence in four key domains: organization and supervision, work-life balance, productivity, and satisfaction.

3.2.1 Organization and supervision

To better understand any of the possible problems regarding working from home, respondents were asked how well they thought their employers handled the transition, have they had their needs met and which problems they thought employers should've handled better.

Although more than half (53%) of the respondents were completely or mostly satisfied with the way their employers handled the transition 20% of them didn't agree either somewhat or at all. Several reasons for that could be possible and have been researched but the most prominent one seems to be the feeling respondents got of being left with the responsibility of handling the transition themselves. Although it's not a feeling shared by every respondent, 35% of them either somewhat or completely agreed they felt it's been made their responsibility to handle the transition from office work to homeworking.

Working from home comes with a wide range of unpredicted costs which are taken care of by the employer when working in an office and should be subsidized when one's home becomes the office, such as IT and office equipment, software licenses, utilities, and various educational courses potentially necessary to make use of online teamworking apps. Table 2 shows what equipment, perks and incentives employees thought their employer should've provided during their remote work experience and what of those had indeed been provided. As expected, most ICT and software needs were met by employers, as they are probably considered essential in terms of productivity. On the other hand, utilities reimbursements were sought after by almost two thirds of employees, yet most of them did not get reimbursed, which could be a problem as working from home probably meant spending much more on utility costs. Finally, two types of educations were investigated (online teamwork educations – using zoom, team viewers and such, and home-working efficiency educations). While some employers did provide educations for online teamwork where employees felt they needed them, almost a third of employees didn't see that need met, and almost half of employees had the same experience with homeworking efficiency educations. Such a focus on providing essential work equipment led to disregarding all other formal and informal perks employees enjoy in the office and effectively turning them in negative externalities, which employees had now to pay for themselves to be able to be productive at home.

Table 2: Equipment and support provided by employers in homeworking transition

	ICT equipment	Software licenses	Home office arrangements	Utilities	Educations for online teamwork	Educations for home work efficiency
Should have provided and did	71%	87%	11%	6%	38%	12%
Should have provided and didn't	17%	12%	27%	57%	29%	45%
Should not have provided and didn't	11%	1%	60%	35%	31%	42%
Should not have provided but did	1%	0%	3%	2%	3%	1%

Source: (Authors own table)

Perceived attitudes toward the organization of work from home and its control were tested through a battery of 9 questions (Table 3). The results show that respondents are not very worried about any of the assumed potential problems, with the lowest worry being getting fired in case of restructuring, or worrying about taking sick/paid leave because their superiors wouldn't believe them. The highest ranked worry was found in the organization's view of homeworking being less productive than office work, and even in this case, respondents tended not to agree, with a mean value of 3.3.

Table 3: Attitudes toward organization and supervision of workspace and working hours (N=158)

Item	\bar{x}	SD
I'm worried that I'll get fired in the case of company restructuring or lower profits	1.78	1.104
I tend not to use sick days or paid leave because I think my superiors wouldn't believe me	1.88	1.180
I have a hard time justifying overtime	2.18	1.377
I'm less likely to be promoted compared to my other colleagues	2.24	1.304
My superiors tend to put more emphasis on controlling our work than its effectiveness/quality	2.35	1.410
I feel that my colleagues will forget about me while planning major projects	2.38	1.149

I feel that I constantly have to prove I'm actually working	2.51	1.344
There's a prevailing distrust in my organization about the quality of work from home	2.63	1.460
The prevailing view in the organization is that employees are more productive when working in the office than from home	3.26	1.248

Source: (Authors own table)

To better understand the results, further analysis in terms of t-tests and ANOVA was conducted. Respondents working in the private sector, those whose job is suitable for homeworking, and those who worked in open space-offices were more satisfied with the way their employer handled the transition from work in the office to work from home than their counterparts in the public sector, those whose jobs are just partially suitable for homeworking and those working their own offices. Such differences could be explained by a lesser lag in the private sector, compared to the public one in applying new work arrangements, especially when their jobs are already suitable for homeworking, while respondents working in open space offices could very well have felt more safe working in an environment with less people during the pandemic. While working from home, respondents who were able to choose their working hours and working space, those whose job is suitable for homeworking as well as those who didn't work overtime and respondents with higher pay felt less pressure in proving their productivity to their employers, justifying overtimes and didn't refrain from taking sick days when needed. These differences could stem from the fact that they weren't overwhelmed with work, but also with the flexibility that was made available, enabling them to choose when and how to work without control or repercussions. When asked whether their superiors tended to overly control them, or whether they felt employees were more productive in the office than they were at home, respondents who were able to choose their working arrangements, those whose job is suitable for homeworking, those who worked from home more often and could combine homeworking and office work tended to disagree more than their counterparts which could speak about a company culture that values flexibility and personal responsibility.

3.2.2 Work-life balance

Work life balance is often quoted as a possible side-effect of working from home so this paper explored whether respondents felt working from home had a negative effect on their personal time and life. The results show (Table 4) that respondents in general aren't negatively affected by working from home. They don't feel they're needed to be available in their free time, don't find work responsibilities negatively affecting their private life, or find themselves working overtimes and on weekends, which is sort of surprising considering that, according to their weekly working hours, 45% of them officially work overtime to a lesser or greater extent.

Table 4: Attitudes toward work-life balance (N=158)

Item	\bar{x}	SD
In my organization it is assumed employees are available in their free time	2.51	1.390
Work responsibilities negatively affect my private life	2.53	1.320
I often find myself working overtime or on weekends	2.71	1.342
I feel my home has turned into an office	2.84	1.385
I don't have enough time for my family, friends and hobbies because of work	2.80	1.380
I often feel overwhelmed with work responsibilities	3.04	1.108

Source: (Authors own table)

Although respondents didn't feel their work-life balance was adversely affected by homeworking, there are a few groups who felt the strain of working from home more than others. In this instance, respondents who are 30 years or older, those who don't work and live

in the same city, and those who work over 40h per week are more likely to find work negatively affecting their private life and not leaving them enough time for family, friends and hobbies. Similarly, respondents who work from home most of the time, those who work more than 40h per week, and those older than 40 are more likely to agree with their home turning into an office. Finally, respondents with PhD degrees and those who work overtime tend to agree more than the rest on items testing that they must be available even in their free time, and often work on weekends.

3.2.3 Productivity

When asked if working from home had affected their productivity, as it can be seen in Table 5, respondents generally agreed that their productivity didn't change that much. In some cases, however, working from home has been seen as a trade-off between getting help from colleagues easier and faster (with 77% of respondents feeling that way) and being able to better organize one's time and work tasks (with 55% of respondents agreeing). It is also worth noting that 50% of respondents felt they worked longer than usual since working from home.

Table 5: Attitudes toward productivity (N=158)

Item	\bar{x}	SD
Working from home has negatively affected my professional development and new skills acquisition	2.56	1.289
Online meetings are mostly a waste of time	2.76	1.142
At home I have less distractions and it's easier for me to concentrate on more complex tasks than in the office	2.92	1.387
In general, the quality of my work from home is better than that in the office	2.97	1.186
Teamwork quality declines when some members work from home	3.04	1.202
When I work from home, I tend to finish tasks faster	3.06	1.255
I can provide information, ideas and instructions to others via online platforms with ease	3.21	1.267
When I work from home, my working hours are longer than usual	3.22	1.275
The quality of online meetings is worse than the meetings in real life	3.27	1.324
Work from home requires more meetings and coordination than work in the office	3.37	1.085
Since working from home, it is harder for me to do tasks that require teamwork	3.39	1.145
Working from home allows me to better organize my time and work tasks	3.48	1.250
If I worked from the office, I would be able to get help from colleagues easier and faster	3.93	1.041
I always know what is expected of me and what my responsibilities are	4.00	0.896

Source: (Authors own table)

Although generally satisfied with their productivity, there are some statistically significant differences between subgroups. Respondents between the age of 30 and 40, as well as those whose jobs aren't suitable to be done from home tend to agree more with the items "Since working from home, it is harder for me to do tasks that require teamwork" and find that teamwork is less efficient when some members are working from home. And, while respondents older than 40 find working from home resulting in working longer hours compared to younger respondents, women, compared to men, tend to find that working from home helps them better organize their time and tasks. Finally, respondents whose jobs aren't suitable to be done from home, and respondents who weren't able to choose their own working arrangements are more likely to think how homeworking has negatively affected their professional development and skill acquisition.

3.2.4 Satisfaction

Considering how well respondents are coping with their new working arrangements, perhaps it shouldn't come as a surprise that they're also generally very satisfied with their jobs, as Table 6 shows. Almost 80% of the employees is somewhat or completely happy with their jobs, and over 90% of them get along well with their colleagues. Less than 20% of the respondents are either frequently thinking about quitting their job or regularly searching for a new one. The only thing the engineers in this study weren't so satisfied or sure about, is their future commitment to the organizations they are currently working for, with less than 40% of them saying they wouldn't mind spending the rest of their careers in the same organization. Considering the large proportion of young employees in the sample, the fact that most of the respondents were unsure or opposed to that idea, isn't that surprising.

Table 6: Attitudes toward satisfaction (N=158)

Item	\bar{x}	SD
I regularly search for new job ads	2.25	1.231
I often think about quitting	2.30	1.181
I wouldn't mind spending the rest of my career in the organization where I currently work	3.20	1.122
Generally speaking, I'm happy with my job	3.93	0.860
I get along well with my colleagues	4.35	0.715

Source: (Authors own table)

Although the respondents were generally very satisfied with their employment, some are statistically significant, and perhaps completely unsurprisingly, more satisfied than others. Respondents with higher incomes, those whose jobs were completely suitable to being done from home, and those who had complete freedom in choosing their work arrangements are more satisfied with their jobs. Finally, when asked whether they could see themselves spending the rest of their career in their current organization, respondents older than 40, those in managerial positions, those working in larger companies (compared to those working in micro and small companies), and respondents who had their own offices tended to agree significantly more.

4. Discussion and conclusion

Although the pandemic that accelerated transitions from office to homeworking is not fading, quarantine periods and state mandated remote work arrangement are being lifted, giving employers the option of choosing whether to continue or not with those practices. And while imperfect in its sample and its recruiting process, this paper still provides some basic information about a new and underresearched process which could be taken as guidelines or perhaps inspiration by employers, employees, and other researchers trying to breach the subject of remote work in Croatia, both in the context of engineering and beyond.

As one third of respondents didn't work in the same city they lived in, and almost two thirds of them said they are able to complete all their work tasks at home, homeworking could be a plausible solution to both commuting problems and overconcentration of talent in just a few bigger cities in Croatia. On the other hand, just a handful of employees (10%) who said they would like to work from home all the time, with another 17% who'd prefer that as a predominant place of work, still show that the place of employment is not just a building or office but a place where one's able to cooperate with colleagues (which was found extremely

important among the engineers included in this research) and work in a team undisturbed and unmediated.

Generally taken, the results also show how engineers covered by this research didn't find their homeworking experience had any effect (neither positive nor negative) on their productivity or work-life balance. However, it should be noted that some findings seem to be contradicting, considering that 50% of respondents agree with the statement that they worked longer hours since homeworking while simultaneously disagreeing with statements about work responsibilities negatively affecting their private life.

Perhaps due to a lower number of respondents, especially in some subsamples, differences in means that were not statistically significant but still worthy of further exploration have been found in subsamples of engineers homeworking all the time, who were more satisfied on the organizational and supervising aspect of homeworking, more likely to report unsatisfying work-life balance and worse productivity when homeworking. Furthermore, respondents who were more willing to work remotely, were also more likely to report being overwhelmed by work. Additionally, having a proper home office when working from home has been found as an important condition for productivity, while being able to choose one's own work arrangements, unsurprisingly, led to better job satisfaction. Finally, suitability of one's tasks for remote work seems to play an important role in their increased productivity, work satisfaction as well as the organizational and supervising aspects of homeworking.

Overall, it can be concluded that the homeworking experiences of the Croatian engineers in this research are in line with the previously mentioned ambivalence and inherent contradiction of that kind of work in general. Although, as in Edgell and Granter's words (2000), the numerical flexibility of such a form of work is undeniable, the time related one, which is reflected in employees' efficiency and work-life balance, remains questionable in this research's specific context as well.

In that sense, the most interesting conclusion of this research regards engineers' potential unawareness of this questionability. Unlike the respondents in previous research, such as Edgell and Granter (2020), Croatian engineers working from home don't seem to deal with organizational and trust issues and find this kind of work not effecting their private life, or even enhancing it by, for instance, eliminating commuting time. However, as was the case in Eurofound and the International Labour Office research (2017), respondents at the same time find their working hours increasing while working from home, which inevitably causes it disrupting private and family life. This can however also indicate that Croatian engineers value more the autonomy regarding the organization of their work, together with the more lenient supervision, than the intensity of the work itself, both in time and volume.

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