

Remote Work Data Analysis

By Nadine Halabi, Heba Masarwa, Ibraheem Abo Ata

Table of Contents

Introduction	2
Exploring the Graphs from Tableau	3
How Does Working Remotely Affect Productivity and What Are the Other Benefits?	3
What Are the Best and Worst Aspects of Remote Work, and How Do They Influence Workers' Lives and Preferences for Remote Work Ratios?	7
What Are the Major and Minor Barriers Encountered in Remote Work?	11
Final Dashboards	18
Analyzing Productivity across Industries, Occupations, and Remote Collaboration	18
The Remote Work Experience: Best and Worst Aspects and Preferences	19
Analyzing Remote Work: Top Barriers vs. Minor Hurdles and Their Impact on Productivity	20
Conclusions	21

Introduction

In light of the COVID-19 pandemic, remote work has shifted from a temporary measure to a key component of the modern workplace. This change led to a survey of 1,500 remote workers in the Australian state of New South Wales, taken in August-September 2020 and March-April 2021, to understand their experiences and attitudes towards remote work during the pandemic. The insights aim to guide organizations in adapting to remote work, tailoring policies to meet diverse needs, and overcoming common remote work challenges with strategies like hybrid models. This introduction frames our findings and recommendations for effectively integrating remote work into organizational practices. Note that in our analysis we only used the data from 2020.

Source of the data [Maven Analytics - Remote Work Survey](#).

Exploring the Graphs from Tableau

How Does Working Remotely Affect Productivity and What Are the Other Benefits?

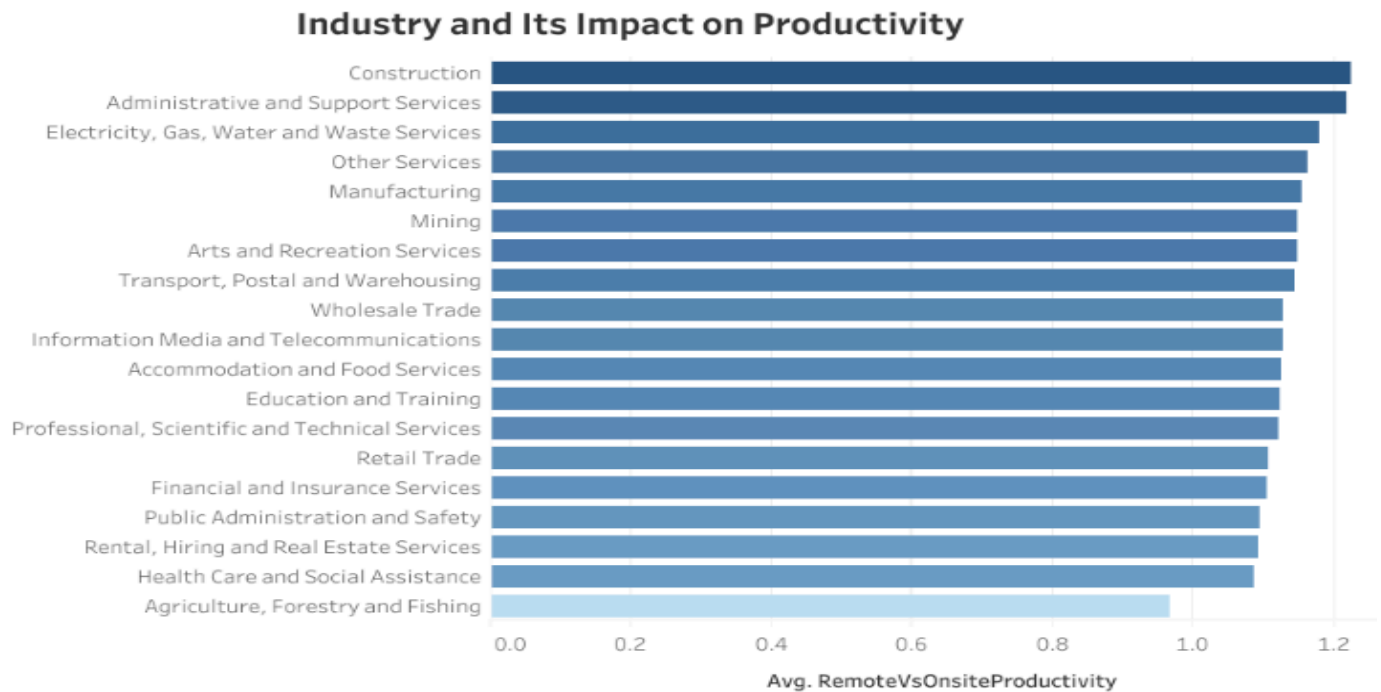


Figure. 1. Industry and its Impact on Productivity

Remote work has become a significant phenomenon, prompting various industries to undergo adaptation and change processes.

In Figure 1, we present information regarding the productivity of remote work within different industries. The most productive industries in remote work include construction, administrative and support services, as well as electricity, gas, water, and waste services. Companies can use this data to determine whether to adopt remote work practices and how it may impact their productivity.

Average Productivity in Different Occupations

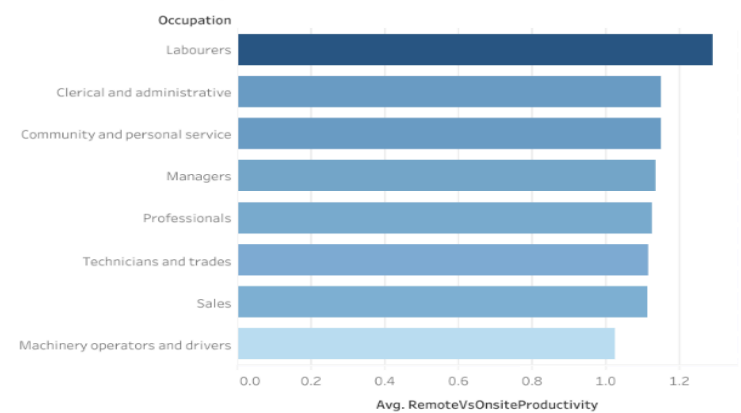


Figure. 2. Average Productivity in Different Occupations

This figure highlights the average productivity levels of various occupations in remote work settings. Among the most productive occupations are laborers, clerical and administrative roles, community and personal service positions, as well as managerial roles.

Understanding the productivity trends across different occupations can assist organizations in optimizing their remote work strategies and resource allocation to maximize efficiency and effectiveness.

Remote Collaboration and Productivity Impact

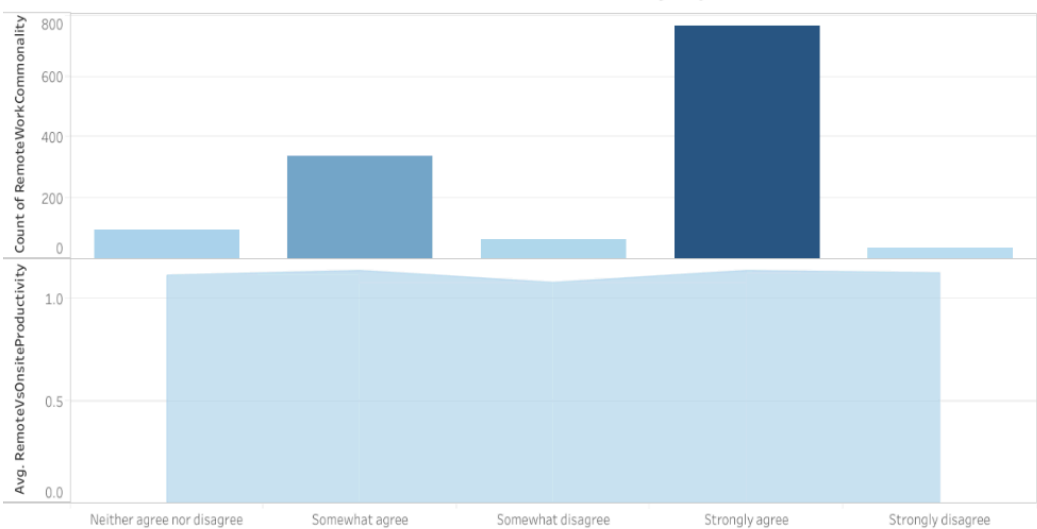


Figure. 3. Remote Collaboration and Productivity Impact

This figure explores the relationship between remote collaboration and productivity, highlighting the significance of seamless communication and efficient workflows in today's work environment.

Employees who can easily collaborate with others tend to demonstrate higher productivity levels. Using video calls, messaging apps, and online tools facilitates this collaboration, enabling teams to work together effortlessly even when physically distant. Recognizing the importance of these remote collaboration tools and practices empowers organizations to optimize productivity while embracing remote work arrangements.

By leveraging these technologies, teams can transcend geographical barriers and foster effective communication, idea sharing, and streamlined workflows, ultimately contributing to organizational success. Recognizing the significance of efficient remote collaboration tools and practices can empower organizations to elevate their productivity levels while embracing remote work arrangements.

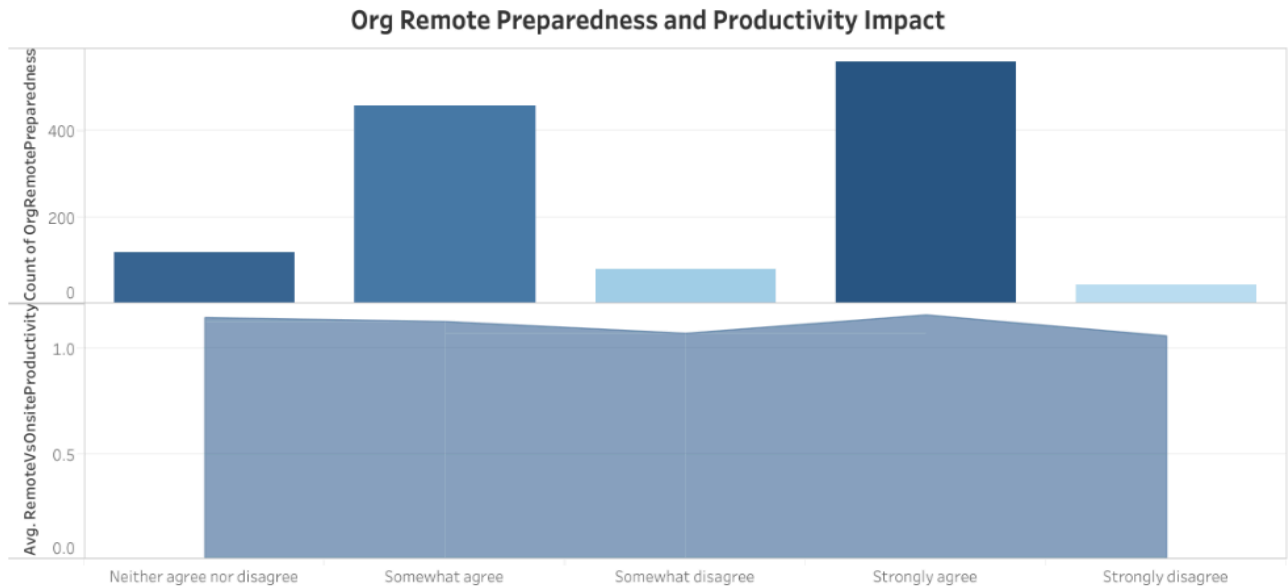


Figure. 4. Organization Remote Preparedness and Productivity Impact

The figure indicates that when organizations are well-prepared for remote work, productivity tends to be higher. This readiness indicates that the company has established the necessary systems and support structures. As a result, employees can effectively perform their tasks whether they're in the office or working from home. With everything properly set up, individuals can focus on their work without unnecessary obstacles, leading to enhanced productivity levels.

Recognizing the importance of organizational preparedness for remote work is crucial as it significantly contributes to optimizing productivity and ensuring smooth operations across various work environments.

What Are the Best and Worst Aspects of Remote Work, and How Do They Influence Workers' Lives and Preferences for Remote Work Ratios?

Top Five Best Aspects Remote Work



Figure. 5. Top Five Best Aspects Remote Work

The top five best aspects, as we can see in Figure 5, are work-life balance, preparation for work and commuting, managing personal commitments, daily expenses, and managing family responsibilities.

The reduction in time spent commuting and preparing for work allows individuals to devote more time to their personal lives and family obligations. Furthermore, this decrease in commuting and work preparation time translates into financial savings. Workers save money that would have otherwise been spent on commuting or buying lunch and coffee, improving their ability to manage daily expenses more effectively.

Top Five Worst Aspects Remote Work



Figure. 6. Top Five Worst Aspects Remote Work

The top five worst aspects, as we can see in Figure 6, include the opportunity to socialize, working relationships, on-the-job learning opportunities, the number of hours worked, and mental well-being.

Working from home significantly hinders the chance to socialize with coworkers, which in turn negatively impacts working relationships. The reduced ability to seek immediate help from colleagues also diminishes learning opportunities on the job. Moreover, the blending of home and workspace without a clear physical separation can lead to a feeling of being perpetually at work. This situation is made worse when some employers expect longer working hours due to the elimination of commute time. As humans are inherently social beings, the decrease in socializing opportunities combined with the home becoming the new workplace can make individuals feel trapped or constantly at work, contributing to higher stress levels and affecting mental well-being.

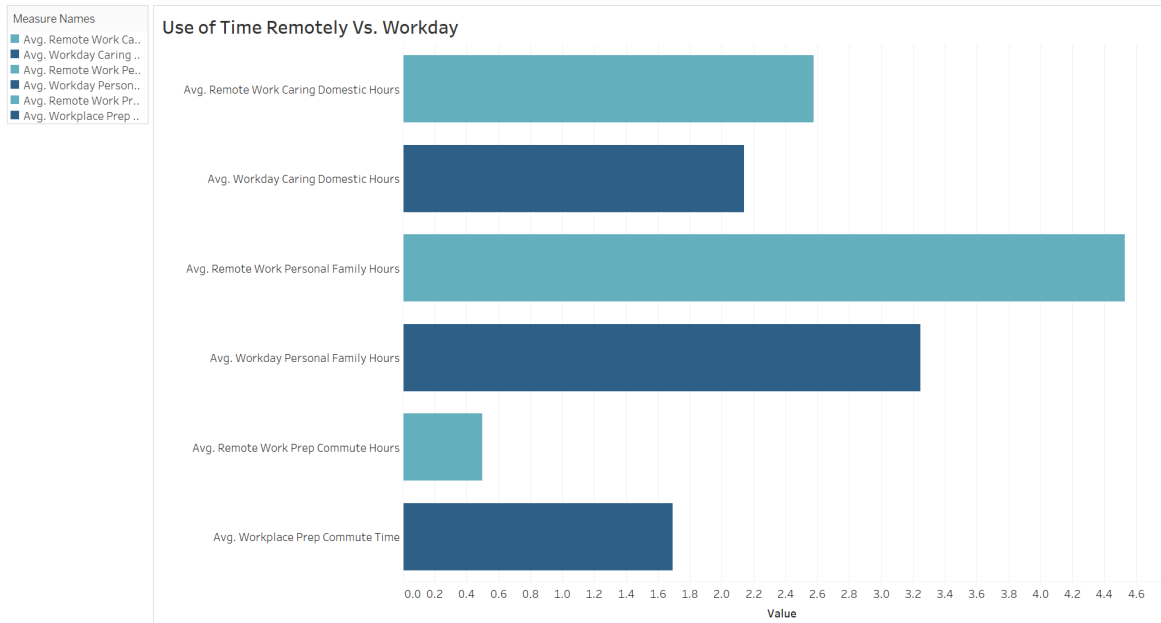


Figure. 7. Use of Time Remotely vs. Workday

In figure 7, we observe a notable increase in the time individuals allocate for domestic activities and family engagements when working remotely. This change underscores the flexibility and work-life balance advantages offered by remote work setups. Regarding commute time, there is a significant reduction, reflecting the efficiency gained as individuals now work from home or a nearby office, simplifying the preparation process for work and effectively eliminating lengthy commutes. This shift not only enhances personal well-being but also contributes to environmental sustainability by reducing traffic congestion and vehicle emissions.

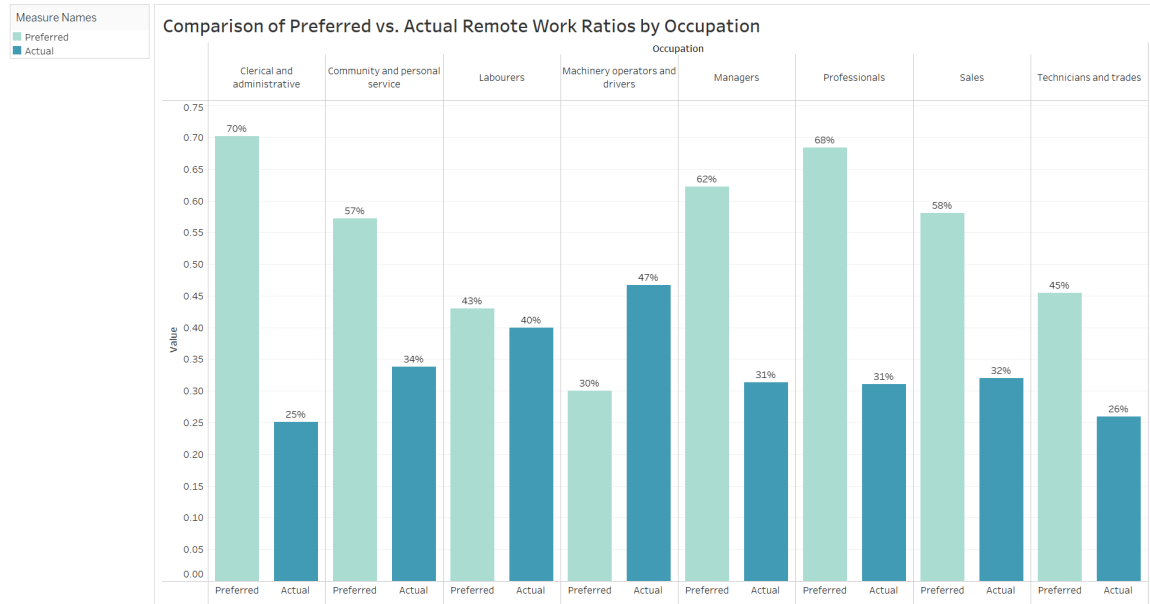


Figure. 8. Comparison of Preferred vs. Actual Remote Work Ration

In Figure 8, we observe the preferred remote work ratios across various occupations. Notably, roles in clerical and administrative sectors, along with community and personal service positions and sales, exhibit a preference for remote work, desiring a ratio of approximately 70-60%. In contrast, more labor-intensive occupations, such as those involving machinery operation, show a lower preference for remote work, with a desired ratio of around 30%. This data highlights the diverse remote work preferences across different occupations, reflecting how the nature of one's work influences their ideal balance between remote and in-office work arrangements.

What Are the Major and Minor Barriers Encountered in Remote Work?

In this section we will examine the worst and least barriers people face while working remotely. For the collection of this data a survey was concluded that was filled by 1505 people, they were asked 10 times what is the worst barrier from a list of 5 or 6 answers, and another 10 times what is the least barrier from a list of 5 or 6 answers.

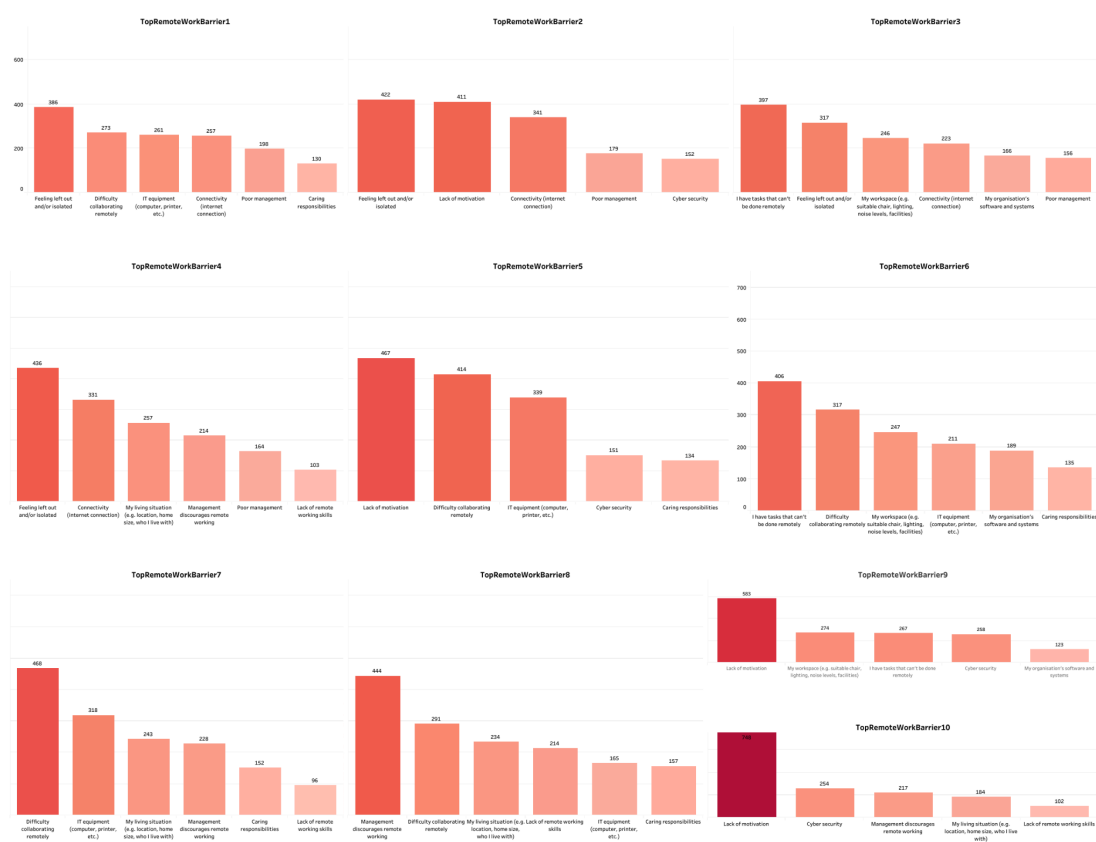


Figure. 9. Top Barriers from All 10 Columns

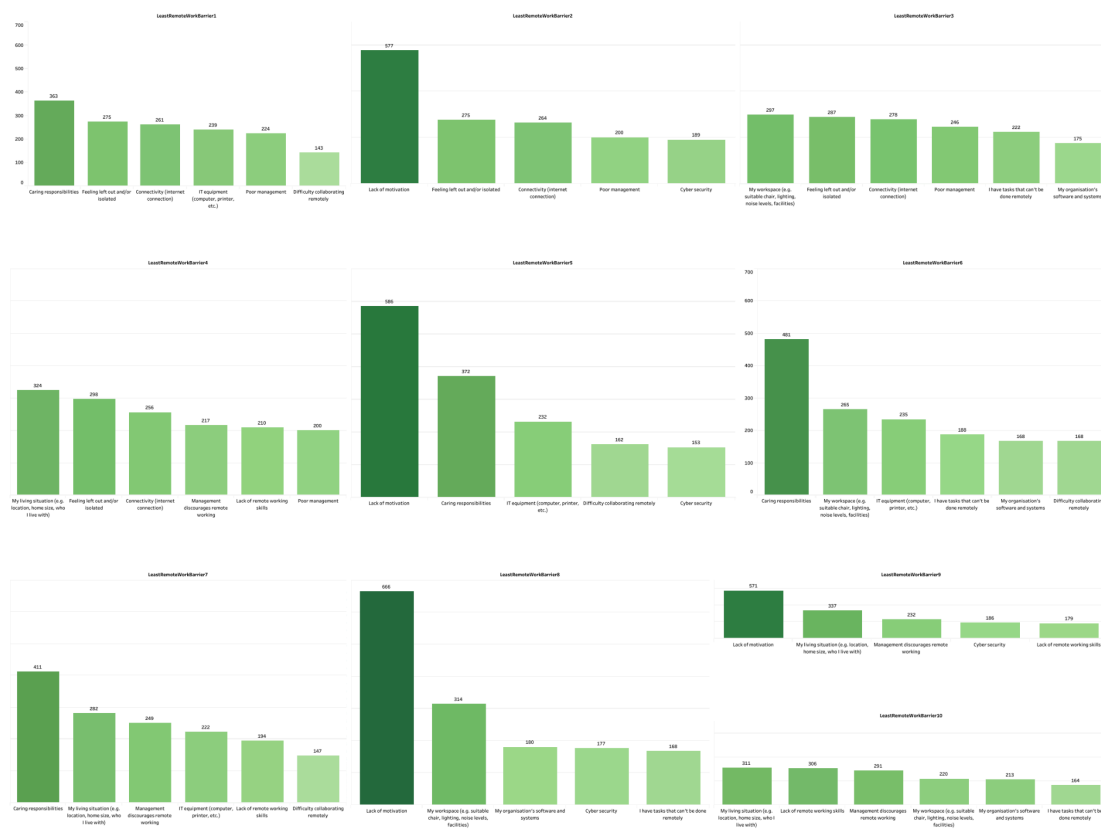


Figure 10. Least Barriers from All 10 Columns

In Figure 9 and 10 we can note the ten questions for the top and least barriers with how many people choose the barrier in each question. It's evident that certain barriers, such as lack of motivation, significantly impact individuals. However, it's hard to really grasp all of them and tell which is harder for people than others and rank them, and for that we decided to do the following -

The survey encompasses 14 unique barriers. Each time an individual is asked to select the top or least significant barrier, they can choose from a list of 5 or 6 options placed before them. These options include: 1) Feeling left out and/or isolated, 2) Difficulty collaborating remotely, 3) IT equipment issues (e.g., computer, printer), 4) Connectivity issues (e.g., internet connection), 5) Caring responsibilities, 6) Lack of motivation, 7) Poor management, 8) Cybersecurity concerns, 9) Tasks that cannot be completed remotely, 10) Workspace challenges (e.g., suitable chair, lighting, noise levels), 11) Organizational software and system limitations, 12) Living situation challenges (e.g., location, home size, cohabitants), 13) Management discouraging remote work, and 14) Lack of remote working skills.

To clearly identify and rank the barriers that are most hindering, we compiled all the votes each barrier received across the ten questions into a single graph—one for the top barriers and another for the least significant barriers.

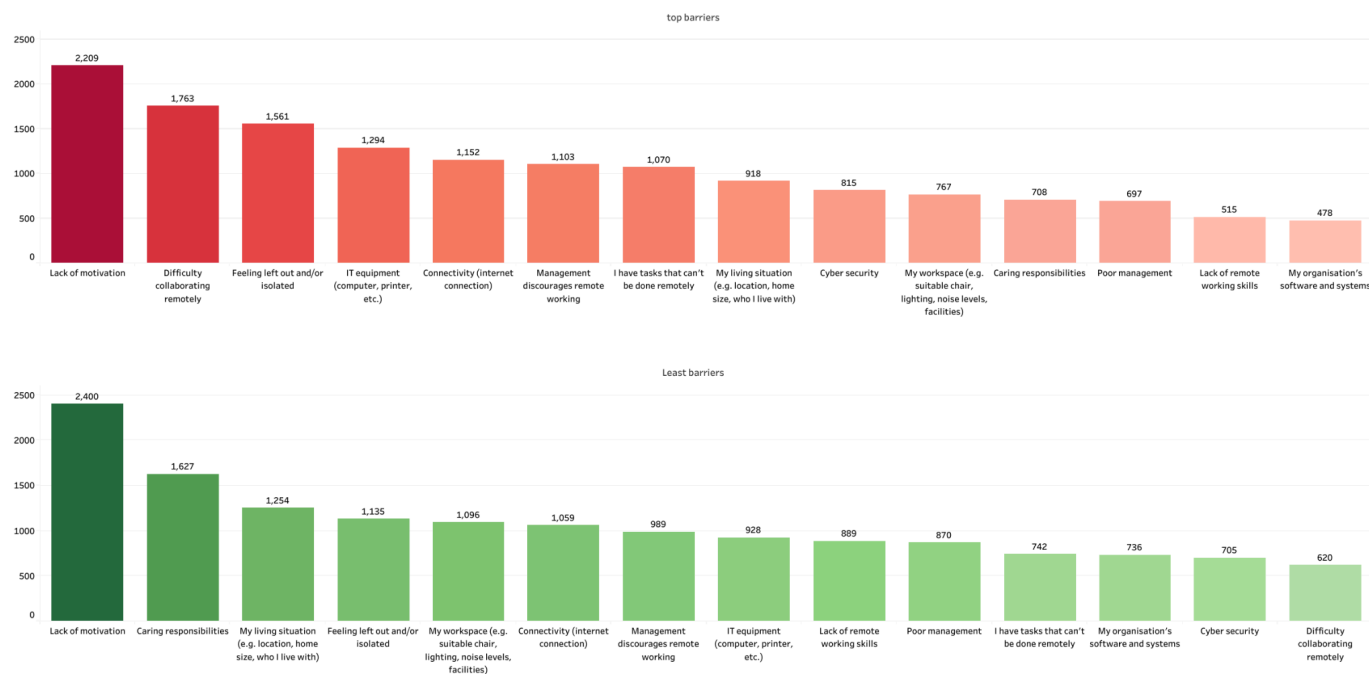


Figure. 11. Top\Least Barriers from All 10 Columns

Now, we can clearly identify which barriers people consider the most and least challenging. However, there's a serious flaw in this approach. The analysis would be accurate if all barriers were presented an equal number of times, each with the same chance of being selected. However, in this survey, 4 questions offer 5 barriers to choose from, while the other 6 questions present 6 barriers. This means when the 1,505 participants respond to a question with 5 barriers, each barrier will receive an average of 301 votes, whereas questions with 6 barriers will see each barrier receiving an average of 250 votes. Additionally, not all barriers were presented an equal number of times, which could lead to some barriers being overestimated or underestimated.

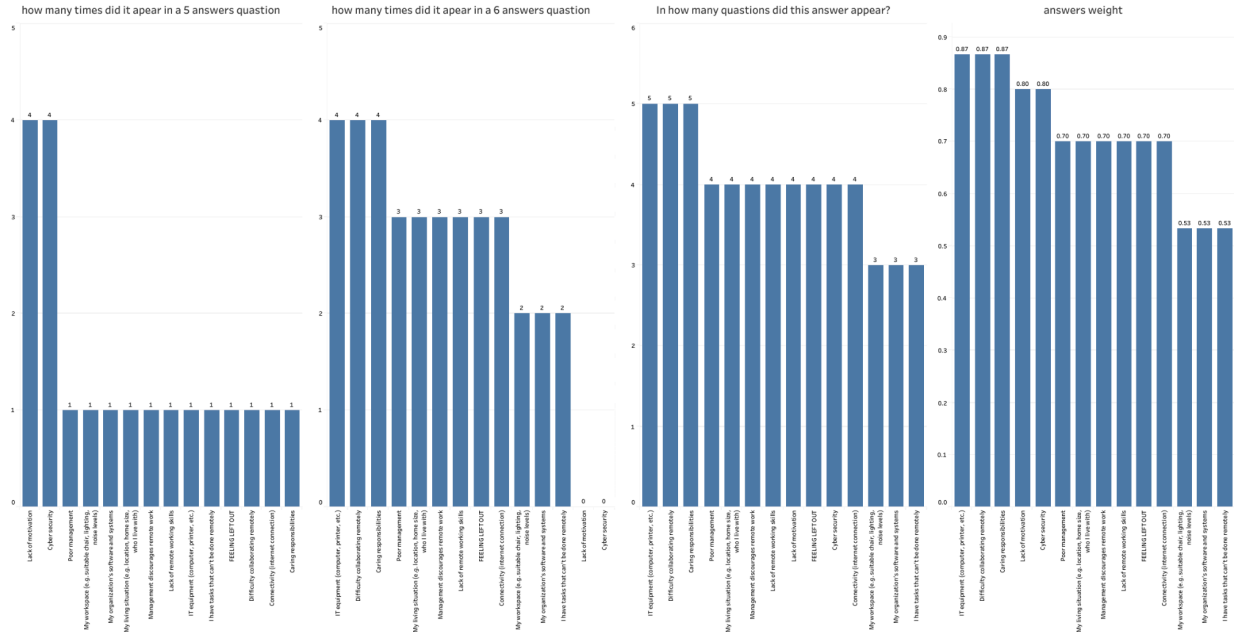


Figure. 12. Calculation of Barriers Weight In All 10 Columns

As observed in Figure 12, the barriers aren't receiving votes equally. To address this, we can correct for under/overestimation by adjusting the votes of barriers that were shown less frequently upwards, and reducing votes for those shown more frequently. This requires measuring the weight (our method for measuring each barrier's repetitiveness) using the following formula:

$$\left(\frac{\text{number of times the barrier appeared in a question with 5 barriers}}{5} \right) + \left(\frac{\text{number of times a barrier appeared in a question with 6 barriers}}{6} \right)$$

With each barrier now assigned a weight, we adjust each by multiplying it by the reciprocal of its weight. This compensates for any barriers being shown more or less frequently than others, resulting in an accurate depiction of the top and least barriers.

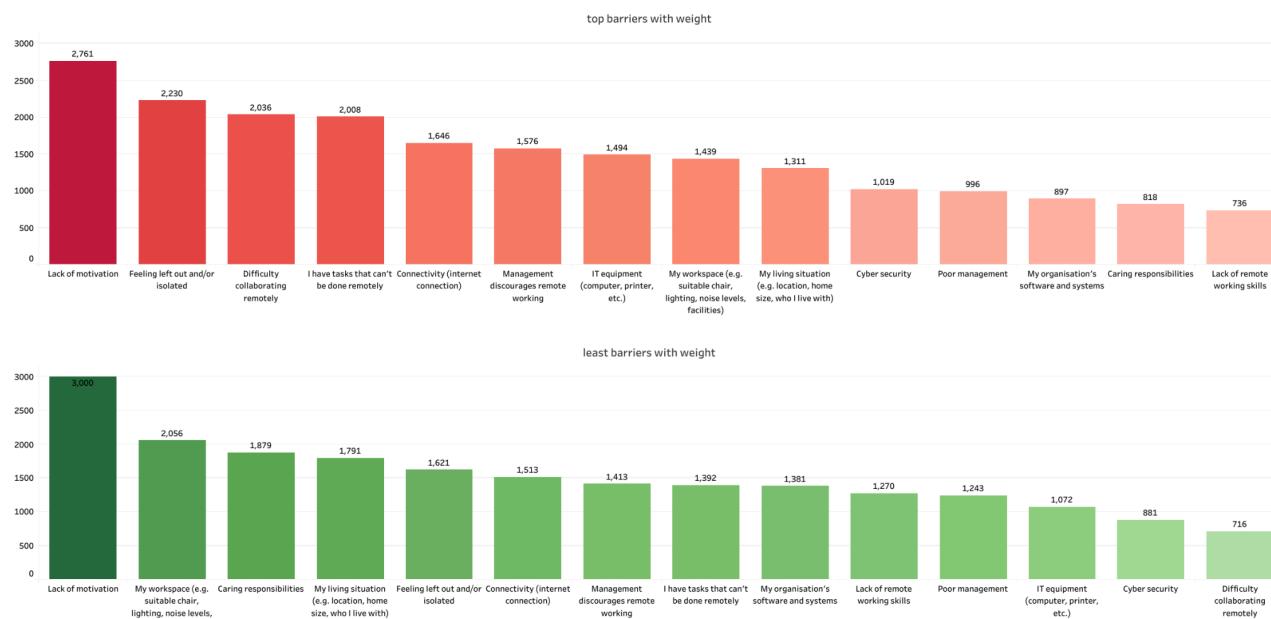


Figure. 13. Least\top Barriers from All 10 Columns With Weight Consideration

Now, in Figure 13 we can clearly and accurately assess the data. We find that 'lack of motivation' ranks as the top barrier, closely followed by 'feeling left out' and 'difficulty collaborating remotely.' This insight allows companies and individuals to understand which barriers are most common and which can be neglected. Interestingly, while 'lack of motivation' is a significant issue for some, it's minimal for others. This suggests that motivation might be more binary than scalar—people either significantly struggle with it or don't encounter it as a problem at all. We'll explore factors that might influence this to predict future remote workers' motivation states.

Upon examining the data, we find that both individuals who lack motivation and those who don't are evenly distributed across various demographics (occupation, age, location type, etc.), leading us to conclude that motivation is a personal attribute that varies regardless of position, age, or location type. Additionally, it's worth investigating whether the lack of motivation in half of the respondents impacts their productivity.

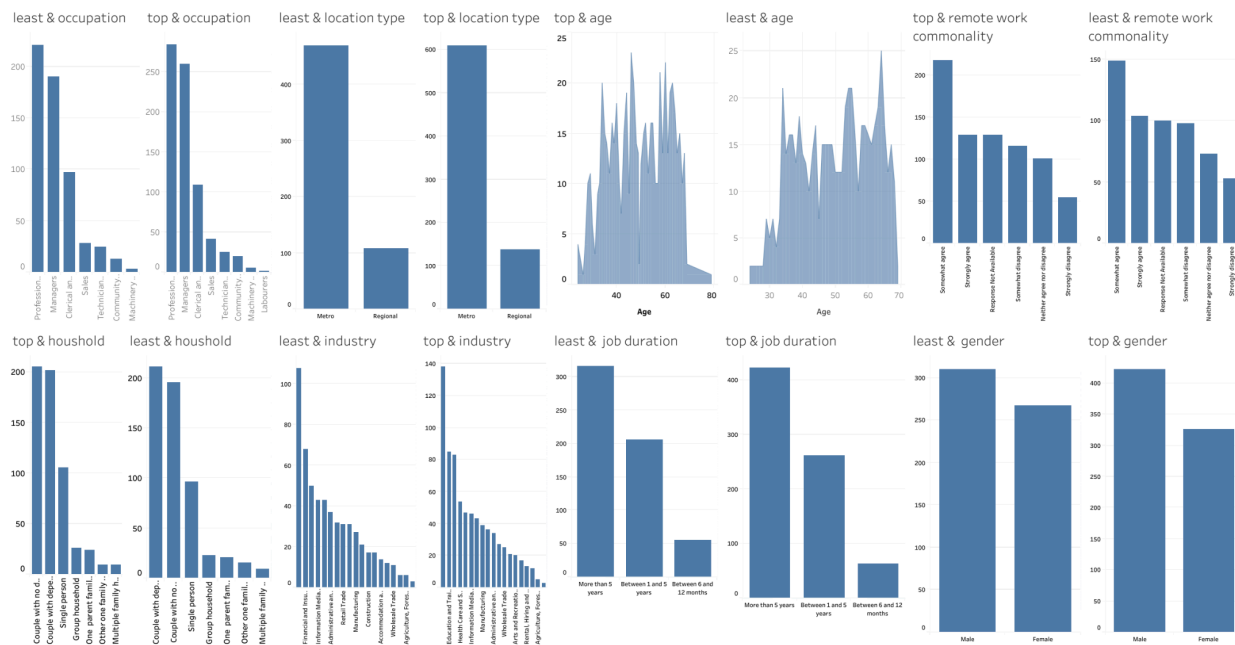


Figure. 14. Correlation between with\without lack of motivation & different factors in data

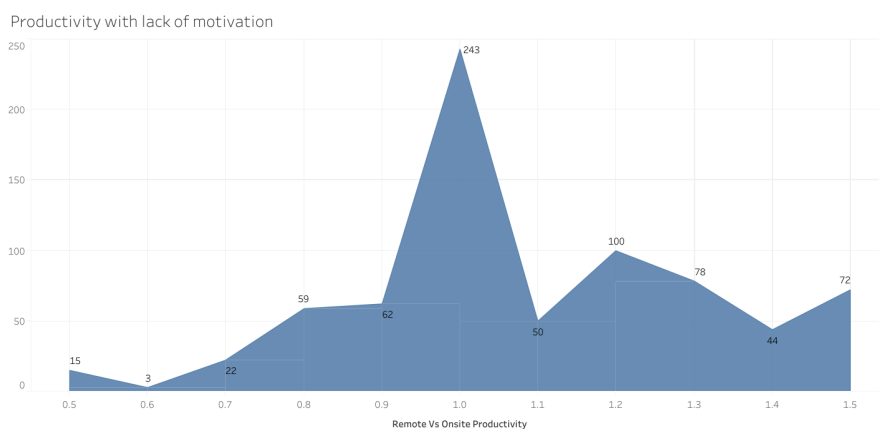


Figure. 15. Productivity with Lack of Motivation

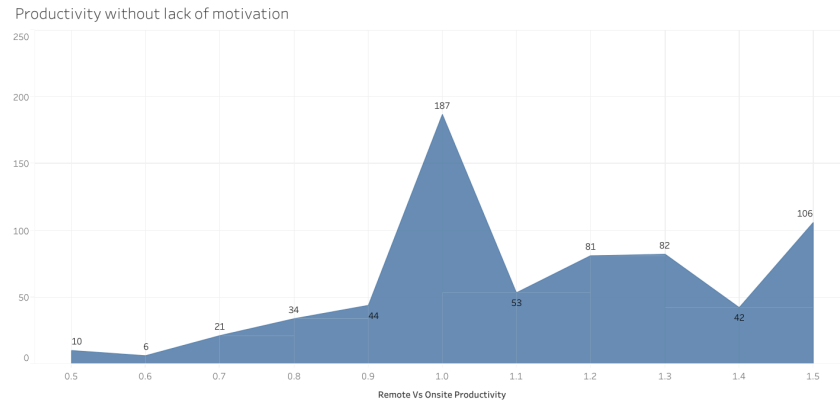


Figure. 16. Productivity without Lack of Motivation

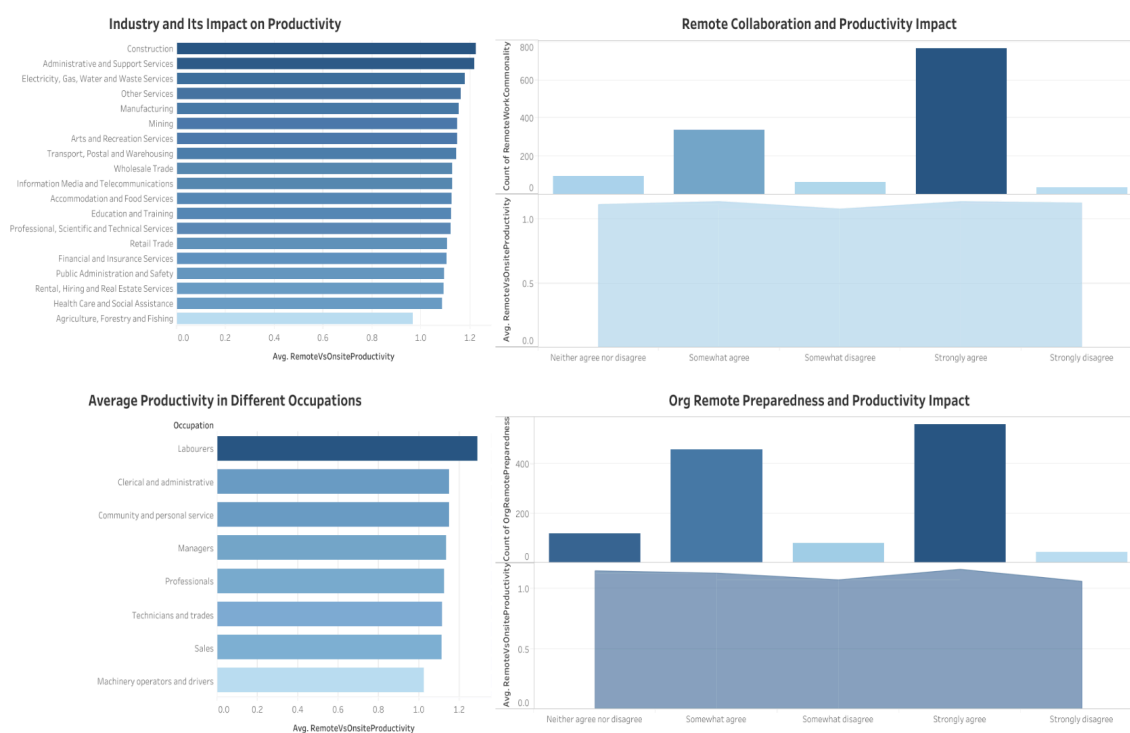
As we observe in Figures 15 and 16, productivity among those who lack motivation and those who don't is fairly similar, with a slight concentration in the "1.0 (same productivity)" category for those who lack motivation. Hence, we believe that lack of motivation isn't a significant concern.

As for the other barriers, here are the top 5:

1. **Feeling left out and/or isolated:** we suggest adopting hybrid work models and arranging more team/staff meetings, especially during remote work periods, to mitigate feelings of isolation.
2. **Difficulty collaborating remotely:** it is the company's responsibility to train its employees on effective remote collaboration. Similarly, employees should seek the most effective ways to collaborate remotely to avoid difficulties.
3. **Tasks that can't be done remotely:** we strongly recommend a hybrid work model. This approach allows for the benefits of remote work while accommodating tasks that require physical presence on-site.
4. **Connectivity (internet connection):** resolving this issue falls on the individual. If it cannot be resolved, we suggest acquiring a Starlink receiver as a potential solution.
5. **Management discourages remote work:** there is little to do other than encourage management to reconsider, given the clear benefits outlined in this analysis.

Final Dashboards

Analyzing Productivity across Industries, Occupations, and Remote Collaboration



[Figure. 17 . Analyzing Productivity across Industries, Occupations, and Remote Collaboration](#)

Overall, the data presented in the figures 1 to 4 suggest that working remotely can indeed positively impact productivity, particularly under certain conditions.

Two key factors emerge as crucial for successful remote work: effective remote collaboration among team members and organizational preparedness for remote work.

Firstly, when team members are comfortable using video calls, messaging apps, and online tools, they can collaborate seamlessly, regardless of their physical location. This ease of communication facilitates idea sharing and task completion, ultimately leading to increased productivity.

Secondly, organizational preparedness for remote work significantly influences productivity levels. When companies have the right systems and support structures in place, employees can perform their tasks effectively whether they're in the office or working remotely.

With proper setup, individuals can focus on their work without encountering unnecessary obstacles, further enhancing productivity.

Therefore, it is essential for companies considering remote work to ensure that their employees are proficient in using online tools and that the organization is equipped to support remote work effectively. This may involve providing training to improve online communication skills and establishing systems to facilitate remote work.

By prioritizing these factors, companies can empower their employees to work more efficiently, whether they're in the office or working from home.

The Remote Work Experience: Best and Worst Aspects and Preferences



Figure. 18. The Remote Work Experience: Best and Worst Aspects and Preferences

From Figures 5-7, we observe the benefits of remote work, such as reduced commute time and increased personal time, contributing to an improved work-life balance and cost savings on daily expenses. However, potential downsides are also highlighted, including the loss of natural socialization opportunities, weakened work relationships, missed on-the-job learning experiences, and negative impacts on mental well-being.

In Figure 8, we explore the preferred remote work ratios across various occupations, revealing a significant inclination towards a hybrid work model among different professional groups.

Overall, for companies considering a transition to remote work, it is crucial to weigh these insights in the context of the specific occupation types within their workforce. Tailoring remote work policies to accommodate the diverse needs and preferences identified can enhance both employee satisfaction and organizational productivity.

Analyzing Remote Work: Top Barriers vs. Minor Hurdles and Their Impact on Productivity

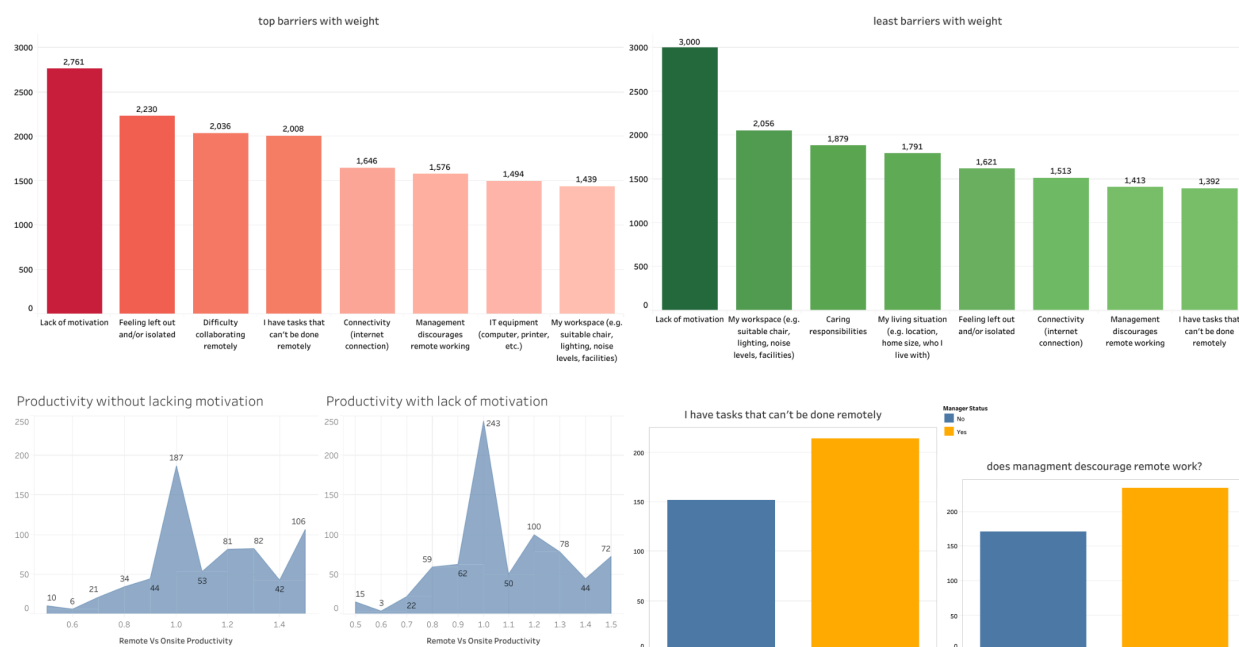


Figure. 19. Remote work top/least barriers

Drawing on insights from Figures 9 to 16, the top barrier to remote work, as identified, is a lack of motivation. However, examining its impact on productivity reveals it doesn't significantly affect output, allowing us to de-emphasize this issue.

For other barriers, adopting a hybrid work model is recommended to enjoy the advantages of remote work while mitigating its challenges, such as feeling left out or handling tasks that cannot be completed remotely. In the case of management, a greater emphasis on on-site work is advised due to managers often having more responsibilities that require physical presence, which may explain their hesitation towards remote work.

Regarding the remaining barriers, both the company and the individuals share the responsibility to address issues within their control, such as difficulties in remote collaboration, connection problems, and workspace challenges.

Conclusions

1. **Adapting to Remote Work:** It's critical for organizations considering remote work to equip their employees with the necessary online tool proficiency and support infrastructure. This could include online communication skills training and the development of systems to ease remote work processes. Such initiatives can significantly enhance employee productivity in both remote and in-office settings. Recognizing the variability in remote work feasibility across different industries and occupations, such as the challenges faced by the agriculture sector due to tool limitations, is essential. Enhancing remote work tools could potentially increase productivity in fields previously deemed unsuitable for remote operations.
2. **Customizing Remote Work Policies:** The decision to transition to remote work should take into account the specific needs and job types within the organization. Adapting remote work policies to fit the varied preferences and requirements of the workforce can lead to improvements in both employee satisfaction and overall organizational productivity.
3. **Addressing Remote Work Barriers with Hybrid Models:** The most significant obstacle to remote work is a lack of motivation, which largely stems from individual challenges rather than organizational shortcomings, although there wasn't any noticeable effect on productivity. Other barriers include feelings of isolation, collaboration difficulties, and tasks that are inherently unsuitable for remote work. A hybrid work model emerges as a strategic solution to these challenges, offering a balanced approach that addresses key barriers while supporting personal and professional responsibilities but we advise more on site work for managers because of the nature of their tasks. This model accommodates various working styles and preferences, including those related to workspace and caregiving duties, suggesting a move towards more personalized work arrangements.

In summary, adapting to remote work requires a multifaceted approach tailored to the unique needs of different industries and occupations. Organizations must focus on equipping employees with the skills and tools necessary for effective remote work, while also considering the customization of remote work policies to enhance satisfaction and productivity. Despite the lack of motivation being identified as a significant barrier, its impact on productivity is minimal. However, challenges such as feelings of isolation and collaboration difficulties highlight the need for hybrid work models. These models, which recommend more on-site work for managerial roles, can provide a balanced solution that addresses the main barriers to remote work, supporting a diverse range of work styles and personal responsibilities.