



Remote work Survey Dashboard Project

The Team



About Dataset

- Survey results of **1,500 remote workers**
- From the Australian state of New South Wales
- Taken in August-September 2020.
- Aimed to capture the shift in remote work experiences and attitudes during different stages to gain insights on its long-term implications.



Prepare The Dataset

1. Data Import & Validation

- With Excel we handled columns names as it was too long to fit as a column name in SQL DB, and not unified, so We copy names of columns, which were the questions of the survey, and used transpose feature and put the column names in a new sheet and make new names for columns, referring to the old names.

1	OriginalColumnName	ModifiedColumnName
2	Response ID	Response_ID
3	What year were you born?	DOB
4	What is your gender?	Gender
5	Which of the following best describes your industry?	Industry
6	Which of the following best describes your current occupation?	Occupation
7	How many people are currently employed by your organisation?	Employees_No
8	Do you manage people as part of your current occupation?	Are_You_Manager
9	Which of the following best describes your household?	Household
10	How long have you been in your current job?	Experience
11	Metro / Regional	Area
12	Thinking about your current job, how much of your time did you spend remote working last year?	Last_Year_Actual_Work_Time_Remotely
13	Thinking about remote working last year, how strongly do you agree or disagree with the following statements? - My organisation encouraged people to work remotely	Last_Year_Has_AgreedTo_Org_Encouraged_Remote_Work
14	Thinking about remote working last year, how strongly do you agree or disagree with the following statements? - My organisation was well prepared for me to work remotely	Last_Year_Has_AgreedTo_Org_Prepared_Remote_Work
15	Thinking about remote working last year, how strongly do you agree or disagree with the following statements? - It was common for people in my organisation to work remotely	Last_Year_Has_AgreedTo_Employees_UsedTo_Remote_Work
16	Thinking about remote working last year, how strongly do you agree or disagree with the following statements? - It was easy to get permission to work remotely	Last_Year_Has_AgreedTo_Get_Easy_Permission_Remote_Work
17	Thinking about remote working last year, how strongly do you agree or disagree with the following statements? - I could easily collaborate with colleagues when working remotely	Last_Year_Has_AgreedTo_Colleagues_Easily_Collaborated_Remote_Work
18	Thinking about remote working last year, how strongly do you agree or disagree with the following statements? - I would recommend remote working to others	Last_Year_Has_AgreedTo_Would_Recommend_Remote_Work
19	How much of your time would you have preferred to work remotely last year?	Last_Year_Preferred_Work_Time_Remotely
20	Thinking about your current job, how much of your time did you spend remote working in the last 3 months?	Last_3Months_Actual_Work_Time_Remotely
21	Thinking about remote working in the last 3 months, how strongly do you agree or disagree with the following statements? - My organisation encouraged people to work remotely	Last_3Months_Has_AgreedTo_Org_Encouraged_Remote_Work
22	Thinking about remote working in the last 3 months, how strongly do you agree or disagree with the following statements? - My organisation was well prepared for me to work remotely	Last_3Months_Has_AgreedTo_Org_Prepared_Remote_Work
23	Thinking about remote working in the last 3 months, how strongly do you agree or disagree with the following statements? - It was common for people in my organisation to work remotely	Last_3Months_Has_AgreedTo_Employees_UsedTo_Remote_Work
24	Thinking about remote working in the last 3 months, how strongly do you agree or disagree with the following statements? - It was easy to get permission to work remotely	Last_3Months_Has_AgreedTo_Get_Easy_Permission_Remote_Work

The Naming Guidelines Used to modify

- **Meaningful Names**
- **Consistency**
- **Avoided Reserved Keywords**
- **Used Snake Case Style**
- **Prefixing and Suffixing like Data Type Prefixes**
- **Abbreviations and Acronyms**
- **Avoided Uncommon Abbreviations and Used Standard Acronyms**
- **Naming Conventions for Specific Data Types like Boolean Columns and Numeric Columns**
- **Documentation**
- **Commenting**

2. Creating Database:

```
1  -- =====
2  -- Author:      Mohammad Hamdy
3  -- Create date: 2024-10-01
4  -- Description: Script to create a database called 'Project'
5  -- =====
6
7  -- Check if the database already exists
8  IF NOT EXISTS (
9      SELECT name
10     FROM sys.databases
11     WHERE name = N'Project'
12 )
13 BEGIN
14     -- Create the database
15     CREATE DATABASE Project
16     ON PRIMARY (
17         NAME = Project_Data,
18         FILENAME = 'C:\Users\Muhammad hamdy\Project_Data.mdf', -- Specify your file path
19         SIZE = 10MB,      -- Initial size
20         MAXSIZE = 100MB,  -- Maximum size
21         FILEGROWTH = 5MB  -- Growth increment
22     )
23     LOG ON (
24         NAME = Project_Log,
25         FILENAME = 'C:\Users\Muhammad hamdy\Project_Log.ldf', -- Specify your file path
26         SIZE = 5MB,      -- Initial size
27         MAXSIZE = 50MB,  -- Maximum size
28         FILEGROWTH = 1MB -- Growth increment
29     );
30
31     PRINT 'Database ''Project'' created successfully.';
32 END
33 ELSE
34 BEGIN
35     PRINT 'Database ''Project'' already exists.';
36 END
37
```

3. Data Cleaning

- Check for Duplicates to Remove Them:

```

1 select DISTINCT * FROM Original_2020_rws
2 select * FROM Original_2020_rws
3

```

Response_ID	DOB	Gender	Industry	Occupation	Employees_No	Are_You_Manager	Household	Experience	Area	Last_Year_Actual_W
1	1972	Female	Manufacturing	Clerical and administrative - Other Clerical and Admi...	Between 20 and 199	No	Couple with no dependent children	More than 5 years	Regional	Rarely or never
2	1972	Male	Wholesale Trade	Managers - Chief Executives, General Managers an...	Between 1 and 4	Yes	Couple with dependent children	More than 5 years	Metro	20%
3	1982	Male	Electricity, Gas, Water and Waste Services	Managers - Chief Executives, General Managers an...	More than 200	Yes	One parent family with dependent children	More than 5 years	Metro	60%
4	1987	Female	Professional, Scientific and Technical Services	Professionals - ICT Professionals	Between 20 and 199	No	Couple with dependent children	Between 1 and 5 years	Metro	20%
5	1991	Male	Transport, Postal and Warehousing	Managers - Specialist Managers	Between 5 and 19	Yes	Couple with no dependent children	More than 5 years	Metro	Less than 10% o
6	1989	Male	Retail Trade	Sales - Sales Support	Between 20 and 199	No	Single person	Between 1 and 5 years	Metro	Less than 10% o
7	1973	Male	Financial and Insurance Services	Clerical and administrative - General Clerical	More than 200	No	Couple with dependent children	More than 5 years	Metro	Rarely or never
8	1992	Male	Manufacturing	Managers - Chief Executives, General Managers an...	Between 5 and 19	Yes	Couple with dependent children	Between 6 and 12 months	Metro	80%
9	1977	Male	Administrative and Support Services	Clerical and administrative - General Clerical	More than 200	No	Single person	More than 5 years	Metro	60%
10	1985	Male	Electricity, Gas, Water and Waste Services	Managers - Specialist Managers	More than 200	No	Group household	More than 5 years	Metro	20%
11	1980	Female	Administrative and Support Services	Clerical and administrative - General Clerical	More than 200	No	Single person	Between 6 and 12 months	Metro	Rarely or never
12	1989	Male	Financial and Insurance Services	Professionals - Business, Human Resource and Mar...	More than 200	No	Couple with no dependent children	More than 5 years	Metro	Rarely or never
13	1994	Female	Financial and Insurance Services	Professionals - Business, Human Resource and Mar...	More than 200	No	Single person	Between 6 and 12 months	Metro	100% - I spent al
14	1970	Female	Professional, Scientific and Technical Services	Managers - Specialist Managers	Between 20 and 199	Yes	Couple with no dependent children	Between 1 and 5 years	Metro	40%
15	1962	Female	Construction	Clerical and administrative - Personal Assistants and...	Between 5 and 19	No	Couple with dependent children	More than 5 years	Metro	40%
16	1959	Male	Health Care and Social Assistance	Professionals - ICT Professionals	More than 200	Yes	Couple with no dependent children	Between 1 and 5 years	Metro	Rarely or never
17	1971	Female	Transport, Postal and Warehousing	Clerical and administrative - Clerical and Office Supp...	Between 1 and 4	No	Couple with no dependent children	More than 5 years	Metro	Rarely or never
18	1960	Male	Financial and Insurance Services	Professionals - Design, Engineering, Science and Tr...	More than 200	Yes	Couple with no dependent children	Between 1 and 5 years	Metro	Less than 10% o

Response_ID	DOB	Gender	Industry	Occupation	Employees_No	Are_You_Manager	Household	Experience	Area	Last_Year_Actual_W
1	1972	Female	Manufacturing	Clerical and administrative - Other Clerical and Ad...	Between 20 and 199	No	Couple with no dependent children	More than 5 years	Regional	Rarely or never
2	1972	Male	Wholesale Trade	Managers - Chief Executives, General Managers a...	Between 1 and 4	Yes	Couple with dependent children	More than 5 years	Metro	20%
3	1982	Male	Electricity, Gas, Water and Waste Services	Managers - Chief Executives, General Managers a...	More than 200	Yes	One parent family with dependent children	More than 5 years	Metro	60%
4	1987	Female	Professional, Scientific and Technical Services	Professionals - ICT Professionals	Between 20 and 199	No	Couple with dependent children	Between 1 and 5 years	Metro	20%
5	1991	Male	Transport, Postal and Warehousing	Managers - Specialist Managers	Between 5 and 19	Yes	Couple with no dependent children	More than 5 years	Metro	Less than 10% of my
6	1989	Male	Retail Trade	Sales - Sales Support	Between 20 and 199	No	Single person	Between 1 and 5 years	Metro	Less than 10% of my
7	1973	Male	Financial and Insurance Services	Clerical and administrative - General Clerical	More than 200	No	Couple with dependent children	More than 5 years	Metro	Rarely or never
8	1992	Male	Manufacturing	Managers - Chief Executives, General Managers a...	Between 5 and 19	Yes	Couple with dependent children	Between 6 and 12 m...	Metro	80%
9	1977	Male	Administrative and Support Services	Clerical and administrative - General Clerical	More than 200	No	Single person	More than 5 years	Metro	60%
10	1985	Male	Electricity, Gas, Water and Waste Services	Managers - Specialist Managers	More than 200	No	Group household	More than 5 years	Metro	20%
11	1980	Female	Administrative and Support Services	Clerical and administrative - General Clerical	More than 200	No	Single person	Between 6 and 12 m...	Metro	Rarely or never
12	1989	Male	Financial and Insurance Services	Professionals - Business, Human Resource and Ma...	More than 200	No	Couple with no dependent children	More than 5 years	Metro	Rarely or never
13	1994	Female	Financial and Insurance Services	Professionals - Business, Human Resource and Ma...	More than 200	No	Single person	Between 6 and 12 m...	Metro	100% - I spent all of n
14	1970	Female	Professional, Scientific and Technical Services	Managers - Specialist Managers	Between 20 and 199	Yes	Couple with no dependent children	Between 1 and 5 years	Metro	40%
15	1962	Female	Construction	Clerical and administrative - Personal Assistants an...	Between 5 and 19	No	Couple with dependent children	More than 5 years	Metro	40%
16	1959	Male	Health Care and Social Assistance	Professionals - ICT Professionals	More than 200	Yes	Couple with no dependent children	Between 1 and 5 years	Metro	Rarely or never
17	1971	Female	Transport, Postal and Warehousing	Clerical and administrative - Clerical and Office Su...	Between 1 and 4	No	Couple with no dependent children	More than 5 years	Metro	Rarely or never
18	1960	Male	Financial and Insurance Services	Professionals - Design, Engineering, Science and ...	More than 200	Yes	Couple with no dependent children	Between 1 and 5 years	Metro	Less than 10% of my

• Handle Null Values:

```
213 ,CASE
214 WHEN [Would_Choose_Remote_Work] = 'Very unlikely' THEN 1
215 WHEN [Would_Choose_Remote_Work] = 'Somewhat unlikely' THEN 2
216 WHEN [Would_Choose_Remote_Work] = 'Neither unlikely or likely' THEN 3
217 WHEN [Would_Choose_Remote_Work] = 'Somewhat likely' THEN 4
218 WHEN [Would_Choose_Remote_Work] = 'Very likely' THEN 5
219 WHEN ISNULL([Would_Choose_Remote_Work], 'NA') = 'NA' THEN 6
220 END [Would_Choose_Remote_Work_Order]
221 ,ROUND(ISNULL([This_Year_PrepareForWorkAndCommuting_At_Workplace_Hours], AVG([This_Year_PrepareForWorkAndCommuting_At_Workplace_Hours]) OVER (), 2)
222 AS [This_Year_PrepareForWorkAndCommuting_At_Workplace_Hours]
223 ,ROUND(ISNULL([This_Year_Work_At_Workplace_Hours], AVG([This_Year_Work_At_Workplace_Hours]) OVER (), 2) AS [This_Year_Work_At_Workplace_Hours]
224 ,ROUND(ISNULL([This_Year_CaringAndResponsibilities_At_Workplace_Hours], AVG([This_Year_CaringAndResponsibilities_At_Workplace_Hours]) OVER (), 2)
225 AS [This_Year_CaringAndResponsibilities_At_Workplace_Hours]
226 ,ROUND(ISNULL([This_Year_PersonalAndFamilyTime_At_Workplace_Hours], AVG([This_Year_PersonalAndFamilyTime_At_Workplace_Hours]) OVER (), 2)
227 AS [This_Year_PersonalAndFamilyTime_At_Workplace_Hours]
228 ,ROUND(ISNULL([This_Year_Sleep_At_Workplace_Hours], AVG([This_Year_Sleep_At_Workplace_Hours]) OVER (), 2) AS [This_Year_Sleep_At_Workplace_Hours]
229 ,ROUND(ISNULL([This_Year_PrepareForWorkAndCommuting_At_Remote_Work_Hours], AVG([This_Year_PrepareForWorkAndCommuting_At_Remote_Work_Hours]) OVER (), 2)
230 AS [This_Year_PrepareForWorkAndCommuting_At_Remote_Work_Hours]
231 ,ROUND(ISNULL([This_Year_Work_At_Remote_Work_Hours], AVG([This_Year_Work_At_Remote_Work_Hours]) OVER (), 2) AS [This_Year_Work_At_Remote_Work_Hours]
232 ,ROUND(ISNULL([This_Year_CaringAndResponsibilities_At_Remote_Work_Hours], AVG([This_Year_CaringAndResponsibilities_At_Remote_Work_Hours]) OVER (), 2)
233 AS [This_Year_CaringAndResponsibilities_At_Remote_Work_Hours]
234 ,ROUND(ISNULL([This_Year_PersonalAndFamilyTime_At_Remote_Work_Hours], AVG([This_Year_PersonalAndFamilyTime_At_Remote_Work_Hours]) OVER (), 2)
235 AS [This_Year_PersonalAndFamilyTime_At_Remote_Work_Hours]
236 ,ROUND(ISNULL([This_Year_Sleep_At_Remote_Work_Hours], AVG([This_Year_Sleep_At_Remote_Work_Hours]) OVER (), 2)
237 AS [This_Year_Sleep_At_Remote_Work_Hours]
238 ,[Has_Negotiate_PayCut_To_Work_Remotely]
239 ,ROUND(ISNULL([Biggest_PayCut_Percentage], AVG([Biggest_PayCut_Percentage]) OVER (), 2)
240 AS [Biggest_PayCut_Percentage]
```


- Standardize Formats:

```
205     ,TRY_CAST(ROUND(CASE WHEN [CaringAndResponsibilities_At_Workplace_Hours] LIKE '%-%' THEN '0'  
206                     ELSE [CaringAndResponsibilities_At_Workplace_Hours]END, 2) AS FLOAT)  
207     [CaringAndResponsibilities_At_Workplace_Hours]
```

- Remove Unlogic Outliers:

```
217 FROM [Project].[dbo].[Original_2020_rws] O  
218 JOIN [Project].[dbo].[Modified_Barriers_2020_rws] B ON O.Response_ID = B.ResponseID  
219 JOIN [Project].[dbo].[Modified_Aspects_2020_rws] A ON O.Response_ID = A.ResponseID  
220 WHERE O.Work_At_Workplace_Hours < 24 AND O.Work_At_Remote_Work_Hours < 24
```

4. Data Transformation

- Create New Columns/Derived Values:

```
194 | ,CASE WHEN [Your_Productivity_Comparison] Like '%more%' OR [Your_Productivity_Comparison] Like '%LESS%'
195 | THEN CONCAT(CASE WHEN [Your_Productivity_Comparison] Like '%more%' THEN 'More Productive By '
196 |             WHEN [Your_Productivity_Comparison] Like '%less%' THEN 'Less Productive By ' END
197 | ,CAST(SUBSTRING([Your_Productivity_Comparison], PATINDEX('%[0-9]%', [Your_Productivity_Comparison]),
198 |             CHARINDEX('%', [Your_Productivity_Comparison]) - PATINDEX('%[0-9]%', [Your_Productivity_Comparison])) AS INT), ' %')
199 |     WHEN [Your_Productivity_Comparison] IS NULL THEN 'Employee Productivity Hasn't Been Submitted'
200 |     ELSE 'Level Of The Productivity Is The Same' END [Your_Productivity_Comparison]
```

• Data Aggregation and arrangement

```

1  --2021
2  WITH BarrierCounts AS (
3      SELECT
4          ResponseID,
5          COUNT(Biggest_Barriers) OVER (PARTITION BY ResponseID, Biggest_Barriers) AS Biggest_Barrier_Count,
6
7          Biggest_Barriers,
8          COUNT(Smallest_Barriers) OVER (PARTITION BY ResponseID, Smallest_Barriers) AS Smallest_Barrier_Count,
9
10         Smallest_Barriers
11     FROM [Project].[dbo].[Original_2021_rws] AS rws
12     CROSS APPLY (VALUES
13         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup1], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup1]),
14         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup2], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup2]),
15         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup3], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup3]),
16         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup4], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup4]),
17         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup5], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup5]),
18         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup6], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup6]),
19         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup7], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup7]),
20         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup8], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup8]),
21         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup9], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup9]),
22         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup10], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup10]),
23         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup11], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup11]),
24         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup12], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup12]),
25         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup13], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup13]),
26         (rws.[Response_ID], rws.[Hybrid_Work_Biggest_Barriers_ChoicesGrpoup14], rws.[Hybrid_Work_Smallest_Barriers_ChoicesGrpoup14])
27     ) AS Barriers (ResponseID, Biggest_Barriers, Smallest_Barriers)
28 )
29 ,RankBarrierCounts AS (
30     SELECT DISTINCT
31         ResponseID,
32         RankBiggestBarrier = RANK() OVER (PARTITION BY ResponseID ORDER BY ResponseID, Biggest_Barrier_Count DESC),
33         Biggest_Barriers = CASE WHEN RANK() OVER (PARTITION BY ResponseID ORDER BY ResponseID, Biggest_Barrier_Count DESC) = 1 THEN Biggest_Barriers END,
34         RankSmallestBarrier = RANK() OVER (PARTITION BY ResponseID ORDER BY ResponseID, Smallest_Barrier_Count DESC),
35         Smallest_Barriers = CASE WHEN RANK() OVER (PARTITION BY ResponseID ORDER BY ResponseID, Smallest_Barrier_Count DESC) = 1 THEN Smallest_Barriers END
36     FROM
37         BarrierCounts
38 )
39 SELECT ResponseID, MIN(RankBiggestBarrier) RankBiggestBarrier, MAX(Biggest_Barriers) Biggest_Barriers,
40         MIN(RankSmallestBarrier) RankSmallestBarrier, MAX(Smallest_Barriers) Smallest_Barriers
41 INTO Modified_Barriers_2021_rws
42 FROM RankBarrierCounts
43 GROUP BY ResponseID

```


5. Data Enrichment

- Add Lookup Tables:

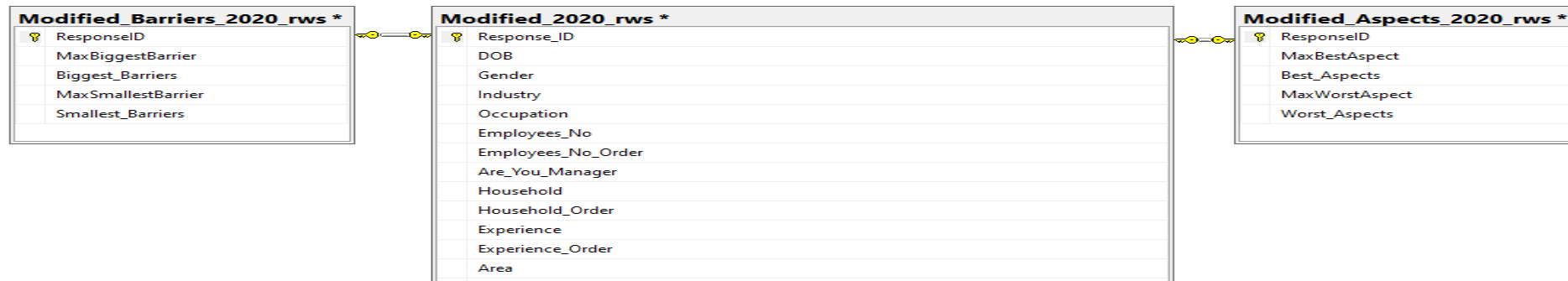
1	SELECT * FROM Original_2020_rws_columns_names
2	SELECT * FROM Original_2021_rws_columns_names
3	
4	

OriginalColumnName	ModifiedColumnName	AnswerType	Position
Response ID	Response_ID	Not Answer	All
What year were you born?	DOB	Fact	All
What is your gender?	Gender	Fact	All
Which of the following best describes your industry?	Industry	Fact	All
Which of the following best describes your current ...	Occupation	Fact	All
How many people are currently employed by your o...	Employees_No	Fact	All
Do you manage people as part of your current occ...	Are_You_Manager	Actual	All
Which of the following best describes your househ...	Household	Fact	All
How long have you been in your current job?	Experience	Fact	All
Metro / Regional	Area	Fact	All
Thinking about your current job, how much of your ...	Last_Year_Actual_Work_Time_Remotely	Actual	Employee
Thinking about remote working last year, how stron...	Last_Year_Has_AgreedTo_Org_Encouraged_Remote_Work	Opinion	Employee
Thinking about remote working last year, how stron...	Last_Year_Has_AgreedTo_Org_Prepared_Remote_Work	Opinion	Employee
Thinking about remote working last year, how stron...	Last_Year_Has_AgreedTo_Employees_UsedTo_Remote_Work	Opinion	Employee
Thinking about remote working last year, how stron...	Last_Year_Has_AgreedTo_Get_Easy_Pemission_Remote_Work	Opinion	Employee
Thinking about remote working last year, how stron...	Last_Year_Has_AgreedTo_Colleagues_Easily_Collaborated_...	Opinion	Employee
Thinking about remote working last year, how stron...	Last_Year_Has_AgreedTo_Would_Recommend_Remote_Work	Opinion	Employee
How much of your time would you have preferred t...	Last_Year_Prefered_Work_Time_Remotely	Preferal	Employee

OriginalColumnName	ModifiedColumnName	AnswerType	Position
Response ID	Response_ID	Not Answer	All
What year were you born?	DOB	Fact	All
What is your gender?	Gender	Fact	All
How long have you been in your current job? If you...	Experience	Fact	All
Which of the following best describes your industry?	Industry	Fact	All
Which of the following best describes your current o...	Occupation	Fact	All
How many people are currently employed by your or...	Employees_No	Fact	All
Which of the following best describes your househo...	Household	Fact	All
Metro or Regional	Area	Fact	All
Thinking about your current job, how much of your ...	Q4_Actual_Work_Time_Remotely	Actual	Employee
How much of your work time would you have prefer...	Q4_Prefered_Work_Time_Remotely	Preferal	Employee
Thinking about your current job, how much of your ...	This_Year_Actual_Work_Time_Remotely	Actual	Employee
How much of your work time would you have prefer...	This_Year_Prefered_Work_Time_Remotely	Preferal	Employee
Imagine that COVID-19 is cured or eradicated. Goi...	Always_Prefered_Work_Time_Remotely	Preferal	Employee
These questions are about the remote working ara...	Has_Remote_Work_Policy_Changed	Actual	Employee
In the past 6 months, have you ever worked part of ...	Past_6Months_Has_Worked_Hybrid_Daily	Actual	Employee
How often do you work this way?	Actual_Work_Hybrid_Daily	Actual	Employee
How often would you like to work this way?	Prefered_Work_Hybrid_Daily	Actual	Employee

6. Data Integrity Checks

- Foreign Key and Referential Integrity:



- Data Validation Rules:

```

205 | ,TRY_CAST(ROUND(CASE WHEN [CaringAndResponsibilities_At_Workplace_Hours] LIKE '%-%' THEN '0'
206 |           ELSE [CaringAndResponsibilities_At_Workplace_Hours]END, 2) AS FLOAT)
207 | [CaringAndResponsibilities_At_Workplace_Hours]
    
```

7. Performance Optimization

- Indexes:

```
1  -- Create index on Response_ID column in Original_2020_rws
2  CREATE INDEX idx_ResponseID_Original_2020_rws
3  ON Original_2020_rws (Response_ID);
4
5  -- Create index on Response_ID column in Modified_Barriers_2020_rws
6  CREATE INDEX idx_ResponseID_Modified_Barriers_2020_rws
7  ON Modified_Barriers_2020_rws (ResponseID);
8
9  -- Create index on Response_ID column in Modified_Aspects_2020_rws
10 CREATE INDEX idx_ResponseID_Modified_Aspects_2020_rws
11 ON Modified_Aspects_2020_rws (ResponseID);
12
13 -- Create index on Response_ID column in Original_2021_rws
14 CREATE INDEX idx_ResponseID_Original_2021_rws
15 ON Original_2021_rws (Response_ID);
16
17 -- Create index on Response_ID column in Modified_Barriers_2021_rws
18 CREATE INDEX idx_ResponseID_Modified_Barriers_2021_rws
19 ON Modified_Barriers_2021_rws (ResponseID);
20
```


Query Optimization:

100 %

```

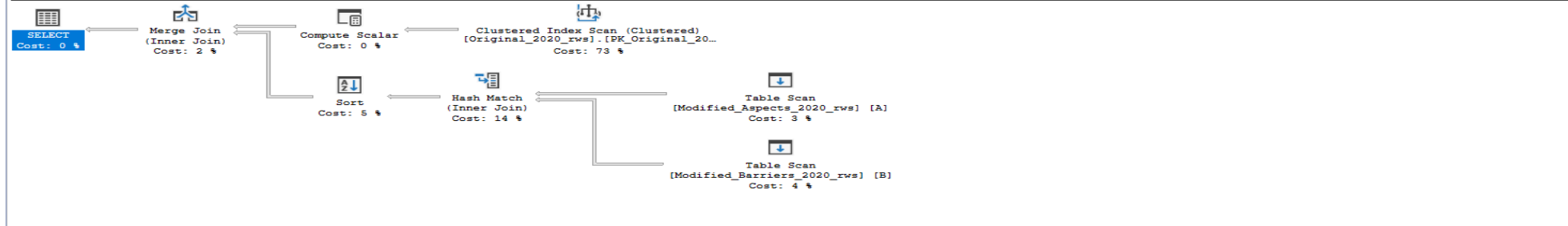
1 SELECT
2   [Response_ID]
3   , [DOB]
4   , [Gender]
5   , [Industry]
6   , [Occupation]
7   , [Employees_No]
8   , CASE
9     WHEN [Employees_No] = 'I am the only employee' THEN 1
10    WHEN [Employees_No] = 'Between 1 and 4' THEN 2
11    WHEN [Employees_No] = 'Between 5 and 19' THEN 3
12    WHEN [Employees_No] = 'Between 20 and 199' THEN 4
13    WHEN [Employees_No] = 'More than 200' THEN 5
14  END [Employees_No_Order]
15   , [Are_You_Manager]
16   , [Household]
17   , CASE
18     WHEN [Household] = 'Single person' THEN 1
19     WHEN [Household] = 'Couple with no dependent children' THEN 2
20     WHEN [Household] = 'One parent family with dependent children' THEN 3
21     WHEN [Household] = 'Couple with dependent children' THEN 4
22     WHEN [Household] = 'Other one family household' THEN 5
23     WHEN [Household] = 'Multiple family household' THEN 6
24     WHEN [Household] = 'Group household' THEN 7
25  END [Household_Order]
26   , [Experience]
27   , CASE

```

Query 1: Query cost (relative to the batch): 100%

SELECT [Response_ID] , [DOB] , [Gender] , [Industry] , [Occupation] , [Employees_No] , CASE WHEN [Employees_No] = 'I am the only employee' THEN 1 WHEN [Employees_No] = 'Between 1...

Missing Index (Impact 17.5585): CREATE NONCLUSTERED INDEX [<Name of Missing Index, sysname,>] ON [dbo].[Modified_Barriers_2020_rws] ([ResponseID]) INCLUDE ([Biggest_Barriers...



8. Create Views/Stored Procedures

```
1  USE [Project]
2  GO
3  /***** Object:  StoredProcedure [dbo].[Create_Appended_2020_2021_RWS_View]
4  SET ANSI_NULLS ON
5  GO
6  SET QUOTED_IDENTIFIER ON
7  GO
8  -- =====
9  -- Author:      Mohammad Hamdy
10 -- Create date:  2024-10-01
11 -- Description:  Creates a view that appends 2020 and 2021 datasets.
12 -- =====
13
14 CREATE OR ALTER PROC [dbo].[Create_Appended_2020_2021_RWS_View]
15 AS
16 BEGIN
17     -- Start a transaction
18     BEGIN TRY
19         BEGIN TRANSACTION;
20
```

```
21 -- Drop the view if it already exists
22 IF OBJECT_ID('dbo.Appended_2020_2021_RWS', 'V') IS NOT NULL
23 BEGIN
24     DROP VIEW dbo.Appended_2020_2021_RWS;
25 END
26 -- Dynamic SQL for creating the view
27 DECLARE @sql NVARCHAR(MAX);
28 SET @sql = N'
29 CREATE VIEW dbo.Appended_2020_2021_RWS AS
30 SELECT
31     ID = ROW_NUMBER() OVER (ORDER BY Response_ID),
32     Response_ID,
33     DOB,
34     Gender,
35     Industry,
36     Occupation,
37     Employees_No,
38     Employees_No_Order,
39     Are_You_Manager,
40     Household,
41     Household_Order,
42     Experience,
43     Experience_Order,
44     Area,
45     Last_Year_Actual_Work_Time_Remotely AS Actual_Work_Time_Remotely,
46     Last_Year_Preferred_Work_Time_Remotely AS Preferred_Work_Time_Remotely,
47     Always_Preferred_Work_Time_Remotely,
48     Would_Employer_Encourage_Remote_Work,
49     Would_Employer_Encourage_Remote_Work_Order,
50     Would_Employer_Support_Remote_Work,
51     Would_Employer_Support_Remote_Work_Order,
52     Would_Choose_Remote_Work,
53     Would_Choose_Remote_Work_Order,
54     Your_Productivity_Comparison,
55     PrepareForWorkAndCommuting_At_Workplace_Hours,
56     Work_At_Workplace_Hours,
57     PersonalAndFamilyTime_At_Workplace_Hours,
58     CaringAndResponsibilities_At_Workplace_Hours,
59     PrepareForWorkAndCommuting_At_Remote_Work_Hours,
60     Work_At_Remote_Work_Hours,
61     PersonalAndFamilyTime_At_Remote_Work_Hours,
62     CaringAndResponsibilities_At_Remote_Work_Hours,
63     Biggest_Barriers,
64     Smallest_Barriers,
65     ''2020'' AS Year
66 FROM Modified_2020_rws
67 UNION ALL
68 SELECT
69     ROW_NUMBER() OVER (ORDER BY Response_ID) + (SELECT COUNT(*) FROM Modified_2020_rws) AS ID,
```


9. Export Dataset for Tableau

SQL Server Import and Export Wizard

Configure Flat File Destination

Source table or view: [dbo].[Modified_2020_nws]

Specify the characters that delimit the destination file:

Row delimiter: [CSV] [TAB] [CRLF]

Column delimiter: [Comma (,)] [Tab] [Semicolon (;)] [Space] [Other]

Edit Mappings... Preview...

Preview Data

Source: SELECT * FROM [dbo].[Modified_2020_nws]

Response_ID	DOB	Gender	Industry	Occupation	Employees_No	Employees_No_Order	Are_You_Manager	Household	Household_Order	Experience	Experience_Order	Area	Last_Year_Actual_Work_Time_Rem
1	1972	Female	Manufacturing	Clerical and administrative - Other Clerical and Administrative	Between 20 and 199	4	No	Couple with no dependent children	2	More than 5 years	3	Regional	0% - Rarely or never
2	1972	Male	Wholesale Trade	Managers - Chief Executives, General Managers and Legislators	Between 1 and 4	2	Yes	Couple with dependent children	4	More than 5 years	3	Metro	20%
3	1982	Male	Electricity, Gas, Water and Waste Services	Managers - Chief Executives, General Managers and Legislators	More than 200	5	Yes	One parent family with dependent children	3	More than 5 years	3	Metro	60%
4	1987	Female	Professional, Scientific and Technical Services	Professionals - ICT Professionals	Between 20 and 199	4	No	Couple with dependent children	4	Between 1 and 5 years	2	Metro	20%
5	1991	Male	Transport, Postal and Warehousing	Managers - Specialist Managers	Between 5 and 19	3	Yes	Couple with no dependent children	2	More than 5 years	3	Metro	1% - 9% - Less than 10% of my time
6	1989	Male	Retail Trade	Sales - Sales Support	Between 20 and 199	4	No	Single person	1	Between 1 and 5 years	2	Metro	1% - 9% - Less than 10% of my time
7	1973	Male	Financial and Insurance Services	Clerical and administrative - General Clerical	More than 200	5	No	Couple with dependent children	4	More than 5 years	3	Metro	0% - Rarely or never
8	1992	Male	Manufacturing	Managers - Chief Executives, General Managers and Legislators	Between 5 and 19	3	Yes	Couple with dependent children	4	Between 6 and 12 months	1	Metro	80%
9	1977	Male	Administrative and Support Services	Clerical and administrative - General Clerical	More than 200	5	No	Single person	1	More than 5 years	3	Metro	60%
10	1985	Male	Electricity, Gas, Water and Waste Services	Managers - Specialist Managers	More than 200	5	No	Group household	7	More than 5 years	3	Metro	20%
11	1980	Female	Administrative and Support Services	Clerical and administrative - General Clerical	More than 200	5	No	Single person	1	Between 6 and 12 months	1	Metro	0% - Rarely or never
12	1989	Male	Financial and Insurance Services	Professionals - Business, Human Resource and Marketing Professionals	More than 200	5	No	Couple with no dependent children	2	More than 5 years	3	Metro	0% - Rarely or never
13	1994	Female	Financial and Insurance Services	Professionals - Business, Human Resource and Marketing Professionals	More than 200	5	No	Single person	1	Between 6 and 12 months	1	Metro	100% - I spent all of my time remote v
14	1970	Female	Professional, Scientific and Technical Services	Managers - Specialist Managers	Between 20 and 199	4	Yes	Couple with no dependent children	2	Between 1 and 5 years	2	Metro	40%
15	1962	Female	Construction	Clerical and administrative - Personal Assistants and Secretaries	Between 5 and 19	3	No	Couple with dependent children	4	More than 5 years	3	Metro	40%
16	1959	Male	Health Care and Social Assistance	Professionals - ICT Professionals	More than 200	5	Yes	Couple with no dependent children	2	Between 1 and 5 years	2	Metro	0% - Rarely or never

OK

Help < Back Next > Finish >> Cancel

Design the Dashboard Using Tableau



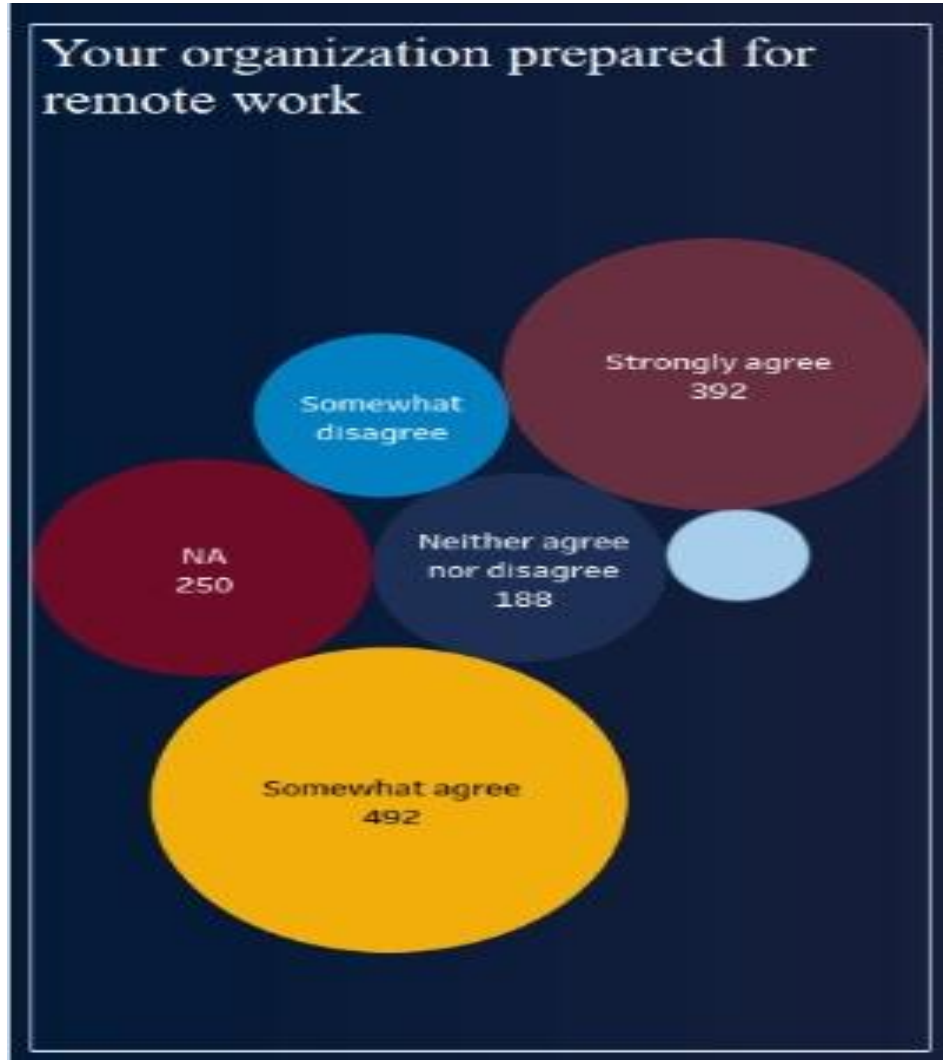
+ a b l e a u[®]



Approval for Remote Work:

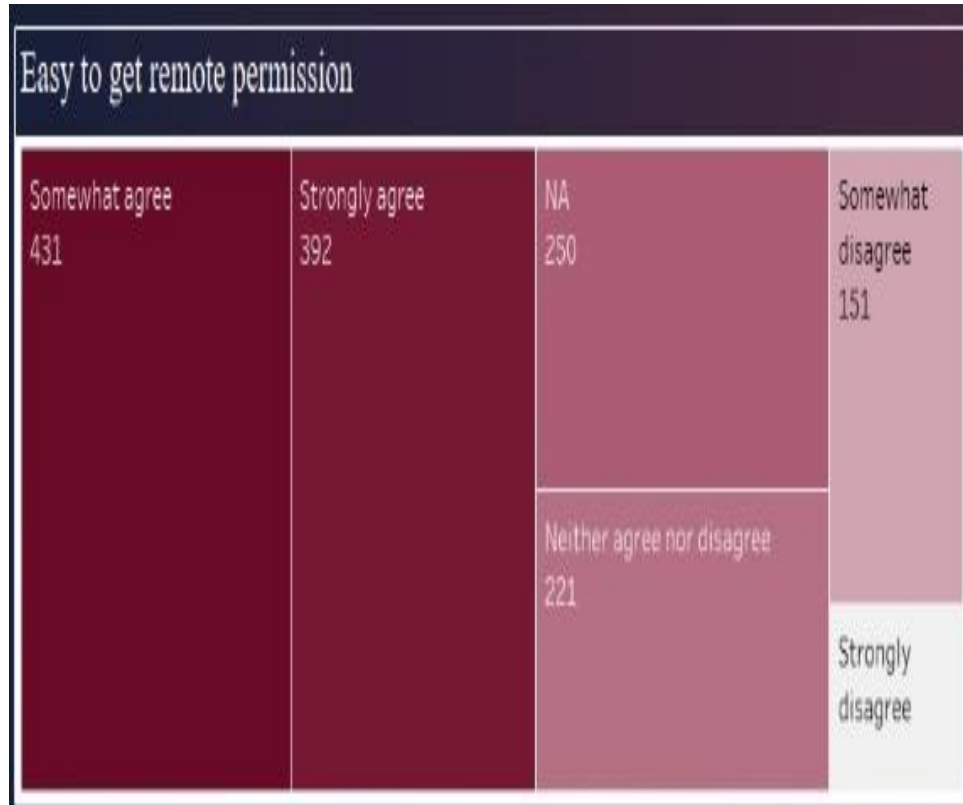


Organization Preparedness for Remote Work:



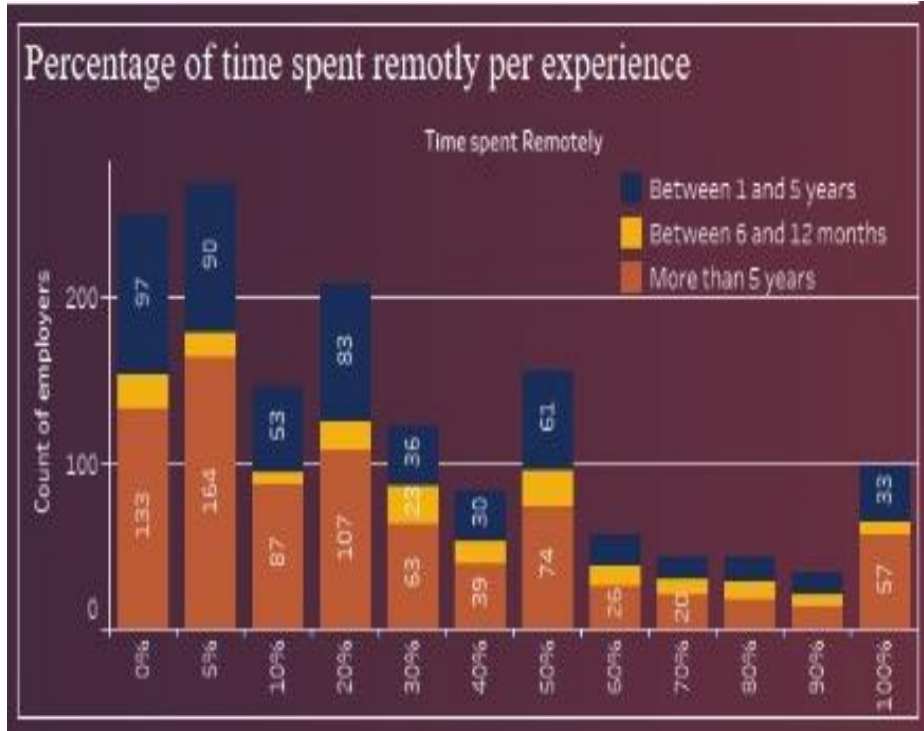
- Strongly Agree (392) and Somewhat Agree (492) make up the majority, indicating that many respondents believe their organization is prepared for remote work.
- A smaller portion of the respondents are either neutral (188) or believe their organization is not prepared (Somewhat Disagree: 250).
- **Insight:** The majority of the surveyed employees feel their organizations are prepared for remote work, but there is a notable group that remains neutral or disagrees, suggesting room for improvement in organizational preparedness.

Ease of Getting Remote Work Permission:



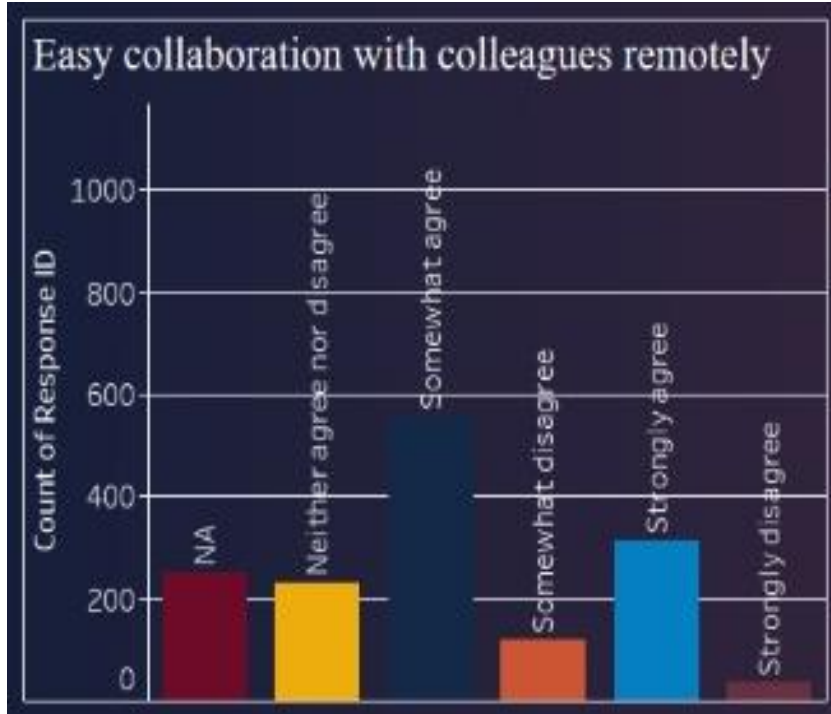
- A large portion of respondents either Somewhat Agree (431) or Strongly Agree (392) that it's easy to get permission for remote work.
- Fewer respondents expressed neutral views (221) or disagreed (Somewhat Disagree: 151, Strongly Disagree: a small percentage).
- **Insight:** Most employees find it relatively easy to get remote work permission, although some struggle with obtaining it, indicating possible inconsistencies in company policies or management practices.

Percentage of Time Spent Remotely by Experience:



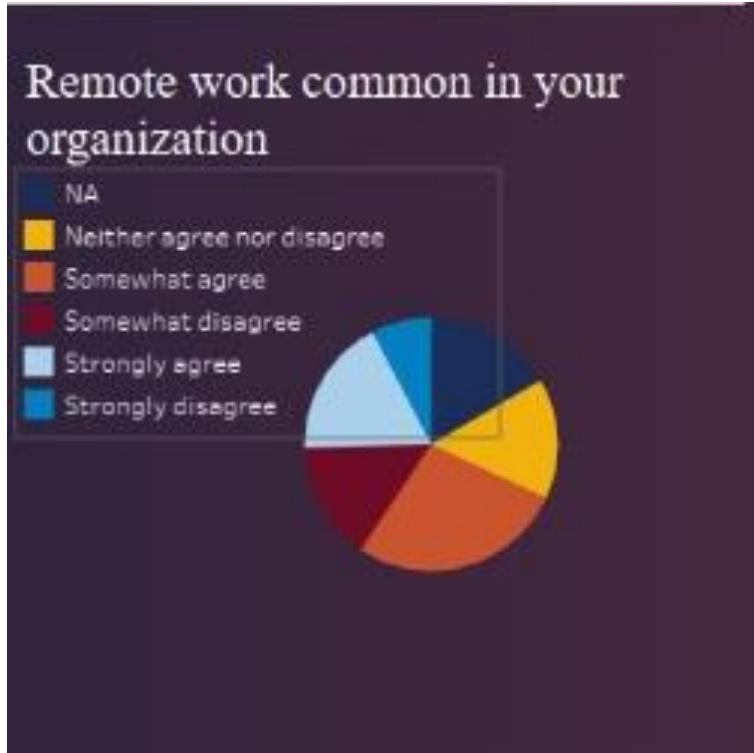
- Employees with 1-5 years of experience are more likely to work 100% remotely compared to those with more than 5 years of experience.
- There's a strong presence of newer employees (1-5 years) in the high remote work percentages (80%-100%), indicating that remote work is more common among less experienced employees.
- **Insight:** More experienced employees (5+ years) are distributed across lower percentages of remote work, suggesting they may either prefer hybrid models or have roles that require more in-office time.

Ease of Collaboration with Colleagues Remotely:



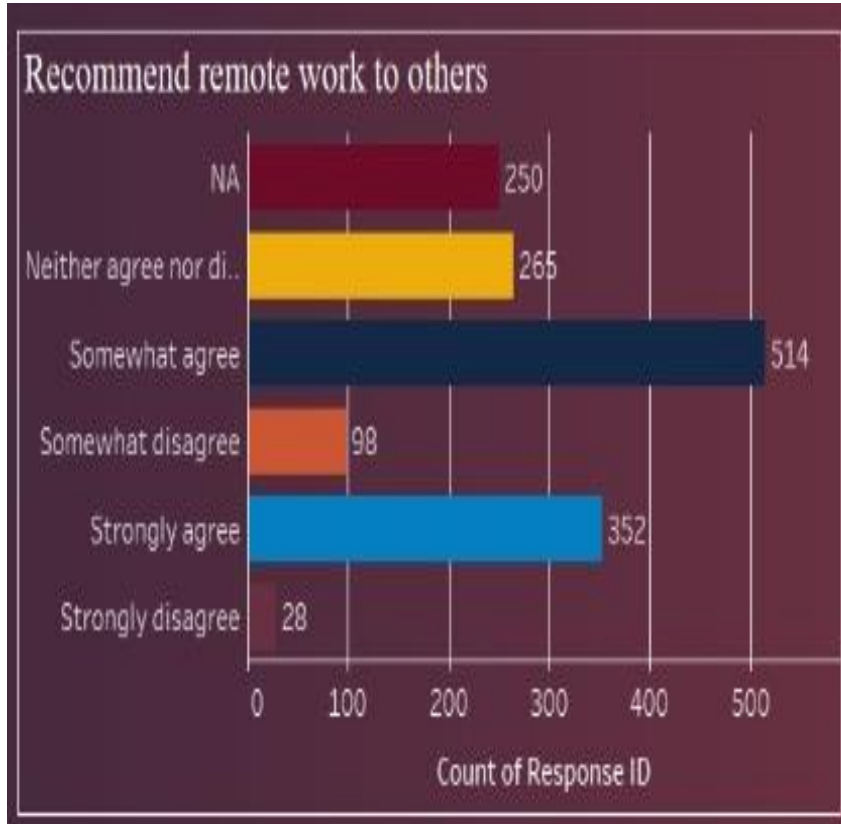
- A significant number of respondents find collaboration somewhat easy (strong agreement: 392), but there are still a few who disagree.
- **Insight:** Collaboration during remote work is generally perceived as positive, but for some employees, it remains a challenge, indicating a need for better tools or practices to support remote teamwork.

Remote Work Commonality in the Organization:



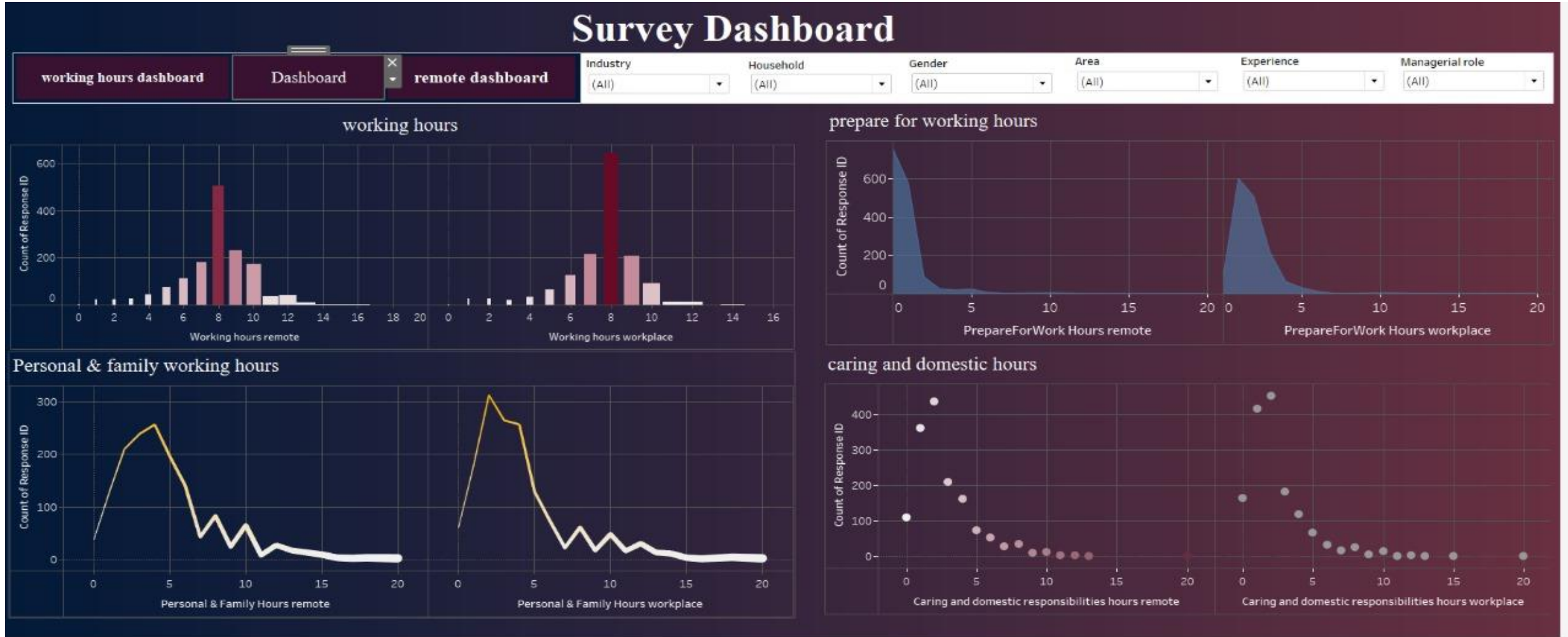
- Strongly Agree (392) and Somewhat Agree (492) dominate, showing that remote work is becoming common in these organizations.
- **Insight:** The trend of remote work is increasingly normalized across organizations, although some employees still report that it's not as prevalent, possibly in more traditional sectors.

Recommendation of Remote Work to Others:

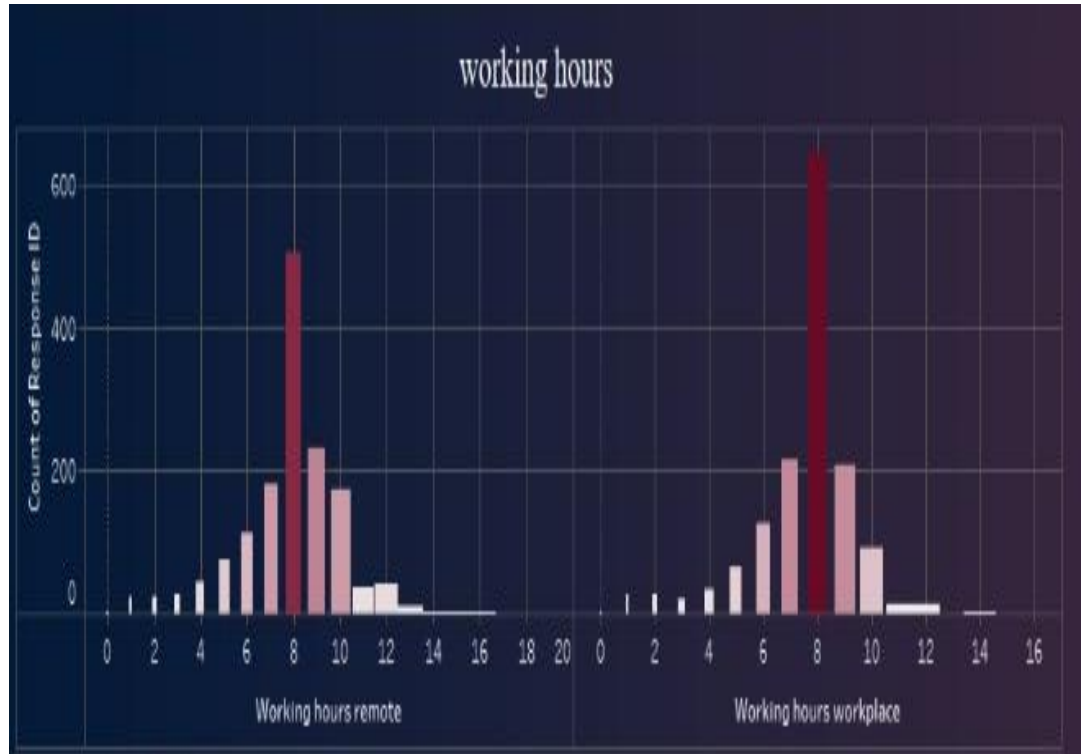


- The highest count comes from those who Somewhat Agree (514) and Strongly Agree (352) with recommending remote work to others.
- A smaller group disagrees (Somewhat Disagree: 98, Strongly Disagree: 28).
- **Insight:** Most employees are likely to recommend remote work to others, indicating general satisfaction, though a small group remains unsatisfied.

Remote Working hours VS workplace



Working Hours (Remote vs. Workplace):



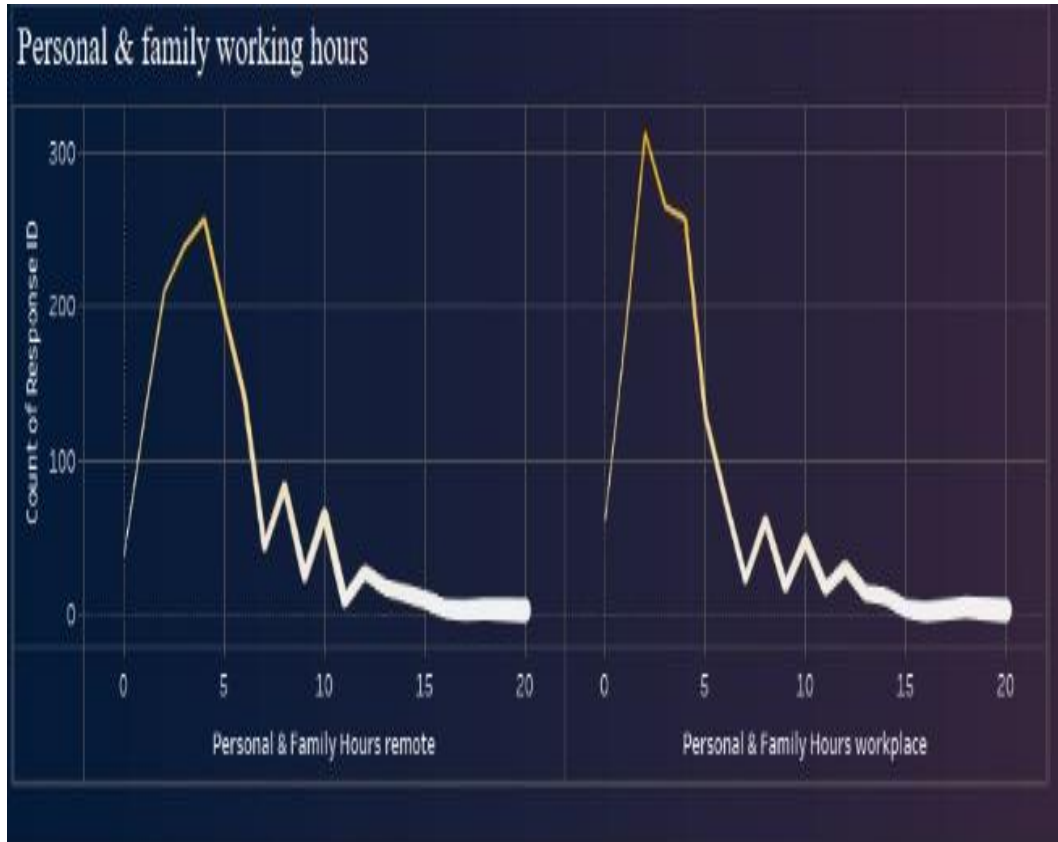
- **Remote Working Hours:**

- The most common working hours remotely seem to be concentrated around 8 hours per day, with a peak at this value.
- There's also a distribution of people working fewer hours remotely (around 6-7 hours), but the majority still works 8 hours remotely.

- **Workplace Working Hours:**

- A similar pattern is seen for on-site (workplace) working hours, where the majority of employees report working 8 hours in the workplace.
- There's a slight spread to longer and shorter hours, but 8 hours seems to be the standard in both remote and workplace setups.

Personal & Family Working Hours (Remote vs. Workplace):



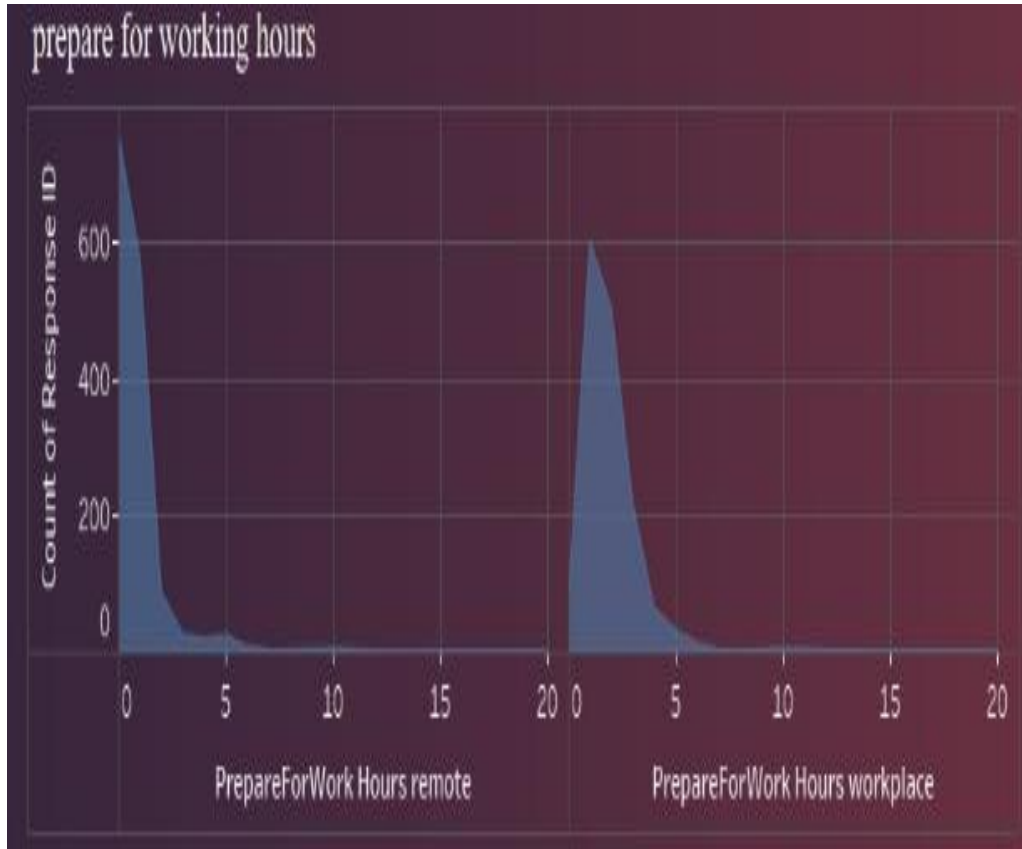
• Remote:

- A significant number of people dedicate 3 to 5 hours to personal and family responsibilities while working remotely.
- The curve drops after this, indicating fewer people spend over 6-7 hours on family-related tasks while working remotely.

• Workplace:

- For those working on-site, the number of personal and family hours is considerably lower, with most people spending 1 to 2 hours during workdays. The distribution also drops sharply after that.

Preparing for Working Hours (Remote vs. Workplace):



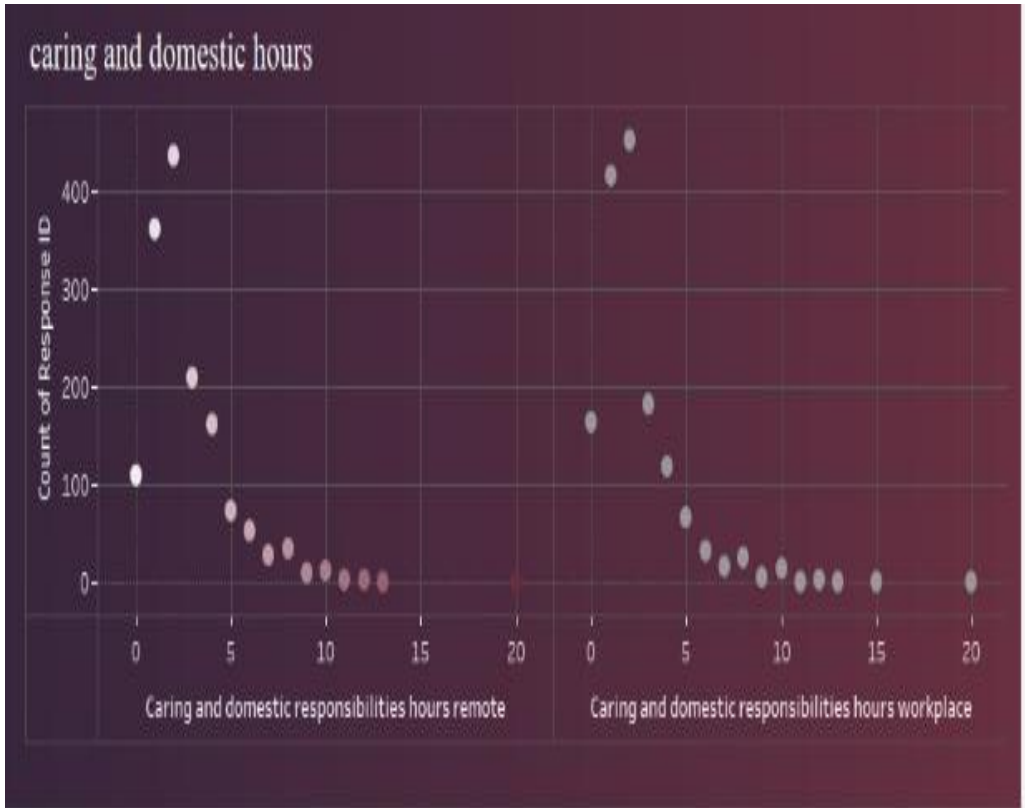
- **Remote:**

- Most people spend very little time preparing for remote working hours. The graph shows a peak around 1 hour or less.

- **Workplace:**

- For on-site work, the preparation time is more spread, with a notable peak around 1-2 hours, reflecting more time spent commuting or getting ready for the workplace compared to remote work.

Caring and Domestic Responsibilities (Remote vs. Workplace):



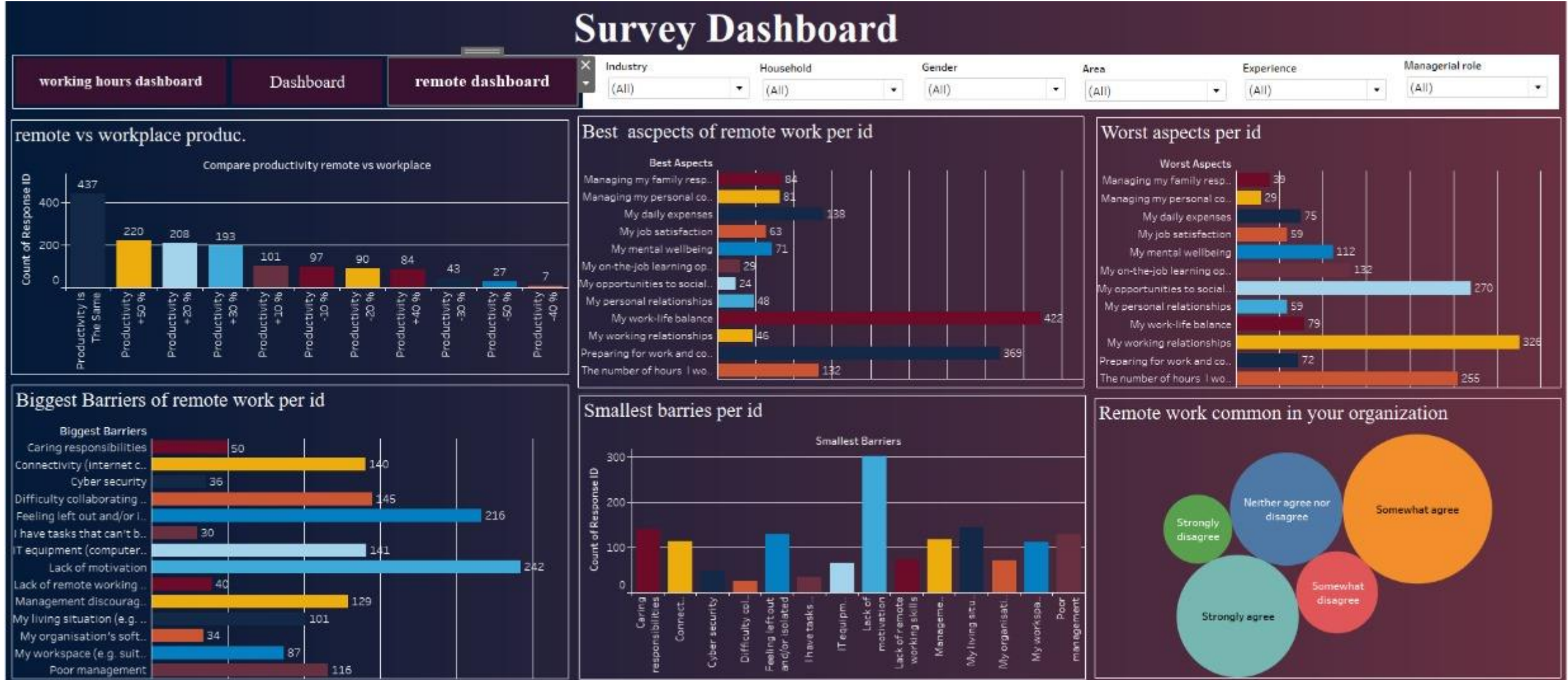
- **Remote:**

- Employees working remotely spend more time on caring and domestic responsibilities, with a notable spread up to 20 hours in some cases, but most responses fall around 1-5 hours.

- **Workplace:**

- In the workplace setting, the time spent on these responsibilities is much lower, concentrated mostly in the 0-3 hour range, indicating that domestic tasks are much less of a focus during traditional on-site workdays.

Productivity in Remote vs Workplace

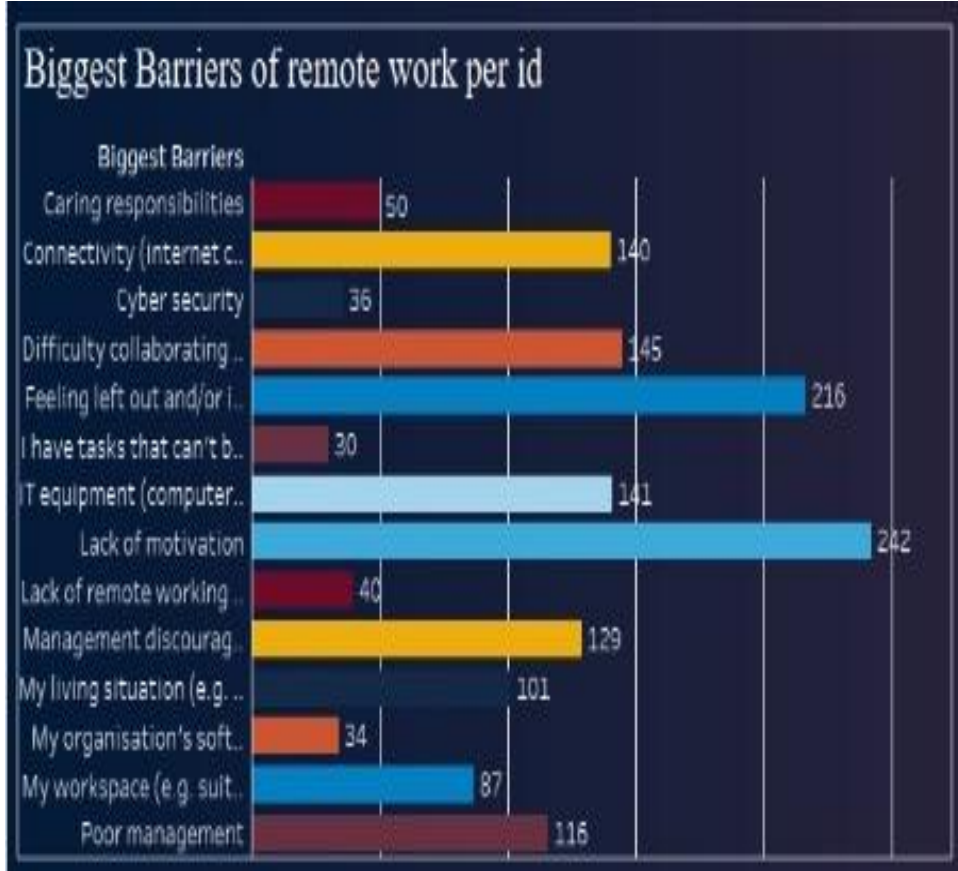


Comparison of Productivity in Remote vs Workplace Settings:



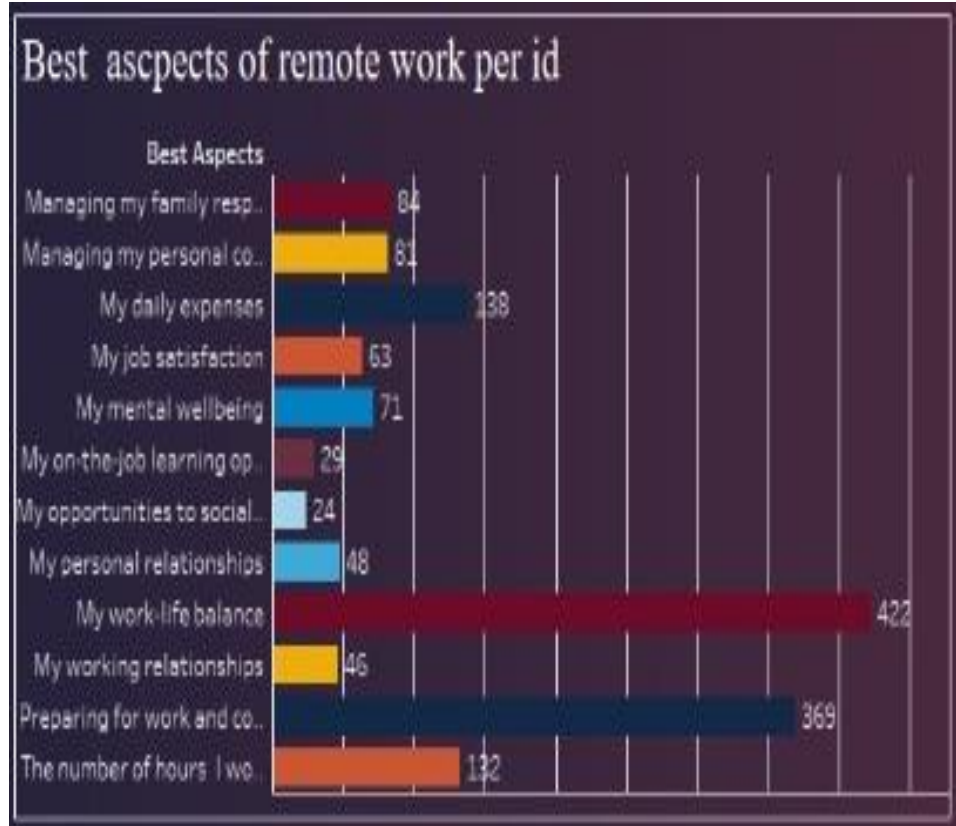
- A significant number of respondents (437) indicated that their productivity is about the same when working remotely as in the workplace.
- However, 220 respondents reported being 10-30% more productive remotely, followed by 208 respondents who felt 10-30% less productive remotely.
- **Insight:** Fewer respondents reported extreme productivity differences, whether positive or negative, suggesting that most workers find a slight productivity change when working remotely.

Biggest Barriers to Remote Work:



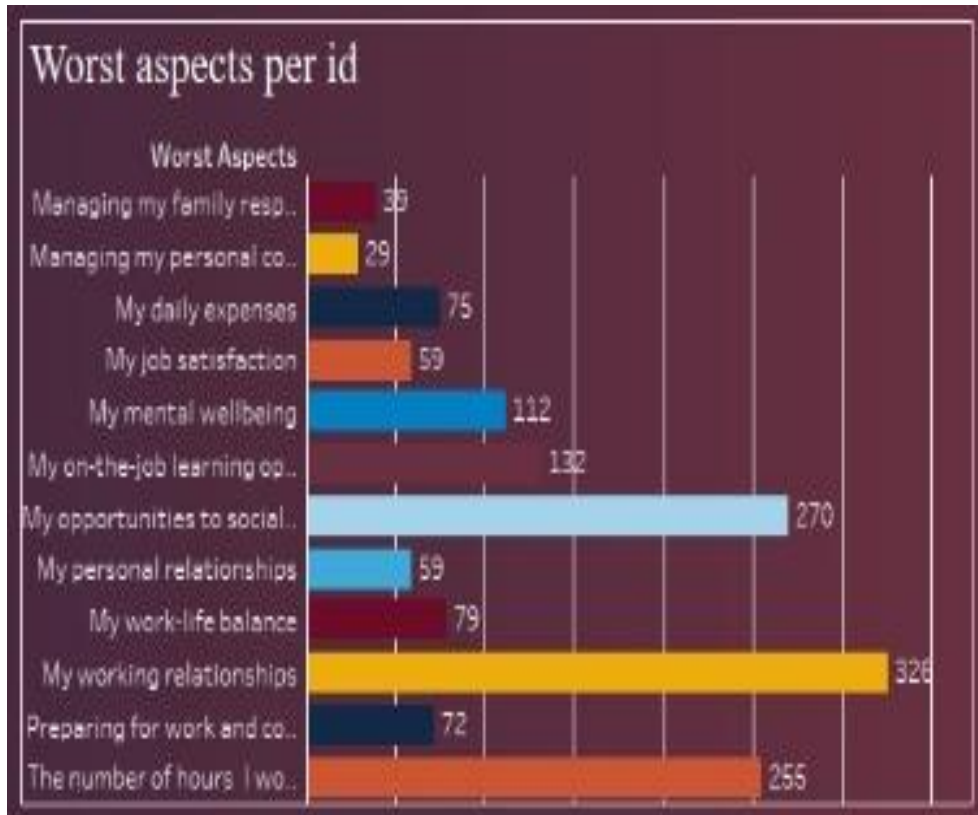
- Caring responsibilities (216 respondents) and connectivity issues (145 respondents) are highlighted as the top barriers to remote work.
- Other prominent barriers include difficulty collaborating (122 respondents) and challenges with IT equipment (121 respondents).
- Management discouraging remote work (116 respondents) and workspace issues are also notable barriers, emphasizing challenges related to both personal and organizational factors.

Best Aspects of Remote Work:



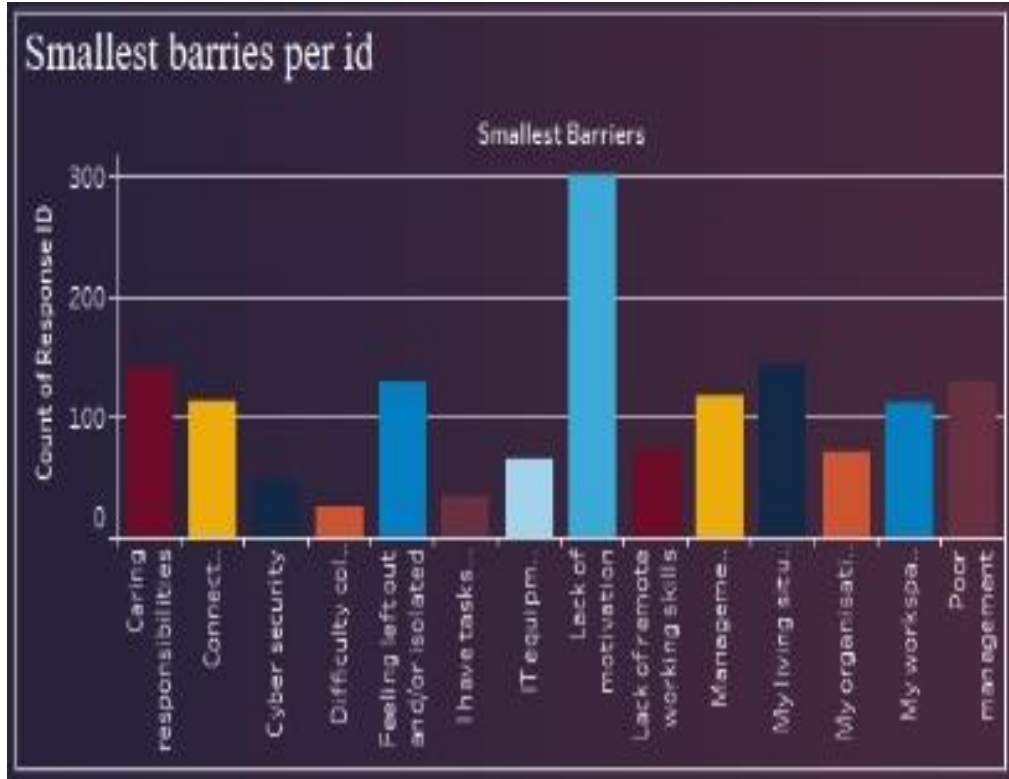
- **Work-life balance (422 respondents) is overwhelmingly seen as the best aspect of remote work.**
- **Other key positive aspects include preparing for work and commuting less (365 respondents), and better personal relationships (48 respondents), indicating the lifestyle benefits remote work offers.**
- **Additionally, mental well-being and job satisfaction are highlighted by a smaller portion of respondents, showing that remote work positively affects certain personal factors.**

Worst Aspects of Remote Work:



- While work-life balance is viewed positively, 270 respondents struggle with opportunities to socialize, making this the most commonly reported negative aspect.
- Work-life balance can also be a challenge for 79 respondents, likely indicating a need for better boundary management.
- Mental well-being (132 respondents) and preparing for work/commute (255 respondents) also appear in the "worst" list, showing that some remote workers face challenges despite the benefits.

Smallest Barriers to Remote Work:



- Caring responsibilities and cybersecurity issues are seen as the smallest barriers, indicating they are less problematic for many respondents.
- The results indicate there is less concern about feeling left out and tasks that cannot be done remotely, with fewer respondents viewing these as significant barriers.

Remote Work Perception in Organizations:



- A significant portion of respondents somewhat agree that remote work is common in their organization, followed by strong agreement.
- This distribution suggests that while remote work is present, there is still some variance in its adoption across organizations.

Thank
you