WORK PRODUCTIVITY & INFLUENCING FACTORS REPORT

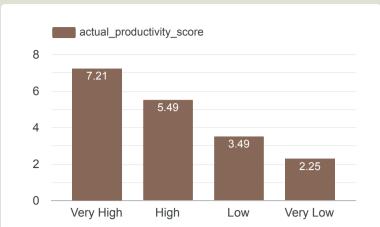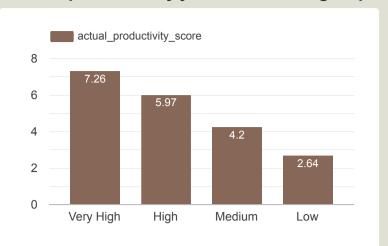| Record count	Prd score	Prd score	Prediction error
Tổng	Avg - actual	Avg - predicted	Avg - error
30,000	4.95	4.95	0.26

Key Drivers of Productivity

***Note:- Prd score = Productivity score / - Avg = Average
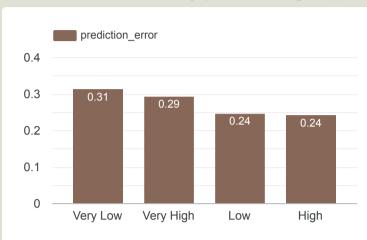
Actual prd score by perceived group

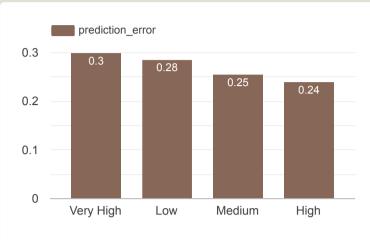### Actual prd score by job satisfaction group

* Productivity score increases significantly as perceived productivity / job satisfaction rises.

Prediction error by perceived group

Prediction error by job satisfaction group

* Prediction error tends to decreases as perceived productivity and job satisfaction increase, indicating the model is more reliable for more engaged and satisfied employees.

Distribution & Extreme Cases

Social media group

	Group	Avg actual ▾	% Very high	% Very low	Record
1.	<1h	4.99	3.59%	3.59%	4,399
2.	3-5h	4.96	3.76%	3.76%	12,136
3.	1-3h	4.94	3.5%	3.5%	9,082
4.	>5h	4.92	3.58%	3.58%	4,383

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Sleep group

	Group	Avg actual	% Very high	% Very low	Record ▾
1.	<6h	4.96	3.6%	17.28%	10,103
2.	6-7h	4.96	3.74%	17.28%	9,757
3.	7-8h	4.95	3.59%	18.09%	5,854
4.	>8h	4.92	3.5%	18.48%	4,286

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Stress group

	Group	Avg actual	% Very high	% Very low	Record ▾
1.	Medium	4.96	3.71%	17.86%	13,198
2.	High	4.95	3.69%	17.41%	8,436
3.	Low	4.95	3.45%	17.42%	8,366

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* Across all key behavioral groups—social media usage, sleep duration, and stress level—the average productivity score and the proportions of both extremely high (>8) and extremely low (<3) productivity are nearly identical. No group stands out as having a notably higher risk of very low productivity or a greater chance of exceptional productivity. This suggests that, within this dataset, these behavioral factors do not strongly differentiate productivity extremes.

Prediction Error Analysis by Group

	social_media_group	Avg actual prd score	Avg error	% error > 0.5	% error > 1 ▾	Max error	Record Count
1.	1-3h	4.94	0.26	13.15%	3.13%	3.37	9,082
2.	<1h	4.99	0.26	12.87%	3.02%	2.86	4,399
3.	3-5h	4.96	0.25	12.38%	2.88%	3.7	12,136
4.	>5h	4.92	0.25	12.87%	2.69%	3.37	4,383

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	sleep_group	Avg actual prd score	Avg error	% error > 0.5	% error > 1 ▾	Max error	Record Count
1.	>8h	4.92	0.26	12.6%	3.22%	3.44	4,286
2.	<6h	4.96	0.26	13.68%	3.05%	3.7	10,103
3.	6-7h	4.96	0.25	12.18%	2.86%	3.32	9,757
4.	7-8h	4.95	0.25	12.25%	2.72%	3.16	5,854

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	stress_level_group	Avg actual prd score	Avg error	% error > 0.5	% error > 1 ▾	Max error	Record Count
1.	Low	4.95	0.26	13.2%	3.22%	3.7	8,366
2.	Medium	4.96	0.26	12.55%	2.86%	3.44	13,198
3.	High	4.95	0.26	12.64%	2.81%	3.37	8,436

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(Cells in red highlight groups with the highest model prediction outlier rates (>13%), indicating where productivity predictions are less reliable and further review may be needed.)

*The model's prediction error rates (outlier rates >0.5) are similar across all behavioral groups, ranging from 12% to 13.7%. No single group stands out with notably higher or lower error rates, indicating the model performs consistently regardless of social media usage, sleep duration, or stress level. Groups with slightly higher outlier rates are highlighted for potential further review, but the differences remain minor.

Key Insights & Recommendations:

- Productivity scores and prediction errors are highly consistent across behavioral groups, indicating that factors like social media usage, sleep, and stress level have limited impact on extreme productivity outcomes in this dataset.

- Perceived productivity and job satisfaction remain the strongest drivers of actual productivity.

- Focus on employee engagement, satisfaction, and motivation to enhance productivity.

- Consider enriching data and models with additional contextual factors for future analysis.