# Celerium Employee Satisfaction Project

Research Project Question and Goals:

1. What are the top three factors that affect employee satisfaction in Celerium? How do those factors work/affect employee satisfaction?

2. Who are the employees that are least satisfied in Celerium?

3. How does salary play a role in employee satisfaction in Celerium?

SMART Goal: Increase employee satisfaction by 10%, 6 months after policy change. So, the solution will have to be a policy, or policy-like, with the goal in mind.

Percentage of people grouped by dept with their reported satisfaction level
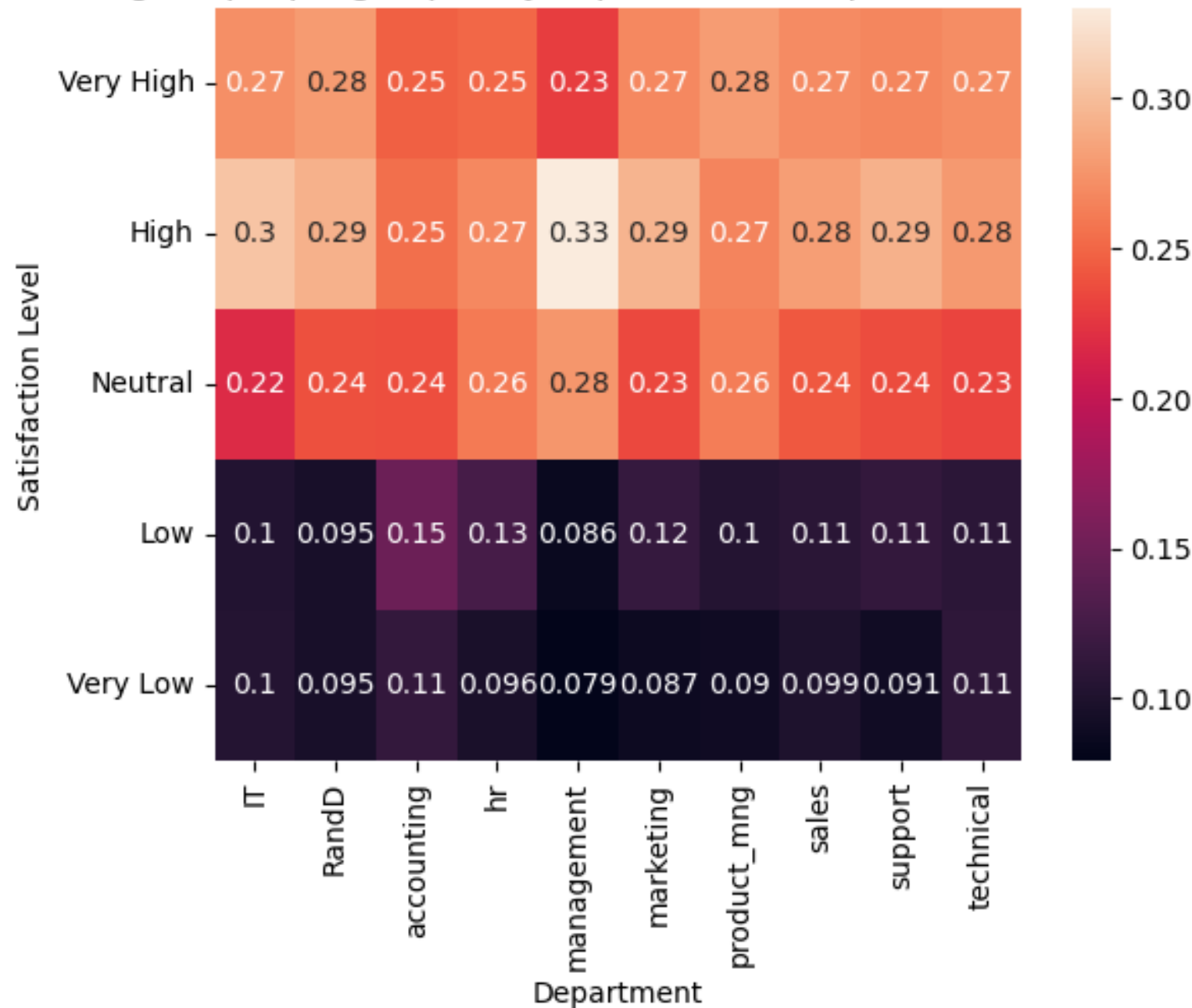
Who are the employees that are least satisfied in Celerium?

From the heatmap on the left, divisions have more satisfied employees than not-satisfied employees. If we look for the divisions which has the highest percentage of not-satisfied people, that would be Accounting (26% on low and very low satisfaction level), HR (22.96% on low and very low satisfaction level), Technical (22% on low and very low satisfaction level), and marketing (20.87% on low and very low satisfaction level).

Number of Projects

Number of projects handled at one time the is seen to be negatively impacting satisfaction. People with 2-3 generally report neutral and higher satisfaction level while those with 4 and 5 projects generally reports high and very high satisfaction level. Starting from 6, however, most employees reports low and very low satisfaction level, even more contrast in those handling 7 projects at once.

Too much projects makes employee not satisfied. The more projects there are the less the satisfaction level. There's too much for the brain to juggle and it gets people frustrated. Overwork and lack of time for other activities causes dis-satisfaction (Fabian and Breunig, 2019)

Number of Project to Satisfaction Level

| | Number Project Binned | | | | |
Satisfaction Level Binned	2-3 Projects	4 Projects	5 Projects	6 Projects	7 Projects
Very High	1,428	1,493	998	83	
High	1,686	1,557	922	102	1
Neutral	2,107	950	447	97	4
Low	1,097	207	186	146	10
Very Low	125	158	208	746	241

Policy Advice

Number of Project

We advise a simple policy where an employees are not allowed to handle more than 5 projects at one time. If it does happen, employees' supervisor can get fines for not managing to handle projects accordingly. Employees' supervisor should then have a consulting session with their supervisor and HR to talk about why the projects were not handled accordingly to the point of overworking employees, and how to best solve it.

Average Monthly Working Hour on Satisfaction Level

Satisfaction Level Binned	Average Monthly Hours Binned				
	Low	A Bit Low/Right	A Bit High	High	Very High
Very High	233	1,022	1,059	1,434	254
High	304	1,182	1,113	1,389	280
Neutral	569	1,355	779	709	193
Low	445	742	218	150	91
Very Low	50	154	171	464	639

Name	Monthly Average Working Hour Range	Average Work Hours per Day
Low	96-138	5 – 6 hours
A Bit Low/Right	138-181	7 – 8 hours
A Bit High	181-224	8 hrs. + 1-2 hrs. overtime
High	224-267	8 hrs. + 3-4 hrs. overtime
Very High	267-310	8 hrs. + 5-6 hrs. overtime

Top 3 factors of employee satisfaction

Average Working Hour

As Celerium works on 8 hours a day, 5 days a week, the normal working hour should be at 'A bit low/right' grouping, as specified by the table. We can see that most of those people reported that they are mostly neutral or satisfied with their work. Engagement (Vorina et al. 2017) is seen in play here as those with low work hours mostly reported neutral and low satisfaction level, and the employees with higher work hours are majority satisfied and very satisfied with their work.

However, when it comes to very high grouping of work hours, where the work hours falls into 13-14 hours a day on average, the employees having those work hours mostly reported very low satisfaction level. We conclude that, in Celerium, work hours are a positive factor of employee satisfaction as it is a factor of engagement, but it is also a detriment to employee satisfaction when there's too much overtime (Ko and Jin, 2018) (Fabian and Breunig, 2019).

Average Working Hours

We advise a policy that bans too much overtime work. So, the policy would ban people from working more than 267.2 hours each month, which is around 4 hours of overwork each working day.

If employee/s work more than that hour in a month, they'll get either fines or get a consulting session with their superior and/or HR to talk about their time management and workload. The fine should be heavy. The overtime can be measured by the clock-in clock-out time difference.

Promotion

Promotion in the last 5 years (0 means not promoted, 1 means is promoted) data shows that most of Celerium's employees are not promoted, less than one percent is promoted. This should be improved as those that have been promoted typically report higher satisfaction level than those who has not gotten a promotion.

Promotion has been known to be a positive factor to employee satisfaction (Bhardwaj et al., 2021) as employees feel that their efforts lead to something, that they achieved, that they're appreciated, and hence they can get more satisfaction from their work.

Promotion on Satisfaction Level

Satisfactio..	Promotion Last 5Ye...	
	0	1
Very High	3,911	91
High	4,171	97
Neutral	3,509	96
Low	1,626	20
Very Low	1,463	15

Policy Advice

Promotion

We advise Celerium to promote more of their employee, or, in other words, do internal hiring for empty higher-up positions as it has been shown they get more satisfaction with their work since their promotion.

How does salary play a role in employee satisfaction in Celerium?

Salary on Satisfaction Level

Satisfactio..	Salary		
	low	medium	high
Very High	1,925	1,757	320
High	1,970	1,888	410
Neutral	1,727	1,563	315
Low	886	648	112
Very Low	808	590	80

Based on client's initial research, there are cases where companies' employees are more concerned about their wellbeing, happiness, family, and other things compared to salary.

From the heatmap visualization, there's not much difference between groups of low, medium, high, but one thing to note is that in high-salaried employees, more reported high satisfaction and less on low satisfaction. Therefore, we conclude that salaey still plays a role in Celereium employees' satisfaction.

To summarize…

- Top 3 factors of employee satisfaction in Celerium:
    - Number of projects handled at the same time
    - Working hours
    - Promotion
    - Advice: Make a policy that bans too much projects handled and put concern into overworking. Do more internal recruitment for higher up position.

- The least satisfied parties (in order, least satisfied first): Accounting, HR, Technical, Marketing. The cause of low satisfaction needs to be investigated further.

- Salary seen to still play a role in employee satisfaction in Celerium.
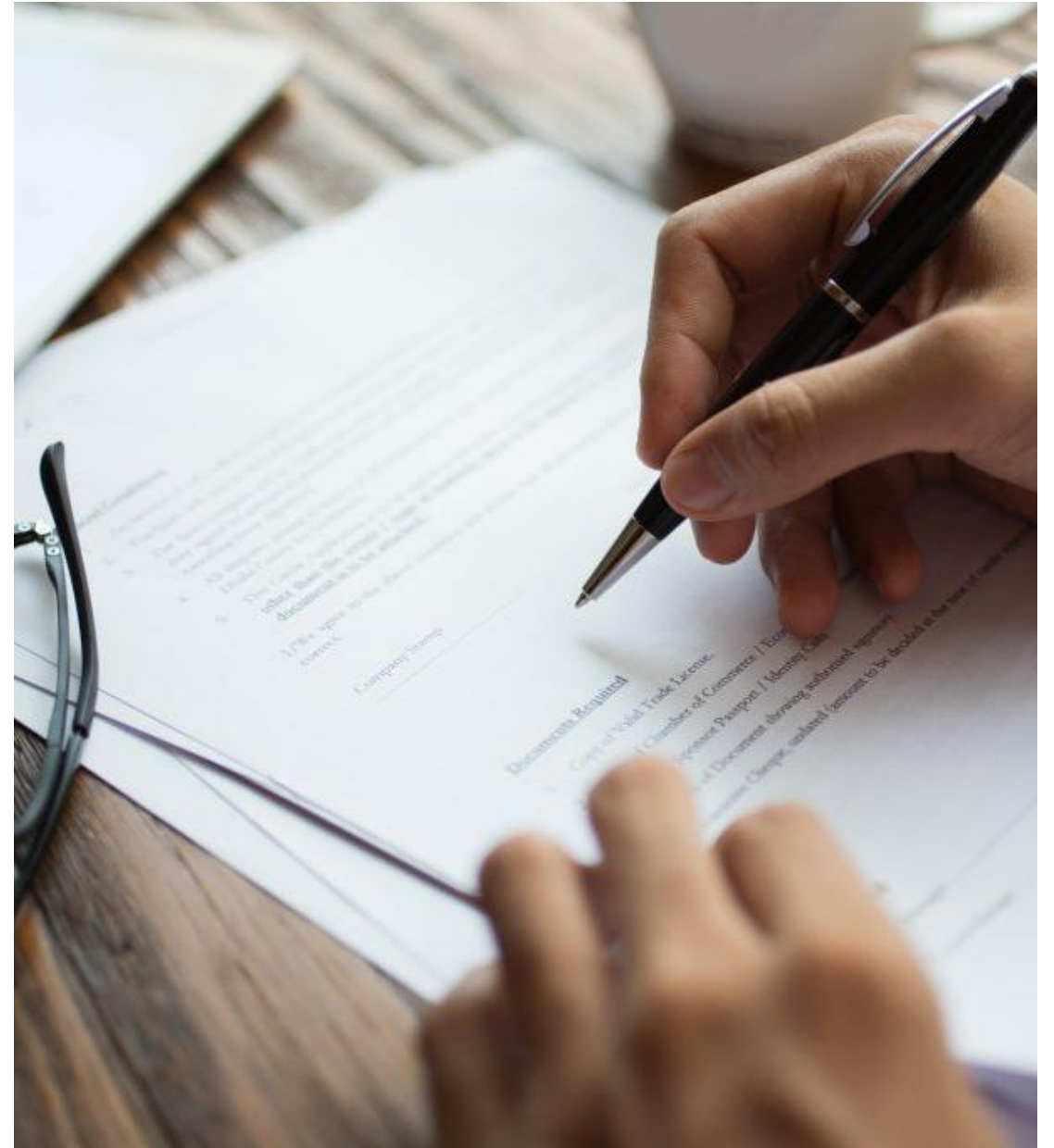
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