MSBA7003 Class D Group Project 2 Part B -- Team 16

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1. **Please suggest if there are any potential bias when the company estimates the causal effect of the new compensation scheme with their pilot study.**

We hold the opinion that there is potential bias when the company estimates the causal effect from the following 4 perspectives of difficulty to prevent the water-cooler effect, the potential for selection bias, the short duration of observation time, as well as the imbalance between the number and location of salespeople in the control and treatment groups. The next paragraphs will elaborate on these points.

Firstly, it would be challenging to completely avoid the water-cooler effect. Specifically, as mentioned in reading material B, the new compensation was officially launched on 1st May 2015, when the Internet was already booming and people could communicate with each other on their cell phones or computers at or after work. In addition, Anna Lindberg, an independent sales compensation consultant, emphasized that interaction between the two groups was supposed to be avoided. Such a proposal is difficult to implement in practice, not only because communication seems to be hard to prevent, but also because this requirement may go against the company's 'one-for-all' emphasis on fairness.

Secondly, the possibility of selection bias, the hardness to fully determine these results is caused only by changes in the quota plan rather than other factors, especially those that may have been present in the pilot study. For instance, improvements in the quality of their products or changes in the market economy could also exert an influence on the results. In other words, the change from a monthly-to-a-daily quota can hardly be the unique variable in the experiments.

Thirdly, it is likely that the observed interval was too short to be convincing. To demonstrate, the experience took only a one-month interval, which could be inaccurate and imprecise. For example, the sales of Kjell and Company itself might be equipped with a seasonal pattern and April to May may coincide with the peak sales season. In this case, we suggest that more months of data could be taken into consideration so that more credible results would be obtained to diminish such bias.

Ultimately, the size and location of salespeople in the control and treatment groups are different, which can also give rise to the bias of the pilot study. To illustrate, the total number of salespeople in the control group is only 26, and they are all located in relatively large cities, while the treatment group contains all salespeople from other locations. In this case, the bias can be triggered if the salespeople in the small control group happened to be those with relatively lower sales capability, the effect of the daily quota would be underestimated accordingly.

In summary, the difficulty of avoiding the water-cooler effect, the uncertainty of whether the changes are caused by the quota plan, the short observation interval, and the differences in size and location between the control and treatment groups can bring up potential bias with their pilot study.

2. Is there anything that the CEO should examine to understand the effectiveness of the daily-quota plan?

During the pilot study, when comparing the sales performance of the control and treatment groups, there are some additional important things to assess about the effectiveness of the daily-quota plan.

Firstly, the CEO could examine the amount of change in sales level over the next few months to observe whether there are any biases or errors during the pilot study. Monitoring the long-term changes in sales performance between the control and treatment groups would provide a better understanding of the effectiveness of the daily-quota plan. For example, quarterly or every six months, sales data from salespeople on a monthly- quota plan would be compared to data from salespeople on a daily-quota plan.

Moreover, we can also analyze the changes in sales performance of salespeople after the implementation of the daily quota plan. Specifically, we can observe the fluctuations of sales performance in each of the 4 segments in a month and compare these data with those of the sales staff in the monthly-quota plan. We may find that the daily SPH of the group implementing the daily-quota plan is stable (or varies greatly), while the SPH of the group members implementing the monthly-quota plan varies greatly (or stable). Based on the data results, we can speculate whether the new compensation policy could alleviate the resignation attitudes of salespeople who are down on their luck.

In addition to measuring the effectiveness of salary policy changes by sales, we can also figure out whether our daily-quota plan has a good effect by profit. Specifically, when salespeople compete to increase their sales, the company's profit may be hurt by selling cheaper goods. For the company, the profit side may be worse, even though the sales data look better. Therefore, we can compare the profit data of the two groups and analyze which kind of policy leads to greater profits for the company.

Moreover, we can analyze the short-term and long-term return rates of goods to measure whether the new policy is effective. In other words, although the data results suggest that the RTS ratio does not change a lot when the new compensation plan proceeds, the long-term RTS ratio may provide more evidence as to whether the new policy is effective. More specifically, customers may not immediately return unsatisfactory purchases; there may exist a time delay period which may not include during the pilot study period. Perhaps we need to monitor the RTS ratio on an ongoing basis to see whether there is a change in the RTS ratio in case of any bias due to time delays.

Finally, the CEO could also examine customers' evaluation and feedback, which may directly reflect whether the new compensation policy has any negative impact on customers. By distributing questionnaires, the company could find out whether customers have opinions on the products and services offered under the new compensation policy. Such questionnaires need to be kept for several months to show whether the new compensation policy will have any long-term potential effects.

In summary, there are still various significant factors and dimensions that could help evaluate the effectiveness of the new compensation. In order to accurately assess the new policy, it is necessary to monitor sales performance, RTS ratios, sales volume and sales price per unit over time. Moreover, dimensions of profit and sales, as well as the feedback of the customers service are also important for the CEO to examine the effectiveness of daily-quota plan.