The SEQ-MDP approach has very good performance. Indeed it is visually and statistically indistinguishable from the optimal algorithm for all horizons $H$ for $K = 5, N = 3$. SEQ-MDP is not always identical to the optimal algorithm’s performance: for example, in Figure 1(c) we display results for $K = 3$ and $N = 5$. Here there are a larger number of possible incentive-action combinations ($3^5$) relative to the available horizon, and so consecutively stepping through the alternate agent actions may not be the optimal strategy.

However SEQ-MDP performs very close to the optimal algorithm’s performance, and it is significantly better than other approaches. The SEQ-MDP approximation also requires much less computation time than the optimal algorithm. Figures 2(a) and 2(b) compare the average computational time to execute a single run ($H = 20$). Figure 2(a) fixes the number $N = 3$ of alternate agent actions, and varies the number of offered incentives $K$, and Figure 2(b) fixes $K = 4$ and varies $N$. The SEQ-MDP algorithm scales much better than the optimal algorithm in both cases.