A Working from Home Experiment Shows High Performers Like It Better
by Nicholas Bloom and John Roberts

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Marina Mayer’s move to ban working from home at Yahoo in 2013 caused a media frenzy over the costs and benefits of this rapidly growing practice. People lined up to defend both sides of the argument: Do work-from-home (WFH) policies encourage employees to “slack from home” or are they an essential way to make our modern work lives actually work?

To answer the question systematically and scientifically, we and two of our students ran an experiment with Ctrip, China’s largest travel agent. Ctrip wanted to test a WFH policy both to reduce office costs (which were becoming an increasingly high percentage of total costs due to rising rents at the firm’s Shanghai base) and to reduce the firm’s high annual rate of staff turnover (50%). Ctrip management was concerned, however, that allowing employees to work from home could have a negative impact on their performance, so they wanted to test the policy before rolling it out to the entire company.

By way of disclosure, one of our research team members, James Liang, is also the co-founder and chairman of Ctrip. This provided us with excellent — and uncommon — access to both the experimental data and to the management’s views on working from home. As such, the experiment provided some insight into how large publicly-listed firms adopt new management practices, and helped shine a light on why so many firms fail to adopt potentially beneficial management practices.

Ctrip decided to run a nine-month experiment with its airfare and hotel divisions in the firm’s Shanghai headquarters call center. All employees with at least six months’ worth of experience with the firm were offered the option to work from home for four days each week. Of the 568 eligible employees, 25% volunteered to work from home and — after a lottery draw — those with even-numbered birthdays were selected for WFH arrangements while those with odd-numbered birthdays stayed in the office to act as a control group.

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Both home- and office-based employees worked the same shift period, in their same work groups, under the same managers as before, and logged on to the same computer system, with the same equipment, and the same work-order flow. The only difference between the two groups was the location where they worked. Ctrip keeps extensive, computerized records of the times employees are actually working, the sales they make and the quality of their interactions with customers, and this data allowed us to compare the performance of those at home and those in the office.

So what were the results of the experiment? First, the performance of the home-workers went up dramatically, increasing by 13% over the course of the nine months. This increase in output came mainly from a rise in the number of minutes they worked during each shift, which was due to a reduction in the number of breaks and sick days that they took. The home-workers were also more productive per minute, which employees told us (in detailed surveys) was due to the quieter working conditions at home.

Second, there was no change in the performance of the control group (and there were no negative effects seen from staying in the office). Third, the rate of staff turnover fell sharply for the home-workers, dropping by almost 50% compared to the control group. The home-workers also reported substantially higher work satisfaction and less “work exhaustion” in a psychological attitudes survey.

At the end of the experiment, Ctrip’s management team was so impressed by the success of the WFH policy that they decided to roll it out to the entire firm. They also offered both the original home-workers and the control group a fresh choice of work arrangements.

To their surprise, half of the home-workers changed their minds and returned to the office and three quarters of the control group — who had initially all requested to work from home — decided to stay in the office, as well. The main reason seems to be that people who worked from home were lonely. This unexpected outcome highlights the fact that before these types of management policies are implemented, their likely effects are as unclear to managers as they are to managers. It also helps to explain the typically slow adoption of such practices.

How do our findings compare with previous research? There is an extensive body of case studies on individual firms that have adopted WFH programs, and they tend to show large positive impacts. (See the studies that Saks et al. and Kwon et al. have done). But the robustness of these results is hard to evaluate because of the non-identifiable nature of the programs: do employees who work from home perform better because they are actually better workers or because the management policies they prefer? Thus, we wanted to test these assumptions in a controlled setting.

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How do our findings compare with previous research? There is an extensive body of case studies on individual firms that have adopted WFH programs, and they tend to show large positive impacts. (See the studies here and here.) But the robustness of these results is hard to evaluate because of the non-identifiable nature of the programs, both in terms of the selection of firms and the selection of employees who worked from home. This self-selection effect is evident even in the case of Ctrip: when the firm allowed a general roll-out of home-working, high performing employees typically chose to move home while low-performing employees chose to return to the office. We suspect that the most driven employees were more willing to work from home, knowing they could stay focused away from the office, while the more distracted tended to worry about the consequences of sitting all day next to the fridge and the television — the biggest enemies of working from home.

What do our findings tell us about what other companies can expect if they allow employees to work from home? Clearly, Ctrip’s call centers are different from many work contexts: behavior and performance at Ctrip are easily tracked, bonuses make up almost half of salaries, and the work could be done on an individual basis with limited need for collaboration or innovation. While many firms that depend on innovation discourage WFH because they want interaction among employees, many occupations have these same characteristics as at Ctrip. Examples include coding, technical support, telesales, and basic accounting. Moreover, two WFH benefits would probably also transfer to many jobs: the increased productivity that comes from the peace and quiet of home and the large drop in turnover rates due to greater employee job satisfaction.

So our advice is that firms — at the very least — ought to be open to employees working from home occasionally, to allow them to focus on individual projects and tasks. We encourage companies to do a trial the next time an opportunity presents itself — like bad weather, traffic congestion from major construction, or a disruptive event (such as a city hosting the Olympics or the World Cup) — to experiment for a week or two.
We think working from home can be a positive experience both for the company and its employees, as our research with Ctrip showed. More firms ought to try it. And our advice to Yahoo is to give working from home a second chance — it is critical for retaining and motivating your key employees, and is an essential part of the 21st century office.

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