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How the "Butterfly Effect" Can Harm Firm Performance

Firms need to develop appropriate HR risk management strategies to lessen the impact of unanticipated employee departures.

Strategic human capital is a firm's most valuable resource. Established research leans towards the theory that strategic human capital (employees with valuable, non-substitutable knowledge, skills and abilities) can provide firms with a sustainable competitive advantage. As a result, firms are led to believe that, to achieve a competitive advantage, they need to attract and hold onto strategic human capital (valuable employees).

Consequently, much research has gone into discovering what factors govern employee departure decisions and how their departures impact firm performance. However, the question remains: Does employee departure lead to poor firm performance, or does poor firm performance lead to employee departure?

Our research provides clear evidence that employee departures *do* negatively impact firm performance, and, more importantly, this impact is amplified by the strength of the employee-firm relationship. In addition, our results revealed a third contributing factor to employee departure decisions: the "butterfly effect" of uncontrollable, external events (accidents and disasters).

We examined the after-effects of the Fukushima nuclear accident (caused by the tsunami that followed the earthquake on 11 March 2011 in Japan). We sampled 9,564 data points throughout the US over the course of six years. Our sample period covered the three years preceding the Fukushima nuclear disaster, and the three following years. Our treatment group consisted of 797 firms located within 80 km of a US operating nuclear plant. Our control group consisted of 797 equal firms located 160-240 km away from a US operating nuclear plant.

Factors beyond our control

Our research demonstrates that, no matter how much firms invest in their employees, they cannot ensure that their employees will not decide to leave due to external circumstances. The catastrophic Fukushima accident created mass panic and excessive reactions in the public. In addition, intense media coverage kept the US public focused on the devastating outcomes of this one unfortunate accident and tarnished the image of nuclear power. This led to a widespread loss of faith in the safety of nuclear reactors and generated a feeling of outrage and fear. This resulted in mass employee departures from firms based thousands of kilometres away in the vicinity of US nuclear plants.

We found that some firms were negatively impacted by these employee departures while others were not. Further analysis of the HR strategy of each firm revealed a direct correlation between how much firms had invested in their employees and the impact on performance after employee departure. Our results revealed that the ROA decreased for firms that had invested more time and resources in their employees. In other words, the more a firm invested in and based its competitive advantage on its employees, the greater the negative impact of employee departure.

Strategic human capital requires thorough research and attention

Firms cannot *own* and control their human resources in the same way that they can control their other resources. In other words, employees are free to leave their employers at any time.

Consequently, firms invest heavily in resources and strategies designed to foster an environment in which they can form strong relationships with their employees and encourage loyalty. This positive environment promotes motivation, engagement, efficiency and innovation. In other words, it enhances firm performance.

Employee departures have the potential to create a downward spiral for firms in many ways. For example, the loss of a single, high value employee can disrupt established routines and make it difficult for remaining employees to do their jobs effectively. This can lead to low morale and a general feeling of anxiety. In turn, this sends negative signals to external stakeholders and customers, and reduces confidence in the firm's capabilities. Potentially, the resulting poor performance can lead to further employee departures.

Consequently, much research has been directed towards isolating the factors that influence employee departures. These studies have generally focused on two distinct areas. Firstly, the influence that a firm has on employees (rewards and incentives, job satisfaction). Secondly, the theory that employee departures are triggered by emotional events that lead them to judge their positions negatively. However, our research demonstrates that an additional factor influencing employee departures has not been acknowledged: the "butterfly effect" of external events beyond the firm's control.

Further, our results clearly demonstrate that the more a firm invests in building and maintaining strong relationships with employees, the more it will be negatively impacted by employee departures. This is because high value relationships cannot be easily replaced – if an employee leaves, the firm has to reinvest the time and resources into developing an equivalent relationship.

Investing in employees for sustainable competitive advantage

Existing research concentrates on the benefits of strong employee-firm relationships, but leaves the downside of this relationship largely unexplored. While there is no doubt that investment in employee-firm relationships is essential to firm success, our research clearly demonstrates that there are factors beyond our control that affect whether this investment benefits a firm's performance, or negates it. Ten years after the Fukushima event, this research is even more relevant in light of Covid-19 and the millions of employee departures since the start of the pandemic.

Employees are our most valuable resource and we should certainly continue to invest in them. However, our research underscores the need to approach this valuable resource more strategically. Moving forward, firms need to consider how unanticipated external risks can be evaluated and managed in advance, and develop appropriate risk management and succession strategies to lessen their impact.

__Ithai Stern__ is an Associate Professor of Strategy at INSEAD.

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