
Technology Counter-Offensive! Fight Back Against Disruption



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Companies can respond to new technology with smart strategies.

Disrupt or be disrupted – or so the business mantra goes. But the reality is, new “game-changing” technology isn’t always a death sentence for existing companies. Not everything that appears to be disruptive, disrupts.

Take [turbine-powered cars](#). Despite the initial hype, these experimental cars never disrupted the automobile industry. The lesson here is that companies shouldn’t fear being swept aside if they do not adopt the latest “revolutionary” technology. The threat of disruption is real, but it's often easier to see in the rearview mirror. For instance, the success of Tesla's electric vehicles seems obvious now, but would have been difficult to predict in advance — just look back to the skepticism the organisation faced in the early 2010s for proof.

So, what are companies to do when faced with a potential threat? Our recent [research](#) in *Organization Science* offers some helpful insights. We studied how automobile companies responded when a new fuel delivery system,

electronic fuel injection (EFI), threatened to replace carburettors.

In the period of study from 1978 to 1992, some manufacturers chose to improve their carburettors, essentially extending the life of the existing technology. Others opted for a hybrid approach, combining carburettors and EFI systems. These strategies improved carburettor performance, slowed down the overall switch to EFI technology and bought valuable time for companies to adapt. They also had important trade-offs.

Technology counter-offensive strategies

While it is sometimes true that new technologies will disrupt, it is often the case that companies can push back. Companies facing new, potentially disruptive technologies have a number of options. They can improve their existing technology (extension strategy) or combine the old and new technology into a whole new product, like a hybrid car (bridging strategy).

These approaches are often criticised as being inertial responses to change, with **limited effectiveness** once the disruptive technology becomes dominant. But that's not the whole story. In the early stages, when the new technology is still unproven, there is a lot of uncertainty. Nobody knows for sure if it will actually be better, how easy it will be to commercialise or if the existing technology can be improved enough to stay relevant.

"Counter-offensive" extension or bridging strategies can be quite successful. In some cases, companies have used them to delay the new technology from taking over for years, even decades, like with **semiconductor lithography** (used in chip manufacture) and **typesetting** (preparing text for printing). Other industries have managed to indefinitely forestall a takeover, such as in **silicon semiconductor material technology**.

Our research examined how carburettor manufacturers strategically responded to the rise of EFI. We found that companies that focused on continuously improving carburettors saw faster performance gains than before EFI. Conversely, those that created hybrid carburettor-EFI designs saw slower improvement in traditional carburettors, but their hybrids performed better.

The combination of these improvements actually slowed the pace of EFI adoption by about 25 percent, or one year, giving companies more time to adapt. Although this may not sound very long, it translated into about 18

percent of car models sticking with carburettors for an extra year, resulting in significant additional revenue for those companies. In some niche markets, carburettors persisted for even longer.

Importantly, extension and bridging strategies led to different trade-offs. Manufacturers that adopted an extension strategy improved their carburettors, but ended up selling them to a much smaller, more specific customer base. On the other hand, companies that embraced a bridging strategy created hybrid products that performed better and were cheaper to adjust to the new technology. This increased the likelihood of the firm surviving and successfully switching to EFI.

Dealing with disruptive new technologies

Firms threatened by disruption need to consider both demand elasticity (the likelihood that customers, or large niches, will stick with the existing technology), as well as technical and competitive elasticity (the potential for improvement of the existing technology and the challenges of commercialising the new technology).

Put simply, companies should consider how attached their customers are to their product, and whether they can significantly improve it to keep up with the competition. By considering these factors, firms can choose the most effective counter-offensive strategy.

1.Strong customer loyalty and room for improvement

If there is customer demand and significant room for improvement in the existing technology, extension strategies (focusing on continuous improvement) can be highly effective.

2.Moderate customer loyalty and room for improvement

If there is some customer preference for the existing product and marginal room for improvement, bridging strategies, like creating hybrid solutions, can extend the life of existing products while lowering adjustment costs in the event of eventual substitution.

3.Weak customer loyalty and limited improvement

If the new technology offers a clear path forward and the existing one has

limited customer support and potential for improvement, an adoption strategy remains essential. Companies need to embrace the new technology to stay competitive.

Ultimately, firms have a wider array of options than simply succumbing to the "disrupt or be disrupted" mentality. Instead, they should become proactive participants in the innovation race, anticipating disruption and choosing the most effective counter-offensive strategy for their unique circumstances.

Find article at

<https://knowledge.insead.edu/strategy/technology-counter-offensive-fight-back-against-disruption>

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About the research

"Technology Counteroffensive Strategies: Toward an Ex Ante View of Technology Substitution" is published in *Organization Science*.