



Full stack startups

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Many of today's most exciting startups were tried before in a different form.

Suppose you develop a new technology that is valuable to some industry. The old approach was to sell or license your technology to the existing companies in that industry. The new approach is to build a complete, end-to-end product or service that bypasses existing companies.

Prominent examples of this "full stack" approach include Tesla, Warby Parker, Uber, Harry's, Nest, BuzzFeed, and Netflix. Most of these companies had "partial stack" antecedents that either failed or ended up being relatively small businesses. The problems with the partial stack approach include:

- Bad product experience. Nest is great because of deep, Apple-like integration between software, hardware, design, services, etc, something they couldn't have achieved licensing to Honeywell etc.
- Cultural resistance to new technologies. The media industry is notoriously slow to adopt new technologies, so Netflix is (mostly) bypassing them.
- Unfavorable economics. Your slice of the stack might be quite valuable but without control of the end customer it's very hard to get paid accordingly.

The full stack approach lets you bypass industry incumbents, completely control the customer experience, and capture a greater portion of the economic benefits you provide.

The challenge with the full stack approach is you need to get good at many different things: software, hardware, design, consumer marketing, supply chain management, sales, partnerships, regulation, etc. The good news is that if you can pull this off, it is very hard for competitors to replicate so many interlocking pieces.

My guess is we are still at the very beginning of the full stack movement. Many large industries remain relatively untouched by the information technology revolution. That will likely change now that startups have figured out the right approach.

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