How to Start an Internet of Things Company

IoT is a hot industry, but do you have what it takes to build a successful business?

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The rise of internet of things (IoT) technology has many names, including The Next Industrial Revolution, Industry 4.0 and, simply, The IoT Apocalypse. Regardless of your stance on the future of IoT, most can agree that IoT will be a disruptor in every sense of the word — and not just in Silicon Valley and at MIT. The implications of IoT are far-reaching, touching nearly every industry that relies on industrial automation.

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As with any emerging technology, entrepreneurs worldwide are impatient for a shot at building IoT businesses. But, if IoT is Mount Everest, we're still at base camp when it comes to understanding the full implications of the climb. Today we find ourselves at the juncture where software-as-a-service was in 2008. The market is hungry for it, but few have succeeded at doing it. While every startup's future IoT product offerings will differ, there are some foundational items that must be addressed before starting an IoT business from scratch. Here are three.

1. Practice design thinking in product development.

When it comes to starting a new venture, the natural human inclination is to start with the tactical work. “What first?” is usually the primary question entrepreneurs try to address, before considering “Why is what we’re doing important?” Design thinking is a framework for ideation that institutions like Stanford teach and executives at IBM swear by. At a basic level, design thinking inspires practical creativity to flourish. It involves following four steps in starting a business, creating a product or deploying a new strategy:

1. Discover what people really need.
2. Push past obvious solutions to get to breakthrough ideas.
3. Build rough prototypes to make ideas better.
4. Craft a human story to inspire others to action.

Using design thinking, entrepreneurs can identify a need that justifies an IoT product, rather than hoping their product will create a need.

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2. Scaling an IoT company is not the same as scaling any other company.

A theory exists called the “scaling fallacy” that applies to IoT companies. At a very basic level, a scaling fallacy occurs when someone assumes that because something works at one size, it will work just as well at any size. People assume that if a tiny ant can lift 50 times its own body weight, it would be able to do the same if it were the size of a human. This

simply is not the case. In the same way, an IoT company engineering for prototype is very different from engineering for scale.

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3. It's all about security, security, security.

A Gemalto IoT security report revealed that only 33 percent of survey respondents believed they have complete control over the data that their IoT products collect. Protecting data gleaned from a connected device presents a different challenge than installing antivirus software on a PC. IoT security is fundamentally more difficult, which causes many to "put it off" until it's too late. Stanford computer science professor Philip Levis established that IoT security procrastination results from the rush to develop a product that's inherently difficult to develop. The threat only grows as the number of connected devices increases, because each device represents a new "door" a hacker could break down. Thus, security must be a priority from the very beginning – even in early development. From there, IoT startups should be quick to invite experts to weigh in on vulnerabilities. The consequences of procrastinating security could be costly.

Operating as an entrepreneur in an emerging industry is risky to say the least. The potential challenges you will face along the way are unparalleled, most yet to be uncovered. But, with the total number of IoT connections expected to grow from 6 billion in 2015 to 27 billion in 2025, it's a market opportunity too compelling for entrepreneurs to ignore.

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