

# Supply Chain Management For Hardware Startups

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Ray Tai has more than 10 years of experience as a sales and product manager in the field of EMS. His experience includes everything from digital cameras to IoT modules to 3D printers. Currently, he's the CEO of Mighty Net and has worked with many recognizable companies, like Acer and Hitachi. In his talk during this Hardware Massive Taipei event, he covers how startup founders should deal with suppliers, and teaches us best practices for managing your supply chain.

## Key Takeaways

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### 1. Most Startups are Delayed

Most startups are delayed when it comes to shipment, and those delays often occur at the supply stage. In fact, only 1 in 5 projects are delivered on time, and 81% of venture dollars can go to late projects, with 65% of crowd dollars going to late projects. Broken down, that's more than \$50 million crowd dollars and more than \$411 million venture dollars.

### 2. Manufacturing is Easy

Even though you may not think so, manufacturing is easy! So why do hardware startups fail so much? First, integration can get in the way. Then, scale can become a problem. In fact, some startups, when rushing to get to production and get to scale, can actually cause problems for themselves in the long run, by rushing to production before they have the perfect functional product, all in order to catch a deadline. You can probably guess, though, that it's better to be late than have a product that doesn't work.

### 3. Design Does Not Equal Manufacturing

Just because you have a good design, does not mean you know everything about manufacturing. There's so much that changes when you get to the manufacturing stage. You'll want to take advantage of the various skills that your manufacturer offers, rather than assume you already know what's needed and best.

### 4. Sometimes You Just Can't Afford Your Supply Chain

It's not uncommon for startup founders to get to the manufacturing stage and realize that they've underestimated their costs and now they can't quite afford their manufacturing. This is something you'll want to take into consideration from the beginning, and accurately predict.

### 5. Most Startups Have No Experience

Most startups simply have no experience in the realm of hardware supply chains. When you start a hardware project, how many sectors of the supply chain will you have to deal with? There are often about six units of the supply chain that you'll have to work alongside. These include the design house, certification lab, EMS/ODM, forwarder, chip solution and chip agent.

## **6. Software is Solo, Hardware is Symphony**

Software can almost seem easy in comparison to hardware. When you're working on and developing software, you can be a one-man operation in some cases and fix issues yourself. When you're dealing with physical products and hardware, though, you're working as a team and you have to know how to deal with a hardware supply chain. Just because you're good at software, don't assume you're great at hardware.

## **7. The Factory is Your First Customer**

You may think that the factory is merely your supplier. However, you should be thinking of your factory as your customer. You have to sell your startup to your factory and treat them as a partner. After all, you're probably dealing with a risky project that's low-volume, right? So why should they deal with you? Why wouldn't they go with another project that will ensure more money for them in the long run? You also need to choose your factory in terms of your next project. Can they handle it? Do they have the capabilities to make your next project, whatever it may be?