

7 Mistakes Product Managers Make When Choosing an IoT Provider

A white paper from DornerWorks



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Start your IoT development off on the right path

You have a great product and a strong market, but you are worried that your competition is getting an edge by adding connectivity before you do. “The top success factor is delivering a differentiated product with unique customer benefits and superior value.” In today’s interconnected world, linking your product to your customer’s digital world is one of the best ways to differentiate. You know your product well, but are nervous about successfully adding Internet of Things (IoT) so that your customers can use your product via their smart devices. As you dive in to adding electronics and smart connectivity to your product, consider this list of pitfalls in selecting an IoT partner.



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1. Forgetting the Customer

Many product managers first consider IoT because they want to get more data about their customers. Wouldn't it be great if you knew exactly how often your customers used your product, at what time of day, and where? Wouldn't it be nice to know which type of customers tended to buy your accessories? The allure of IoT is that you can understand your customer better.

Obtaining rich product usage data via IoT is a benefit, but it is dangerous to make that the primary goal. Adding IoT should first and foremost be about your customer, not about you. What value does IoT add for your customer? What benefit do they get compared to your unconnected products? How do you improve the user experience for your customers by adding IoT?



If you are new at the IoT game (aren't we all?), then you may benefit from looking at what others have done with IoT, even outside your industry. You may also need to use some customer focus groups to help you think outside the box.

Once you have established the IoT value proposition from your customer's perspective, then you can think about secondary goals, such as mining the data to better characterize your customer and determine their typical behavior, needs, and desires.

2. Choosing a Web Developer Instead of an IoT Provider

Everyone is getting on the IoT bandwagon, including web developers. But web development is not the same as IoT development. Embedded electronics use specialized processors on customized circuit boards. Engineers who are very good at making web pages zing on a standard web server can quickly become lost trying to make things work on embedded electronics.



A web server is typically built around a very powerful microprocessor with gobs of memory and massive hard drive space. It comes with an equally massive price, but that cost is amortized across millions of users. The cost of the electronics that go in your individual product cannot be amortized. To keep product costs in line, an IoT microprocessor is often much less powerful, only has a tiny amount of memory, and usually has no hard drive space at all. Obtaining connectivity in such a very constrained environment is a niche skill called embedded engineering – a skill that web developers usually cannot provide.

The web developer will show you pretty pictures on mobile devices early in the project, but if you want your new smartphone app to actually do something with your product in a reliable way, you need an embedded engineer.

That is, successful IoT requires a partner that not only knows the “Internet”, but also knows the “Things” part of the equation.

3. Choosing a Narrow Expert

Even if you avoid the previous mistake of choosing a partner that only knows web development, you can still get stuck with an expert that is too narrowly focused. IoT is a new and burgeoning field with many candidate technologies to consider. You need a partner that has sufficiently broad experience to tap into the best of class approaches for your product.

4. Choosing an Artist, not an Engineer

There is no doubt that intuitive, aesthetic, attractive designs require artistic flair and creativity. However, artistry is not sufficient. Good product design marries form and function. You need a partner that can not only provide a beautiful, clean user experience, but also can provide the functionality that brings your art to life. Truly beautiful design is not easy. Truly useful technology is not easy. You need both for your IoT-enabled product.

5. Choosing Lowest Rate rather than Lowest Cost

Most engineering and software service providers work on a Time & Material (T&M) basis. This approach can fool you into choosing the lowest hourly rate, thinking that will lead to the lowest cost. However, many product managers have been scorched by this choice when they burn through their entire budget without getting a working IoT product for their money. It is important to choose a provider that can work to a budget, even if they charge on a T&M basis. Look for providers that have project management experience and ask for evidence of past performance.



6. Giving your IoT Provider a Blank Check

Product managers know that sometimes you need to shoot the engineer and ship the product. It is no different with IoT – your designers and engineers will always have one more tweak, one more feature, one more thing to do. If you choose an undisciplined IoT provider, you’ll get an endless parade development, but never actually finish the project. Engineering development is usually done on a Time & Materials (T&M) basis, but that doesn’t mean you need to issue a blank check. Look for a provider that can manage to a budget, but is also agile enough to change during development to redirect resources as needed. The provider should help you make the tough choices and trade-offs to get your product to market within the funding you have available.



By the way – you might think that the solution to avoiding this mistake is to insist on Firm, Fixed Price (FFP) contracts. These usually do not solve the problem. New development is inherently unpredictable, so trying to exactly specify the product and precisely set the cost is impossible. Either the cost is drastically overestimated (rare, but if it happens, you overpaid), or more commonly, it is drastically underestimated. You don't get a "deal" in this case because the provider will likely need to walk away before finishing, or else go out of business trying. Either way, you end up with an unsupported and possibly incomplete product.

7. Choosing a Partner Who Can't Scale Up

Don't be fooled by a prototype mobile app or simple cloud-based demo. It might seem that the majority of the functionality has been completed when you see an interactive demo. Unless you anticipate having less than 100 users in total, there is still much more to be done. You already know that scaling up your own prototype products into full production has a whole set of issues and concerns.

It is the same with IoT.

Sure, start with a good prototype and do some customer testing with it to get the look and feel right, to choose the key features, and to refine the user interface. But don't stop there. You need a provider that will then design a robust system architecture with consideration for performance, security, and scalability from your product to the cloud and back. Choose a provider that knows how to scale up the technology.



You also want a provider that has sufficient staff to implement your IoT solution. That is, their staff needs to have the bench depth to ramp up and develop the initial design, but also needs to be there for you in the future, for maintenance, support, or adding new features.

About DornerWorks

When product developers have an idea they need to move on quickly, piecing together development sprints with a list of contractors is one way they can slow their project *down to a standstill*.

Successful technology development is based on **clear communication**, **transparent project management**, and the **expertise** to help people *easily understand* and use the technology themselves.

DornerWorks has been enabling successful technology development bolstered by years of experience in application development, software and firmware design. It's what brought consumer product manufacturer **Traeger** to work with us, resulting in the development of their award-winning and market-leading line of wireless grills. Paired with demonstrated ability for meeting strict requirements, and an intimate knowledge of various industry platforms, DornerWorks can help you build your next stand-out IoT product, too.

Our connected product experience includes:

Mobile Apps & UX Design

- Medical devices
- Technical support tools
- Commercial products
- Internal security demos
- Cross-platform solutions

Payments & Secure Applications

- User-facing payment apps
- Web-based payment forms
- Merchant applications
- Fraud prevention systems
- Recurring billing systems

System Integration

- Clear communication
- Quicker issue resolution
- Aligned priorities
- Reduced development cost
- Whole-product visibility

You shouldn't have to be an expert in everything.

*We provide technology engineering
so you can focus on what you do best*

