Future of IoT

As adoption of the Internet of Things technologies increases across the consumer, enterprise, and industrial sectors, many may wonder: "What's the Future of IoT?"

The term “IoT” is vague in definition and broad in application. By referring to everything, does IoT really refer to nothing?

I don’t think the term IoT is entirely useless; it’s simply dependent on context. IoT is useful in certain contexts precisely because of its lack of specificity. The Internet of Things isn’t a thing, rather, it’s a force. This force is massive, subtle, inevitable, and has been playing out across our world since the first computers were networked over distance. So, in the context of describing a powerful vector, with magnitude and direction, the term IoT is perfect.

However, in contexts where specificity is important, such as defining markets, building products, creating strategies, marketing to customers and predicting the future, the term IoT can be a detriment, obfuscating what we’re trying to talk about.

But before answering the question, “what’s the future of IoT”, we first need to understand the question itself. To understand the question, we first must narrow the scope.

**Enterprise IoT, Consumer IoT, and Our Time Horizon**

To narrow the scope, you could start by dividing the IoT pie in a few different ways. We can IoT into Consumer IoT, Enterprise IoT, and Industrial IoT, and some others add to that Medical IoT and Military IoT. Ultimately, there aren’t clear lines between these sub-segments (i.e., consumer IoT products can make their way into enterprises and industry is typically driven by enterprises). I’m going to choose just two sub-segments in Enterprise IoT and Consumer IoT, differentiating based on who is buying (an organization or an individual).

**Consumer IoT** refers to products and services bought directly by consumers. This includes smart lights, voice assistants, intelligent cars, smartphones, tablets, laptops, etc.

**Enterprise IoT** refers to solutions and services employed by organizations to increase efficiencies, improve operations, gain market insights, and create new products and services. This includes getting real-time information on the location of important assets or remotely monitoring business processes.

To further narrow the scope, we also need to determine the time horizon for our predictions. The longer the time horizon, the less useful predictions are and the less confident we can be. The shorter the time horizon, the fewer significant changes will be made. **So, let’s define “the future” as the next 5 years.**

In the next 5 years, Enterprise IoT is poised to see the most profound changes due to network infrastructure build-out, decreasing costs of sensors and the introduction of software tools necessary to effectively manage large-scale IoT system.

### So, What’s the Future of IoT?

**The future of IoT is billions of cheap, small, low-powered devices that provide real-time insights into every asset, process, and system that’s important to a given organization. It’s invisible, ubiquitous, and primarily driven by notifications.**

In the future, IoT will become invisible. The true value of IoT resides in the insights and automation that are enabled when you have automatic access to real-time data on everything that’s important to your business. It will become odd to not have real-time insight into every aspect of your organization. Data and insights will flow in the background, ever-present and yet unseen, until there’s a need for human input.

Checking anything manually for its status will become uncommon. Why be forced to remember to check when you can simply be alerted as needed? IoT will be primarily driven by notifications, alerting the right people to the right thing at the right time. These notifications will include useful insights (e.g., “Inventory has grown by X percent over the last 30 days, and capacity may need to be increased”), business actions that need to be taken (e.g., “Vehicle Y needs to have its car battery replaced”) and actions necessary to manage the system itself (e.g., “Device Z has stopped reporting and should be investigated”).

The stage is set for an explosion of Enterprise IoT in the coming 5 years, and I couldn’t be more ecstatic to be part of it. Technology is fundamentally neutral. It has tendencies, but, ultimately, it’s up to all of us how technology is applied. I’m optimistic that we can use IoT to build a future that amplifies human potential, freeing us from the mundane to focus on the creative and exciting. Yet all of this is conditional on the choices we make today. As we cut costs and eliminate mundane jobs, it’s critical that we concurrently invest in the education, training, and support systems to help those most affected.

Bibliography: Harvard Business Review, Princeton Review, IoT for all

~Arnav Venkata Tanguturi