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# Evolving Your Business with IoT: Six Steps to Digital Transformation

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## Introduction

Today, most companies have some form of digital asset that either complements their core offering or is the focus of their business.

Downloadable software, like an application that unlocks additional features for a smart thermostat; cloud services, such as a SaaS-based application for a child's IoT robot that charges a nominal fee for each new children's book it reads at the child's bedtime; or even information stored or shared by databases, which could include a customer's device analytics and data creation. These are only a few varied example assets that hold tremendous value, but are often overlooked as a revenue source for today's connected devices.

In the new digital world, unlocking the value of apps, software, and digital assets is imperative to device longevity with customers and revenue growth, but a key question continues to vex many organizations: How do you monetize these types of products and information while maximizing customer appeal and value? Many connected device OEMs struggle with market saturation, hardware-focused mindsets, limited functionality, and even device road maps that do little to define new growth opportunities. Fortunately, there is a way past this current market stagnation.

The Internet of Things (IoT) offers an innovative way forward, one that is already being used by leading companies around the world in almost every industry. When companies enable a growing ecosystem of additional apps and services for their devices, they offer untold value to their customer base while also opening up potential for new recurring revenue streams and data brokering with partners

## DIGITAL TRANSFORMATION:

Enabling new types of innovation, creativity, and business models in a particular domain, rather than simply enhancing and supporting traditional methods and practices.

## KEY TAKEAWAYS

- > Deploy a Device with the Potential for New Apps and Services
- > Define Communication Through Cloud Networks
- > Make Software Distribution the Backbone of Your User Experience
- > Establish an Ecosystem of Partners and Providers
- > Launch a Marketplace for Your Customers
- > Take the Final Step and Monetize your Ecosystem and Marketplace



and third-party content providers. The model may seem simple, but monetization can be deceptively complex. In fact, a recent study by Cisco found that while 96 percent of business leaders globally plan or use IoT in conjunction with their core business, 70 percent of organizations do not generate service revenues from their IoT solutions. <sup>1</sup>



## The Challenges of IoT Monetization

Industries across both the consumer and enterprise spectrums have incredible potential to monetize their offerings and generate new revenue streams, but they face numerous obstacles when trying to implement commerce strategies. A recent global survey from McKinsey highlights the disconnect between IoT potential and reality: While 65 percent of executives say their digital business will increase operating income within the next three years, only 30 percent will actually generate revenue. <sup>2</sup>



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What are the reasons for this gap? Many companies have great software products that easily integrate into their main platforms, but lack the technology to distribute, manage, and charge for them and the necessary updates and version add-ons that accompany them. This problem is not just confined to software though. The insights that can be mined from big data can also be extremely valuable, but many companies are still giving it away for free. The amount of data being generated by consumers' connected devices and apps is increasing exponentially, and its revenue potential is almost limitless for device manufacturers and their third party partners.

## Driving Digital Transformation with IoT

Monetizing digital assets can do much more than simply drive revenue; it can transform businesses, disrupt value chains, improve product utilization, and increase the reliability of connected devices through software updates and enhancements. However, it should come as no surprise that digital transformation presents its own set of pain points that can affect organizations of all sizes. Companies need help in three key areas: 1) creating a flexible and scalable distribution system; 2) fostering an ecosystem of third-parties to tap into their solutions and data; and finally 3) deploying a comprehensive and adaptive billing solution that allows them to generate new revenue streams in a reliable and secure manner.

Every organization is different and should tailor its own approach to these obstacles. However, there are six steps that each company needs to implement to successfully transform its business.



## The Six Steps to Digital Transformation Through IoT

### STEP ONE: DEPLOY A DEVICE WITH THE POTENTIAL FOR NEW APPS AND SERVICES TO RUN ALONGSIDE THEM LONG AFTER THEY HAVE BEEN SOLD

Applications have transformed the way people interact with all types of devices. From smartphones to dog collars, software and the Internet of Things has given companies the opportunity to develop new thoughtful integrations with their devices, a realized market for app developers, and value-added features for their customers.

There are millions of applications available today, but companies can only tap into the innovation and value that software provides by ensuring that devices are software-enabled allowing the use of apps and services on the device or alongside its core services. Given this, the fundamental first step for any organization is to deploy a device with these capabilities.

These capabilities extend beyond the hardware itself. Regardless of the device type or industry, companies need the flexibility to update and manage software and services across their smart device lineup for the lifetime of its ownership. Flexibility should be top of mind for any manufacturer looking to integrate a platform into its connected device and its unique business challenges.

### STEP TWO: DEFINE COMMUNICATION THROUGH CLOUD NETWORKS

A connected, software-enabled device is critical for success, but organizations also need to consider the communication layer that ensures the device can send and receive data and updates. Critical to achieving this communication layer is moving away from legacy back-end management systems to far more versatile and efficient cloud networking platforms. This big data cloud layer also ensures that organizations can collect data that can provide valuable insights into device usage and customer behavior, while also tying it to a myriad of other connected devices and cloud networks.

For smart devices in and around the home, the communication layer can usually be facilitated by a WiFi network. Devices like smart alarms, security cameras, and locks can utilize this communication layer to constantly send and receive

### Manufacturers Should Keep Flexibility Top of Mind

*For IoT device manufacturers, the digital transformation journey is particularly complex. Their products are new breeds of device, often without screens, carrying with them new use cases and customer engagements, not to mention unique back-end systems composed of proprietary software and/or new operating systems. Flexibility should be essential for any platform a manufacturer utilizes for its digital transformation.*



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information to larger networks of IoT device clouds, improving performance while optimizing and predicting trends. This type of data sharing can improve platforms and user experiences across a range of interconnected devices, but only becomes prevalent as IoT ecosystems mature. A recent study conducted by Dresner Advisory Services, found that organizations that rate IoT as critically important to their business were 3 times more likely to consider big data implementation critical to their business.<sup>3</sup>



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### STEP THREE: MAKE SOFTWARE DISTRIBUTION THE BACKBONE OF YOUR USER EXPERIENCE

Once a connected device is in the market with integrated apps and services, it's critical that the next step from cloud connectivity is enabling the ability to update apps and services as developers add or edit features and functionality. With a digital asset management platform in place to update and future-proof apps and software, manufacturers can ensure they provide customers with only the most up-to-date digital experience. Tesla, recently averted the costly dealership repair of 29,222 vehicles that had an issue with a charging plug software bug with an OTA update, showing the efficiency and safety software distribution and updating affords today's connected device manufacturers.

With software distribution and over-the-air updating incorporated into device, the ability to begin improving device performance and services based on data collected from user analytics and data gathered from integrated clouds opens up. However, before this can take place, device OEMs need a platform or system in place, capable of defining the trends and insights essential to improving a device in the simplest and most transparent process.

Once these insights are collected, organizations need to turn them into actionable items that can be systematically applied to devices through software and system updates. These insights are also beneficial for developers and partners, ensuring that they continually meet customer expectations for the lifetime of the device and/or service. According to Cisco, big data is projected to drive \$3.7 trillion in economic value from customer experience alone.<sup>4</sup>



*"Bain predicts that by 2020 annual revenues could exceed \$450B for the IoT vendors selling the hardware, software, and comprehensive solutions."*

ANNE BOSCHE, BAIN & COMPANY



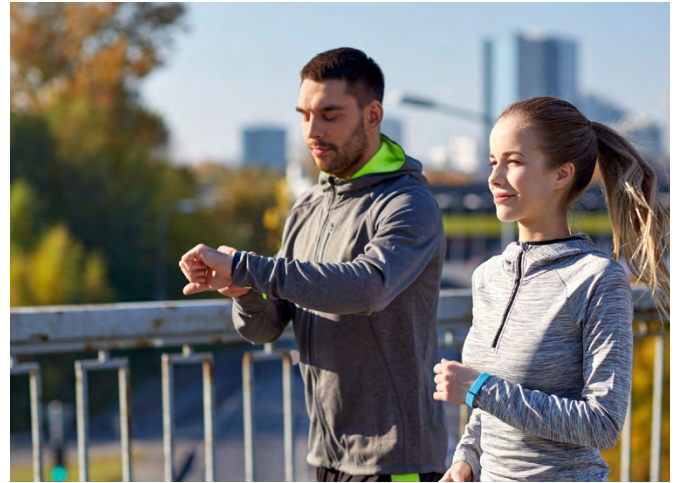


#### STEP FOUR: ESTABLISH AN ECOSYSTEM OF PARTNERS AND PROVIDERS

The IoT market is becoming increasingly crowded and companies are looking for new ways to help their connected devices stay competitive and appealing to consumers after purchase. One of the most powerful ways of creating this value and brand loyalty is to foster an ecosystem of software and services around the device. App ecosystems unify and define the connected experience of a device, providing users and developers with a centralized location for apps, fostering a community around the brand, and differentiating the product from its competitors.

A strong ecosystem of developers and innovative software works to enhance the “stickiness” of devices. In fact, many hardware manufacturers are now moving towards service and outcome-based models, where the device is only a means of reaching consumers with a service and application ecosystem. This model provides manufacturers and developers with ongoing revenue streams past the initial purchase of the device. One example of an IoT ecosystem in action is Fitbit. The company offers a dedicated suite of apps for its fitness tracker wearables, allowing a richer, more personalized user experience.

For an IoT software ecosystem to be successful, companies must be aware of the challenges that come with bringing apps and services to market. Aside from program considerations—including developer support, partner recruitment, documentation, and more—organizations must deploy sophisticated and flexible technology to power the ecosystem. The easier companies make it to develop and onboard new software and services, the more achievable and valuable the ecosystem becomes for developers, providers, and customers. Jibo, a robot designed for the family home, offers a full developer’s kit including an SDK download, full API reference guide and FAQ / Walkthrough. Successful organizations, like Jibo understand that easing developers in the transition to the device and its unique functionality and proprietary software increases their chance of retaining developers and their future creations for the ecosystem.



*“Digitally transformed businesses typically develop an ecosystem that blur the lines between supply chain, partner, customer, crowd, and employee and both strategy and execution are heavily influenced by this ecosystem.”*

ISAAC SACOLICK, GREENWICH ASSOCIATES,  
GLOBAL CIO AND MANAGING DIRECTOR



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## STEP FIVE: LAUNCH A MARKETPLACE FOR YOUR CUSTOMERS

Innovative software is only half the battle for device manufacturers. They must also facilitate the way customers find, buy, and manage new apps, software, and services for their devices. Creating a dedicated marketplace to showcase relevant products and services not only ensures customers are aware of the latest solutions for their devices, but also builds loyalty and product stickiness.



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A marketplace affords device manufacturers a central channel to connect developers to their customers, allowing them realize their potential in the company's software ecosystem. This central channel for the buying, selling, and management of apps and software intrinsically becomes a critical piece in understanding user behavior and the content and services they are demanding.

## STEP SIX: TAKING THE FINAL STEP AND MONETIZING YOUR ECOSYSTEM AND MARKETPLACE

With a central channel created for developers, third party partners, and users to engage with one another, the opportunity to incentivize developer support with paid app opportunities and for device users to begin purchasing new apps and services becomes possible. Much like smartphones today, consumers want the ability to not only download additional free software for their devices, but also purchase new app experiences or subscribe to additional services for the lifetime of their device. This personalization of the connected experience enables device manufacturers to build key trends off of individual user behavior. With this granular insight, device manufacturers can begin to curate available content for each user based on feature, price, theme, and usage trends, evolving the marketplace into not only a discovery hub for consumers, but a tailored connected experience.

Commerce capabilities—such as subscription billing, invoicing, and refunds—are critical to driving monetization and personalization. As such, they must be at the core of any digital transformation strategy. It should come as no surprise that monetization is complex, both in terms of technology and business processes. A billing platform needs to be able to handle the taxation and currency of multiple regions and countries worldwide. Laws governing taxation are constantly changing, and penalties for improper VAT (value-added tax) settlement in European countries for example, can be severe for device OEMs seeking to offer and create new revenue streams from additional apps and services.



The billing solution also needs to be built on a scalable platform (and underlying infrastructure) that is flexible enough to grow with an organization and its changing business needs. With an adaptable billing solution, there is far less risk that a company will need to replace it as the scale of the marketplace grows and new business models like pay-per-use, subscription, and more are explored and implemented.



## Conclusion



The digital transformation journey for today's IoT device manufacturers is complex, but with the World Bank's projection of a maximum total potential economic value of \$411 trillion per year by 2025, it's essential that every company undergoes this critical change. Companies must approach monetization—from device deployment to cloud integration, software distribution, and marketplace launch—with a cohesive strategy that brings developers and customers together under one ecosystem.<sup>5</sup>

AppDevices, the IoT division of AppDirect, has been an expert in the space since the early days of mobile phones and now offers best-in-class solutions that showcase, distribute, and monetize software products and apps to millions of users daily. No matter where an organization is in their digital transformation journey, AppDevices can help provide the strategy, technology, and solutions to get them there successfully.

<sup>1</sup> "Monetizing the Internet of Things: Extracting Value from the Connectivity Opportunity," Capgemini Consulting, 2014

<sup>2</sup> "The Internet of Things: Mapping The Value Beyond The Hype", McKinsey & Company, June 2015

<sup>3</sup> "The Missing V's in Big Data: Viability and Value," Neil Biehn, Wired.com, May 2013

<sup>4</sup> "2016 The Internet of Things and Business Intelligence Market Study", Dresner Advisory Services, 2016

<sup>5</sup> "Embracing the Internet of Everything To Capture Your Share of 14.4 Trillion" Joseph Bradley, Joel Barbier, Doug Handler. 2013

## ABOUT APPDIRECT

AppDirect is the cloud service commerce leader, making software and products accessible globally. The AppDirect cloud service commerce platform unites providers, developers and consumers of cloud services into a single ecosystem. This makes it easy to find, buy, manage and monitor apps and services from a central location and delivers new opportunities to distribute, sell, and market cloud services.

The AppDevices division of AppDirect powers the digital transformation of the world's most innovative companies by empowering them with agile business models, partner ecosystems, and new revenue streams. AppDevices pairs its expertise of device management with the critically acclaimed solutions portfolio of AppDirect to bring complete end-to-end software and service distribution, management, and monetization to connected devices and connected vehicle market.

Contact an AppDevices sales representative by emailing [info-appdevices@appdirect.com](mailto:info-appdevices@appdirect.com) or visit [appdirect.com/appdevices](http://appdirect.com/appdevices).

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