



To survive in an era of IoT businesses will need to recalibrate the way they function.

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TECHNOLOGY

Virtually real

The term Internet of Things (IoT) is becoming popular by the day. However, contrary to popular perception, around 77% people in the world have not heard about it. And even those who know, do not truly understand the power of the platform—of how it can impact our personal and professional lives.

IoT merges the physical world of atoms with the digital world of bytes. In simpler terms, all electronic devices are connected to each other in a local area forming a system, which is further connected to other similar systems forming a much larger network. According to Gartner, by 2020 there will be over 26 billion connected devices. That is a lot of connections. So far only humans have been the connection between these two worlds. But now even things have the senses to communicate and touch—making internet, people, and things intersect. Bicycles, supermarkets, sneakers, warehouses, hotel kitchens, coffee makers, washing machines, headphones, lamps, wearable

devices, and many more will be connected and will share experiences with each other and people. Consider your fitness band—it knows your heart rate, the number of steps you have walked, it sends reminders for your exercise, communicates on a network, sends data to the cloud, and does a lot of other tasks. On a broader scale, IoT can be applied to areas such as transportation networks, ‘smart cities’ that can reduce waste and improve energy efficiency. It can also help us understand and improve the way we work and live. Given this context, if IoT affects business and its models, how are companies supposed to prepare and respond?

Several sectors will benefit from the IoT revolution—manufacturing, transportation, banks, agriculture, retail, logistics, utilities, oil and gas, defence, healthcare, to name a few. It is also believed, in the near future, IoT will create the highest number of business opportunities. Market drivers such as expanded and low cost internet connectivity, high mobile adoption, low cost sensors, and large investments are catalysts for the quick adoption and growth of IoT.

Data has always been key for any business and big data is another phenomenon that will aid the IoT storm. Big data integrates digital capabilities to increase growth and provides the capabilities to understand complex data patterns; and when supplemented by IoT, it enables businesses to transform this data to insights.

IoT will impact businesses at a fundamental level:

■ **Allow companies to make smarter products**

Consumers are already demanding products that connect and sync seamlessly—their homes—to monitor medical records, for personal safety, wearables, to using the environments resources better. Netflix, a company that provides online video streaming services, never showed interest in IoT. They recently, delivered a smart solution for their users called ‘The Switch’—a wireless button, powered by a microcontroller, and an infrared transmitter, that can sync with connected devices like television, smartphone, and Philips Hue wireless lighting system. And it can even order food to power users through their Netflix marathon. This illustrates how important the adoption for IoT has become. Only time will tell which products will sustain owing to IoT; but businesses need to make smarter products, if they want to survive in the long term.

■ **Business operations and decisions are made smarter**

Everything is connected to the internet and everything is connected to you, hence working remotely is a high possibility, leading to faster and efficient decision-making process. For example, in a manufacturing industry, once the goods are reaching the replenishment

stage, a device sends a trigger to the cloud and notifies you. You can even set ‘to re-order automatically’ without human intervention. Once these mundane tasks are automated through IoT businesses would have more time to concentrate on their core strategy.

■ **Change in business model**

Investing in IoT facilitates rapid expansions and building new and recurring revenue streams at a relatively low operating cost. Businesses can improve operations, as they gain data insight to streamline and achieve higher automation. This shows through greater productivity and offers more time to venture into new product offerings and diversifications. Consider the energy sector; connecting devices to IoT gives companies access to critical information such as fuel saving and energy efficiency which then helps them analyse [usage and wastage] and in turn helps save costs.

Another segment that can benefit from the IoT is the healthcare sector—imagine a pill bottle that issues notifications to patients when it is time for dosage, and sends alerts to the doctor if a dose is missed. Smart parking, on the other hand, can inform drivers about a vacant spot available on the street via a mobile phone app. In general, instead of only selling a product, companies can collect and sell a host of data related to that product including sales patterns, customer demographics, and business analytics.

For any advancement, if there are market drivers, there are barriers too and IoT is no different. There are increasing security and privacy concerns, in addition to problems with first-hand implementations and technological fragmentations. Consumers, today, are smart enough to understand that the vulnerability of acquired data (to hacking) increases with advancements in IoT. In a survey conducted by KPMG, 74% of millennials said they would use more IoT devices, if they were more confident

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about the devices' security. Among the other age groups, around 50% of GenX and Baby Boomers held the same view. Companies entrusted with data need to realise that cybersecurity is no longer an internal IT risk, rather a huge strategic business risk.

It is of utmost importance for businesses to bear in mind that digitally charged products allow for survival, growth, and many expansion possibilities along with gigantic strategic values for developer communities. Working together is the need of the hour, more than ever—producers and service providers need to collaborate. According to me, the key is to keep experimenting in short and iterative cycles and focus on straightforward solutions rather than complex ones which need a strong foundation to fall back on.

To quote a real example of experimenting with IoT, Extentia in addition to services in the software development sector, conducts an annual hackathon, X24. A 24-hour build-to-pitch marathon, X24 aims at enhancing innovation, perseverance, and creative thinking within the company. Last year we built TrackWiz, an IoT-based application to track and monitor temperature, humidity, and air pressure in pharmaceutical storage units. Using this pharmaceutical companies can stay calm as the IoT device is there to capture the data and act as per the situation.

When an IoT-enabled solution is built, it creates a relationship between the business, the product, and its customer. It is an ongoing cycle which improves customer engagement and awareness—something that every company seeks. The benefits of IoT for businesses are endless. They must watch, feel, and listen as the devices out there are doing exactly that, ceaselessly. ■

