



# HOW SMART TECHNOLOGIES ARE IMPACTING IOT

A UST Global POV



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## IoT & Other SMART Digital Technologies: Success Lies in Collaboration

Today's information technology landscape is undergoing a rapid transformation driven by Social, Mobility, Augmented Reality, internet of Things (SMART) and other new innovations.

Because these technologies, and others such as cloud and big data analytics, are increasingly intertwined, IoT cannot be developed in a vacuum. Rather, successful IoT initiatives must carefully consider the interplay between SMART technologies to better identify opportunities for improving the user experience and maximizing competitive advantage.

For example, the ability of augmented reality to visualize data from numerous sensors simultaneously makes it an ideal companion to IoT for developing applications that can revolutionize the way businesses and consumers make decisions, monitor processes, diagnose problems or acquire new knowledge. In essence, augmented reality will provide the mechanism through which millions of data points generated by IoT will be transformed and delivered to end-users as valuable insights and actionable information.

Similarly, IoT and mobility are also inextricably

linked. IoT, combined with mobility, is fusing people, things, processes and data to achieve the internet of everything. The mountain of data collected via IoT-enabled devices will be fully leveraged by mobile platforms such as smartphones, handhelds, wearables and other intelligent end-points. The increased use of mobile devices, along with enhanced location awareness, will help businesses make valuable use of IoT data by gathering insights about users and their behaviors and offering more personalized products and services.

With respect to social media, IoT is both a beneficiary and benefactor of this global phenomenon. By using IoT-focused monitoring tools, businesses are leveraging social media feedback to guide continued development. On the flip side, IoT-enabled devices are making useful data available to today's socially connected demographic in a manner that generates increased end-user engagement.

## When to Implement: How Companies Can Understand & Prioritize IoT Adoption

IoT has reached a stage where innovators are paving the way for early adopters. However, IoT has yet to achieve broad-based adoption in the global enterprise owing to several challenges, such as lack of standards, interoperability issues,



infrastructure challenges, lack of training and long payback cycles.

Companies evaluating whether the time is right for an IoT initiative are advised to consider two key factors. First, clearly establish business objectives and expected ROI. Second, evaluate use cases within a similar industry or company to gauge market acceptance of IoT initiatives.

## More Data Can Equate To Even Greater Challenges

Another factor to consider when embarking on an IoT journey is that the proliferation of intelligent devices across homes, offices, manufacturing sites and a host of other areas has led to a tremendous surge in data. The true value of IoT can only be achieved if this data is efficiently captured, interpreted, analyzed and acted upon by appropriate user groups. One of the major challenges facing today's businesses is ensuring the management and interpretation of data generated by IoT-enabled devices.

## Is IoT Just Hype?

IoT can be defined as a framework that has the capacity to create a revolution with unlimited applications. If achieved, Gartner's prediction of 20 billion connected devices by 2020 will lead to near infinite opportunities to enhance productivity, efficiency and countless other metrics across a myriad of industries. To ensure that Gartner's prediction comes to fruition, IoT-

focused organizations, industry bodies and IT professionals must focus on establishment of standards, protocols and common infrastructure to provide the interoperability needed for broad industry adoption and predictable return on investment.

## Core Drivers of IoT Across Functional Areas

IoT has the potential to disrupt and improve many functional areas and processes within an organization. IoT can provide significant input to the sales and marketing decision making process. Moreover, connected devices throughout distribution and retail networks can provide valuable, real-time data and input for decision making across marketing, sales and even procurement and manufacturing.

In addition, IoT can help enhance efficiency and productivity via improvement to manufacturing and supply chain processes, and can help in implementing better control, monitoring and risk management processes.

IoT has the potential to not only provide real-time intelligence and data to the business, it can also act as a strong enabler for organization-wide optimization of resource consumption - thereby improving both top line revenues and bottom line efficiency.



## Achieving the True Value of IoT Through Data & Analytics

A major challenge facing technology teams is to ensure interoperability between many data-generating many end-points. A recent McKinsey study states that almost 40% of the benefits of IoT cannot be achieved without ensuring interoperability. IoT devices need to communicate seamlessly with each other, a goal that can only be achieved by removing technological barriers and developing open standards.

Apart from technical challenges, it is equally imperative that businesses implement data-driven mindset to decision making, enabled by IoT devices. Likewise, consumers and end-users also must begin trusting IoT systems.

IoT's growth and acceptability can be further accelerated by reducing the cost of hardware. Devices and sensors need to become smaller and more cost-effective. This trend is already underway, with telecom companies offering new solutions for affordable communication among devices. Smart phones are becoming the sensors and the new human interface for machines being controlled and data being generated. Such developments will not only expand the use of IoT-enabled devices, they will also be the driving force behind the new wealth of data available for data analytics.

Cloud services are also fueling IoT expansion by providing rapid, cost-effective access to infrastructure. However, skilled integration professionals will be essential to bringing cloud elements together in a successful manner.

Organizations must develop strong skill sets pertaining to both cloud and advanced analytics in order to manage the complex data sets from which insights will be derived and the true potential of IoT will be unleashed.

## The Road Ahead

Going forward, it is imperative for organizations to consider the implications that SMART technologies such as social, mobile and augmented reality will have on IoT and the ability to deliver value-added services to customers. If the challenges surrounding IoT are efficiently addressed, users are not far from a truly connected world where services offer real-time information in a precise, easy to understand manner that changes the way we use and interact with data.

To ensure IoT impacts our lives and livelihood in the most beneficial manner, we must focus on optimal use of the vast troves of data being generated by a plethora of intelligent devices.

Ultimately, true success for IoT will be measured by the adoption of analytics to deliver real-time intelligence and insights that make our lives more efficient, comfortable and productive.

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