



Internet of things- A view in Theoretical aspects

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Abstract

The Internet of things (IoT) means the devices with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks. IoT devices not only help to exchange data but actually help to gather and create a customer database, which is very important in this digital era. Digital Marketers can get better marketing insights and create more accurate digital marketing strategies with the help of customer database from IoT. Digital marketers understand the actual expectation of their customer's and their brand preference, with the help of IoT. This will help to improve their product quality. Data tracking from IoT devices will help marketers to predict when a customer needs a particular product or services. The IoT system provides critical personal data in full detail without the user's active participation. Since we add so many devices to the internet, there is a risk that our information as it can be misused.

Keywords: Iot works, concept, role, advantages, digital marketing

Introduction

Kevin Ashton, a computer scientist framed the concept "Internet of Things"-IoT in 1999, while working at Procter & Gamble. He proposed putting radio-frequency identification (RFID) chips on products to track them through a supply chain. The Internet of things (IoT) means the devices with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks. The Internet of Things (IoT) defines the network of physical objects—"things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. These devices range from ordinary household objects to sophisticated industrial tools.

Example

Samsung products use seamless integration to allow users to connect phones, tablets and computers easily to one another. Samsung's connected appliances can also be accessed through a mobile device where users can schedule cleanings with the Jet Cordless Stick Vacuum or get notifications when the fridge door is left open.

How IoT works?

Sensors /Detector

Sensors are continuously collecting data from their environment or object under measurement. Mobile phones, wearables, and cars, also have lots of sensors that collect data. Common sensors are PS trackers, Temperature sensors, Humidity sensors, Pressure sensors, Moisture sensors, Smoke sensors, Radiofrequency identification tags,

IR sensors. Modern smart devices and sensors use wireless networks like Wi-Fi, Bluetooth, and Zig bee to stay connected.

Gateway / Transmitters

A Gateway is like a bridge that connects IOT devices with a cloud. They collect the data from IoT sensors and transmit them to the cloud, and it also receives information from the cloud and sends it to the devices.

Cloud / Big data

Internet of things generates a huge amount of data. Activities like storage and data analyzing take place in the cloud infrastructure. Cloud refers to as the brain of IoT. The analysis involves interpreting raw data to determine which is actually valuable and finally it provides useful information to the end-user. This data is valuable for a predictive analytics model.

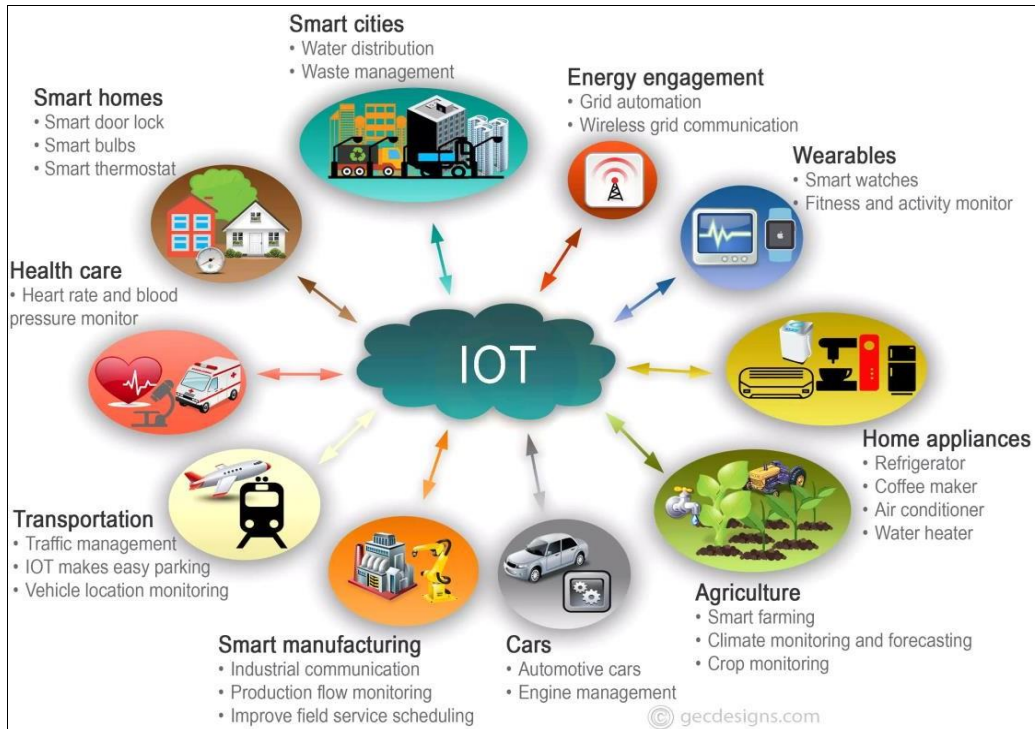
User Interface / End Users

The final step is delivering useful information to the end-user, and that is the visible part of IoT. End-user may be an industrial user or another device, which is in Machine To Machine (M2M) workflow. Raw data transform into insights, and it displays charts, metrics, and indicators. Mobile apps act as an interface to control and monitor smart devices.

IoT devices not only help to exchange data but actually help to gather and create a customer database, which is very important in this digital era. "Data is King".

With the help of the customer database, digital marketers can get better marketing insights and create more accurate digital marketing strategies.

Some application areas of IoT



IoT in Digital Marketing

IoT devices not only help to exchange data but actually help to gather and create a customer database, which is very important in this digital era. Digital Marketers can get better marketing insights and create more accurate digital marketing strategies with the help of customer database from IoT.

Role of IoT in Digital Marketing Product Development

This is one of the biggest pros that IoT has served for the sellers/manufacturers since its inception. Because of the data that is exchanged between the consumers and the marketers, the sellers get to know the feedback, if the consumers liked the product or not, etc. This way, they can make alterations to the products or take immediate actions wherever necessary. They can also make predictions to customize the customers’ needs.

Digital marketers understand the actual expectation of their customer's and their brand preference, with the help of IoT. This will help to improve their product quality. Forecasting of demand and plan for new product is also possible through IoT. Accessing data from IoT devices will help businesses to make better and faster with better decisions.

Analyze customer’s buying behavior

Digital marketers understand the buying behavior of customers from start to finish, and it will give a clear view of where the customer is in their buying journey, it can be done easily by IoT.

IoT can provide more accurate information about consumer’s preferences, needs of the consumer, purchasing pattern, what trends impact the purchasing pattern of consumer, and location that allows marketers to customize the products accordingly.

When marketers study and follow the patterns of a consumer’s activities, they will be able to predict their

future sales to customize the products or services according to the requirements.

Big Data

Marketers gather lot of data about consumer's through smart devices, which in turn used for effective marketing campaign. Big data provides more accurate insights that will help marketers to reduce risk and increase opportunities.

Customer analysis

Smart devices read consumer’s mind. Smart devices provide a huge amount of data which will give deeper and key insights about customers.

Data from smart devices used to understand the everyday lifestyle of your consumers. It allows digital marketers to promote products based upon collected data.

Data tracking

Data tracking from IoT devices will help marketers to predict when a customer needs a particular product or services. It also used for timing of sales and the real-time customer insights help marketers to boost sales.

Better Personalization

Personalization is an effective way to reach, and engage your audience. IOT helps marketers to connect with their customers on a real-time basis. It helps to target the audience more accurately, and it improves the effectiveness of the marketing campaign.

IoT allows you to gather a variety of information about your customers which will help you to identify what type of campaign should engage your customers.

Based on the collected data, marketers can give the optimal message at the right moment to complete the buying journey. It used by marketers to make more relevant ads as well.

Marketing automation

Normally marketers spend lots of time, and effort to gather customer data. But IoT helps marketers to save time on gathering and analyzing data.

Customer satisfaction

In today’s digital world, everyone wants the fastest customer service, and it is of utmost importance for every marketer. With the help of real-time data, marketers can respond to their customers faster.

More connectivity

In IoT, any smart devices can be used as a channel to connect with your customers. So every smart product will help marketers to connect with their customers, and that leads to more customer engagement.

Example Geofencing

Burger king executes geofencing IoT technique to get greater success. They launched a campaign named “Whooper for a penny”. This means any McDonald's customer within 600 feet would receive a notification on their smartphones and be directed to the nearby Burger King outlet.

Print advertisements

Print advertisements and IoT technologies probably feel like two different ends of the marketing spectrum-the past, and the future. But they might not be. Nivea Sun Kids created a campaign that combines both, by offering bracelet strips in a Brazil magazine print advertisement that parents could peel off and put on their children’s wrists. The bracelets had built-in locators, which paired with Nivea's mobile app, allowed parents to set a maximum distance their children could wander. Of the child wandered beyond the maximum distance, the app notified the parent.

The radar also showed if the child was moving closer or further away. Nivea’s creative campaign likely encouraged word-of-mouth advertising between parents in Brazil, and it also showcased the as being thoughtful and innovative. We’ve only scratched the surface when it comes to IoT marketing. While some tactics require more resources than others, there are a lot of affordable and creative methods brands can use to incorporate IoT into their marketing strategy.

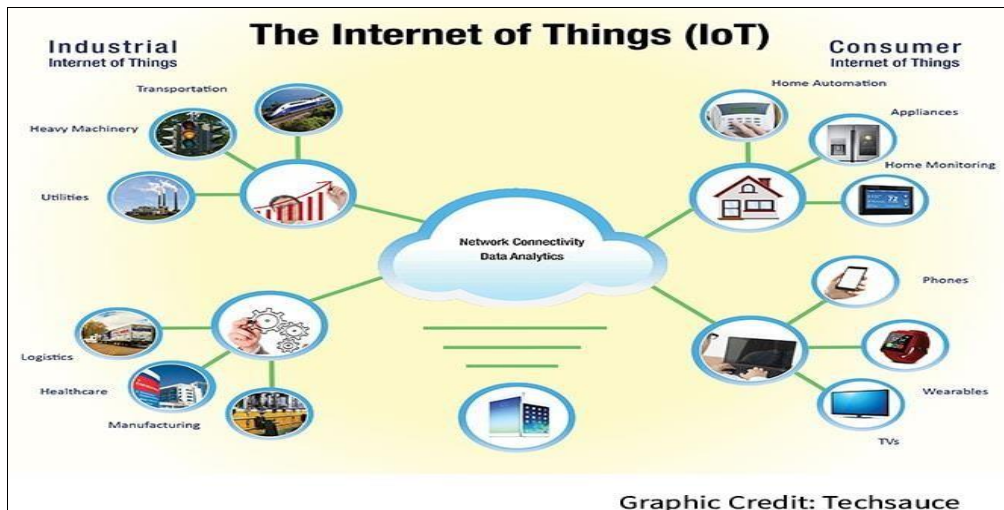
Smart Product Labels

A restaurant plans to put a scan able QR code on the table where customers scan the code to know today's special dish, offers on drinks, and many more benefits. Also, some businesses allow customers to scan the QR code to get the chance to play a game to win exciting prizes which could be redeemed in the same restaurant.

Advantages of IoT

- Reducing human intervention
- Cloud computing & Data
- Smart Devices
- Effective resource management
- Lessening of the usage of other electronic devices
- Use in traffic systems
- Useful for safety concerns
- Advantages for the health care industry
- Low operation cost
- Better customer experience
- Increased productivity
- More business insights

Industrial IoT vs Consumer IoT



Conclusion

Hackers may gain access to the system and steal personal information. Since we add so many devices to the internet, there is a risk that our information as it can be misused. The IoT system provides critical personal data in full detail without the user’s active participation. They rely heavily on the internet and cannot function effectively without it. Overuse of the internet and technology makes people ignorant because they rely on smart devices instead of doing physical work, causing them to become lethargic and inactive.

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