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Internet of Things

Implication and impact of IoT

Internet of Things

Gordon Moore, who was the co-founder of Intel, made a comment in 1965 where he mentioned that technology will double in improvement every 18 months. His observation or comment came after he noticed that the number of transistors per square inch on integrated circuits was doubling every 18 months since its invention (Moore’s). Not only that, but the data density was also doubling within that time frame too. This gave him the conclusion the technology will double in quality and improvement every 18 months. And till this date his observation cannot be any closer from the truth. Technology has gone beyond peoples’ imagination and his statement holds strong till date. The latest improvement in technology has been in the recent phenomenon called as the internet of things.

Technology has taken a leap from mega size computers to microchips. And now with the introduction of internet of things, technology is able to become more efficient and capable more than ever. Internet of things (IoT) is the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment (Forbes). The physical objects may include things which are embedded with network connectivity, sensors, electronics, software etc within the object. The way the implication of such embedded software and hardware work is that it improves the integration of data transportation, data manipulation and understanding and customizing accordingly in a very efficient process. Considering cars had IoT implemented in them, a good example will be when there is a game day in Tempe. If there is more cars traveling towards the Sun Devil Stadium then the IoT of the cars can signal to city traffic systems which can allow the city traffic system to change accordingly and cater to the extra traffic flow towards that specific area and make changes to reduce traffic jam. This use is only a very simple implication and the possible uses of IoT is much more.

The implication and impact of IoT will be significant. That being said in short the impact IoT will have is basically “anything that can be connected, will be connected” (Forbes). Another example can include for example, that if your car has IoT and thus also has access to your calendar, it can help you reach your destinations for the faster. Basically the car will have an idea where you need to go at the start of the day and throughout the day. This will allow the car to plan the destination and thus also allow to plan the route. The car can also use historical data gathered from the routes to determine the traffic flow capacity and history of the routes and determine the best possible route for the destination. Not only that by using live GPS data the car will be able to calculate an even more appropriate route by adjusting with the historical data as well as the current GPS data, as GPS data cannot show future change of traffic flow on the route. But with the combination of historical and live data the car will be able to make predictive analysis and plan a route accordingly.

The application of IoT is somewhat limitless in the future. IoT can be implemented in various industries expanding from different horizons and yet having a significant impacts. In the media industry it can have significant impact. If humans have IoT implemented in them or they carry an item all the time that IoT systems implemented in them, it gives the opportunity to gather various types of data. The data gathered may include when a person usually has less productivity thus more free, in what type of reading he prefers that whether it be digital or paper, how much one spends on media. All this information gathered can allow media providers to understand better on whom to target, where to target, how to target and with what price to target with. And eventually it will give more convenience for the consumers also.

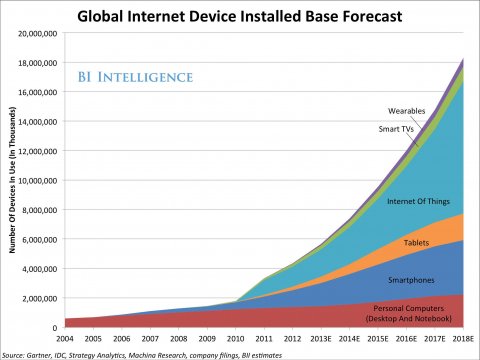
IoT can be used for environmental monitoring as well. This includes understanding the current number of a specific animal by having a sample number of the animal implement with IoT. This can give a better understanding of how daily life is, what is their reproduction level etc is. It can be develop early tsunami and earthquake warning systems to prevent losses from disasters.

Infrastructure management is another useful tool in which IoT can be used significantly to further improve lives of general population. This can include improving the traffic flow in cities which can have a huge impact in reducing wasted time when commuting. This can help improve productivity significantly. This can be an extremely useful to understand and provide better emergency management in times of crisis. For example, if humans have IoT implemented and there is a flood in a region. Then with the use of IoT, the government can get a very quick idea about the number of people affected from the flood and be able to plan their rescue plan accordingly and if needed ask for or even international help much quickly.

IoT will significantly help the manufacturing industry gain much better optimization. This will be possible due to the fact that IoT can allow much faster information transfer to multiple stakeholders at the same time and coordinate the whole supply chain in the process rather than being stuck on by bottlenecks due to the layers or gatekeepers involved. IoT will allow to understand if an item is undersupplied currently in the market thus allow the opportunity pass the information to increase supply instantly to a plant. It can use previous data, to further understand future needs and create better predictive analysis. With such use the control systems from the IoT will further automate process controls, operator tools and service information systems to further optimize plant production with their demand and boost profit.

In the world where energy is being wasted significantly due to lack of proper monitoring and controlling process, IoT can intervene to void that gap. For example, IoT can be used to further reduce the wasted energy of light bulbs in a room. This is so because with the IoT systems of the bulb and of a person, they can interact to understand whether the person is using the room or not. This will allow for instant decision making and not have a specific idle time needed to turn off a light. This can apply on a macro level by understanding the level of power in different regions in a country during different times of a day throughout the year which will allow better allocation of scarce resource.

Another significant use can include the use of IoT in medical and healthcare systems. This is so because IoT can allow medical companies and healthcare providers’ huge data regarding a person throughout his or her lifetime. This will allow to further understand what can be expected out of a person’s health at a specific time throughout his life. IoT can also be used to save people’s lives when in danger. For example someone might pass out due to some illness and IoT can send a signal to emergency medical to reach out for help.



From the figure above it can be easily interpreted that the growth of IoT will be massive and in trillions of dollars worldwide throughout the next few years. It will be the new breakthrough in technology.

References

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