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A JOURNEY FROM INTERNET OF THINGS(IOT) TO INTERNET OF EVERYTHING(IOE)

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Abstract:

After analyzing recent advances in the areas of internet of things (IoT), internet of everything and internet of Nano things(IoNT), the paper also presents prospects for potential growth of their implementations. The IoE is indeed a general concept relating to internet-connected devices and consumer products, and is fitted with advanced mobile apps. It is a term where technology evolution consists of numerous computer devices, and objects linked to the worldwide network. The IoE is a general term concerning internet-connected devices and consumer goods, and is equipped with extended digital applications. Often the term is synonymous with the IoT. The word IoEis a fairly recent term, in this analysis of the paper specifically distinguishes between IoT and IoE which many people wrongly consider to be the same. The goal of this article is to differentiate clearly between IoT and IoE, its implementations and the effect of IoE on industry.

Keywords **—Internet of Everything, Intelligent connection,Internet of things, Business.**

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I. IMPORTANCE OF INTERNET OF EVERYTHING

The Internet of Everything is a general term that applies to internet-related devices & consumer products, and is fitted with enhanced social media. This is a term in which various types of devices, computers and artefacts related to the worldwide network make up the technological future. “The IoE brings together people, processes, data and things to make more accessible and meaningful contacts more interconnected than before, translating knowledge into activities that generate new capacities,improved experiences and incredible economic opportunities for enterprises, individuals and nations." In simplified way, IoE is the smart communication between people, data,process,things. The IoE describes an ecosystem in which billions of things are supplied with sensors to measure and evaluate its own position; everything connected by common and specialised protocols over everything networks. The IOE mainly relies on 4 pillars that are people, data, processes and things.

Fig no. 1.1 Internet of Everything is all about these things

IOE mainly relies on 4 pillars.

PEOPLE:People play a major role in the concept of IoE because there would be no connecting without them, no successful communication. People are at the heart of M2M, P2M, P2P communications experiences. Via devices like smartphones, PCs and iPad, and social media such as Facebook and LinkedIn, people are willing to communicate. As the Internet of Everything expands, expectations of people on the internet will change. For eg, it could become routine to wear sensors on our skin or in our clothing that record and transfer data to health care providers. Some observers also suggest that individuals may become nodes that produce a static data stream that is constant.

DATA:Devices nowadays use everything collect data and send it to a central server over the Internet, where it is analysed and processed. As the capabilities of Internet-connected devices continue to improve, they will become smarter and can solve the limitations of conventional batch-oriented data processing by merging data into more valuable knowledge. Instead of merely reporting raw data, connected objects would soon be returning higher-level information and observations to machines, computers and humans for real-time further measurement and decision making. This transformation facilitated by the growth of the IoE is significant, as it will enable people and machines to make faster, more intelligent decisions and more effect smarter decisions, as same as more effective control over our environment.

PROCESS:This includes the modern trend, company, organisational and other procedures required to manage and, to a significant extent, to simplify the explosive growth of communication — and the resulting absorption, analysis and communication of information -- that will be unavoidable on the Internet of everything. Processes will also play a crucial role in how each of these entities-people, data, and things-interact within the IoE in order to have each other with social performance and potential value.

THINGS:Web-connected digital computers and intelligent artefacts of decision-making; also Everything IoT. The IoT is a network of physical things that are accessed over the Internet. These artefacts involve integrated communication systems with internal or external environments. In other words, they alter where and how they make decisions and who makes them as things feel and communicate with each other. Nesting thermostats are a case in point.

Fig no. 1.2pillars of IoE.

II. DIFFERENCE BETWEEN IOT AND IOE

In 1999, the word IoT was coined to denote machine-to - machine (M2 M), contact. A few years later IoE tended to define interrelated elements of a whole system, including individuals. IoE includes not just M2 M communication but also P2 M communication (people-to-machine communication) and also P2P communication (people-to-people).

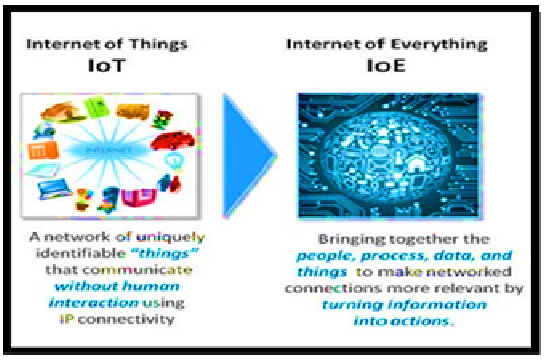

Fig no. 2.1 difference between IoT and IoE.

The four-pillar IoE : people , processes, data and things build through one pillar on highest point of The Internet of Things (IoT): things.In addition, IoE is further advancing the Internet's ability to boost economic and business results, and eventually improving people's lives by contributing to IoT growth. (Dave Evans, Chief Consulting Officer at Cisco). Another way to understand this is that IoT represents a network and things while IoE represents a network, things, people, data and process as well.

III. THE IMPACT OF IOE ON BUSINESS

The Internet of everything is expected to reinvent the wheel of business everything together. From business processes, business models to business moments everything is expected to change with data change making critical decision making.

Business process:With the process, we refer to the activity methodology, e.g. manufacturing process, market strategy, etc. We can generate insights by using the Internet of Everything to guide decision-making at every stage of the business. In addition, a host of data sources open gates to new types of information that can be used to convert qualitative insights into quantitative numbers. For example, to link employee output based on a change in a variable work environment.

Business Models:The way in which new businesses develop is disrupting current business practises. Nike's health equipment for instance is changing the way HealthCare operates. Nike is at its centre a fitness and sports brand, but will not only enter but also improve the healthcare industry by using smart technology. In the same way, Google is an IT company but its smart cars are going to revolutionize the automobile industry.

Business Moments:Business Moment is the need to perform with agility and pace according to the speed of data generation. Web above Everything represents the world-connected web. With each new project we are adding sensors and data sources to the amount of data currently available. This will create opportunities for enterprise to generate fast insights. But the uncertainty comes with the availability too. Companies will seek to exploit this data quicker than their opponents, leading to flexible and rapid business decisions.

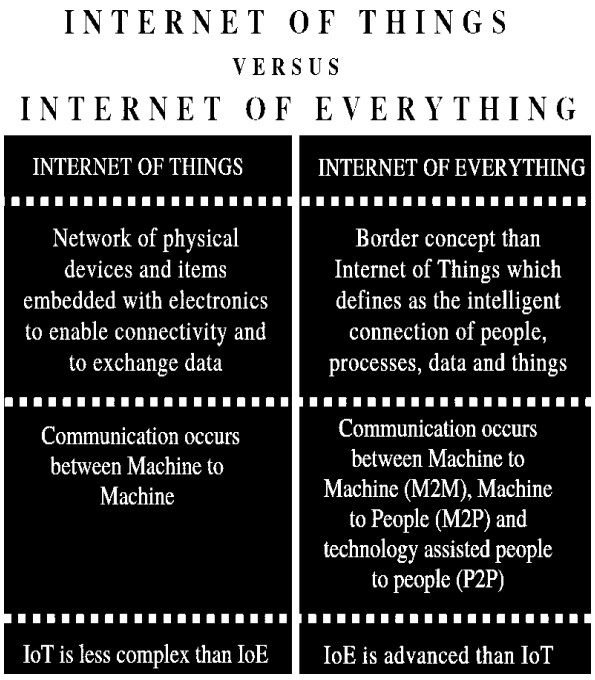

Fig no. 3.1 Internet of Things vs. Internet of Everything

IV. APPLICATIONS

As for the market, we may claim that IOT is a technology of any business with trust. IOE technology is particularly relevant for some of the most critical areas, including (1) manufacturing, (2) retail, (3) information, (4) finance & insurance, and (5) healthcare.

IOE technology offers nearly infinite opportunity. Here is one example: Annually, more than 800 bicycle riders die in traffic crashes around the world. What if there was a way to attach the bike helmets in a single IOE with traffic lights, ambulances and the hospital ecosystems. Will that improve chances for survival for at least some of those riders be a negative sign.

Here's another example, do you know how much food goes to waste, say at large supermarkets, because the best-before-date food is not purchased? Some perishable items such as fruit and vegetables are thrown away long before they come into the market due to overstocks. What if you find a way to link your food stocks with supermarket in-stock control system racks and forklifts using IOE is a question mark.

V. CONCLUSIONS

As we talked about in this paper IoE is better than IoT. The generation to come will depend on IOE. As we can see, IoE is a rising phenomenon that is gaining more with time. Other than the above-mentioned applications, there are several other benefits and these will expand forever. We're just at the beginning of the iceberg and there's still a lot to discover. we still have a lot to explore the complexities that will come along the way of using these technologies.

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