Current and Upcoming Benefits of the Internet of Things.. And What are the Risks that we Face in the Future?

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Abstract:- The emergence of modern technologies led to the application of knowledge and skills and the use of all tools, methods, and methods to transform the available resources into useful elements for humans. It senses and controls different things from a distance, which has formed an interdependence between many physical devices and greatly affected the way we deal with things.

Keywords:- Internet of Things; Technology; Internet; Sensors.

I. INTRODUCTION

Today, many critical issues have emerged into the technical arena that have greatly affected and continue to affect our lives and our future, and have had many benefits, the most famous of which is the term Internet of Things. What does this term mean? What are its current and future benefits? What are the risks that we may face in the future?

II. WHAT DOES THE TERM INTERNET OF THINGS MEAN?

Every day, a large number of devices around the world are connected to the Internet, collecting data and sharing other data. The Internet of Things in short is the process of connecting any device to the Internet and other devices that are also connected to this network, which means that the Internet of Things is a giant network full of equipment and settings and directed by people whose task is to receive and share data, especially with regard to the way you use a particular device, or what surrounds you, from Heart rate monitors to your car to your home.

IoT technology depends on sensors that sense and control different things from a distance, which in turn has affected many areas of daily life, technology and the economy significantly, as IoT technology will be considered one of the most important, strongest and greatest developments that have appeared in the technological sector since the emergence of The Internet, and it can also affect the way we deal and communicate with things, people and those around us, and there will be great interdependence and integration between many physical devices, sensors associated with devices can perform many functions depending on the nature of the device associated with it, such as thermostats, printers, televisions, and even cars. IoT technology has made the world today smarter and more responsive, by making every device connected to the Internet and turning it into a part of the Internet of Things.

III. WHAT IS ITS MECHANISM OF ACTION?

The Internet of Things (IoT) technology relies on sensors that collect data and then send it to the World Wide Web, which provides various services through sensors linked to servers in several ways, including satellites, smartphones, Wi-Fi, Bluetooth, and others.

The data is processed in the cloud as soon as it arrives, using data analysis software, and finally, an alert of the results is sent to the end user, to make any modification or change required in the sensor settings, or it is done automatically.

The concept of (IoT) is also not as simple as it seems, it is technically complex, as it includes many programming languages, and is regulated by a set of protocols.

IV. WHAT ARE THE COMPONENTS OF THE INTERNET OF THINGS?

- Sensors.
- Internet connection.
- User interface.
- Data processing program.

V. IS IT REALLY SO IMPORTANT?

The Internet of Things gives people a smarter everyday life and efficient work, giving them control over their lives, from simple tasks related to travel, tourism, shopping, and fitness, to smart devices that power home automation, and the complex tasks used by many companies in the industrial sector.

➢ *IoT and companies*
Contributes to job satisfaction, increased productivity, improved performance and achievement, and improved customer experience.

➢ *IoT, Business and Finance*
It reduces costs, enhances employee and worker efficiency, improves occupational safety, and advances and facilitates automation.

With regard to the efficiency achieved by the Internet of Things, a study conducted by the company "Aruba" stated that 46% of the companies that used (IoT) technology in their implementation programs have achieved many gains in terms of efficiency, although only 29% have expected such gains,

while Although these numbers seem low, many companies have been more interested in implementation and follow-up on their operations than on improving the efficiency of a particular task.

Also, 78% of individuals indicated that the application of the Internet of Things in their work contributed greatly to the improvement and development of their information technology department, and 75% the opinion that the use of the Internet of Things contributed to increasing their profit.

VI. WHAT ARE THE CURRENT AND FUTURE BENEFITS OF THE INTERNET OF THINGS?

A. (IoT) at home

Can you imagine your daily system organized and accurate, starting from the moment you wake up to an alarm on time, the alarm associated with IoT technology is self-adjusting according to any external factors that may affect the time it may take you to go to work, whether traffic or weather, to act on Putting the appropriate time for these different factors to wake you up and prevent you from being late for work so that you find that the coffee machine connected to the IoT technology has prepared you a great cup of morning coffee, or you may find that the lights have turned on as soon as you enter the house, or gone out as soon as you leave it, and much more Features and updates that are convenient for you.

B. (IoT) in the car

In cars connected to IOT technology, sensors can capture data related to the condition of the car parts if there is a malfunction, and send this information to the manufacturing platform, so that the manufacturing platform schedules an appointment to repair the faulty part of your car, and many more advantages.

C. (IoT) in Education

Using the Internet of Things, teachers can access a large number of educational aids with high quality and use many tools to create educational content for their students, and the teacher helps in the process of automating teaching tools, methods, and curricula, and tracking attendance and absence, and can take many educational and university lessons or obtain any Online degree, foreign language learning, task-based learning, and special needs education where hard of hearing people can use a system of connected gloves and a tablet for sign-to-speech translation and voice-to-written translation.

D. (IoT) in medicine

The Internet of Things can contribute to the transfer of medicine, a major qualitative leap, by working on developing hospitals and taking care of patients and people with special needs. His arrival at the hospital and thus taking advantage of time and saving many lives, as well as using the Internet of Things technology to follow up and monitor the patient from a distance, as the permanent and continuous monitoring of the patient's condition through cameras, sensors, heart rate monitoring, temperature, blood pressure, etc., may preserve the patient's life and make it easier for them to know his condition developments, See Table No. (1) which shows examples and real uses of IoT technology and its applications.

Table 1:- examples and real-world uses of IoT technology and its applications

Examples	Uses
Internet of Things sensors	It is used to send data to connected devices
data analysis	Analytics of motion data, geographic data, and healthcare
Tracking and Monitoring Systems	used for positioning or frequencies
Factory management	To manage industrial internet devices
Intelligent supply chain management	Inventory management, vendor-customer relationship, and scheduled maintenance
Smart barcode reader	AI-based digital signal processing
smart grids	Monitor electricity supply and demand in real-time
interconnected healthcare systems	Providing high-quality medical services
smart farming	Determine the best time to pick fruits and create fertilizer profiles based on soil chemistry

VII. WHAT RISKS WILL WE FACE IN THE FUTURE?

With the increase in the number of devices connected to the Internet and the sharing of more data between these devices, this may put your privacy at risk of spying and theft of confidential information, and companies may have to deal with a large number of devices connected to the Internet of Things, which may make them face great difficulty in Collect and manage data from all of these connected devices.

The most important point in the IoT system is that if an error occurs in the system, the possibility of damage to all devices associated with this system is great, and there is no regulatory standard that is compatible with IoT technology, it is difficult to connect and the link between devices that differ in the manufacturer.

VIII. CONCLUSION

The Internet of Things technology can be considered a gateway to a new era full of opportunities that must be exploited, and the benefits of using Internet of things technology in many areas cannot be denied. Among the many smart devices, contribute to reducing costs and improving efficiency.

The Internet has certainly had a role from its inception to the present day in any development and progress, and although some will welcome the new era of the Internet of Things, others may cry over the past years and its missing details.

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