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Conceptual study of smart machines for business development

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Abstract

The Business organizations are improving their performance by using advance technology in performing the business functions. A smart machine is a device embedded with machine-to-machine (M2M) and/or cognitive computing technologies such as artificial intelligence (AI), machine learning or deep learning, all of which it uses to reason, problem-solve, make decisions and even, ultimately, take action. Smart machines include robots, self-driving cars and other cognitive computing systems that are designed to work through tasks without human intervention. Smart machines are digital disruptors because of the positive and negative impact they have, and will continue to have, on society. In business, the competitive advantages these technologies are capable of providing are expected to bring higher profit margins and lead to more efficient manufacturing processes. However, smart machines are also expected to displace workers and dramatically change the nature of work and other societal norms. According to Tech Target, a smart machine is an intelligent device that uses machine-to-machine technology. It includes Smart machines include robots, self-driving cars and other cognitive computing systems that are able to make decisions and solve problems without human intervention. The smart machines are very common in society now days. Also many companies are using smart machines for their functional processes in business functions. It has lot of benefits in terms of efficiency, saving time of service, improve various tasks in the companies.

Keywords: Technology, business, machine, tools, advantages, applications

Introduction

The paper is highlighting on the use of smart machines in business organizations and how do we take maximum benefit of this available technology. The history of technology is the history of the invention of tools and techniques and is one of the categories of world history. Technology can refer to methods ranging from as simple as stone tools to the complex genetic engineering and information technology that has emerged since the 1980s. The term technology comes from the Greek word *techne*, meaning art and craft, and the word *logos*, meaning word and speech. It was first used to describe applied arts, but it is now used to describe advancements and changes which affect the environment around us.

New knowledge has enabled people to create new things, and conversely, many scientific endeavors are made possible by technologies which assist humans in traveling to places they could not previously reach, and by scientific instruments by which we study nature in more detail than our natural senses allow.

Since much of technology is applied science, technical history is connected to the history of science. Since technology uses resources, technical history is tightly connected to economic history. From those resources, technology produces other resources, including *technological artifacts* used in everyday life. Machine intelligence is what's created when machines are programmed with some (but not all) aspects of human intelligence, including learning, problem solving and prioritization. With these (limited) abilities, a machine can tackle a complex set of problems.

How smart machines work

Today's smart machines might seem revolutionary, like something out of science fiction, with capabilities on par with the iconic robots of space-age movies, like C-3PO in *Star Wars*. However, smart machines are the next step in a long history of incremental advancements in machines and computing.

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Indeed, smart machines could trace their roots back to early mechanization and the first Industrial Revolution, when, in the 18th century, rudimentary machines were used to automate some human tasks. The advent of computers in the 20th century laid the modern groundwork for smart machines. Related technological advancements such as the internet, data storage systems and sensors, gave computer developers the ability to collect and analyze an unprecedented volume of data toward the turn of the century, further speeding the rise of smart machines.

Applications of smart machines

Some smart machine technologies to look into include:

- Virtual Personal Assistants.
- Smart Data Discovery.
- Smart Workspace.
- Conversational User Interfaces.
- Smart Robots.
- Commercial UAVs (Drones)
- Autonomous Vehicles.

Powered by smart machines, the new industrial revolution is changing how machine builders design, and how manufacturers operate today and in the future. To remain competitive and profitable, plants and machines will have to be smarter: better connected, more efficient, more flexible, and safe convergence. Smart manufacturing initiatives are focused on manufacturing flexibility, increasing automation levels, and digitization. In the long run, this will reshape complete factories and the way they operate. Such evolution requires embracing a multitude of technologies and ideas that will have a massive impact on end users and OEMs. This will take some time and IIoT, with all its connected devices, will act as a key enabler.



<https://www.primapower.com/smart-machines/>

Advantages of USING SMART MACHINES

- Smart machines would have a low error rate compared to humans, if coded properly. They would have incredible precision, accuracy, and speed.
- They won't be affected by hostile environments, thus able to complete dangerous tasks, explore in space, and endure problems that would injure or kill us.
- Replace humans in repetitive, tedious tasks and in many laborious places of work.
- Can detect fraud in card-based systems, and possibly other systems in the future.
- Organized and manages records.
- Interact with humans for entertainment or a task as avatars or robots.
- They can think logically without emotions, making rational decisions with less or no mistakes.



Source: <https://blog.capterra.com/what-are-smart-machines/>

Disadvantages of SMART MACHINES

- High Cost of Implementation
- It can't totally replace Humans
- It doesn't improve with experience it requires help of experts to update.
- It lacks creativity
- Risk of unemployment

Future of SMART MACHINES



<https://knowledgeworks.org/resources/smart-machines-jobs-readiness/>

The future of smart machines and its technology is very promising and bright many companies are now using such devices to perform business functions. One of the major drivers of change shaping the future of work is the rise of smart machines. We define smart machines as artificial intelligence, machine learning, robotics and other forms of automation. These technologies are increasingly capable of performing tasks that humans carry out today, including cognitive and manual routine tasks that are well-defined, routine or rules-based. Such tasks are central to many accounting, transportation, construction, repair, monitoring and production-based jobs. Smart machines are also gaining the ability to perform cognitive and manual non-routine tasks, or tasks that are less well defined and that require situational adaptability, persuasion, problem solving and creativity. Such tasks form key parts of many managerial, creative, medical, caring and science-based jobs.



<https://www.google.com/search?q=Smart+machines+pictures&sa=X&biw=1280&b>

Conclusion

The smart machines will be widely used in business firms in coming years and experts will have to provide such machines which will perform various business functions in minimum time and in less cost. Traditional machines were characterized by high-cost and limited communication technology. New smart machines are using established communication protocols, IIoT devices, and the cloud, to enable life cycle cost reductions, machine performance improvements, and new ways to interact with blue- and white-collar workers. The new IIoT technologies and practices are evolving over time. The new technologies will need to prove themselves over time in an industrial environment, and inhibitors such as security concerns will need to be overcome. Machine builders that want to maintain or improve their market position will make use of control systems that capitalize on the potential of using distributed intelligence in machines. Leveraging new technologies to improve performance and efficiency. This paper is a decent contribution in creating awareness on this important topic to the readers.

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