

2019 HOT TRENDS TO WATCH FOR



It's been declared that the Information Age is over and we are now living in the Experience Age. Developing **Internet of Things (IoT)**, or the network of connected digital devices, vehicles, and appliances, has become the primary focus of improving the user experience. The IoT has shifted the focus from collecting information to using it to create and improve experiences.

As consumers eagerly await the next smart home or wearable device, leaders across all sectors are considering the potential of IoT to disrupt and impact business operations. Customer service, risk management, and quality assurance are just a few areas that will be touched by IoT.

THE DIGITAL TWIN

IoT is expanding to include the Digital Twin—the digital counterpart of a physical product. According to IBM, the Digital Twin allows product developers to create, test, build, monitor, maintain, and service products in a virtual environment.



The Digital Twin is part of the Industrial Internet of Things (IIoT), connecting devices and impacting business operations and communications.



IOT VS. IIOT

- IoT devices for consumers include wearables, cars, and home automation devices
- IoT devices for consumers will grow to several billion devices within a few years

ON THE OTHER HAND

- IIoT will impact manufacturers' and industrial products companies' operations architecture and data delivery architecture.
- IIoT will connect devices throughout the supply chain and is estimated to grow to **100 BILLION** devices worldwide.

THE POTENTIAL OF THE DIGITAL TWIN

- Visualizes insights affecting operations and interactions that could be customized for every client
- Shifts an organization to an operations-centric view
- Accelerates the product timeline and reduces costs
- Enables proactive and predictive maintenance

KEEPING UP

- Every IIoT-connected appliance will need to have cybersecurity built in.
- Manufacturing and industrial products businesses will be impacted most directly and deeply, according to PwC.
- This means creating a product from the ground up to be connected to IIoT, which will require adjustments in the supply chain.

The first step to change is conducting a holistic and strategic review of the business model and the different forms of customer engagement.

With IIoT, operational technology (OT)—robots, conveyor belts, smart meters, generators, substation equipment, transformers—will merge with information technology (IT), which includes software and back-office systems.



BLOCKCHAIN TECHNOLOGY

There's more to blockchain technology than digital cryptocurrency Bitcoin. Blockchain technology is a decentralized ledger of transactions maintained by multiple decentralized sources, with applications ranging from data management to regulatory compliance and quality assurance.

EARLY PLAYERS

- Alphabet-owned Google is an active corporate investor, with investments in Ripple and Blockchain.
- According to a report by CB Insights, initial coin offerings (ICOs) have raised more than **\$28 IN 2017 YTD**.
- Though cryptocurrency has received its fair share of praise and criticism, business leaders should focus on blockchain's potential to revolutionize other areas.

THE POTENTIAL

- VOTING**
With blockchain, every time an individual votes the entire ledger is updated. Leaving a clear record that cannot be altered. Because blockchain technology does not have a centralized storage location, hacking—or tampering with online voting—is virtually impossible.
- SMART CONTRACTS**
With blockchain, companies can handle many transactions automatically and even integrate services across different businesses without disclosing private and sensitive information.
- SECURITIES AND COMMODITIES TRADING**
Blockchain offers a way to transparently record and track complicated transactions, as well as reduce fraud. Offering almost real time settlement, Blockchain is a solution to the time gap between transaction dates and settlement dates; it also reduces the responsibilities of clearinghouses.
- QUALITY ASSURANCE**
Blockchain has a ledger that keeps a clear and accurate record of every transaction, accessible to all users. With blockchain's visibility there is no need for a lengthy investigation because the source of a problem can be quickly identified.
- SUPPLY CHAIN MANAGEMENT**
With blockchain, managers and business owners will have greater and more accurate visibility into various business processes in real time.
- AUDITS**
Blockchain creates a permanent record of transactions that cannot be erased, only updated.

KEEPING UP

Businesses should consider all the ways blockchain technology could disrupt their operations—from digital payments to smart contracts and supply chain management.

To realize the full benefits and potential of blockchain, businesses owners should think about how blockchain can help create new streams of revenue, increase growth, and broaden or change services or product offerings.

COGNITIVE COMPUTING

Cognitive computing, or the simulation of human thought processes in a computerized model, can be applied across a wide variety of business processes. From risk management to fraud detection and more informed decision-making processes, cognitive computing is a supplement to—not a replacement for—human labor.

MARKET VALUE & GROWTH

- According to Allied Market Research, natural language processing is the highest revenue-generating technology of cognitive computing, and machine learning is the second-highest segment.
- The market for AI and cognitive computing in healthcare was worth **\$2.4 BILLION** in 2017.
- The cognitive computing market is expected to reach **\$13.7 BILLION**, globally, by 2020.

THE POTENTIAL

- FRAUD DETECTION**
Cognitive computing can help move fraud detection to fraud prevention by helping organizations bridge the gap between data quantity and data insights. Cognitive fraud detection systems will learn over time and will become better at identifying more complex patterns.
- RISK MANAGEMENT**
Cognitive computing can help manage risk when handling and evaluating unstructured data. Since 90% of data is unstructured, cognitive analytics could give businesses a stronger competitive edge by enabling them to anticipate and proactively manage risk to power performance.
- DECISION-MAKING**
According to Deloitte, cognitive analytics allow businesses to reduce subjectivity in decision-making by suggesting strategies and probabilities of outcomes.

KEEPING UP

- The first step in keeping up with cognitive technology is to learn about its capabilities and key elements.
- Business leaders should then consider how these technologies will affect marketing, R&D, and customer service.
- Existing applications should be evaluated for their potential to support various business functions.
- But rather than tearing out existing tools and destroying current processes, marketers, for example, should consider embedding cognitive computing tools into simple tasks such as content tagging.

According to PwC, business investment in IoT is expected to grow to **\$832 BILLION** in 2020. This number should be enough to open the eyes of CEOs who haven't yet realized the impact of IoT. The significance of developing IoT technologies includes the potential to disrupt business operations and entire industries. To grow and keep up with emerging IoT technologies, businesses will need to learn to adapt. No doubt, all business leaders will have to create their own unique roads to improving their customers', vendors', and employees' experiences—using IoT.

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