

Technology

Workbook

Digital Essentials program



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Using technology to unlock value

Beyond improving everyday life, new and emerging technologies help organizations move faster, make fewer errors, and generate insights for better decision-making and better product and experience design.

Key technologies and their applications

“We need secure and accurate proof of identity.”

Biometrics

A biometric scanner can verify a user’s identity based on a fingerprint, retinal scan or facial recognition. Biometric verification is used in high-security applications such as in airports and government IDs because it replaces manual verification and cannot be counterfeited.



“We need to speed up back-office processes and reduce errors.”

Robotic process automation (RPA)

RPA can automate many routine activities, such as gathering and recoding data. An RPA application can open and control other applications to pull information from forms or websites, copy and consolidate data into new locations, send emails, and handle other tasks.



“We need our software and programs to understand people.”

Natural language processing (NLP)

This form of artificial intelligence helps computers interpret written or spoken language to extract data or instructions. NLP is behind virtual assistants, online translation services, chatbots, speech recognition, and many other applications.



“We need to recognize patterns more quickly and make more accurate predictions in highly complex situations.”

Artificial intelligence/Machine learning

Artificial intelligence, or AI, imitates human intelligence. Machine learning, one kind of AI, uses analytical algorithms to find patterns in massive amounts of data. These systems can improve over time as they are trained on new sets of data or new success conditions.



“We need to scale our services worldwide, quickly and efficiently.”

Cloud

The cloud replaces an internally managed data center. It allows an organization to outsource IT infrastructure to a third party who offers on-demand service and data access. This can help the organization scale up services seamlessly and access data from anywhere.



“We need our devices to understand each other.”

Connected devices

Connected devices are physical objects that use the internet to connect with each other. They are widely used in manufacturing and industrial contexts to improve safety, reduce downtime, and increase efficiency. Their use is rising in home security, self-driving vehicles, and other applications.

