

LOG 206

M₄: Digital Business Technology Platforms

Department of Logistics

Molde University College

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Lån fra 10 000,- til 500 000,-

Lån 150 000,-



Søk Personlån ›

A man with dark hair, wearing a white dress shirt and a dark tie, is smiling at the camera. He is standing in a forest with many thin, light-colored tree trunks and some green foliage in the background. The lighting is bright, suggesting daytime.

**Six months from
idea conception to
starting a bank.**

**Story of an IT-guy who
started his own bank**

Fra idé til bank på seks måneder

Bent Gjendem er it-mannen som startet sin egen bank. Og den er noe helt annet enn en boliglånsfabrikk.

MONOBANK

- Tremendous growth
- High productivity with the revenue per Employee of \$ 400000
- Expansion to Finland



How was this possible?



The role of readily available technology solutions

- Monobank operations are fully digital
- The Bank transactions are processed in the cloud
- They developed their own internet banking and loan processing systems
- With the help of a local supplier, Monobank implemented a banking solution based on Microsoft Dynamics ERP
- The solutions are run in Azure, Microsoft's cloud-based services platform.

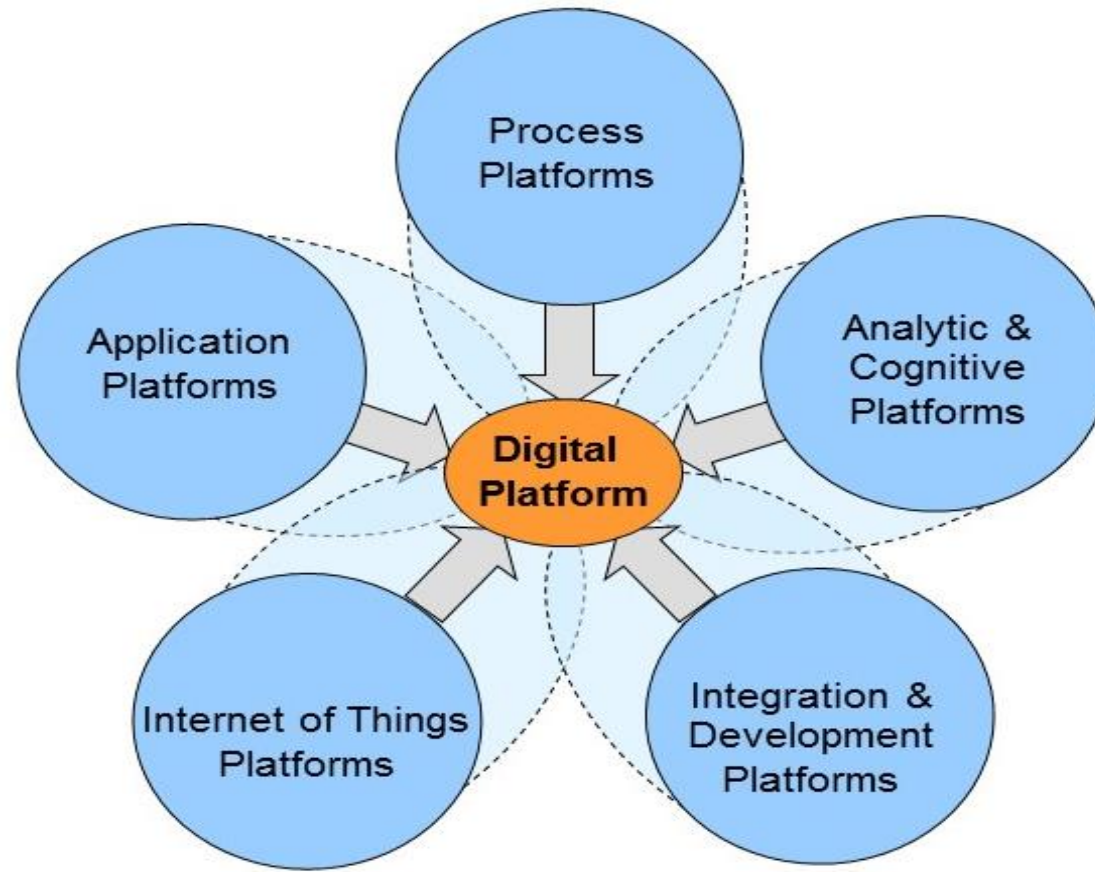


Lesson:

Digital business technology solutions can be a source of **competitive advantage**



Digital Business Technology Platforms



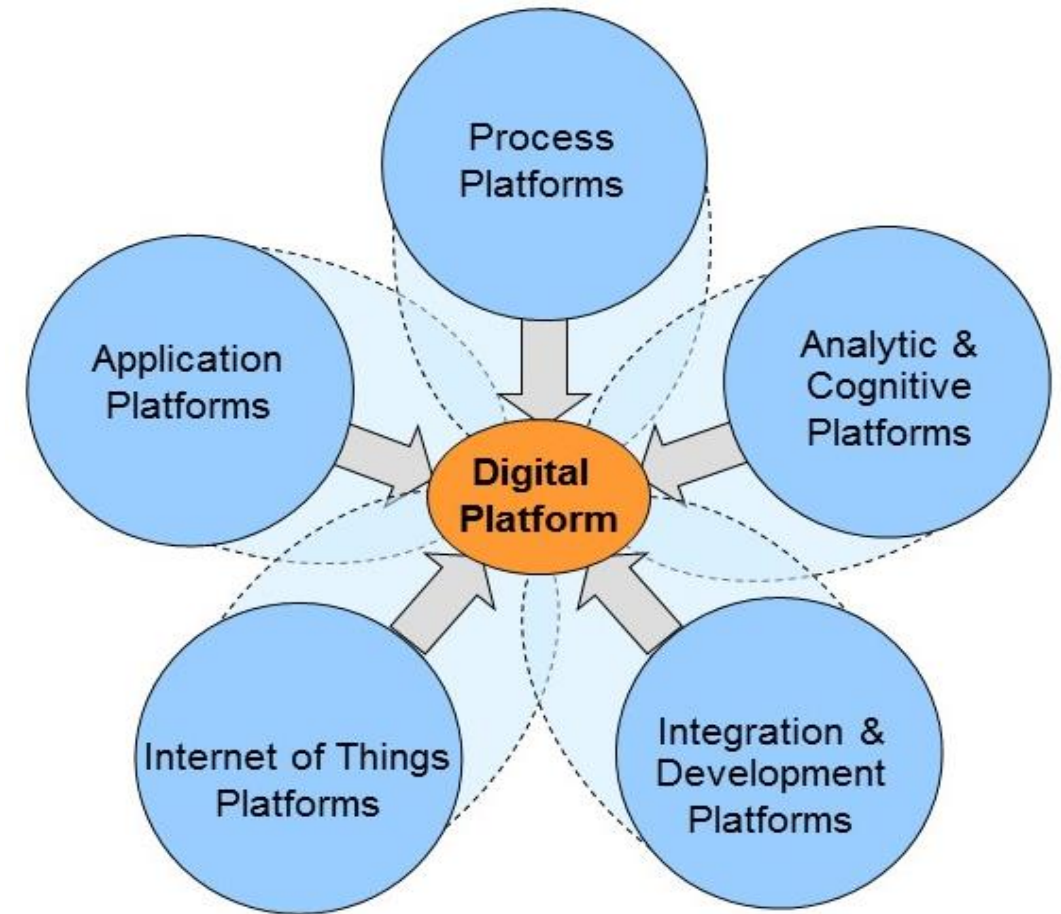
Digital business infrastructure

- Regardless of the type of digital business, **technology infrastructure** is needed to support digital business.
- That is, the combination of **hardware and software** applications used to deliver services to workers within the business and also to its partners and customers.
- Infrastructure also includes the architecture of the **networks**, hardware and software and where it is located.

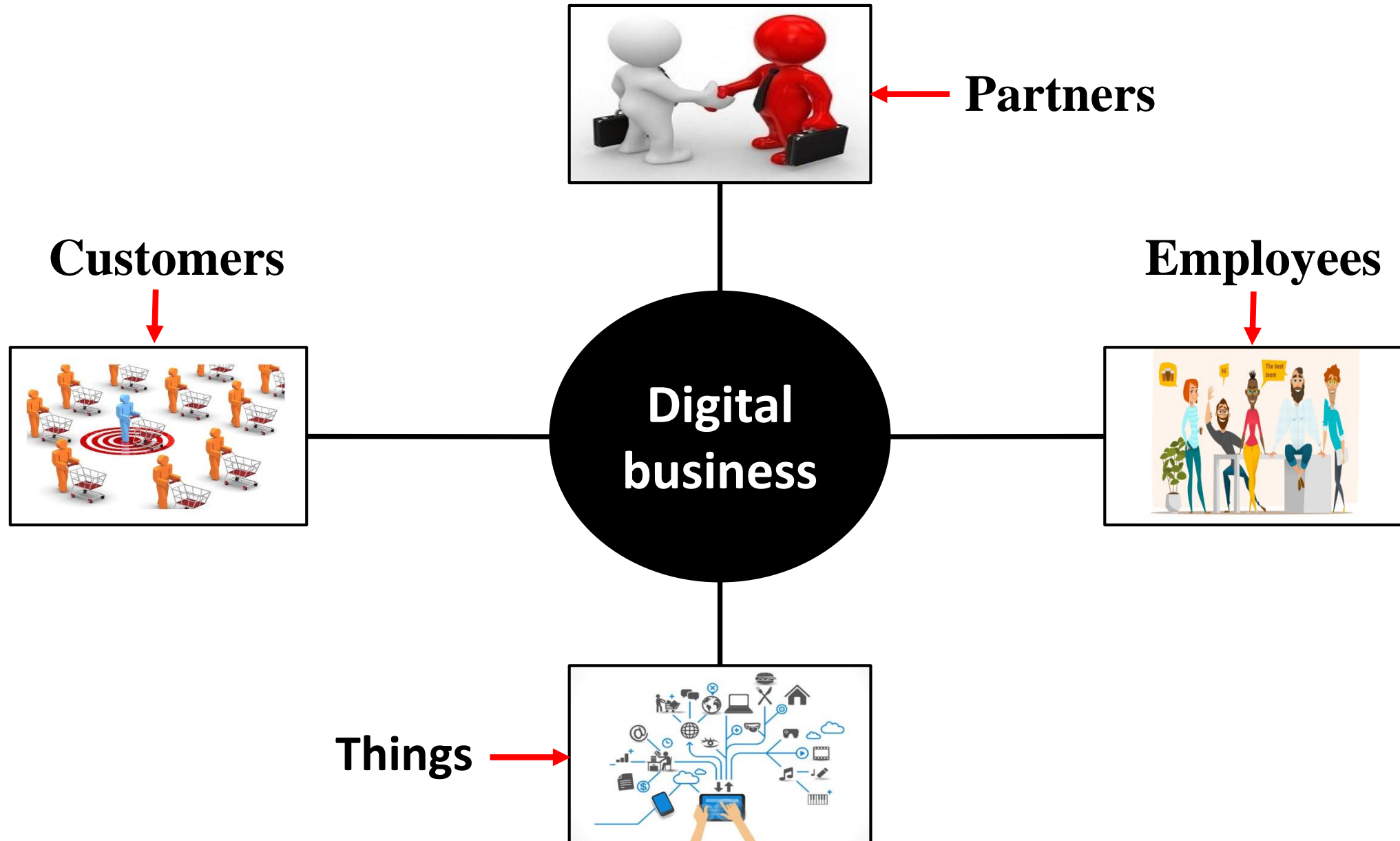


Digital Business Technology Platforms

- Organizations need to design the “big picture” of all the technology components required to support digital business.
- The word **platform** is used to describe areas within digital business that comprise of technology components based on the services they provide
- An architecture of a digital business platform will depend on the needs of your business



Four key elements



Digital Business Technology Platforms

Customers

Partners

Things

Employees



Source: Gartner

Customer Experience Platform

- The purpose of this platform is to run the technology that enables interaction and commerce with customers
- It includes:
 - Customer portals and apps
 - Social networks
 - Multichannel interaction and commerce
 - Back-office systems

Note: Multichannel capability is critical. That is, providing continuous experience to ensure that customers remain engaged regardless of interaction channel.





Customers use them to gain information, get customer service, apply for services, place orders and transact, and/or view status.

Customer Portal



The customer experience platform needs to be able to support this by enabling the posting of data (feeds) and by receiving data (e.g., customer questions from Facebook).

Customer Analytics

Customer data can be accessed from all internal and external sources (e.g., CRM, purchased data, social networks, ERP and mobile app).



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Information systems platform

- This platform enables employees and core business processes.
- It includes:
 - **Employee collaboration and workplace tools**, e.g. Email, file sharing tools, productivity tools etc.
 - **Back-office systems** —e.g. finance system, HR system, sales system, purchasing system etc.
 - **Core systems** — Industry-specific systems, e.g., a banking system
 - **Endpoint computing** —e.g. desktop computers, laptops, smart phones etc.
 - **Supplier portal and apps** — Used by vendors to transact, view and change orders electronically
 - **Operational technology (OT) systems** — they directly control and monitor equipment and assets

Employees



Technology solutions for accounting function



Technology solutions for procurement management

MANAGING PROCUREMENT CHALLENGES



Technology solutions for production function



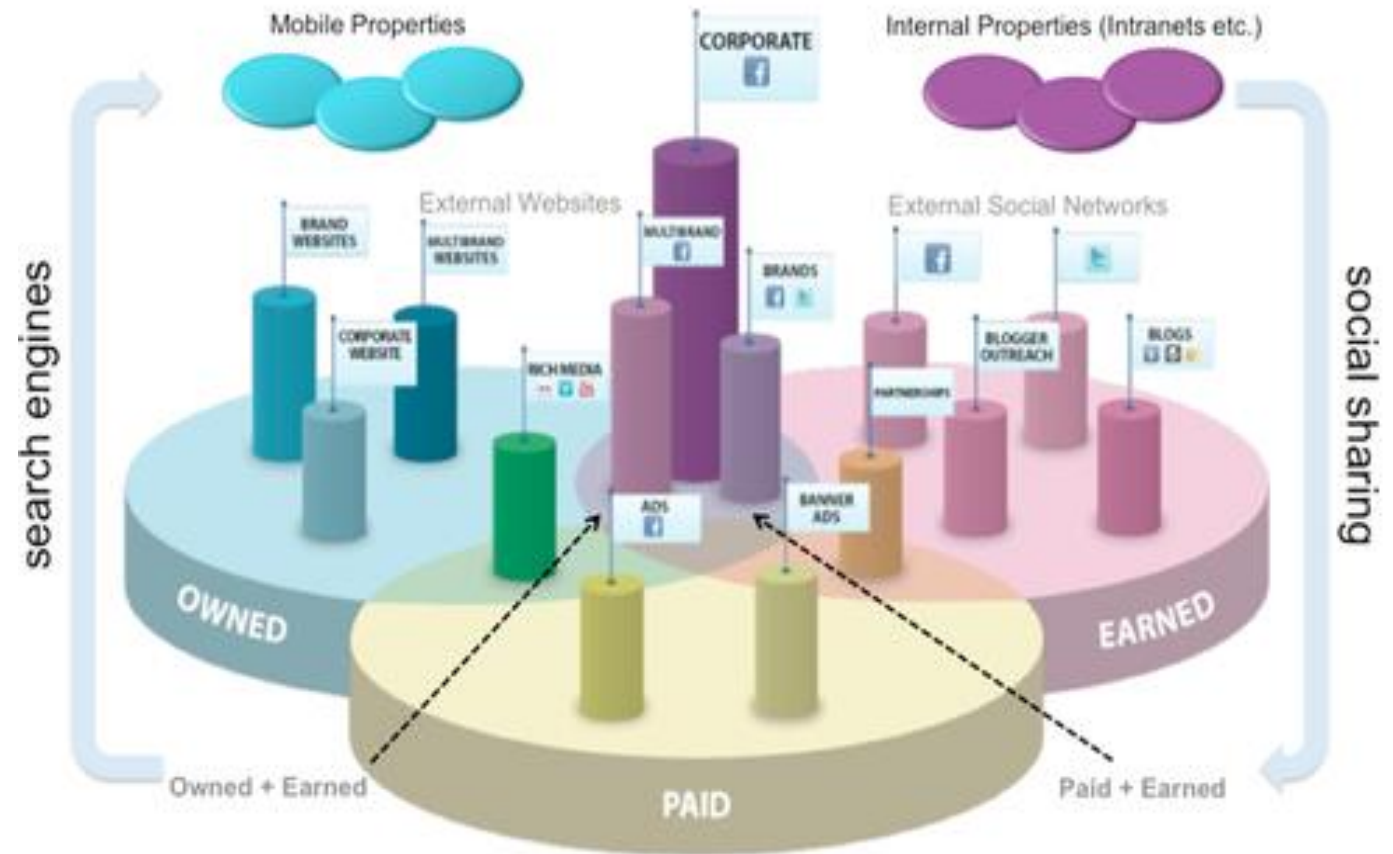
Technology solutions for human resource management function





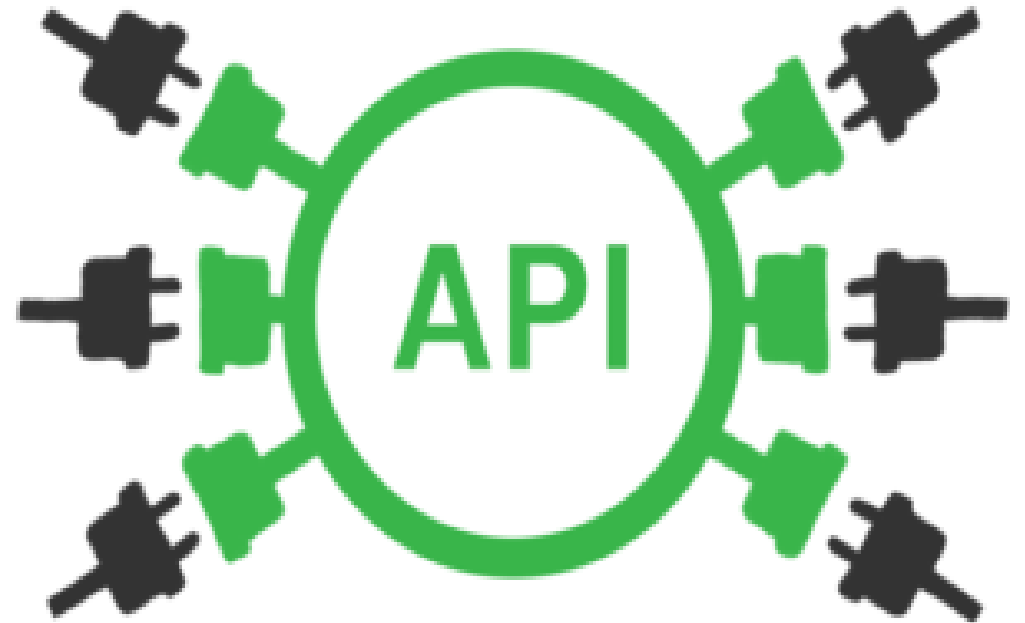
The Ecosystems Platform

- The purpose of this platform is to enable an enterprise create value with other actors in the digital world.
- This requires the ability to make assets like data, algorithms available to external actors through **APIs**

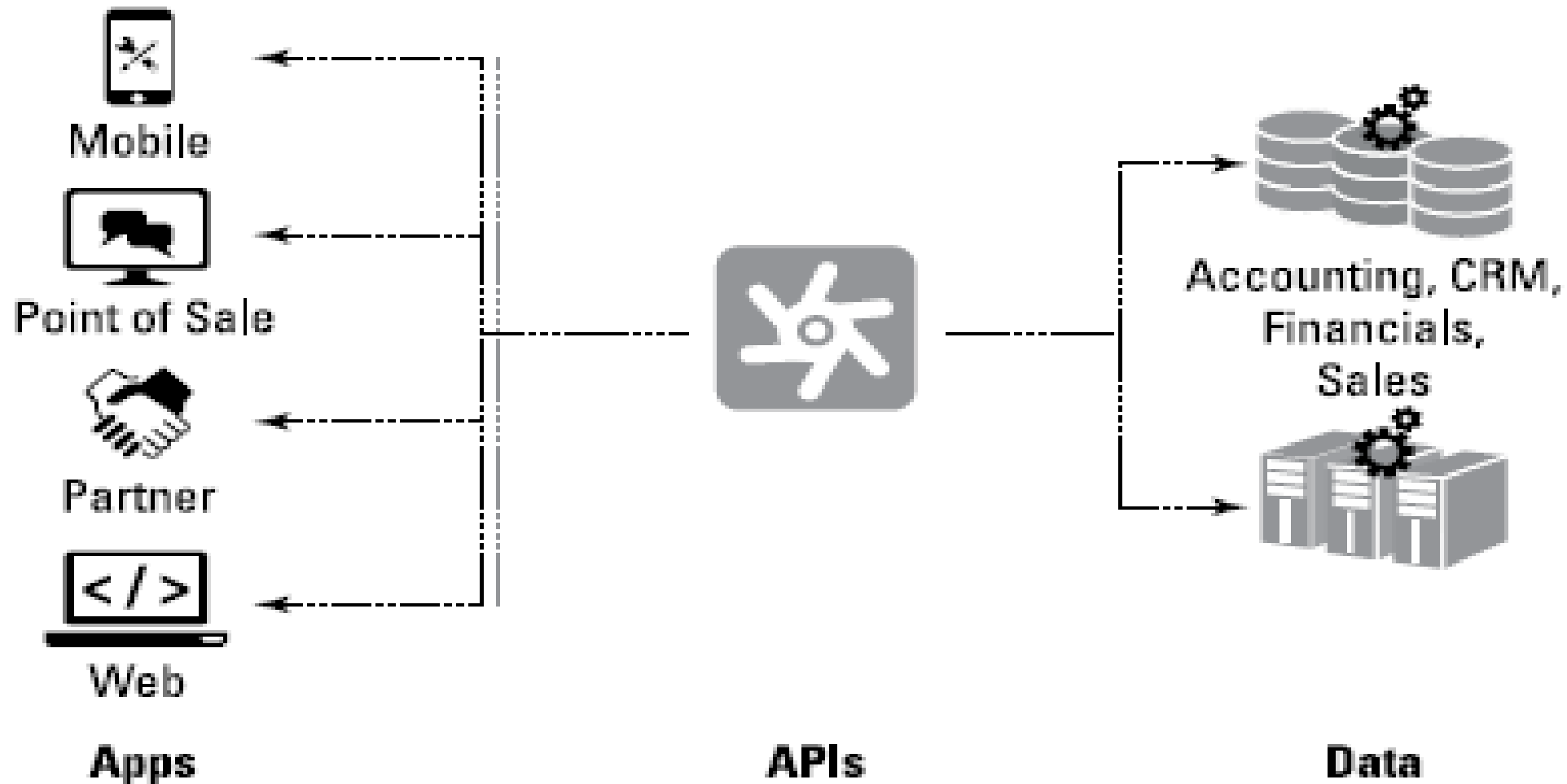


Application programming interfaces (APIs)

- API is a set of technical protocols that enable third-party software programs to interact with an application
- An API connects your business processes, services, content, and data to channel partners, internal teams, and independent developers in an easy and secure way.
- APIs are quickly becoming the de facto standard by which companies exchange data and build consistent cross-channel customer experiences.



Application programming interfaces (APIs)



Examples of companies that capitalize on APIs

Amazon

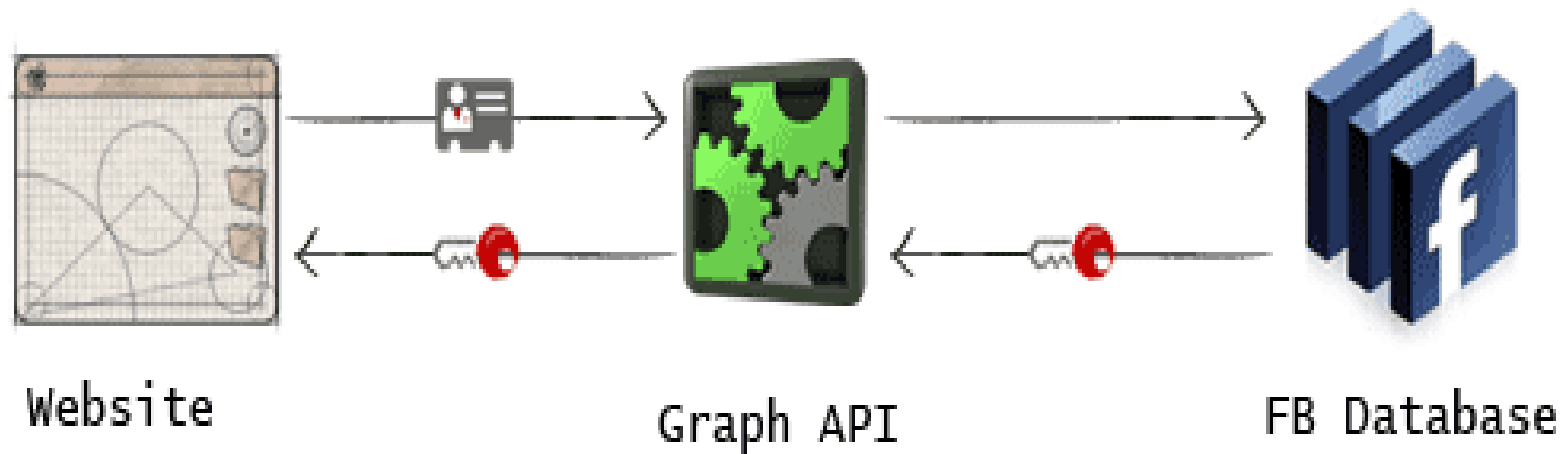
- Through Product Advertising API developers can retrieve product information.
- The API exposes Amazon's product data and e-commerce functionality.
- This allows developers, web site publishers and others to leverage the Amazon Product Discovery features that Amazon uses to power its own business, and potentially make money as an Amazon affiliate.



Examples of companies that capitalize on APIs

Facebook

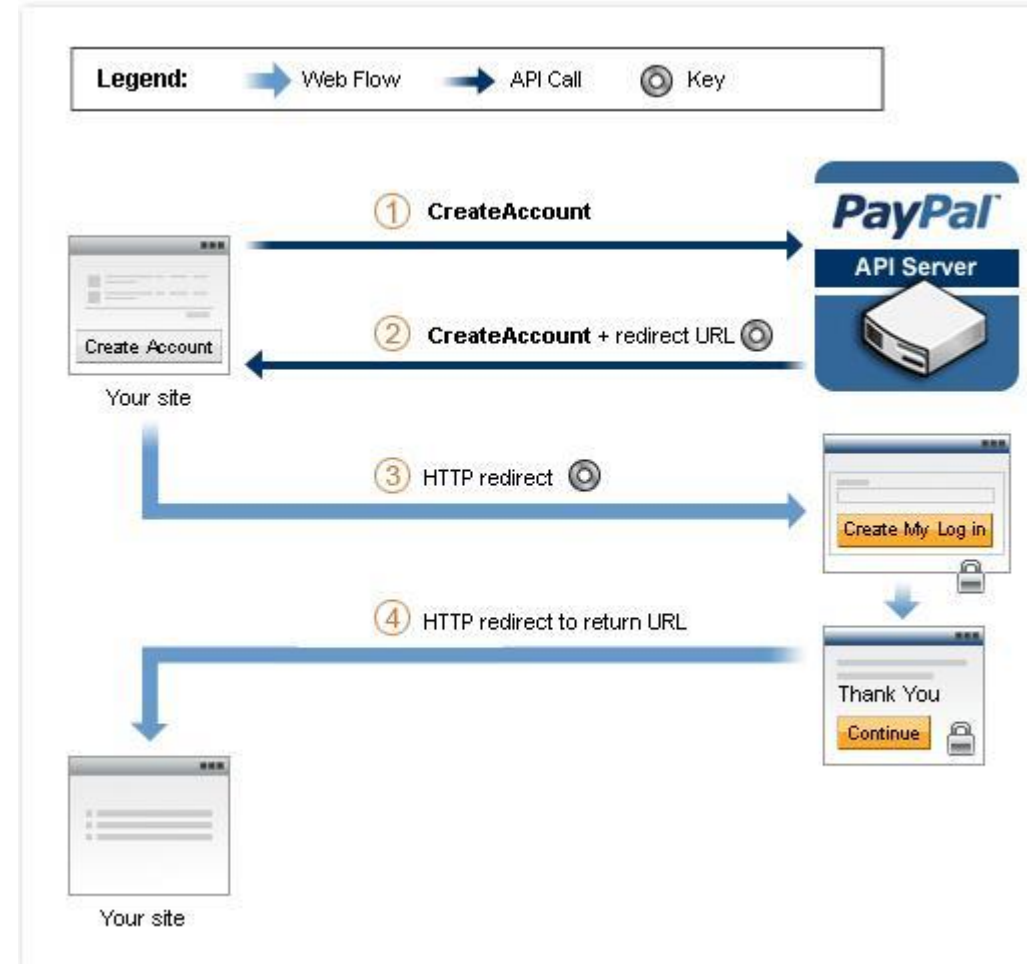
- Facebook Ads API Provides methods to add, edit and manage advertising campaigns running within Facebook.
- Your ad management application can work with keywords, ad groups and even generate reports.



Examples of companies that capitalize on APIs

PayPal

- The PayPal API makes powerful functionality available to developers by exposing various features of the PayPal platform.
- Functionality includes but is not limited to invoice management, transaction processing and account management.



Benefits of APIs

- Companies that capitalize on APIs have profited handsomely
- Salesforce.com for example, generates nearly 50 percent of its annual revenue through APIs
- Expedia.com generates about 90% of its annual revenue through APIs, while for eBay the figure is about 60%. of its annual revenue



2017 Is Quickly Becoming The Year Of The API Economy



Louis Columbus, CONTRIBUTOR
[FULL BIO](#) ✓

Opinions expressed by Forbes Contributors are their own.

Welcome to the **API** Economy

June 9, 2016

Contributor: Christy Pettey

DIGITAL BUSINESS

Enterprises need to create an industry vision for digital business.

As the [Internet of Things](#) (IoT) gets smarter, things using an application programming interface (API) to communicate, transact and even negotiate with one another will become the norm. You can remotely adjust the temperature of a room by using an app that calls the API controlling your thermostat, or when buying movie tickets online, an API is used to verify your credit card information.

“[The API economy is an enabler for turning a business or organization into a platform.](#)”

API Economy



Unleash the power of your applications portfolio through easy-to-use, standardized interfaces to application services.



Payment Initiation API

Account Information API

**Nordea
opens up!**



FINTECH: Nå er Nordea i gang med å åpne hvelvet med kundedata for å slippe tredjeparts utviklere løs på sine data og betalingstransaksjoner. Både John Sætre, leder for Nordeas bankvirksomhet i Norge (t.v.) og Ulf Bjørnhaug, leder for salg av betalings- og likviditetsløsninger i Nordea Norge, er optimistiske. (Foto: Stig Øyvann)

Nordea åpner opp

Banken opplever stor interesse fra tredjepartsutviklere etter de lanserte API-er som gir tilgang til data.

STIG ØYVANN

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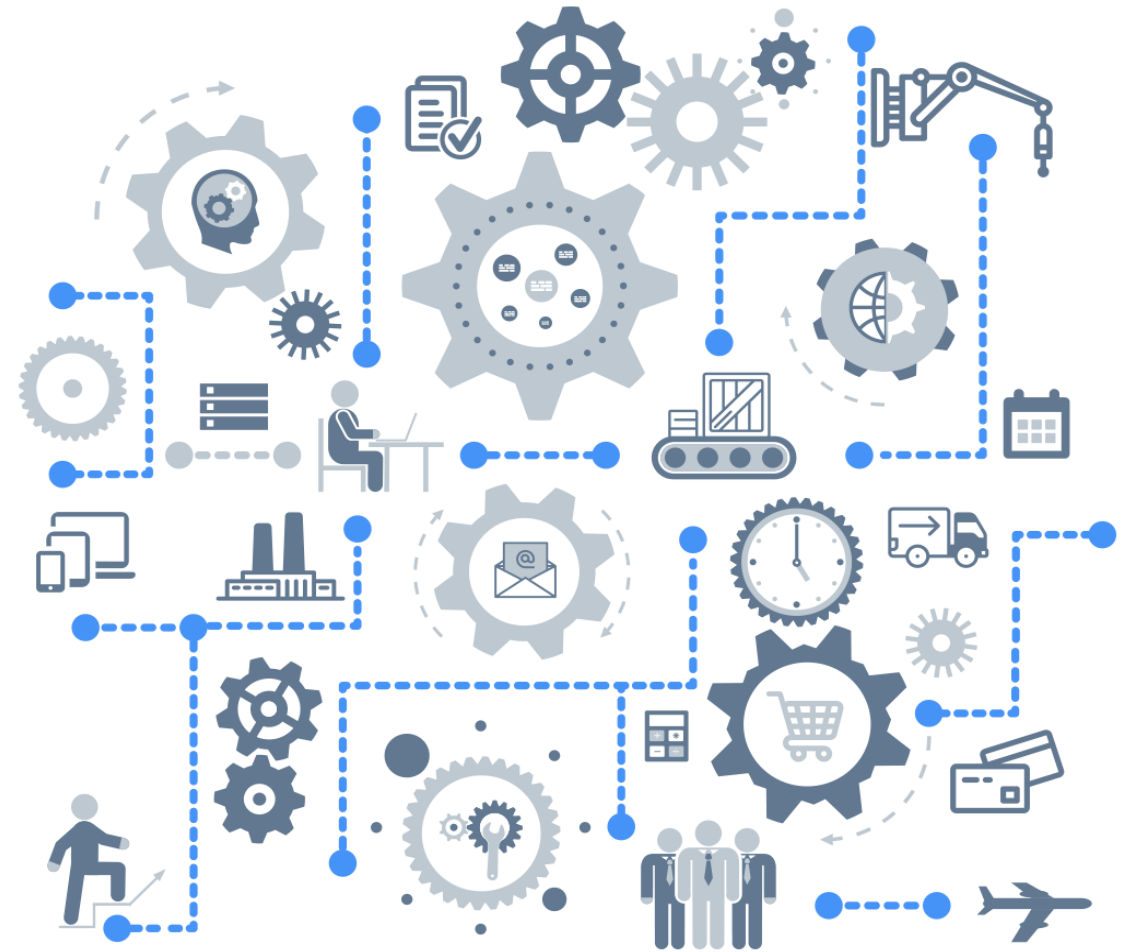
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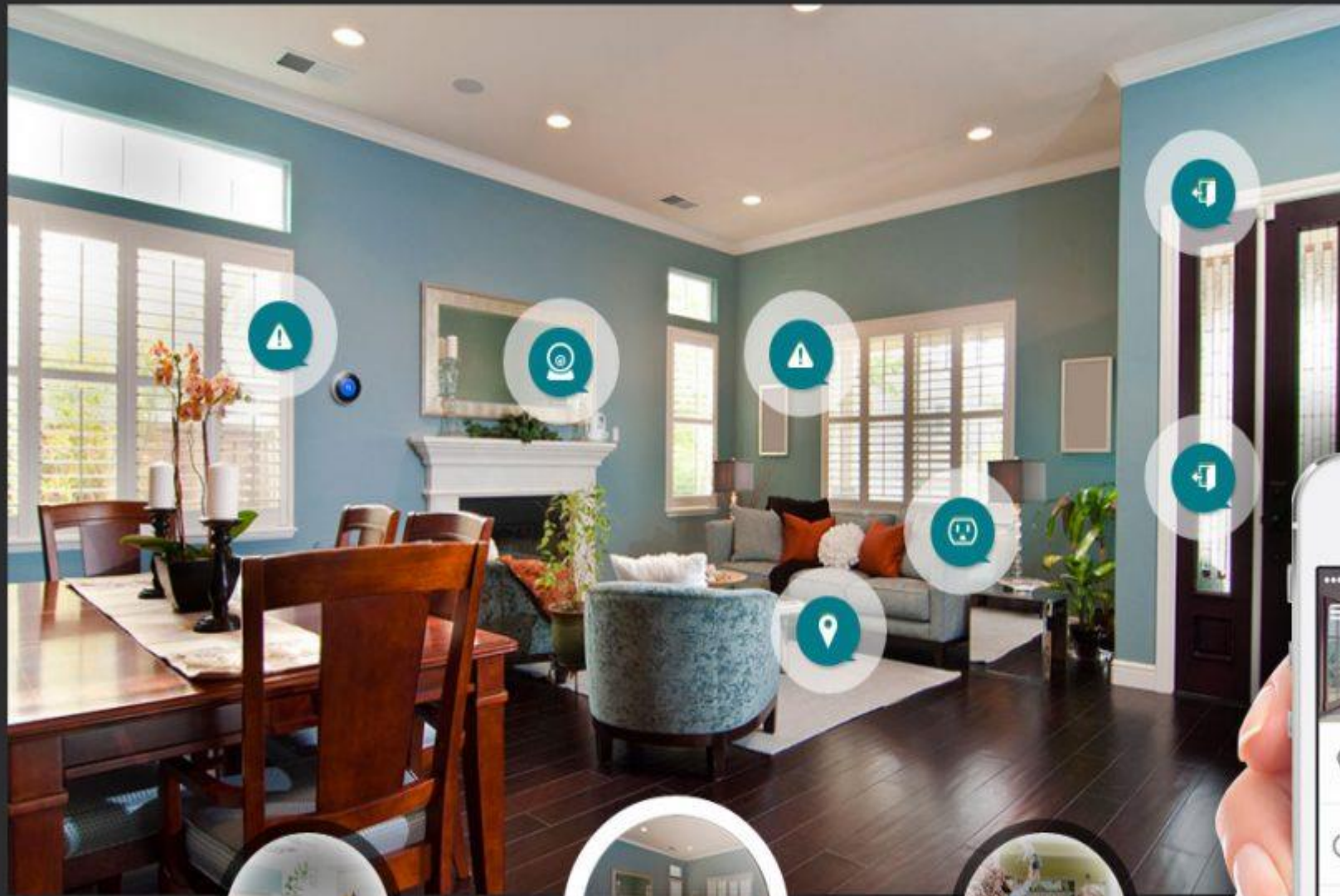


Et lite år før det nye betalingstjenestedirektivet fra EU trer i kraft, velger Nordea å ta tyren ved hornene. Bankens åpner nå API-er for tredjeparter som vil utvikle løsninger oppå Nordeas data og infrastrukturer.

The IoT Platform

- The purpose of this platform is to connect endpoints such as physical assets and consumer things
- The platform creates value by leveraging connected things and by bringing together the connected things with existing IT and OT systems
- It includes:
 - Connectivity to enterprise-owned things
 - Connectivity to customer-owned things
 - Connectivity to partner-owned things
 - IoT analytics





FROM HEAD TO TOE WEARABLE TECHNOLOGY

SHIRT

Conductive thread means a computer is literally built into the fabric of the shirt, providing the processing power for all the other wearable gadgets.

WRISTBAND

A sensor that tracks movement to determine the number of steps taken through the day – 10,000 is ideal – and how much sleep the wearer gets at night.

TROUSERS

Also made with conductive thread, the trousers take the energy generated by movement and use it to power the other gadgets.

GLASSES

Overlays navigation directions and information about points of interest directly on to the wearer's field of vision.

WRISTWATCH

Vibrates when a message arrives and displays it on the watch face. Tells the time too.

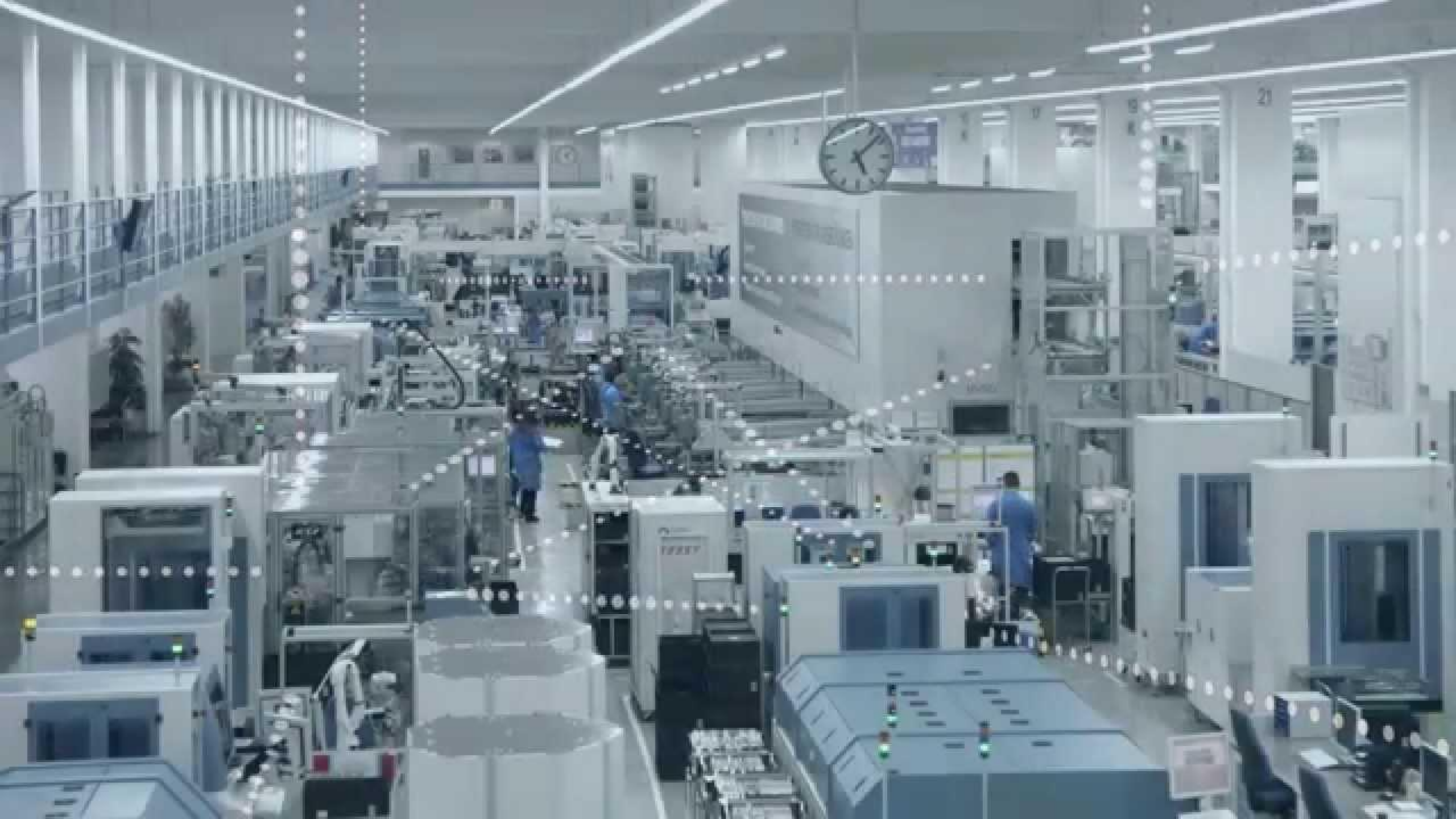
HAND

Embedded under the skin is a chip containing medical records, passport data and credit records. Information is transferred by waving the hand over a suitable scanner.

SHOES

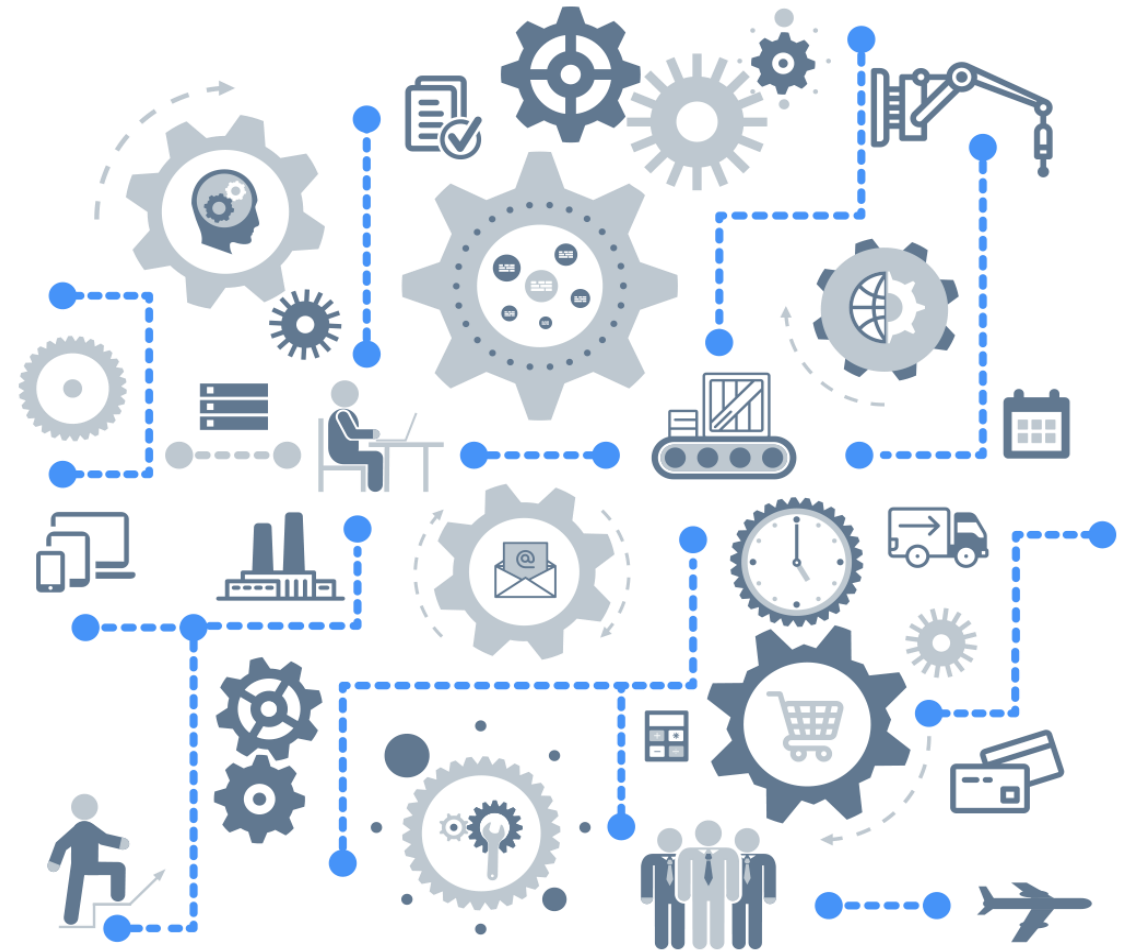
GPS chip provides directions using LED lights in each shoe: the left shoe indicates direction, while the right shows distance.





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The Data and Analytics Platform

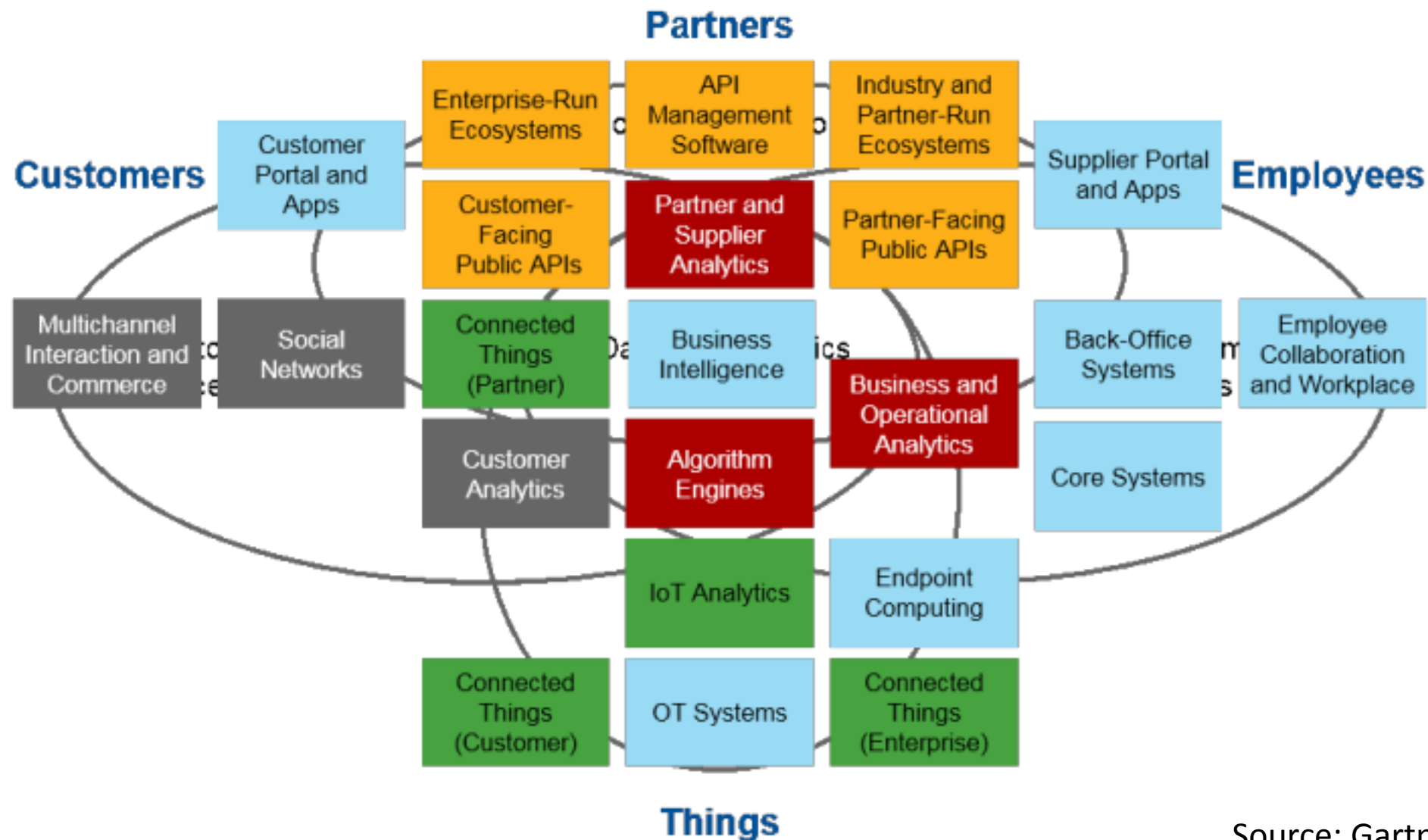


The Data and Analytics Platform

- Each part of the data and analytics platform can deliver insight that is descriptive, diagnostic, predictive and/or prescriptive
- Since data permeates all platforms, this platform takes a central position
- The Data and Analytics Platform includes:
 - Partner and supplier analytics
 - Business and operational analytics
 - Algorithm engines
 - Business intelligence



Digital Business Technology Platforms



Source: Gartner

Key management issues

Main issue	Detail	Where covered?
Which digital access platforms should we support?	Mobile platforms such as tablets and smartphones are rapidly increasing in importance, so the right investment decisions need to be taken here. Other data exchange methods between services such as feeds and APIs also need to be considered.	We introduce the key types of consumer access platforms and data exchange options, and the opportunities of mobile marketing at the start of the chapter.
Setup and selection of services for a new digital service.	Many managers are involved in managing the introduction of a new service where they have to select a platform, suppliers and models for access and data storage.	A section on setup of customer-facing digital service addresses these management decisions, including domain selection, use of hosting providers and cloud services.
How do we achieve quality of service in digital services?	Requirements are: business fit, security, speed, availability and level of errors	Section on ISPs in this chapter, Chapter 11 on design, Chapter 12 on implementation
Where do we host applications?	Internal or external sourcing and hosting via web services	Management issues in creating a new customer-facing digital service in this chapter

Key management issues

Main issue	Detail	Where covered?
Application integration	Integration of digital business solutions with: <ul style="list-style-type: none">– legacy systems– partner systems– B2B exchanges and intermediaries	Section on technology options and standards for supply chain management in Chapter 6
How do we publish and manage content and data quality?	How are content and data updated so that they are up to date, accurate, easy to find and easy to interpret?	Web content management, blogs and feeds are introduced in this chapter and in more detail in Chapters 11 and 12
How do we manage employee access to the Internet?	Staff can potentially waste time using the Internet or can act illegally	Covered in Chapter 11 in ' <i>Focus on Security design for digital business</i> '
How do we secure data?	Content and data can be deleted in error or maliciously	Safeguards are described in Chapter 11

Alternatives for acquiring digital business systems

1. Bespoke development

With a bespoke development, the application is developed from 'scratch' through programming of a solution by an in-house or external development team or systems integrator.



Alternatives for acquiring digital business systems

2. Off-the-shelf

- A standard existing system is purchased from a solution vendor and installed on servers and clients located within the organization.
- Alternatively, free or low-cost open-source software may be used.

Off-The-Shelf Software



Alternatives for acquiring digital business systems

3. Software as a service (SaaS) solution

- SaaS is a “software that is owned, delivered and managed remotely by one or more providers.
- It is variously known as ‘on-demand’, ‘web services’ or a ‘managed solution’.
- Business applications and software services are provided through Internet and web protocols
- For example Salesforce.com is the leading SaaS for customer relationship management (CRM)



Benefits of SaaS

- **Lower cost of entry:** With SaaS, you pay for what you need, without having to buy hardware to host your new applications.
- **Reduced time to benefit:** free trials offered by many SaaS companies means a painless proof of concept and discovery phase to prove the benefit to the organization.
- **Pay as you go:** SaaS software gives you the benefit of predictable costs both for the subscription and to some extent, the administration. Even as you scale, you can have a clear idea of what your costs will be.
- **The SaaS vendor is responsible for upgrades, uptime and security:** Under the SaaS model, since the software is hosted by the vendor, they take on the responsibility for maintaining the software and upgrading it, ensuring that it is reliable and meeting agreed-upon service level agreements, and keeping the application and its data secure.



Benefits of SaaS

- **Work anywhere:** Since the software is hosted in the cloud and accessible over the internet, users can access it via mobile devices wherever they are connected. This includes checking customer order histories prior to a sales call, as well as having access to real time data and real time order taking with the customer.
- **Integration :** SaaS vendors create APIs to allow connections not only to internal applications like ERPs or CRMs but also to other SaaS providers.
- **Scalability:** As you scale with a SaaS vendor, there's no need to invest in server capacity and software licenses. Simply adjust the subscription.



Challenges of deploying SaaS

The most obvious disadvantage of using SaaS is dependence on a third party to deliver services over the web, which has these potential problems:

- Downtime or poor availability if the network connection or server hosting the application or server fails
- Reduce data security
- Data protection issues



Alternatives for acquiring digital business systems

4. Tailored development

In a tailored development, an off-the-shelf system or SaaS solution is tailored according to the organization's needs. This form of project is often based on integrating components from one or several vendors.



Which approach is more common?

- The most prevalent approach is the **tailored off-the-shelf or hosted approach**
- This is often the best compromise between meeting an organization's specific needs and reliability while minimizing cost and development time.
- Decisions also have to be taken as to whether bespoke development or tailoring occurs in-house or using a consultant who is familiar with the latest digital business tools.



Main criteria used to select solutions



Main criteria used to select solutions

1. Functionality

The features of the application. Describes how well the digital business application meets the business need.



Main criteria used to select solutions

2. Ease of use

Every system takes some time to use, but systems should be intuitive to minimize the time needed to learn how to use them. A well-constructed piece of software will make it fast to conduct common tasks.



Main criteria used to select solutions

3. Scalability

Scalability is related to performance; it describes how well a system can adapt to higher workloads which arise as a company grows. For example, an ERP system will require more customer details, suppliers and products to be held on it as the company grows. The workload will also be higher as the number of internal and external users of the system increases.



Main criteria used to select solutions

4. Compatibility or interoperability

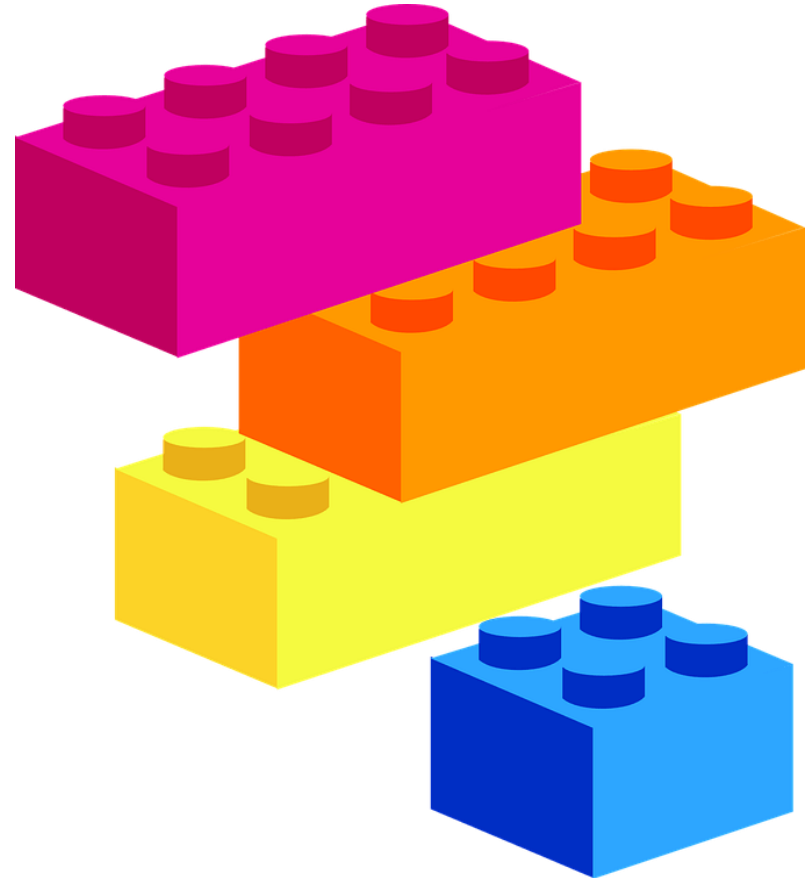
This refers to how easy it is to integrate the application with other applications. For example, does it have import and export facilities, does it support transfer of data using XML?



Main criteria used to select solutions

5. Extensibility

Related to scalability and interoperability, this describes how easy it is to add new functions or features to a package by adding new modules from the original vendor or other vendors.



Main criteria used to select solutions

6. Stability or reliability

All applications have errors or bugs and applications vary in the number of times they fail depending on how well they have been tested since they were first introduced.



Main criteria used to select solutions

7. Security

Capabilities for restricting access to applications should be assessed. This is particularly important for hosted solutions.



Main criteria used to select solutions

8. Support

Levels of support and the cost of support from the software vendor will vary. There is a risk that small companies may cease trading and the product may no longer be supported.

