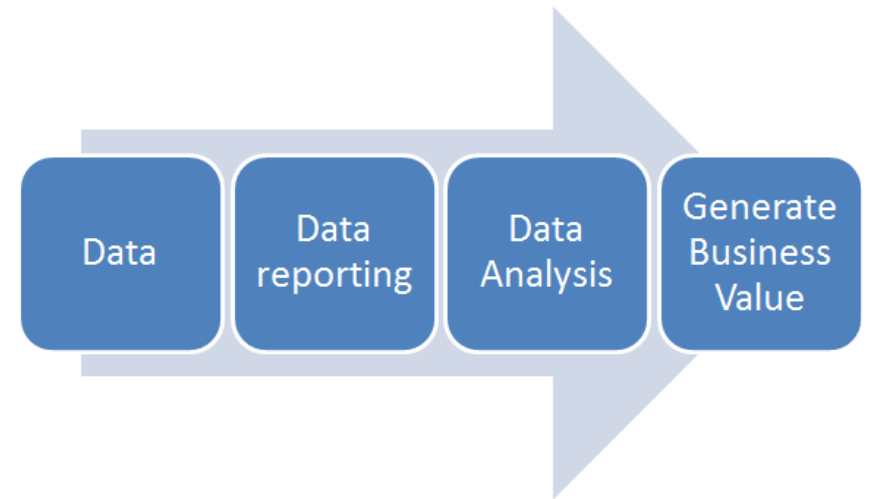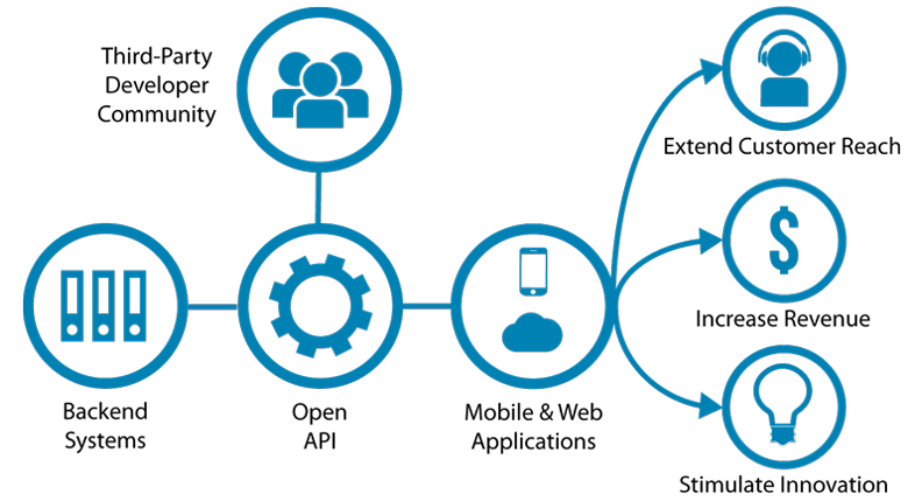# API Design 2

Frank Walsh

Data Value

- Data is now one of the most valuable business assets.
  - Growing number of web/mobile apps in daily use by business and consumer
- Companies use data to personalise and tailor experiences to their customers
- Companies analyse customer data and operational behavior to make better decisions

Data → Data reporting → Data Analysis → Generate Business Value

API Value

- APIs (application programming interfaces) are the most accessible way to extract value out of stored data.
    - developers can use them to create new business opportunities and improve existing processes/products
    - analysts can access new data sources quickly and pull the data into their analytics platforms.
- APIs "free" the data from systems.
- APIs make the data consumable and reusable.
    - thus APIs are valuable to a business.
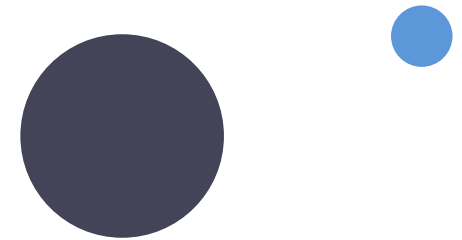
API Internet of Things

- Many new IoT devices being released. T

- Devices are limited on their own
  - It's the innovative use of those devices with accompanying APIs that generate value

- "Build a better mousetrap, and the world will beat a path to your door" - Ralph Waldo Emerson
  - Rentokil believe they have using APIs(https://www.computerworlduk.com/it-business/rentokil-on-iot-rat-traps-cash-for-apps-incentives-apis-3612866/)
  - Rentokil increased operational efficiency through the automatic notifications of a caught animal and its size

- Connected Healthcare
  - Patients instrumented with sensors connected via Personal Area Networks
  - APIs crucial to access patient data, providing new ways for physicians to engage and connect with those patients through web, mobile, and social apps
- Administration
  - APIs provides access to data to better predict staff requirements, thus reducing overtime costs and better serving patients.
- APIs can facilitate record sharing with other hospitals and medical offices

APIs - Healthcare

API - Cloud

- Companies going through "Digitial Transformation"
  - Moving from traditional systems to cloud-based digital systems
- Many adopt "Hybrid" approach
  - Moving parts of IT estate to cloud
- Emphasis on APIs to unlock data and capabilities in a reusable way.
  - "Microservice" architecture popular
- Cloud APIs provide high availability/scalability
  - better cope with spikes in demand and make efficient connections, enabling them to adapt and innovate faster
- On-premises APIs can unlock legacy systems and connect them with cloud applications
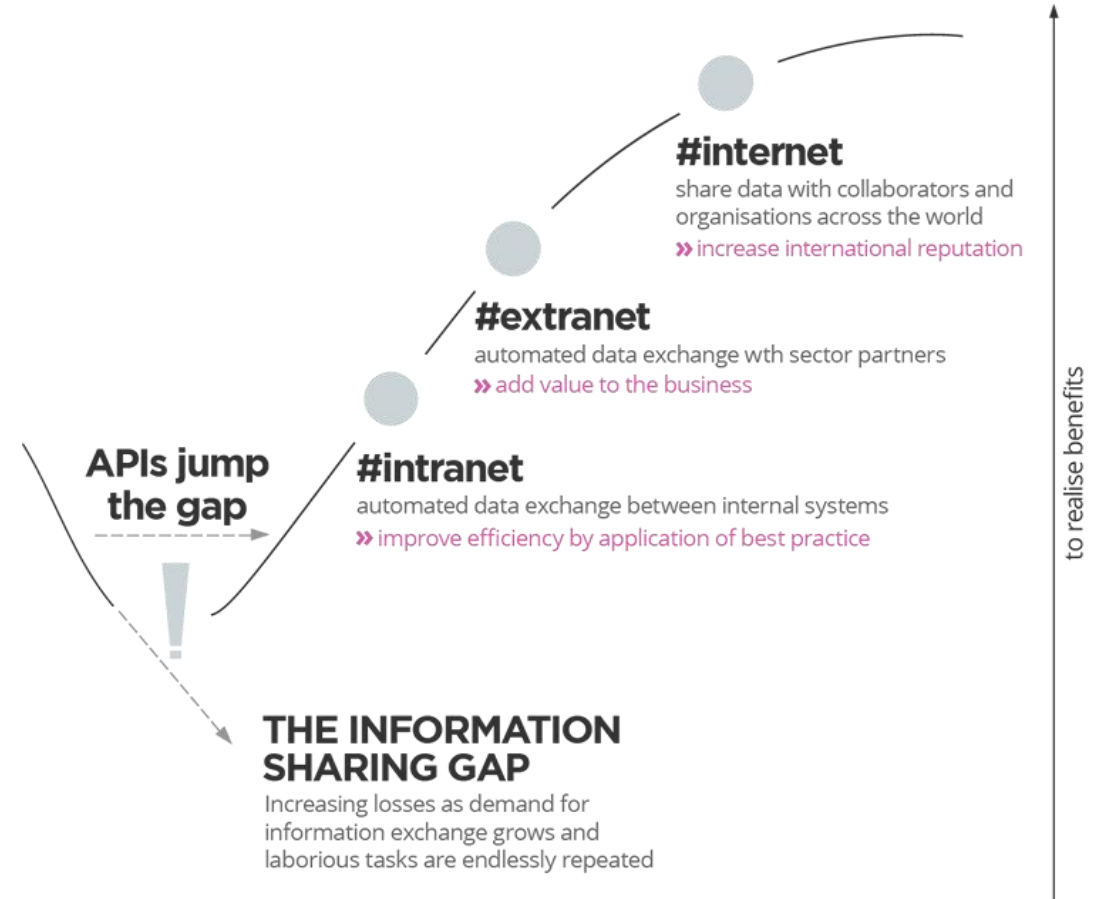
APIs – Facilitating omnichannel

- industries starting to use omnichannel strategy to att customers.
- Omnichannel provides a seamless shopping experien customer is shopping online from a desktop or mobil or in a [bricks and mortar](#) store.
- Well designed and provisioned APIs crucial to create on- premises systems and mobile.
- E.G.
  - eyewear retailer offers convenience and choice to its custo online selection. Also provides custom fittings or repairs in stores.
  - Store app integrates with BLE beacons in Bricks and Morta deals to encourage sales. "these trainers would look great bought last week. Buy today and get 20% off!"

The API Economy

- Enterprises will adopt an API strategy. For some it's their main product.

- APIs enable greater agility and efficiency within their organisations
  - innovation in emerging startups forcing more established companys to innovate/evolve/acquire (e.g. Uber/Slack)

- survey conducted by Mulesoft found:
  - 80 percent of large enterprises (10,000 employees or more) said that their company currently makes more than $5 million a year from APIs.
  - API strategy was one of the top three priorities to an organization's business plans

Digital Transformation

- IT architecture underpinning APIs also need to evolve

- Can't just deploy tech (APIs/cloud/elasticity) on top of existing monolithic systems and processes and expect everything to be better.

- Need to embrace architectures (both technical and orginisational) that support microservices, mobile apps, and Internet of Things.

References

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- "The Rising Value of APIs", Whitepaper , https://www.mulesoft.com/lp/whitepaper/api/rising-value-apis

- "Connected Healthcare", https://www.wsj.com/articles/why-connected-medicine-is-becoming-vital-to-health-care-1435243250