Technology and innovation: what, why and how

2017

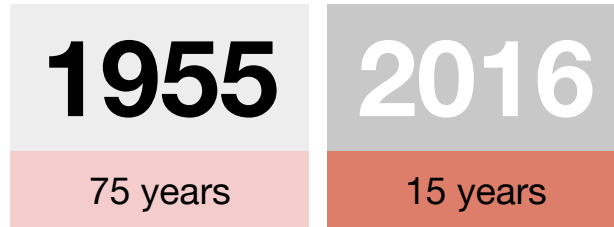# Hello

In the last 15 years, 52% of Fortune 500 companies have disappeared

Average 'life expectancy' of a company

1955	**2016**
75 years	15 years

At the same time, the world has more self-made billionaires than at any time in history

disruption

/dɪsˈrʌpʃn/   *noun*

disturbance or problems which interrupt
an event, activity, or process

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A substantial shift in market share

and / or

A substantial growth in volume of transactions

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We now live in an ~~experience~~ *me* economy

Mobile devices are the center of our lives

Mobile devices of today have more processing power of a laptop from last year. Our most personal gadget, they are an extension of us, acting as the remote control to our lives, controlling experiences across interfaces.

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We are at the crest of the next wave

Consider how much mobile shaped communications and society, we're now faced with another wave that has the potential to have a tenfold impact on us - both individually and as a society.

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What do we mean?
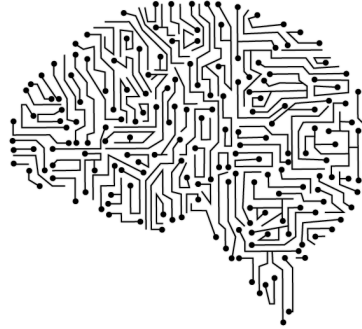
Artificial Intelligence

- Planning
- Learning
- Problem solving
- General knowledge
- Natural language processing
- Perception (including biometrics)
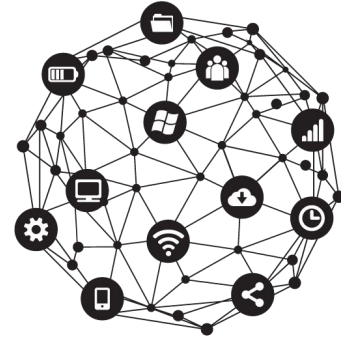
Internet of Things

- Connected devices
- Biometric monitors
- MEMs
  (micro-electromechanical systems)

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The recurring theme is one of both efficiency and automation

Devices are increasingly a thing of yesterday.

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We see this coming to life in four key areas

Sentient Service

Extreme Simplification

Dynamic Offerings

Spatial Experiences

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Sentient
Service

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True AI is complex and the possibilities virtually unimaginable. However, rather than fall burden to analysis paralysis, leaders in this space are looking at the service outcomes that AI and automation can enable, rather than the technology itself. Today, the sweet spot for brands in terms of ROI is in creating a new host of opportunities for useful and meaningful customer experiences and reducing the burden of administration traditionally required to facilitate these.

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MARKETING AUTOMATION

Today marketers are using the capabilities of modern CRM systems to analyse behaviour and better guide customers through the sales cycle and deliver compelling ongoing, post-sales relationships.

Extraordinarily personalised experiences are being brought to life by the automation of the delivery of an enormous number of possible permutations of underlying variables.
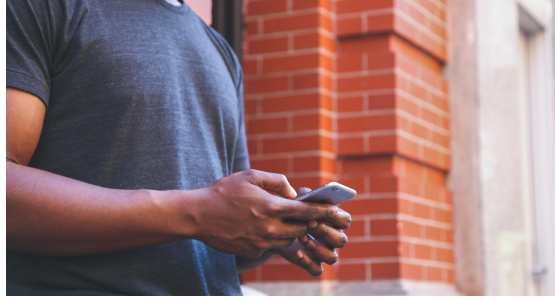
DIGITAL ASSISTANTS

Currently in trial or in early use in some markets, the next progression of this trend is in customer service and digital interactions. Think problem resolution via text or chat and minimalist interfaces where responses are received in real time based on needs specified by the end user.

TURING TESTED TALENT

Developed by Alan Turing in the 1950, the Turing Test is a test of a computer or software's intelligence, where the user is unable to distinguish between a computer and a human. IBM Watson's capability is currently being used on a small scale by brands. However it has the potential to provide end-to-end intelligent online customer service that is indistinguishable from comparative human interactions through live chat or email.

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STARBUCKS

Starbuck have boosted their customer experience, with hyper personalisation, utilising data-driven AI algorithm based on your customers' preference and behaviours.
Before October, Starbucks' marketing staff were producing 30 variants of emails to send to segmented customers. After the introduction of the new system, they have been able to create 400,000 personalised variants per week.

LEMONADE

Tech-led insurance provider Lemonade recently laid claim to setting a new world record in insurance payout, taking just three seconds from claim to payment. This process was enabled using not just the infrastructure and processes on which the businesses was built, but by Lemonade's affectionately-named AI claims bot, Jim.

OPENDOOR

Opendoor is a startup with a somewhat controversial premise; they'll buy any property within 72 hours for a fair price as determined by - you guessed it - a truckload of data. If you're a buyer open for inspections are enabled from 6am to 9pm every day via an app and they'll give you a 30 day money-back guarantee on any home you buy.

NORTH FACE

North Face expert personal shopper asks a series of natural language questions, mimicking the experience of an in-store salesperson.
Based on IBM's Watson, the tool improves its suggestions the more it is used.

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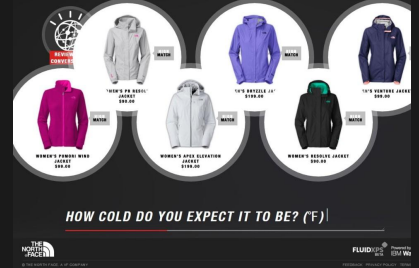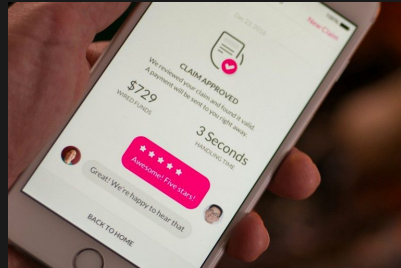
How might we consolidate information we already have about our customers to deliver a more powerful and compelling experience?

How might we predict our customers behaviour through data in an unobtrusive and proactive way?

Extreme Simplification

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From product lines to customer service, simplification is a growing theme across every touchpoint. Where once people were impressed by diverse options, or complicated behavioural paths and usage habits, increasingly customers are being won with highly curated selections of product based on purchase behaviours, stock availability and predefined preferences.

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AN EASIER SELECTION

Right now this largely comes to life in the form of brands with extraordinarily simplified product lines, offerings and even window displays and packaging.

It's an age-old cognitive behavioural learning. More is not always more. The key here is providing customers with ease of comparison for simplified and efficient decision making.

AUTOMATED CURATION

Branded bots are being trialled and are starting to be used in some markets. These bots enable curated suggestions based on simple question and answers in natural language.

A SERVICE FIT FOR YOU

Ultimately, this trend will be the norm when entire transactions are integrated into existing behavioural paths and usage habits. Here, consumers will only be exposed to exceedingly curated selections of product based on purchase behaviours, stock availability and predefined preferences. Decisions and transactions will be enabled by established behavioural paths. For example, simply leaving a store with an item will trigger payment.

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CASPER & HUGO

Casper (US) and Hugo (AUS) offer just one mattress model in just a few sizes. The purchase process is exceptionally streamlined, with online purchase and free delivery. Both companies also offer a free trial period with no-questions asked returns, a model that was introduced to market by Zappos and has been adopted across many markets.

DO NOT PAY

Do Not Pay is an artificial lawyer chatbot which helps people appeal parking fines via a simple interface that asks a series of questions as to the perceived unreasonableness of fines.
In fewer than two years, the bot has overturned more than 160,000 fines with a success rate of some 64%.

THE EDIT

Vinyl store The Edit, sold $1 million USD worth of records in its first 8 months. Much of the site's success is attributed to the underlying chatbot technology, which leans on an algorithm that recommends records based on purchase behaviour and other interest-level signals.

SPOTIFY

Spotify offers three separate predictive services (Discover, Run and Daily Mix), which all aim to mix in the songs you're familiar with, and songs the algorithm thinks you'll be interested in.

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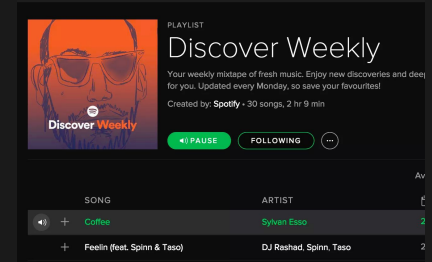
How might we use the information we have today about our customers to simplify our product offering?

How might we drastically reduce the number of decisions between our customer and a transaction?

Dynamic Offerings

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Given an enormous volume of interactions now take place with some form of technology present, we have the opportunity to capture and record these behaviours more than ever before. In fact, according to SINTEF, some ninety percent of all data currently stored was generated in just the past two years. At scale, this data can be operationalised to create entire business models, allow brands to identify previously invisible opportunities, predict consumer behaviours and deliver highly compelling experiences to customers.

In conjunction with cloud computing, the time to respond to market behaviour is quickening significantly with brands taking information gleaned about market use (or lack thereof) in both real world and digital environments to optimise and refine their offering.

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CO-CREATION THROUGH DATA

In co-creation, organisations are taking market influencers and/or end users and involving them in the design and delivery of their offering. Information with regard to sales data and usage drives product development and content creation.

FLEXIBLE MARKET DELIVERY

This trend will soon evolve to encompass not only offering design but also short run, agile delivery and implementation as well as more fluid response. Turnaround times will be built into flexible business models which are built on the premise of being able to adapt to market usage. Advances such as cloud technology and automation will enable faster turn-around speeds.

PREDICTIVE MARKET DELIVERY

At scale, dynamic / programmatic product design and development will be commonplace, minimising risk and exposure for organisations as they automate responsiveness and build co-creation into the fundamental service design. Predictive offering development, leveraging increased data streams and information will round this trend out into the norm.

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THE LIP LAB

Sydney's The Lip Lab is built on an entirely dynamic premise - every single product is created entirely by customers. The brand actually has no products of its own at all.

PENGUIN RANDOM HOUSE

Penguin Random House launched an incubator retail space which allows the publisher to track how shoppers interact with its product.

LOCAL MOTORS

Local Motors overhauled the accepted supply chain for autos, now taking a vehicle from conception to showroom floor in just 18 months (standard is 5 - 7 years). The Arizona manufacturer achieved this by leveraging digital technologies to get a group of auto enthusiasts to collaborate in designing the car and then worked with the buyers to build the cars in micro-factories.

ZARA

Daily, Zara sends sales and trend data to their designers and analysts in head office. This offers a constant stream of customer preference data, enabling Zara to respond with a six-week turnaround to emerging trends.

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How might we rethink how we do what we do to respond to customer usage and demand in real time?

How might we reshape our processes through dynamic understanding of our customer segments?

Spatial Experiences

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For many years marketers have used brand activations and other experiences designed to build brand affinity. Now, with the ever-present nature of digital devices coupled with maturing proximity-based tech and VR/AR, multi-channel experiences are becoming more sophisticated and transformative.

We're getting closer and closer to the realisation of scenarios which were once the realm of science fiction. Spatial experiences are brought to life by environments which react to the people in them, record invaluable information on their behaviour in the space and do something meaningful with that information. The result is highly engaging, memorable and personalised experiences, lifting shopping from just commerce; to moments that customers remember and recommend.

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IN-SITU NOTIFICATIONS

Today, spatial experiences mostly take the form of either proximity tech or a separate VR or AR experience.
In the case of proximity tech this is often in the form of pushed alerts with in-moment advertising and offers. For example, in-store reminders to collect loyalty coupons. Riding off the back of the rising popularity of VR and AR gaming technology, brands are starting to experiment with brand activations. For the most part, these experiences are siloed rather than seamlessly integrated.
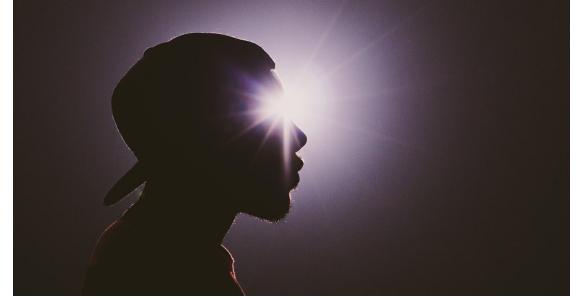
IN-SITU INTERACTION

The next frontier is in enabling customers to take the best components of digital experiences and apply them in a physical environment. For example, voice agents either through personal devices that we have on us, or external pickups in our immediate environment shaping the way we interact with stores, spaces and homes.

INTEGRATED EXPERIENCE

As the line between digital and real world environments disappears completely, we'll have highly optimised physical experiences seamlessly enabled by technology. Supermarkets that know when you're nearby and don't let you forget the milk and homes and hotel rooms which dynamically adjust variables like music, lighting and temperature to suit you.

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KINGSMEN PROJECTS X ROBINSONS

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The Robinson's pop-up retail space,
designed by Kingsmen
Projects, brings optimisation into the
physical world by
analysing in-store behaviour to better
inform store layout
and visual merchandising.

CHARLOTTE TILBURY

—

Shoppers at Charlotte Tilbury are able
to see full makeup
looks from the label's most recent
collection superimposed
on their own faces in an augmented
reality experience in the flagship
London store. Appointments can then
be booked to try looks in real life.

AMAZON GO

—

Amazon is trialing a bricks-and-mortar
supermarket store. The store's
integrated technology allows
customers to bypass the check out
process, automatically adding items
to their Amazon account as they leave
the store.

MACY'S ON-CALL

—

Macy's have recently launched a trial
with IBM's Watson to provide in-store
wayfinding, stock information,
product recommendations and other
useful information.

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How might we examine customer behaviours and usage cases at the point of purchase and beyond to create compelling owned-channel experiences?

How might we examine product use cases to create compelling consumption experiences?
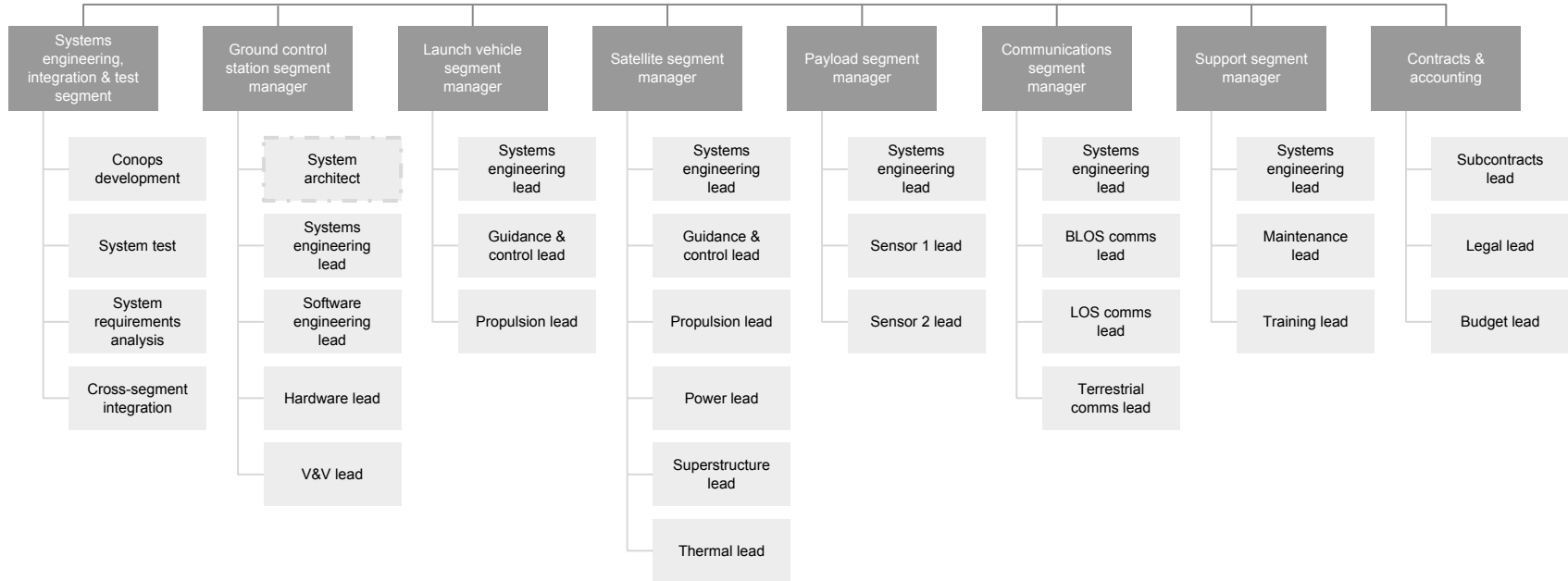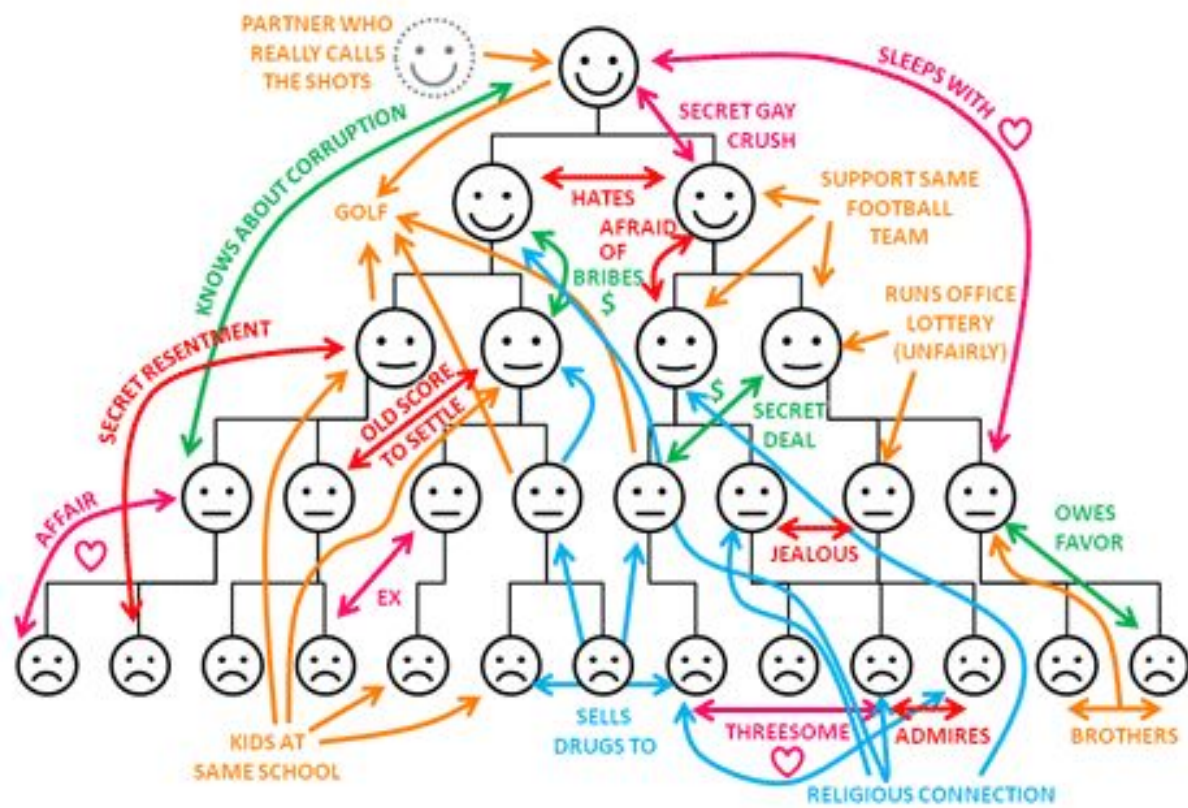
WHAT'S NEXT?

"I have a million things to do"

Scale is problematic

Complex organisational hierarchies are proven to hinder productivity

Systems engineering, integration & test segment
- Conops development
- System test
- System requirements analysis
- Cross-segment integration

Ground control station segment manager
- System architect
- Systems engineering lead
- Software engineering lead
- Hardware lead
- V&V lead

Launch vehicle segment manager
- Systems engineering lead
- Guidance & control lead
- Propulsion lead

Satellite segment manager
- Systems engineering lead
- Guidance & control lead
- Propulsion lead
- Power lead
- Superstructure lead
- Thermal lead

Payload segment manager
- Systems engineering lead
- Sensor 1 lead
- Sensor 2 lead

Communications segment manager
- Systems engineering lead
- BLOS comms lead
- LOS comms lead
- Terrestrial comms lead

Support segment manager
- Systems engineering lead
- Maintenance lead
- Training lead

Contracts & accounting
- Subcontracts lead
- Legal lead
- Budget lead

Corporate entrepreneurship

Providing a path to realisation

But big problems
are big...

... so think
ludicrously small

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