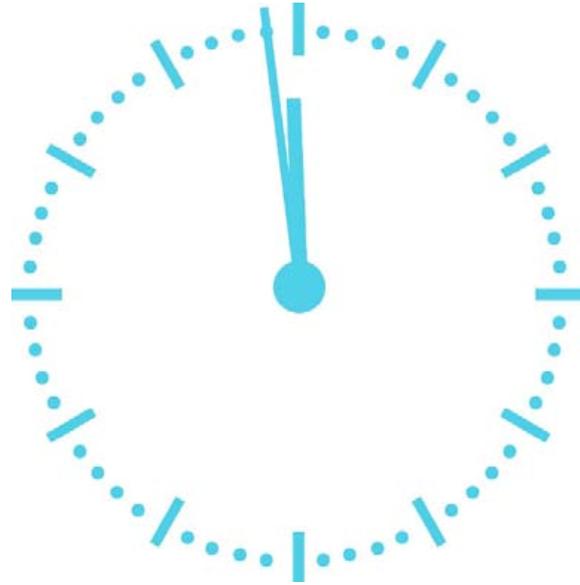


THE FUTURE IMPLICATIONS OF AI

“Much of what will happen in the next thirty years is inevitable, driven by technological trends which are already in motion”

PHD Predestination 2016
Kevin Kelly, Founding Executive Editor of Wired

It is 11.59



on AI eve

For the sceptics in us...

Some facts to help you to embrace the inevitable

- The internet today deals with around **36,098 Gb** of traffic per second (Real Time Statistics Project)
- By 2020, each person is likely to have an average of **5.1** connected devices (Frost and Sullivan)
- **34 billion** devices connected to the internet by 2020, up by 10billion in 2015's forecast (Tech Insider)
- Investment in AI technology has risen from \$1.7billion in 2014 to \$14.9billion in 2015 and projected to be **\$70 billion** in the next 4 years (Financial Times).

We, Malaysians are not far behind...



- Average Malaysian has 2.5 connected devices today
- Mobile penetration at 140% with smartphone at 70%
- We spends average 12 hours on screens
- With digital free trade zone, e-commerce growth will be exponential
- In 2016, we saw 21 Malaysia tech startups raising close to \$ 48million; with majority seeing increasing focus on AI, machine learning solutions and IoT.

Source: MCMC Q4'16, GWI Malaysia



“Everything that we formerly
electrified, we will now
cognitize.”

Kevin Kelly - the founding executive editor of Wired magazine
Excerpt from PHD Predestination



This is not about
machine vs. us



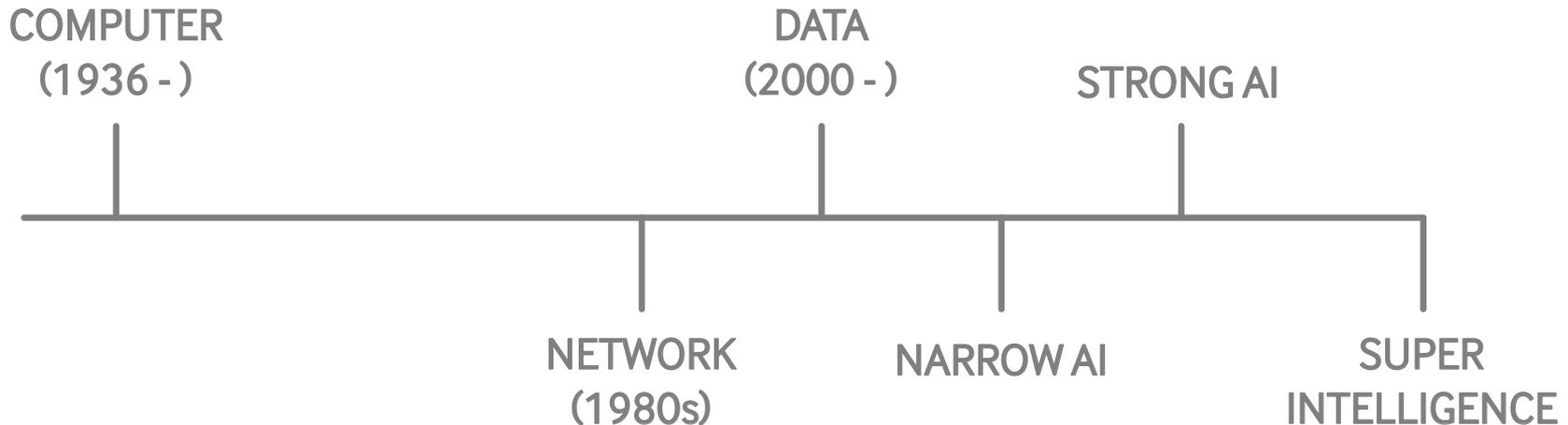


This is a tale of
opportunity



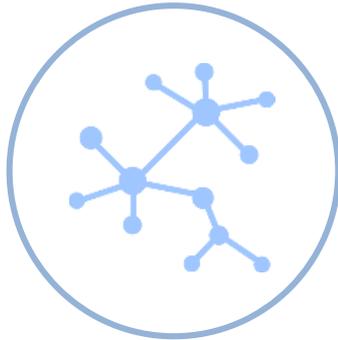
The origins of our AI future was already in the making...

From the days when computing started, to the explosion of the internet era and today the era of big data and machine learning



AI drivers today

Three forces driving change



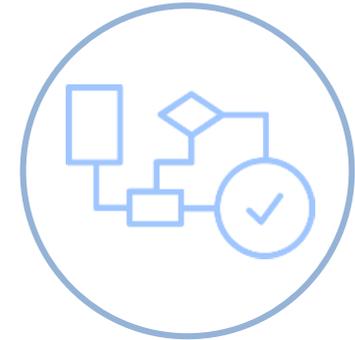
UNSTRUCTURED DATA

Describes the exponential growth of availability of data and information coming at us faster than ever before, more than the human mind can compute



INCREASING COMPUTATIONAL SPEED

Our demand for speed in data connection and machine capacity to process information increases with exponential growth of data and connected devices



INCREASING SOPHISTICATION OF ALGORITHMS

From machine learning today to more complex deep learning tomorrow. Algorithms injected into every marketing element and machines or platforms we interact with

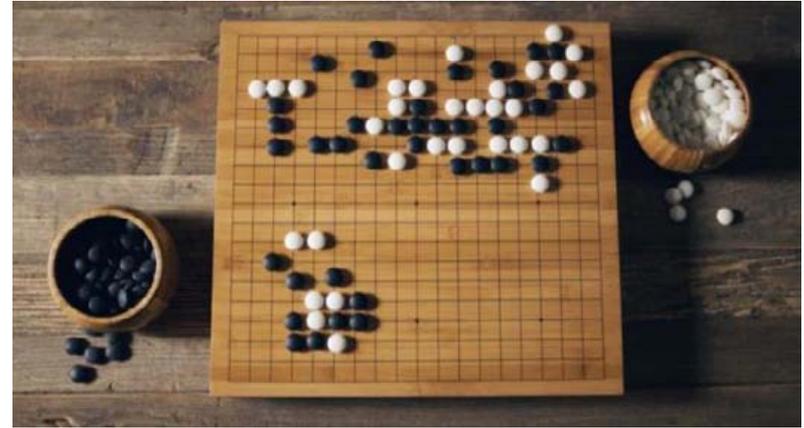
Artificial intelligence will be the central force in the changes we will see. These changes are both thrilling and full of opportunity but equally disrupting and confusing, challenging many existing assumptions, ways or working, livelihood and even laws.

AI may seem far-fetched today when brands need to grow market share and optimize ROI within the construct of today's marketing structures. But, machine learning, the basis of AI, is the essence of programmatic advertising.

In years to come it is not hard to see AI enabling marketers and media agencies to design seamless consumer journeys and even become gateway to consumer decision making.

Reinforcement learning AI

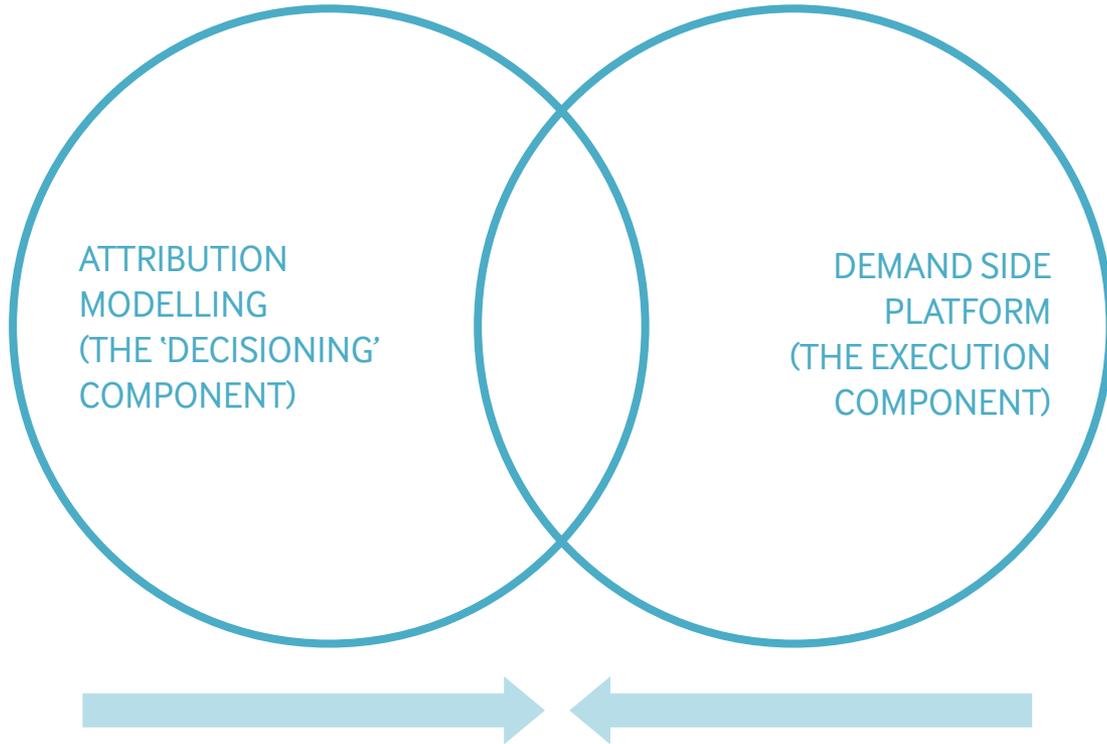
The emerging area of artificial intelligence



Reinforcement learning is an area of machine learning inspired by behaviorist psychology, concerned with how software agents ought to take actions in an environment so as to maximize some notion of cumulative reward. Pioneered by DeepMind – recently beating world Go! Champion.

What reinforcement learning needs in order to work is a closed-system – where the action and the outcome are inextricably linked. This is actually hard to achieve in the area of marketing planning and implementation as the outcome of an action often doesn't result in a directly attributable result. The closest thing we have right now is planning digital only channels for advertisers that transact exclusively online. And this is the door-way through which reinforcement learning will enter our industry

And the next phase?



To open the door to the next elevation of AI is the coming together of attribution modelling and the demand side platform. At present a user logs into the former to pull insights and then logs into the latter to execute strategies.

When they finally joined up this will create the first closed-system our industry has ever experienced and with this the basis into which we can drop a reinforcement learning algorithm. It will be able to make millions of micro decisions on various media aspects every single second, a self-optimizing system, working 24 hours a day.

Plug into this closed-system will be all the other advanced forms of marketing technology – CRM, DMP, programmatic creative technologies, etc. creating what will feel like a marketing central nervous system.

3 key trends powered by AI today



COGNIFICATION



FILTERING



INTERACTING



Take 'X' and add AI



COGNIFICATION

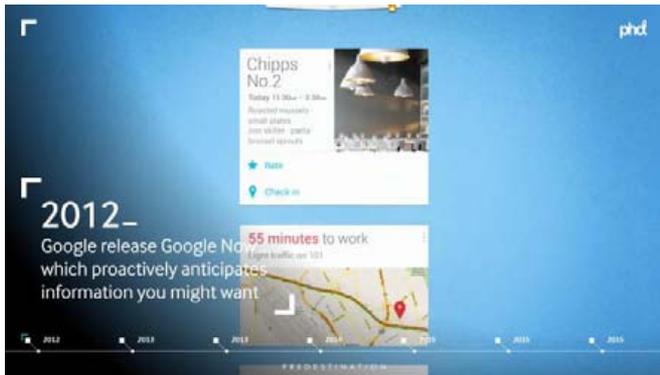
“Cognification” will be the central force

The global artificial intelligence market will reach a value of \$23.4 billion by 2025 – Research and Markets

Algorithms a driving force in marketing



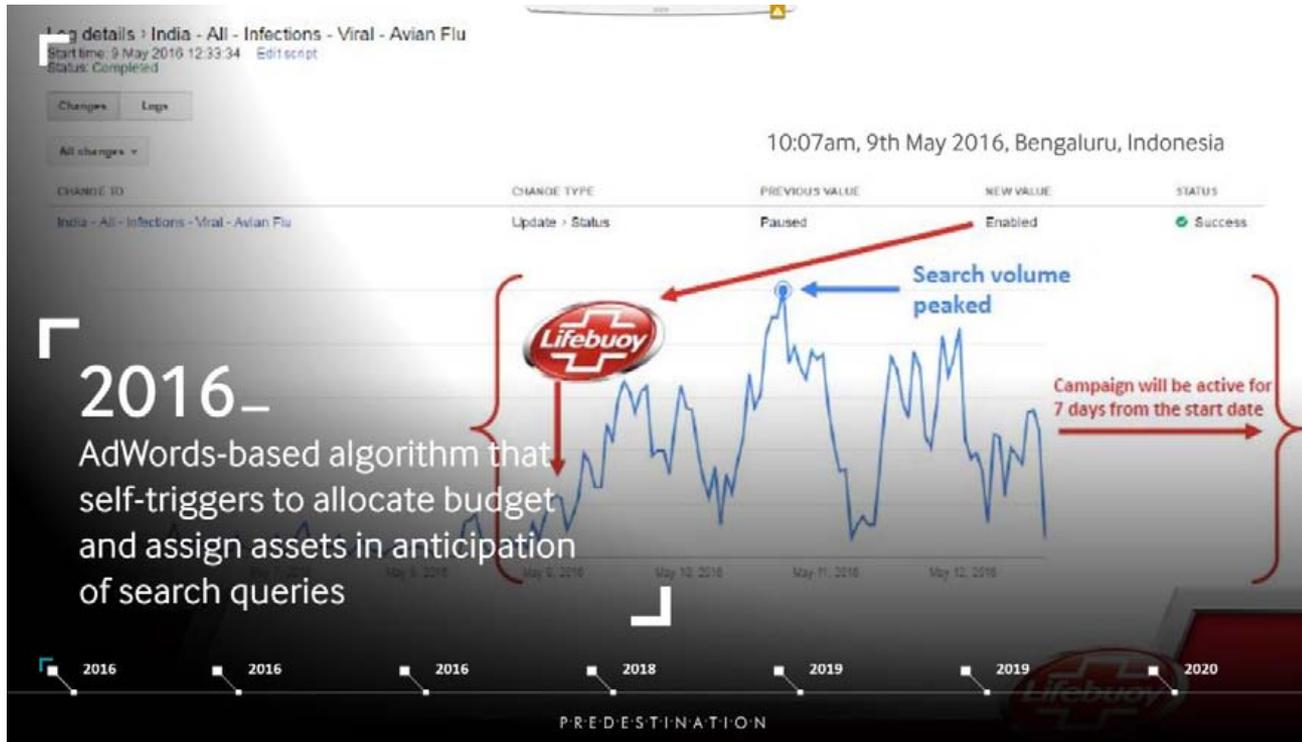
We've seen in the past how machines demonstrate the capability to think like humans, to think faster and decides quicker. Powered by these algorithms written for the machine, engineered for continual learning.



Algorithms today is intrinsically integrated in many of the devices we interact with, from simple searches performed on Google to programmatic media buying for marketing campaigns. Today, algorithm exists without us humans questioning its existence, embracing it as if it's electricity until it's switched off. And as consumers if we don't find the answers immediately or received the content we searched for, we 'switched off' and moved away. For marketers, those milliseconds results to opportunity lost to win a consumer over.

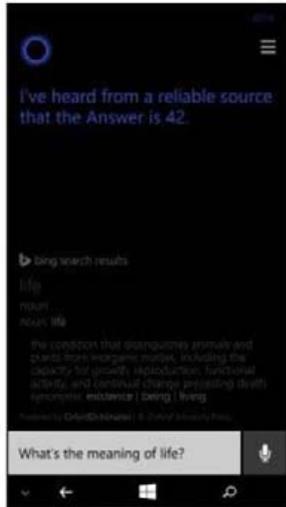
In the near future, algorithms will supplant many of the roles that exist in the industry today, from marketing teams to art directors. These roles won't be removed entirely from the process, but instead will oversee the algorithms and focus on new opportunities for the business.

In 2016, Lifebuoy launched ‘Real-time Infection Alert System’

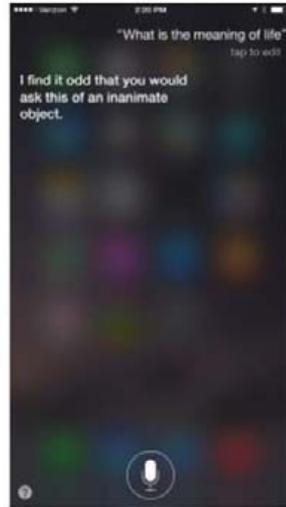


In partnership with PHD, Lifebuoy created Infections Alert System – a real time trends based programmatic approach to search marketing. An adwords based algorithm that self-triggers to allocate budget and assign assets in anticipation of search queries

Virtual Personal Assistants (VPAs) becomes essential to decision making



CORTANA



SIRI



GOOGLE NOW



October 2016, Google launched Allo – an AI driven VPA messaging platform, able to make smart recommendations based on data from our online behavior from across entire Google ecosystem

In 2015, big companies – Apple, Google, Microsoft, Amazon, Facebook made huge investments in the intelligent virtual assistants space.

The world we live in will get incredibly fast, overwhelming with tons of information; the role of VPAs in the near future will become essential to our decision making. They will navigate options for us, but also increasingly buying and deciding what we need and when we need it, eventually without our need to tell them to do so. With more connected devices, inter-linked to each other, exchanging data & information, VPAs is inevitable, as we surrender our daily operations and trivial tasks and decisioning to VPAs, freeing us up.

When that happens, the task of marketing will become not to influence a human to buy, but to agree with an algorithm to do so. Artificial Intelligences debating and negotiating amongst each other to fill our fridges, homes and lives with products and experiences.

And a glimpse into the not too distant future...



Marketers will be able to target based on not just what people have clicked on but by what they actually know and their opinions – using non PII-data gleaned from overheard conversations (voice & text)



We enter the Preemptive Marketing era, where individuals are algorithmically identified as high-potentials based on patterns of behavior that were too complex for data analysts to identify and is out-sourced to AI



VPAs will start to feel sentient like. They start to reduce the gap between the external world and the user. VPAs will take care of everything for us, spending its entire time focus on managing our life. The VPA access the world and edit it for us, and with this our sense of what the internet was dramatically contracted from an unfathomable large expanse of information into a simple human voice.

Implications for today...

1. **Optimizing to the machine will be the greatest determinant of success.** Ensure that the current disciplines of SEO, PPC, and programmatic buying are being embraced and upskilled now. This will become the most transferrable skills to new AI models.
2. **Connect the critical elements of a brand's marcoms eco-system** such as data partners, agency suppliers and offline channels – otherwise known as marketing stacks – will enable brands to quickly take advantage of the potential of AI.
3. **The AI era will make it necessary for products to have “tagged” information** – similar to the world of search engine optimization. This is so VPAs can make informed decisions on our behalf. This “tagged-up world” will be a vital part of how brands optimize their offerings for the age of the sentient VPA. **Marketers will need to think hard about the types of product data need to be tagged up and what types of offers make the most sense in different context.**

Implications for today...

4. **Feedback from other customers will be one of the most important signals that sentient VPAs look at when deciding whether to recommend a product to you, so maintaining positive brand sentiment will be crucial tasks for marketers.**
5. **Advertisers will need to future proof the way they use customer data.** Better uses of complete data sets will ensure targeting doesn't become an irritant as advertisers become smarter and more responsible in the ways they create their target audiences. AI will mean there might be fewer messages seen, but the ones that do get seen will have been selected based on extremely specific purchasing and behavioral data about you, and therefore much more influential.
6. Leaving the rational decisioning to AI, **marketing investment needs to continue to be about affecting non-rational response for decisions** that were still made without the *direct* control of VPAs; **where the brand and what it represents still remains an important factor in human decision.** Broadcast media single-mindedly becomes about **generating fame and talkability.**



Getting personal

FILTERING



“A squirrel dying in your front yard may be more relevant to your interests right now than people dying in Africa.”

If advertisers don't filter, consumers will filter for themselves

Personal PC/Laptop Ad-Blocking by Region



North America	40%
Europe	37%
Asia Pacific	35%
Middle East and Africa	33%
Latin America	32%

Mobile Ad-Blocking by Region



Asia Pacific	36%
Middle East and Africa	23%
Latin America	18%
Europe	17%
North America	15%

Filtering is in our DNA. A study by Unruly shows that 90% of consumers claimed that they are considering downloading technology to block ads. PageFair's '2017 Adblock Report' shows that mobile is posing a larger threat with APAC leading the mobile adblocking phenomenon.

However, as users we happily allow AI to edit the world for us

**1 in 5 people
would relinquish
their data for
greater
personalisation**

Source: Deloitte

Everyday today, our world is getting edited via searches, videos we watched, content we've liked on Facebook. We allow algorithms to determine and serve us the ads and content we consume daily, as we share more of our data for greater personalization.

What it means for marketing is that the term 'mass marketing' needs to be redefined to 'marketing to masses individually'. There'll be a shift to from audiences to algorithms; from a world where scaling a brand idea relies on ability to distribute a single message to millions of people, to a world where millions of personalized messages will be delivered to individuals simultaneously. In an era where attention is scarce, these filters help marketers to focus.

Implications for today...

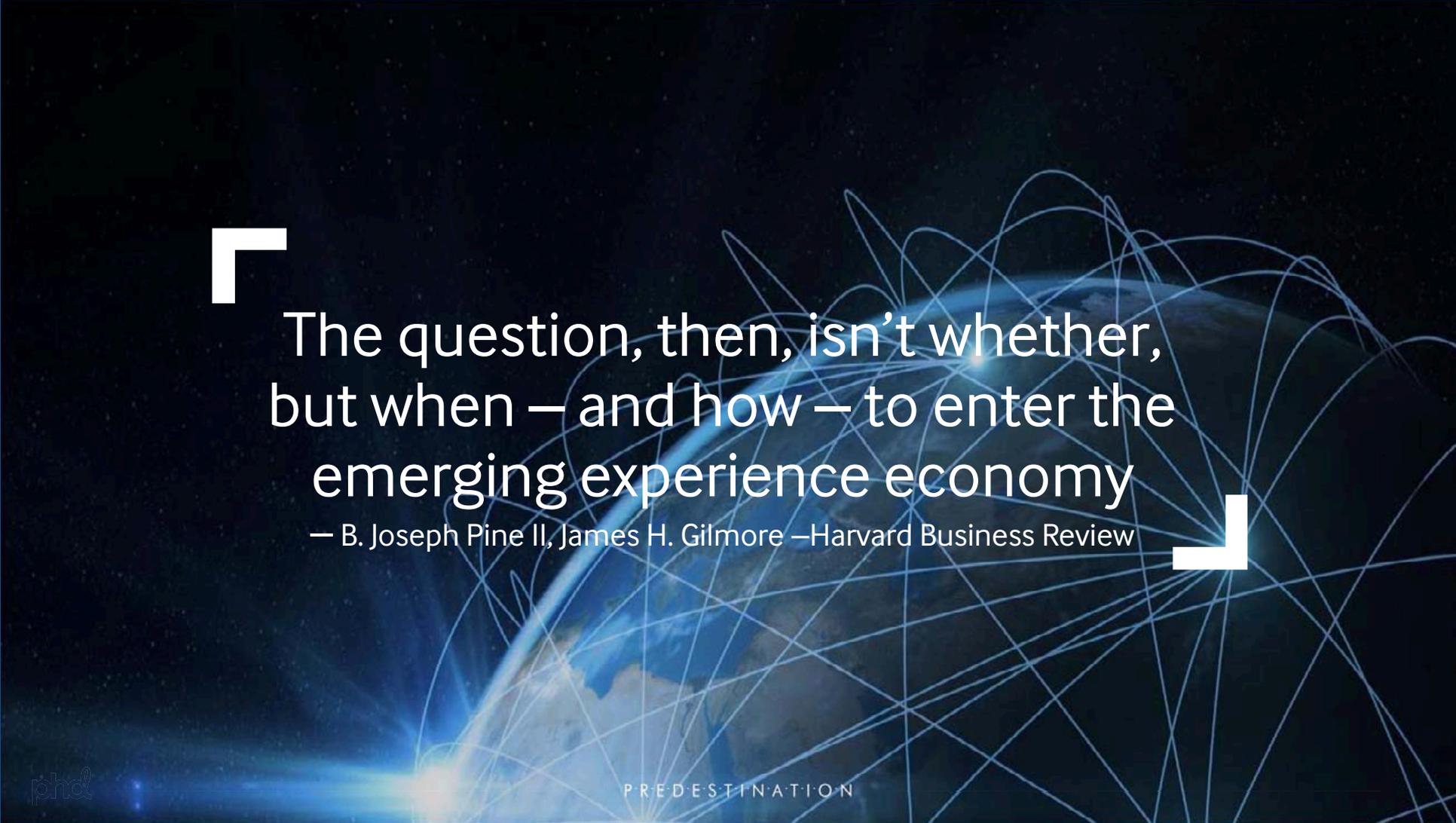
1. Look to hiring more data analysts, architects and strategists as well as marketing technologists to help understand how filters and algorithms work.
2. Design a data bank that can be constantly updated and built a data strategy that mirrors the filter algorithms, built around the consumer.
3. Get use to advertising to computer chips, avatars and virtual assistants, learning to convince them to serve your products and services over competition.
4. Paying for the attention of influencers will help brand content rise above the rest.
5. Advertising will be curated, in real time.
6. Spend marketing dollars on experiences that can't be commoditized or filtered.



Experiences as the new economy



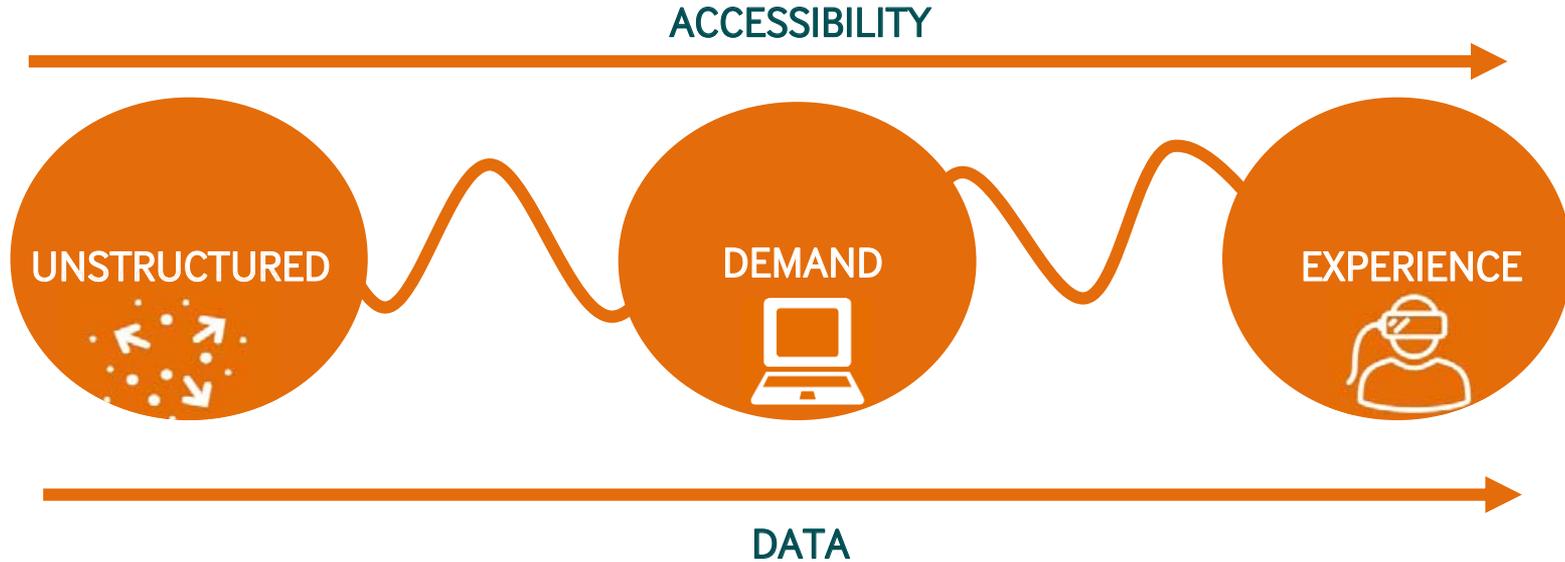
INTERACTING



The question, then, isn't whether,
but when – and how – to enter the
emerging experience economy

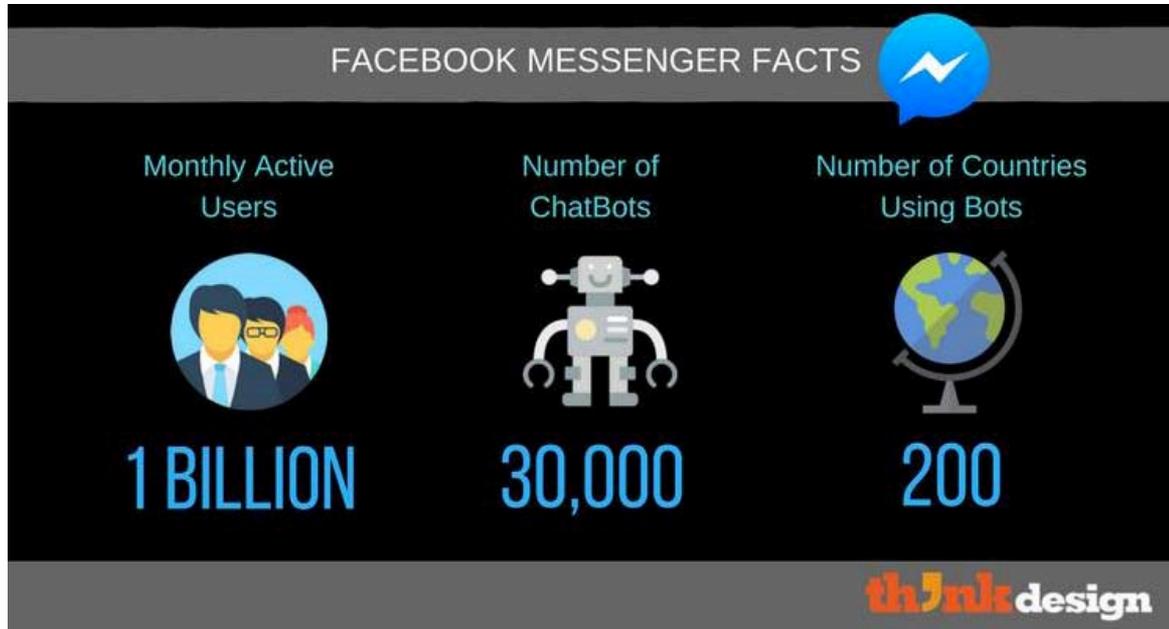
– B. Joseph Pine II, James H. Gilmore –Harvard Business Review

Our relationship with information is changing



Gartner predicts that by 2020, there will be 20.8 billion things connected to the Internet. With the growth of data, the initial phase of unstructured data becomes harmonized powering greater demands and greater experiences

2017 is set to be the chatbot year



The technology has been around for years and developers have been constantly improving interfaces to allow for enhanced user experience.

With Facebook and Google (Allo) pushing the chat interaction agenda, and consumers' growing fatigue of apps we expect to see chatbots taking off in 2017. Wechat has really pioneered the ways brands use chatbots to interact with consumers – providing everything from customer service, product sales and air ticket or taxi bookings. Wechat is pioneering the growth for APAC to date.

New experiences fueled by new technology



The game that took the world by storm, and brought mobile gaming to the next interactive experience. It's used of augmented reality successfully executed at scale for a game



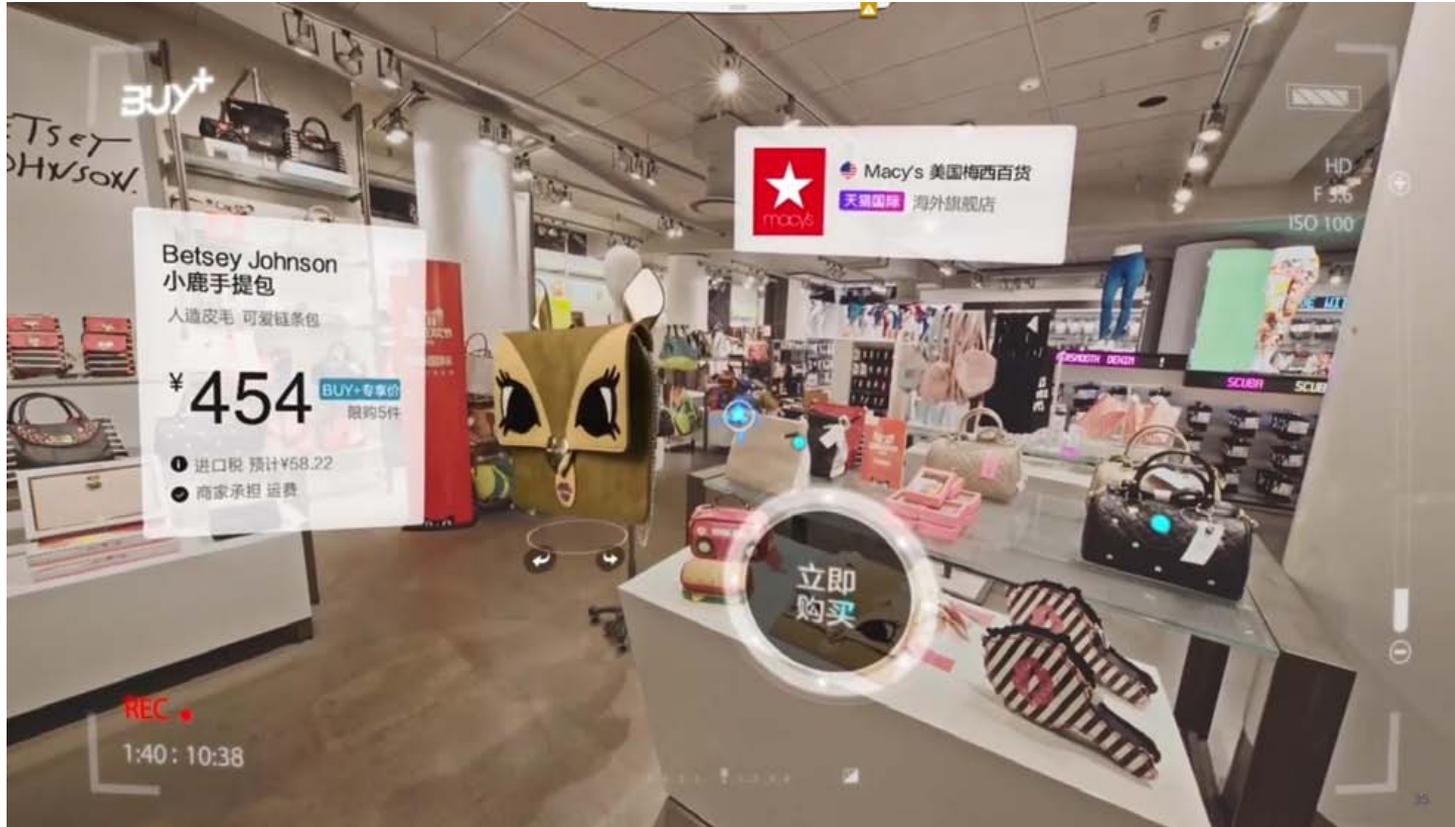
Marriott leverages VR to allow users to experience the hotel and destination prior to booking. Guests are invited to call dedicated VRoom Service or use Marriott's Mobile Request app for Samsung Gear VR headset and headphones.

Currently being tested at NY Marriott Marquis & London Marriott Park Lane



To celebrate its 30th anniversary of Happy Meal in Sweden, McDonald's Sweden developed Happy Goggles. By re-folding Happy Meal box, customers can create a pair of VR glasses which makes possible to experience virtual reality with a smartphone

Nov 2016, Alibaba debuted Buy+ VR store



Alibaba debuted meta mall (Buy+) a week ahead of China's Singles Day shopping festival. On day one, an hour after launched, 30,000 people tried the platform; which for that occasion produced 150,000 cardboard headsets sold on Taobao. As of to date, 8 million people have tried it.

'If you want a glimpse of what we humans do when robots take our current jobs look at experiences.

That's where we'll spend our money and that's where we'll make our money'.



Implications for today...

1. As the gap between online and offline collapses, marketers should track and understand the dynamics and interactions between quantified experiences, quantified emotions and quantified actions.
2. Make sure that people can seamlessly and immediately purchase the product or service from any interaction.
3. Marketers should ask “Do the communications have a ‘what’ element baked in it?”. And if so, which ‘what’ should be prioritized.
4. Understand the key moments that can drive the most brand value when creating branded experiences.
5. Evaluate how immersive these branded experiences will be. Ask “what experience is my brand and company qualified to create or curate?”

Compiled by:



PHD is known globally as an innovator in communications planning and buying across broadcast, print, digital, mobile, social and emerging media. The network currently holds the title of **Global Media Agency of the Year** with Adweek and **Media Network of the Year** with Campaign and the Cristal Awards. PHD has been at the forefront of driving thought leadership globally with its release of Sentience & Predestination working with innovators in predicting the future implication of Artificial Intelligence. PHD has put together the key AI trends impacted media and marketing and its implications to help you to ready yourselves today for our inevitable future tomorrow.

PHD is also one of the MDA council members.

Released by:



About MDA

The Malaysian Digital Association (MDA) is a representative body which comprises online publishers, advertising agencies, creative agencies and digital service providers. Founded in 2009, MDA has been instrumental in shaping the Malaysian digital industry and committed to driving it forward with innovation initiatives, like the endorsement of standardized measurement currency for the industry, Digital Wednesday events, MDA School and Best Practice Report.

For more information about MDA, please visit

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