

Competing for the Future

Using futures and competitive intelligence to inform strategy

The Quirks Event – London

13 October 2021



Inspired by **patients.**
Driven by **science.**

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What we will cover...

| What is Foresight / Futures Thinking?

| What is Strategic Competitive Intelligence?

| How do we know what is important?

| What insights did we need and how did we gather them?

| How did we map competitor activity to trends?

| What is the value?

What is Futures Thinking?

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NOT EXTREMELY CONSTRAINED...



NOT predicting “Future Facts” from quantitative models and forecasts nor based on lone expert opinions

Horizon 1: TODAY

TRENDS & SIGNALS

Trends and Signals are the raw information that feeds all futures competitive intelligence.

STRATEGIC INSIGHTS

Strategic insights frame new opportunities for innovation, growth, stakeholder engagement, and competitive advantage.

NOR EXTREMELY UNCONSTRAINED...



NOT writing “Science Fiction” stories based on magical assumptions nor simply how we wish the world were

Horizon 2: 3-5 YEARS

EMERGING SHIFTS

Emerging Shifts provide a consistent framework for continuous monitoring of the competitive environment.

DRIVERS OF CHANGE

Drivers of Change and hypotheses about their relationships connect insights to potential impacts.

RATHER...

Using observations about our complex, dynamic world to create a set of **collectively imagined narratives** about **possibilities for change** that challenge our assumptions and surface opportunities to **proactively shape** elements of the future and ultimately **create tangible value** for our organization and the patients we serve.

Horizon 3: 6-10+ YEARS

SCENARIOS & FUTURE PROVOCATIONS

Future Provocations provide the narrative framework for identifying and updating Swing Factors.

SWING FACTORS

The Swing Factors serve as a consistent framework for guiding strategic conversations across UCB.

What is Strategic Competitive Intelligence?

- Competitive Intelligence is defined as the process of gathering and analysing information on competitors, customers and other markets factors to contribute to giving a business a competitive advantage
- Strategic Competitive Intelligence is the gathering and analysis of information which is focused on the understanding, development, enhancement or changing of a business's strategy
- Information can be from primary, secondary or inferred sources:
 - Primary (human elicited intelligence, public interviews, active listening, social media, etc.)
 - Secondary (print reports, SEC filings, sales data, analyst reports, scientific publications, etc.)
 - Inferred (workshop discussion, war games, assumption analysis, etc.)



How do we know what's important?



SOCIETAL CHALLENGES (GOVERNANCE, CULTURE)

Jeff Bezos ominously famously said, "Your margin is my opportunity."

Can Big Tech be tamed? And can we trust those doing the taming?

Warning over cuts to NHS services without £10bn extra funding

Europe tries to lower drug prices with small doses of transparency

INFRASTRUCTURAL CHALLENGES (BUSINESS MODELS, "DIGITAL")



INDUSTRY CHALLENGES (COMMERCIAL TRENDS, MARKETING)



PESTEL Analysis

- Signal Type
 - Trend
 - Countertrend
 - Stability
- Impact Potential (H/M/L)
- Time Frame
 - 0-2 years
 - 2-5 years
 - 10+ years
 - ANYTIME
- Implication for Competition (+/-)
- Impact on Environment (>/</=)
- Relative Importance
 - Critical
 - Important
 - Not Important
- *What is unknown?*

"Most dazzling human achievements are, in fact, the aggregate of countless individual elements, each of which is, in a sense, ordinary." - Angela Duckworth, founder and CEO of Character Lab

What insights did we need and how did we gather them?

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Reimagining and
Reinventing Our Role in the
Value Chain: A Partner of
Excellence

3

Harnessing the Power of
Artificial Intelligence and
Other Technologies as
Tools to Deliver on the
Patient Value Ambition

5

Preparing the Workforce of
the Future: Purposeful +
Inclusive + Augmented

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Operating in a World with
“Never” Patients Instead of
“Episodic” Patients

- A selection of top, middle and small pharma/ biotech companies
- Undertook a review of the secondary information that indicated work in any of these areas or intentions to
- Analysis of where their gaps were in the data
- Undertook Primary Intelligence gathering focused on understanding the gaps – e.g. company X’s future plans and types of adoption of various AI technologies

Opportunity/Risk from Competitor Trend Analysis

- Examining competing companies against trends can spotlight opportunities and highlight potential future risks for the business
- Strategies can be developed to maximise the opportunities and minimise/mitigate the risks
 - Opportunity to join AAIH and help shape the regulations surrounding AI in Healthcare – e.g. quality control for its use
 - Risk of competitors developing assets faster and with more complexity or precision impacting on future market dynamics

Program/Initiative	Partner	Date	Description
CTEPH Pattern Recognition Artificial Intelligence Software	• Merck KGaA	February 2019	<ul style="list-style-type: none"> • Software to support identification and clinical decision-making for patients with chronic thromboembolic pulmonary hypertension (CTEPH), by analysing image findings from cardiac, lung perfusion and pulmonary vessels in combination with a patient's clinical history.
Alliance for Artificial Intelligence in Healthcare		January 2019	<ul style="list-style-type: none"> • Bayer announced as a founding member (alongside GSK and 20 others) • AAIH aims to develop appropriate regulations and industry guidance as well as to present an interface with Government & NGO's on growth of AI in healthcare industry.
Research and Development	• Imperial College London	December 2018	<ul style="list-style-type: none"> • Leverage artificial intelligence to drive drug discovery for heart disorders. • 3-year project to analyse UK Biobank data to identify pathways associated with heart disease which could offer new treatment targets.
Pharmacovigilance	• Genpact	November 2018	<ul style="list-style-type: none"> • Bayer is looking to accelerate its patient safety data monitoring by using artificial intelligence to detect any potential drug-related side effects earlier. • Multi-year agreement with professional services firm Genpact for its Pharmacovigilance Artificial Intelligence (PVAI) products to help strengthen Bayer's focus on patient safety.

Examination of a top Pharma Company's actions in a trend area – “Harnessing the Power of Artificial Intelligence and Other Technologies as Tools to Deliver on the Patient Value Ambition”

Impact Analysis: Competitors/Swing Factors

Company	Reimagining the Value Chain						Key Programs & Strategies
	Impact: Company Scope	Impact: Company over time	Impact: Company Geography	Impact: Healthcare Market Systems	Impact: Healthcare Market Diseases	Perceived Investment Complexity	
L1							Among pharma companies, Company L4 appears to be focusing on having a major impact on the value chain long term, with innovation in drug discovery, research supply, partnerships in bioprinting, AI and biosensors and significant work in technology for enhancing patient adherence. L2 has taken partnerships as their prime engine for development, with a systematic process of purchasing companies they opt into. Among tech companies, T1 appears to be playing to their strengths, distribution being key to the value they bring.
L2							Not significantly focused on changing the value chain. Some partnerships are important for medical device division – robotics, robotic assisted surgical software.
L3							Heavily invested in genomics, gene therapy, diagnostics, but also knowledge management in healthcare ZEMY program. Its partnership with QB3 to source, fund and incubate life science start-ups & FutureX to “revolutionize healthcare research”
M1							Health Data and Sharing program/partnership, building molecular diagnostic centres across China. Venture arm investing in precision medicine and robotic surgery (Sino/US joint venture)
T1							Using a partnership with 3M for microneedle transdermal patch for Osteoporosis, although small compared to other companies, could have big implications for M1. Development partnership with L5 – combining their two products is a step forward
							T1 seem to be taking what they do well and translating this into Healthcare – pharmacy, data managed health – insurance, payments, data analysis, extending Alexa to WebMD with home monitoring of BP

Company	Operating in the world of the Never Patient						Key Programs & Strategies
	Impact: Company Scope	Impact: Company over time	Impact: Company Geography	Impact: Healthcare Market Systems	Impact: Healthcare Market Diseases	Perceived Investment Complexity	
L1							Preventative medicine strategies are diverse, from T1 who are shaping their company mainly around it, with cross-company project teams, innovation sprints, dedicated research units and a high level of investment in PPP's (e.g. with IMI); to T4, who appear to be actively disengaging from preventative medicine (exception Migraine). Diabetes and life style appear to be main areas of pharma interest, although oncology is becoming a key area of focus, along with traditional vaccines. Tech companies seem to take very different paths, T1 with genomics, T2 with apps – especially for the Apple Watch and T3 moving along with consumer diagnostics.
L2							Probably the single most focused company on Never Patient with various specialist units and innovation centres, “World Without Disease Accelerator”, as well as copious PPP's in the prevention space. Cross company projects are common.
L3							Early intervention in diabetes and Ophthalmic biomarker program, (Ophthalmology Personalized Healthcare Initiative) which is aimed at prediction of disease, prevention, early intervention and therapy monitoring. Program utilizes large data sets and AI for prediction.
M2							Very limited programs in the field of preventative medicine – mainly in vaccination, a joint venture with L4 for HPV and a nation-wide measles prevention (130m doses)
T2							A small number of discreet prevention programs from prevention of diarrhoea in under 5's to adenovirus vaccination for the US military. Prevention is not a main focus of M2 business at present.
							Utilizing hardware – Apple Watch for AF detection, sleep apnoea, COPD monitoring – along with apps and AI to analyse large data sets for early intervention in cardiovascular disease, for example. Research-Kit can be used to develop large clinical studies for prevention.

What is the value?

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Combining **Foresight** (or Futures Thinking) with **Competitive Intelligence** improves dynamic understanding of:

- the competitive **landscape (system)**,
- the **climate (drivers of change)**, and
- the **actors (competitors and ecosystem stakeholders)**

...to reduce surprise while markets evolve today and into the future, and ultimately to make higher-quality and sustainable **strategic decisions**.



Appendix



Impact Scores

Dial 1 – Impact – Company Scope

- (1) likely to impact 1 brand/asset.
- (2) likely to impact 1 therapy area/franchise.
- (3) likely to impact a business division
- (4) Likely to impact the company
- (5) Likely to impact company and partners

Dial 2 – Impact on Company over time (duration of impact)

- (1) ultra short term - < 6 months
- (2) short term 6 months to 2 years
- (3) short - medium term 2 to 3 years
- (4) medium term 4 to 5 years
- (5) long term > 5 years

Dial 3 – Impact – Geographical impact for company

- (1) Likely to impact either 1 country/region (<15% revenue)
- (2) Likely to impact country(s)/region(s) (15 to 30% revenue)
- (3) Likely to impact a major county/region (approx. 30% of revenue)
- (4) Likely to impact country(s)/region(s) (>50% of revenue)
- (5) Likely to impact globally

Dial 4 – Impact – Healthcare Market Systems

- (1) a minor impact on a section of the healthcare market or moderate impact on small area of market (e.g. Merck KgaA acquisition of Sigma)
- (2) a moderate impact on a section of the healthcare market (e.g. digital PIL)
- (3) Likely to have a major impact on a significant section of the Healthcare Market (e.g. digital controlled just in time supply chain)
- (4) Likely to have a profound or disruptive impact on a key section of global healthcare market (e.g. remote digital clinical trials)
- (5) Likely to have a profound or disruptive impact on the global healthcare market

Dial 5 – Impact – Healthcare Market Diseases

- (1) Likely to impact a small section of the healthcare market – e.g. Topical/Neglected diseases
- (2) Likely to impact a moderate area therapeutically of the HC market – e.g. non-oncologic haematological disorders
- (3) Likely to have a major impact on a large therapeutic area (e.g. solid tumours)
- (4) Likely to have a significant impact on a significant area therapeutically – from diagnosis through treatment (e.g. type II diabetes)
- (5) Likely to have a profound impact or disruptive impact on the way in which a significant disease or multiple diseases are detected/managed/treated/cured

Dial 6 – Investment – perceived complexity

- (1) Addition to an existing business unit
- (2) adds a step or stage in some sections of the company
- (3) adds an additional business unit to the company
- (4) requires substantial change within the company
- (5) requires or is likely to lead to a completely different business model for the company