



MANAGEMENT OF NEW PRODUCT DEVELOPMENT

ASSESSMENT A

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CONTEXT

Let us set the scene for the project.

At present the Faux company "Cymru Analytics" hold a healthy market share in a market to which they offer breath analysis equipment for alcohol products. The company's main customer base is the UK's law enforcement agencies i.e. police and security forces.

These units have remained technically unchanged for a number of years with any product development being via a system of continuous improvement. The company's turnover is comparative to its market share year on year with little perceived growth, however a potential opportunity has arisen that may lead to a much more diverse market being available to them.

The opportunity entails the current product (the chemical alcohol detector system) to be adapted to cover the detection of other organic materials.

As this potential product will transition the company away from its normal market sector, there is a lack of market intelligence to understand if there is a clinical or personal requirement for this new product in other markets.

Entry into this market may require a more radical innovation approach and an entirely new type of customer, as such they are looking at a programme of market sensing and learning to enable them to evaluate their ability to offer a market leading level of customer value to a much more diverse customer base.

What follows is an estimation of a presentation to the board of directors by the product development team outlining the proposed market sensing and learning process that they would recommend to offer the maximum value to the customer.

ASSIGNMENT BRIEF

To demonstrate a systematic understanding of the key elements that contribute to the successful gathering of market knowledge for developing a CDS (Chemical Detector System)

CONTENTS

- Product
- What Marketing Knowledge do we need?

- The path to defined product value
- Management Information
- Market Research
- Market Intelligence
- Translation of Market Knowledge

Determine what marketing knowledge is likely to be required for the development of this new product.

- Who are our proposed target markets?
 - Proposed target markets
 - Why target both private and public
 - Consideration of targeting public sector
 - Advantages of our product for private/public sectors
 - Why not general consumers

Present your findings from our sources of marketing knowledge, and apply this practice to the business to ascertain –what business are we in? what business(es) could we be in?

- Value Proposition
- Recommendations

You will also include your interpretation of marketing sensing capabilities and market understanding and develop the definition(s) of value for at least one customer value proposition scenario.

PRODUCT

ORIGINAL

Chemical detector
system



Detects

Alcohol



for

Police and Armed Forces



NEW

Chemical detector
system



Detects

Other Organic Materials i.e virus



for

?

WHAT MARKETING KNOWLEDGE
DO WE NEED?

THE PATH TO DEFINED PRODUCT VALUE (1)



THE PATH TO DEFINED PRODUCT VALUE (2)

"The foundation for all that follows are the simple questions – What do you know; how does that knowledge give you an edge or advantage over the rest; how can you stay ahead in understanding this marketing opportunity better than anyone else. After that, the rest is just technology – a means to an end"

Harris, J (2022) Market Intelligence +

"It follows that the crunch questions to ask in looking at this first stage of the strategic pathway are simple; what do you know? In particular what do you know that is not obvious to every rival in the business – what do you know that they don't? Where does your superior insight give you a competitive advantage, an edge, a difference that matters, a way of delivering value better and to a higher level than the competition"

Piercy, N (2008) Oxford, Butterworth-Heinemann, Market Led Strategic Change

MANAGEMENT INFORMATION (1)

What do we already know from internally held data?

1. Current market position
 - To understand the amount of influence our brand has on a product
2. Turnover and profit margin from existing product base
 - To understand whether we can cover the costs of shifting resources to focus on developing the new product
3. Technical requirements of the existing customer base
 - To help form a baseline specification of the product rather than starting fresh
4. Limitations of existing technology
 - Where can the current breathalyser not be used? i.e limitations in the environment the product is in and usage (battery life, packaging, consumption)
5. Manufacturing capacity with existing plant and workforce
 - If we target a new market, can we cope with the demand?
6. The product distributors
 - To understand who can deliver our product

Data Sources Available

SAS

SCADA

Technical
Specifications

MANAGEMENT INFORMATION (2)

What do we need to know from internally held data?

1. Do our existing competitors already offer this technology?

- Customer websites
- Social media

2. Will our existing credibility transfer to the new market?

- Customer feedback
- Social media

3. What is our existing customer's expectations?

- Feedback surveys
- Chatbots
- Customer behaviour from behind-the-counter sales

4. Can we sell to the new market with our existing business framework?

- Market trend reports (Mckinsey, Accenture, Webtrends)
- Business engagement framework

5. Do we need to achieve certification for sector compliance?

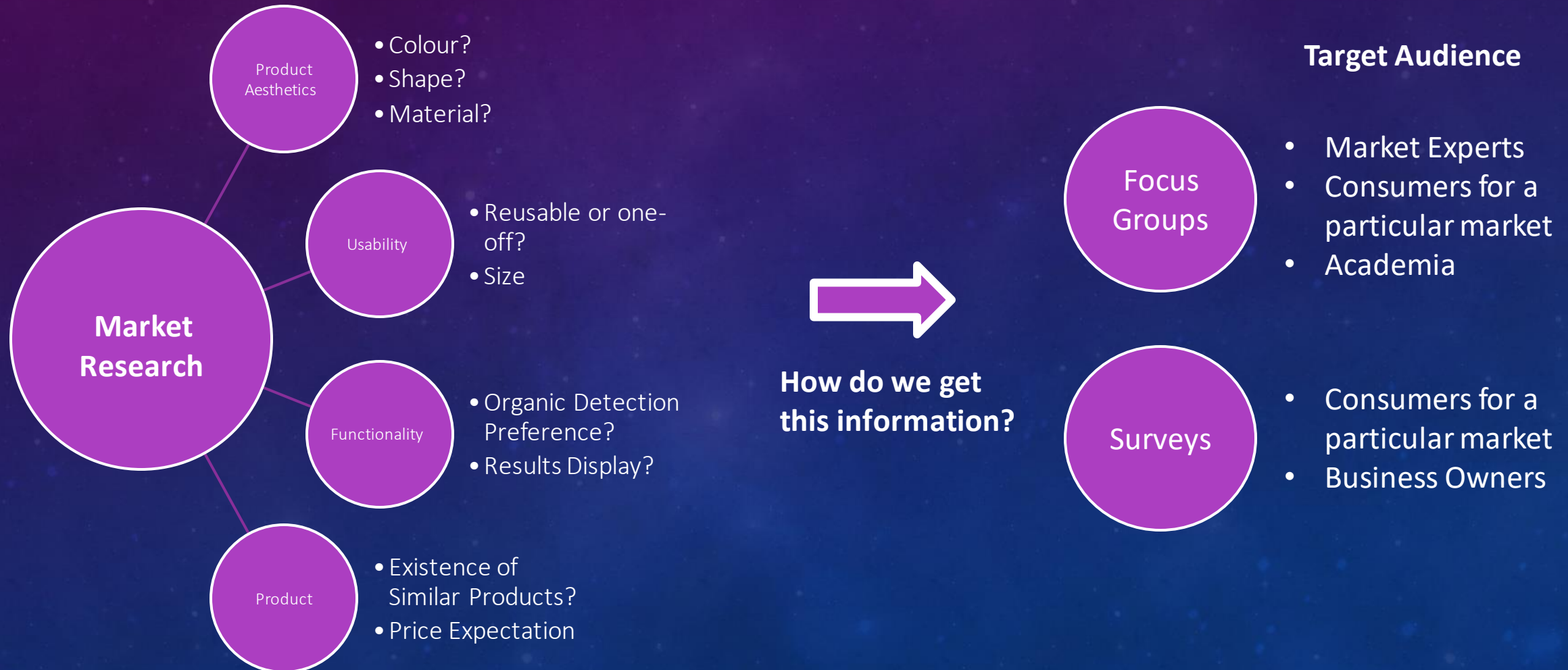
- BSI Standards
- Patents
- Design rights

6. What is our anticipated timeframe for release?

- Manufacturing lead times
- Project plan

MARKET RESEARCH

What do we need to know to effectively develop the product to compete in a new market (company-specific) ?



MARKET INTELLIGENCE (1)

What existing knowledge do we need to look at to enter a new market (market-specific)?

1) Existing academic research relevant to the new market

- Organic materials (health issues) associated with the market
- Market Societal trends
- People Behaviour



Potential Sources of Information: *Google Scholar, Sciencedirect, Research Gate or Online University Library*

MARKET INTELLIGENCE (2)

What existing knowledge do we need to look at to enter a new market (market-specific)?

2) Government policy or targets which may affect the market

- How much investment the government is putting on a particular market.
- Economic performance
- Rules or policies around public health
- Import and Export rules
- Certifications



Potential Sources of Information: GOV.uk, gov.wales, gov.scot

MARKET INTELLIGENCE (3)

What existing knowledge do we need to look at to enter a new market (market-specific)?

3) Data from research partners

- Performance of similar types of technology (but not in a breathalyser form)
- Detectable chemical compositions
- For the new breathalyser device:
 - Sensitivity to external environments
 - Product life expectancy

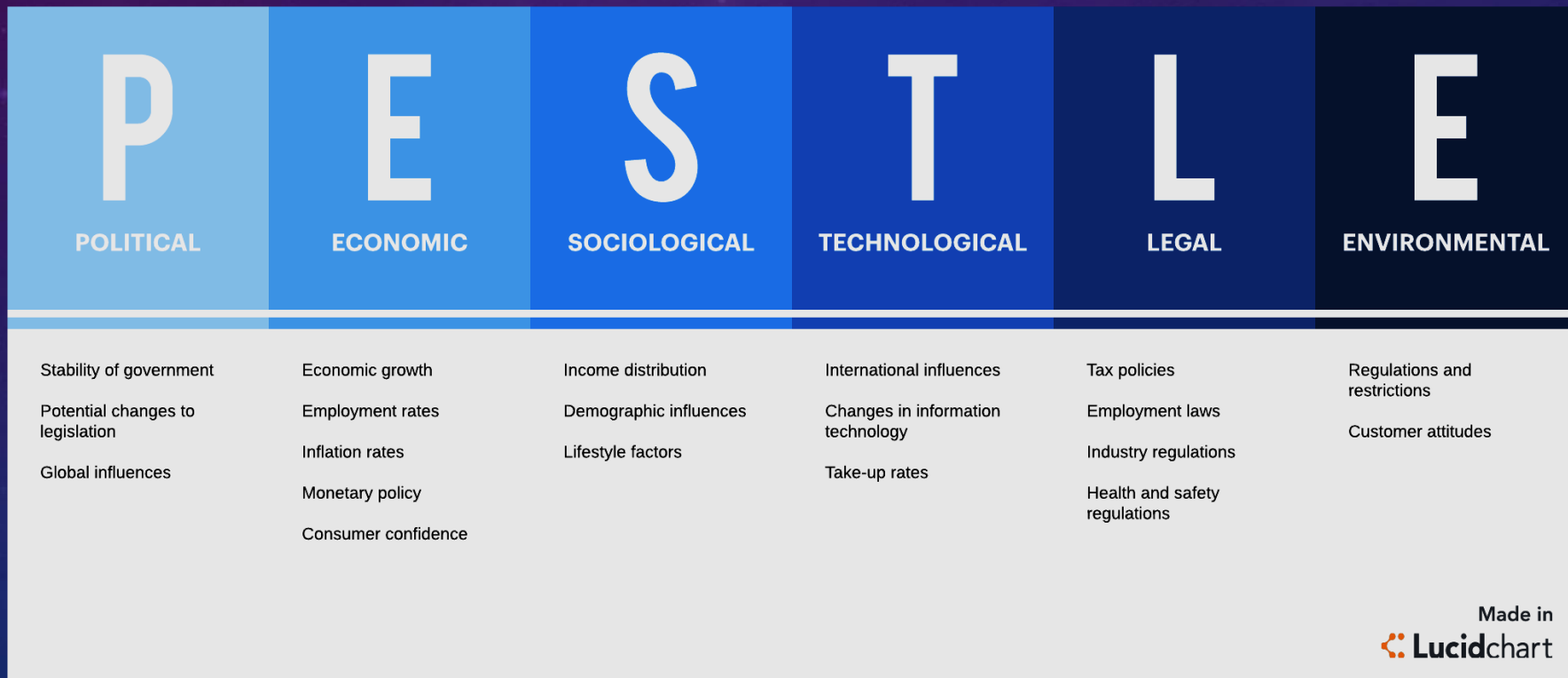


Potential Sources of Information: CATAPULT, Innovate UK, Universities

MARKET INTELLIGENCE (4)

What existing knowledge do we need to look at to enter a new market (market-specific)?

4) PESTLE Analysis

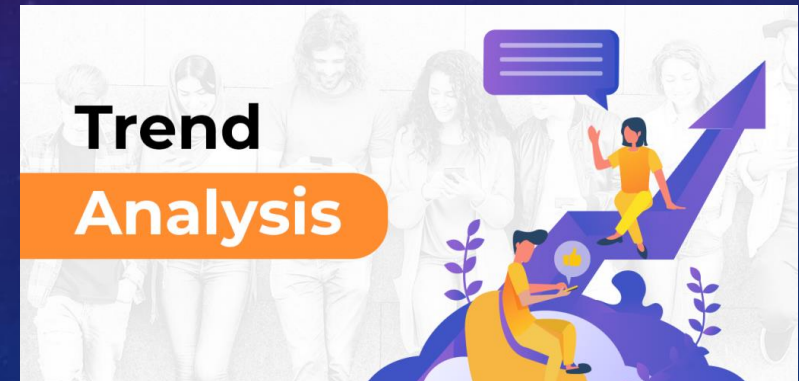


MARKET INTELLIGENCE (5)

What existing knowledge do we need to look at to enter a new market (market-specific)?

5) Market Trends

- Market Performance (*Mckinsey/Accenture/ONS*)
 - Market Size
 - GDP
 - End-users
 - Market issues and sensitivity (*Trade specific journals, publications, BBC news*)
- Diseases (*webtrends, news, research papers*)
 - Understanding what diseases affect the particular market and how it arises.
- Customer/Market Mindset (*Social Media, forums, blogs*)
 - Understanding the wealth of end-users, their mentality towards public health, general sentiment, concerns and passions.
 - Natural Language Processing can be used to shift through big data to gather insights on the customer/market mindset.



MARKET INTELLIGENCE (6)

What existing knowledge do we need to look at to enter a new market (market-specific)?

6) Competitor Analysis

- Who are the competitors in the market?
- What do the competitors sell and how do they offer the product?
- Who is the end user for their products?
- Price of the product?
- Quantity of products sold?
- What are their strengths and weaknesses?
- Do they advertise the product and how?
- Product reviews (*blogs, social media*)

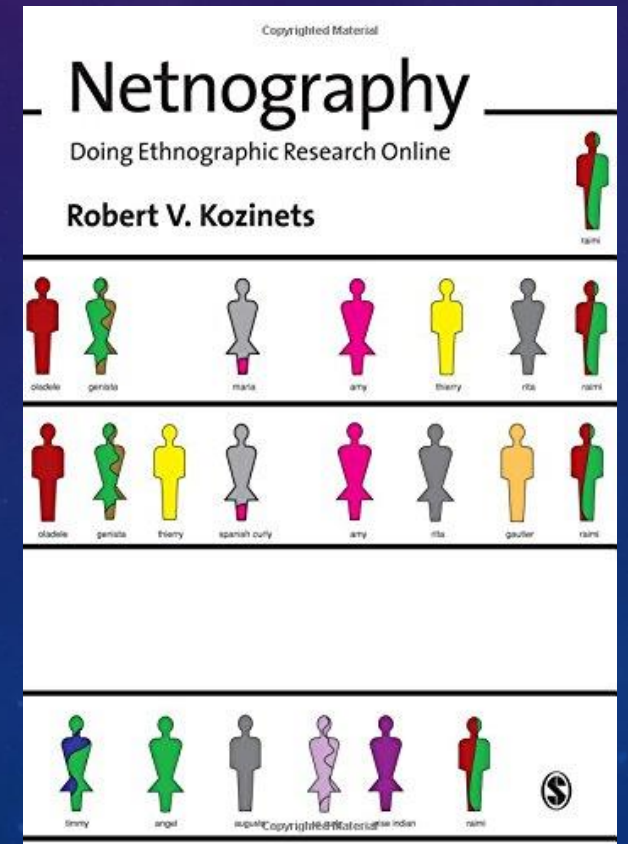


MARKET INTELLIGENCE (7)

What existing knowledge do we need to look at to enter a new market (market-specific)?

7) Open Innovation

- Co-creation is used as a strategic advantage to give everyone: employees, customers and stakeholders a seat at the design table in an attempt to build better products and the overall experience for the consumer.
- Vulnerability – companies need to venture into the market and engage with consumers to hear more about their product, the good and the bad.
- Netnography – Can customer feedback of ‘pain points’ be used on this existing product to pinpoint any flaws and areas for improvement?
- Do we need to look at third parties to help with production, further development etc ?
- If we do, we will need to protect our product with IP and NDAs.



TRANSLATION OF MARKET KNOWLEDGE

How do we translate the data collected into information?

Data

- Store qualitative under 'labelled' folders
- Place quantitative data in databases
- Survey forms
- Mentimeter for focus groups

Information

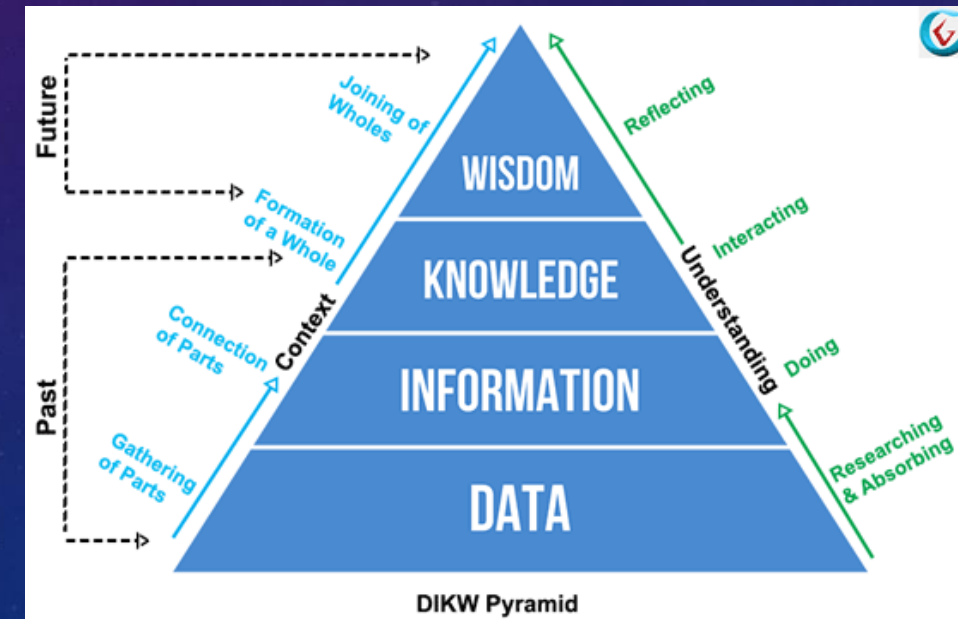
- Separate sources of data into groups i.e product, market and end-users

Knowledge

- Highlight relationships between sources i.e connecting academia, focus groups, survey, online research together to draw conclusions.

Wisdom

- How should we pitch our product?
- What the product should be able to do?
- How will the end-users consume the product?



Source: <https://www.certguidance.com/explaining-dikw-hierarchy/>

The background is a gradient from dark blue on the left to a lighter blue on the right. Overlaid on the left side are several concentric circles and a radial scale. The scale has markings from 140 to 260 in increments of 10. There are also several circular arrows, some solid and some dashed, indicating a clockwise direction. The text is centered in the middle of the image.

WHO ARE OUR PROPOSED TARGET MARKETS?

PROPOSED TARGET MARKETS

- **Private Sector**
- **Public Sector**
- **Consumers?**



WHY TARGET BOTH PRIVATE AND PUBLIC?

- Public sector will likely return less revenue per unit, however, more chance at larger/long-term contracts
- Appetite within Governments to improve public health following recent pandemics
- Private companies have also experienced discomfort during recent pandemics
- Comprehensive study by Bevan et al. in 2001, shows that absences cost more than just lost salary in both sectors...

S. No.	Variable	Private Sector	Public Sector
1.	Governance	Directors and managers	Agency heads, ministers, Parliament – tensions between loci of authority
2.	Mandate	Profit maximization, considering corporate interests only	Welfare maximization, considering community interests, involving tradeoffs
3.	Ownership	Partially-owned entities	Relation to assets remains complex
4.	Other Stakeholders	Employees, creditors, suppliers, communities	Same set of stakeholders, but weighting of communities much heavier
5.	Goal	Generally clear	Often vague to satisfy different stakeholders
6.	Product Choice	Decided by corporation	Mandated by government
7.	Revenue	From sales	Also from some natural monopolies
8.	Prices	Generally constrained by market	Dependent on policy
9.	Costs	Firm's own costs used for decision making	Community costs, including externalities, deadweight losses
10.	Efficiency	Technical efficiency basic requirement	Economic efficiency is often at the cost of technical efficiency
11.	Financial Controls	Cash flow crucial to survival	Cash not an operating constraint, as government has a macro monetary role

Source: Madhani (2014c)

PROPOSED TARGET MARKET

Private Sector

- No Reliance on government policy
- Can prove cost saving to companies and reduction of stop-time loss
- Gourinchas et al. (2020) found that during COVID-19 pandemic in particular, small to medium businesses (SMEs) were most at risk.
- One example alone on an oil installation cost 14 days rig time ~ £3.5 million in lost rig time (Source BBC News)





TRAVEL



PROPOSED TARGET MARKET

Private Sector Travel (Carnival Cruise Lines)

- Cost of recent pandemics has cost airlines worldwide over \$300 Billion (Source: IATA)
- Global reduction in tourism since 2019 has cost global economies over \$4.6 Trillion (UNWTO)
- Airlines and other travel industries have endured pain due to pandemic-related staff shortages after restrictions eased
- Travel and tourism economy worth over \$8.6 Trillion according to WTTC
- As travel is often more prevalent during the summer, equipment could be rotated between public sector contracts in the winter.



PROPOSED TARGET MARKET

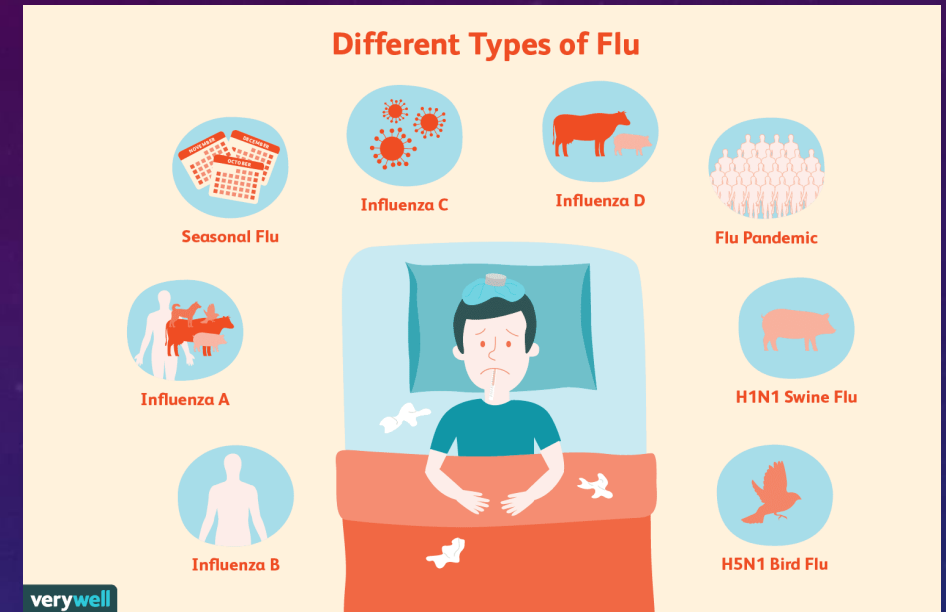
Public Sector

- Reliance on government policy
- Less importance on cost saving and more focus on ensuring public/economic health
- Public sector represents over 16.5% of total UK workforce (Source: Office for National Statistics)
- The National Health Service is the UK's largest single civil service employer – comprising over 1.5 million employees (Source: Office for National Statistics)
- Cost to NHS from influenza and other transmittal viruses cost the NHS £128,000,000 per flu season (Moss et. al 2020) for patients requiring hospital treatment alone





NHS



PROPOSED TARGET MARKET

Public Sector Health

- Flu season usually during the winter months when travel is lower
- Variety of bacterial/viral illnesses that are easily spread through the population by healthy 'carriers'
- Identification of carriers could lead to isolation of healthier individuals which would reduce the transmission rate
- Widespread testing used during pandemics (foot and mouth, covid-19 etc) have been crucial in reducing disease effectiveness
- Cost to the UK economy from the recent COVID-19 pandemic is estimated at ~£5000 per person (Source: Commons Library)



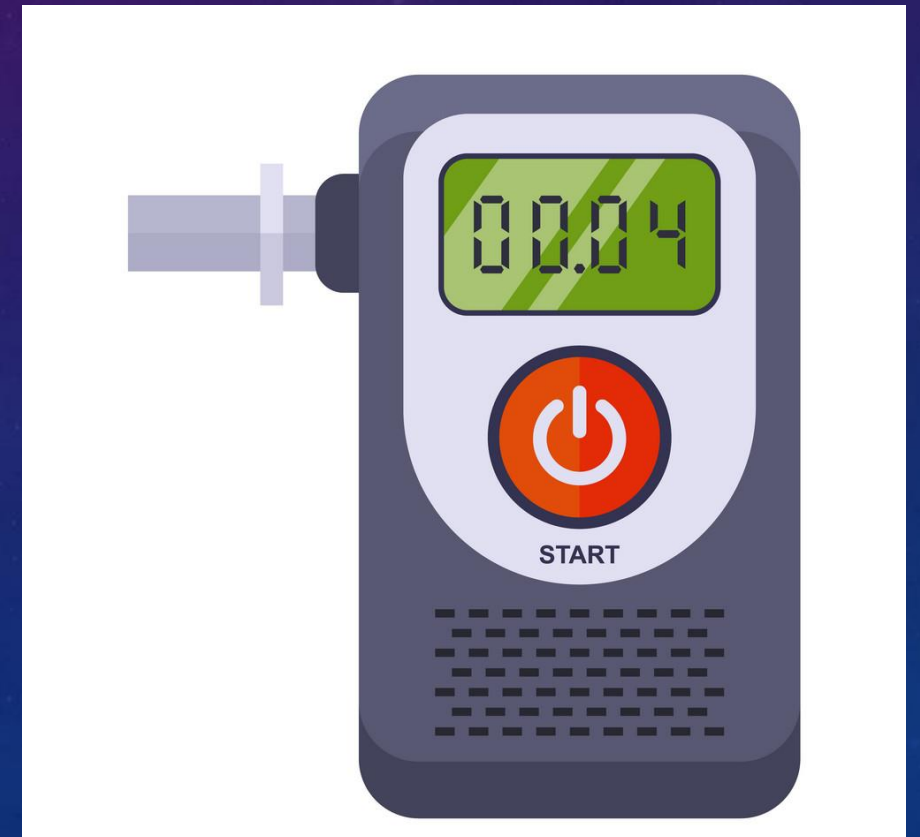
CONSIDERATIONS OF TARGETING PUBLIC SECTOR

- Potentially reliant on Government policy
- Larger contracts may be put to tender which may give our competitors a chance to develop a similar product
- NHS budgets are already hamstrung, so may not be willing to take on additional burden without proof of concept
- Partnering with a public body such as a University Hospital/Local Authority could be the way forward to prove concept
- May need to meet [ISO/TC 212](#) standards to be approved for public use



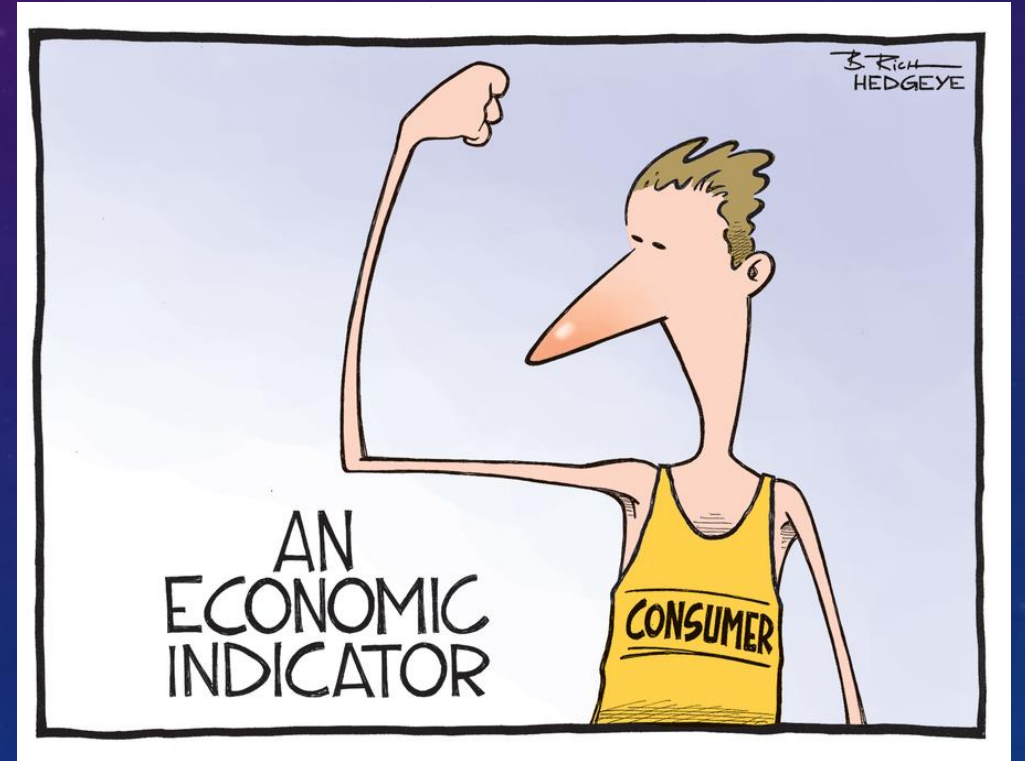
ADVANTAGES OF OUR PRODUCT FOR PRIVATE/PUBLIC SECTORS

- Can be deployed quickly with a very simplistic user training guide
- Results within a couple of minutes
- Reusable with a detachable breathing tube
- Quicker than other methods of testing (e.g. PCR, blood tests, scans, etc.)
- More reliable than other 'quick' testing (e.g. lateral flow tests)
- Can test for a variety of illnesses



WHY NOT GENERAL CONSUMERS?

- Business models with private/public sectors suit larger contracts as opposed to individual smaller sales
- Testing could work better as part of a package
- Risk of competitors being able to access equipment for their own development
- **No proven market.**



The background is a gradient of blue and green. On the left side, there are several concentric circles and a large arc with a scale. The scale has numbers from 140 to 260 in increments of 10. There are also smaller circles and arrows scattered across the background, some pointing clockwise and some counter-clockwise.

WHAT IS OUR VALUE PROPOSITION?

Value Proposition Canvas

Designed for:

Cymru Analytics

Designed by:

Cymru Analytics Engineering

Date:

05/08/2022

Version:

1.1

Product

Benefits	Experience
Leather grip for comfort.	
Returns results in a condensed and simple to understand format.	
Reusable and carbon-neutral.	
Cost-effective	Customer feels that they are getting the most for their investment, with a relatively low price for the unit and biodegradable breath straws to operate the device.
Features	 The end user will no longer experience the usual gag/nose-jab of previous tests, with just a full breath required for a valid sample to be taken.
Returns sample result within 10 seconds for over 20 bacterial and viral causing diseases.	Sample results can either be viewed directly on the device itself, via NFC transfer or by accessing the Cloud Portal for simple use.
Device is linked to the cloud for results and firmware update. Also, NFC technology for people to scan their digital records. Results can also be sent to NHS GPs directly.	
Multi-lingual voice assisted to enable the user/operator to carry out the test with no prior experience.	

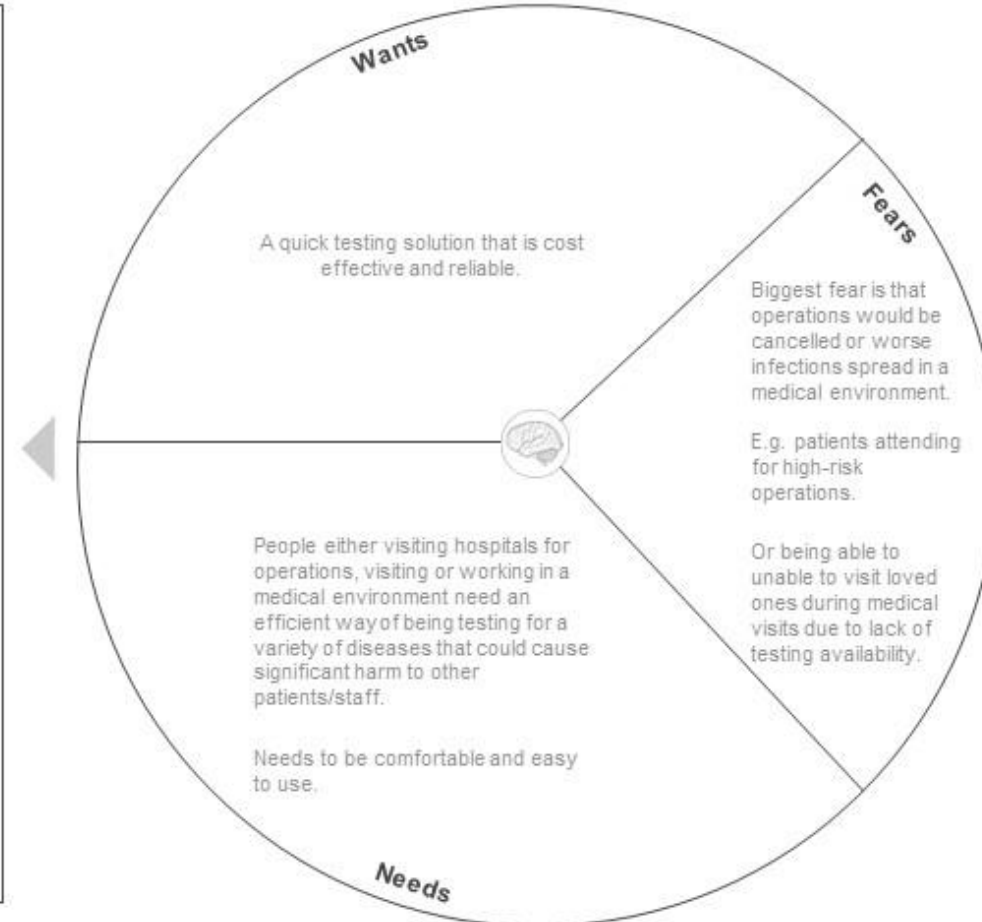
Product

Prawfer Detector

Ideal Customer

National Health Service

Customer



Substitutes

There is currently no test capability on the market similar to our offering, with all other tests either requiring invasive testing procedures (e.g. nose/throat swabs) or require lab interpretation and testing (e.g. scans and blood tests).

Value Proposition Canvas

Designed for:

Cymru Analytics

Designed by:

Cymru Analytics Engineering

Date:

05/08/2022

Version:

1.2

Product

Benefits	Experience
- Leather grip for comfort. - Returns results in a condensed and simple to understand format. - Reusable and carbon-neutral. - Cost-effective	Customer feels that they are getting the most for their investment, with a relatively low price for the unit and biodegradable breath straws to operate the device.
Features	The end user will no longer experience the usual gag/nose-jab of previous tests, with just a full breath required for a valid sample to be taken. Sample results can either be viewed directly on the device itself, via NFC transfer or by accessing the Cloud Portal for simple use.

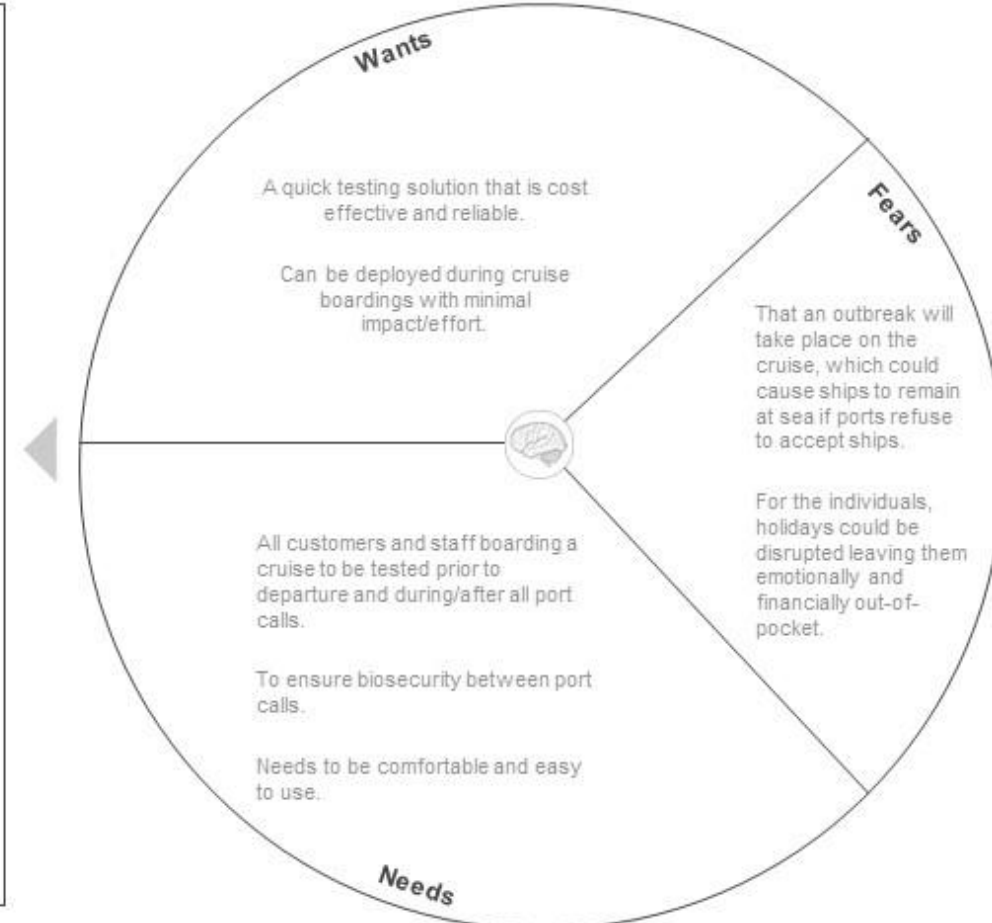
Product

Prawfer Detector

Ideal Customer

Travel Sector (Carnival Cruises, Saga)

Customer



Substitutes

There is currently no test capability on the market similar to our offering, with all other tests either requiring invasive testing procedures (e.g. nose/throat swabs) or require lab interpretation and testing (e.g. scans and blood tests).

The background is a gradient from dark purple at the top to deep blue at the bottom, speckled with white dots resembling a starry sky. On the left side, there are several overlapping circular and semi-circular patterns. Some are solid white lines, while others are dashed. A large circular scale with tick marks and numbers (40, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) is visible, along with various arrows indicating directions.

RECOMMENDATIONS

RECOMMENDATIONS

- Marketing knowledge is vital to help define value and ensure the correct actions are taken to develop the new product. The business **must** conduct marketing knowledge first before making commercial decisions on how to develop the product.
- The critical marketing knowledge the business **must** acquire are; market size, external factors which could affect the market, customer's attitude and perception, competitor knowledge and product features.
- The business **should** involve the entire team to gather market intelligence instead of selecting specific people.
- The business **should** target the new product for the travel sector (cruises) and health sector (NHS), alternating our supply depending on seasonality.
- The business **could** target the product for the general consumers but no proven market exists for our proposed product. Additionally, there will be difficulty in finding an incentive for general consumers to use the product.
- The business **could** use the value proposition canvas to focus on the development of the product for the specific markets. It describes how our product can be valuable for the customer, based on market research.

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