

Would portraying Engineering as a discipline which has social impact attract more female students and how this can be done by universities

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Give Engineering a *Purpose*

And you will attract more
female engineers

Why is this Important?

14%

Of engineers in the
UK workforce are
female ⁽¹⁾

10%

Of leadership board members in
Engineering & Construction
globally are female ⁽²⁾

(1) The Women's Engineering Society, "Useful Statistics," 2021.

(2) FP Analytics, "Women as Levers Of Change," 2020.

Why is this Important?

Key drivers for the study:

1. Social demand and ethical concerns to enable equal opportunities



20% of engineers globally are female (2021)

(3)

2. Gender parity is needed for global advancement



of the global population's needs can be overlooked if women are not included in decision-making

(4)

3. The positive impact of women in the workplace

Better collaboration



19% more revenues from innovations



(5)



30% female leaders vs. 0% → 15% higher profitability

(3) Global gender gap report, OECD, 2021.

(4) C. Criado Perez, Invisible Women, 2019.

(5) How diverse leadership teams boost innovation, BCG, 2018; Is gender diversity profitable?, PIIE, 2016.

What is Keeping Female Students Away from Engineering?

A male-dominated environment

Worried 21% of female students vs. 6% of males

Gender stereotypes: “engineering is for boys”

10% of girls are discouraged at schools
(vs. 0% of boys)

General lack of engineering awareness

21% of female students vs. 11% of males learned
what engineering was too late

Perception of a highly challenging career

Worried 42% of female students vs. 34% of males

An Important Knowledge Gap

“I would love it if my work was in the world of humanitarian help or renewable energies.”

“In the beginning, I would never have linked both things [engineering and social impact]. I realised when we did a project about designing the floor plan of a hospital. I hadn't realised until what extent engineering can impact.”

“I think engineering would be a lot more attractive if you did like Engineers without Borders, combining the world of humanitarian help and engineering.”

An Important Knowledge Gap

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People do not make the connection between
Engineering and social impact!

There is clear potential to attract women to engineering by showing its social impact

90%

Of female engineers said social impact opportunities are at least “Important” to them in their career

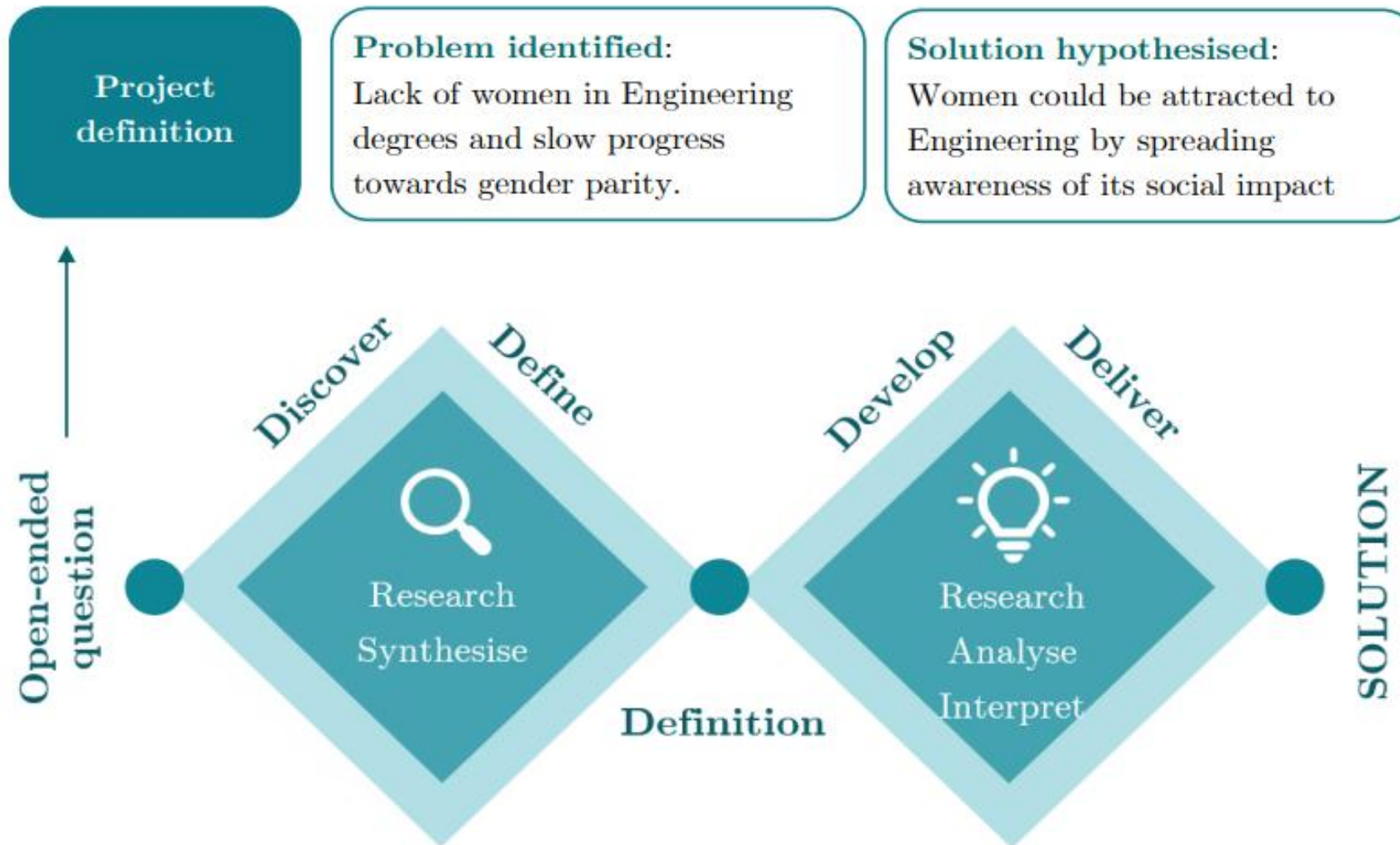
(vs. 74% of male engineers)

71%

Of high school girls said they were “Very” or “Extremely Interested” in social impact opportunities in their future job

(vs. 48% of boys)

Investigation Methodology



Aims and Objectives



Aim:

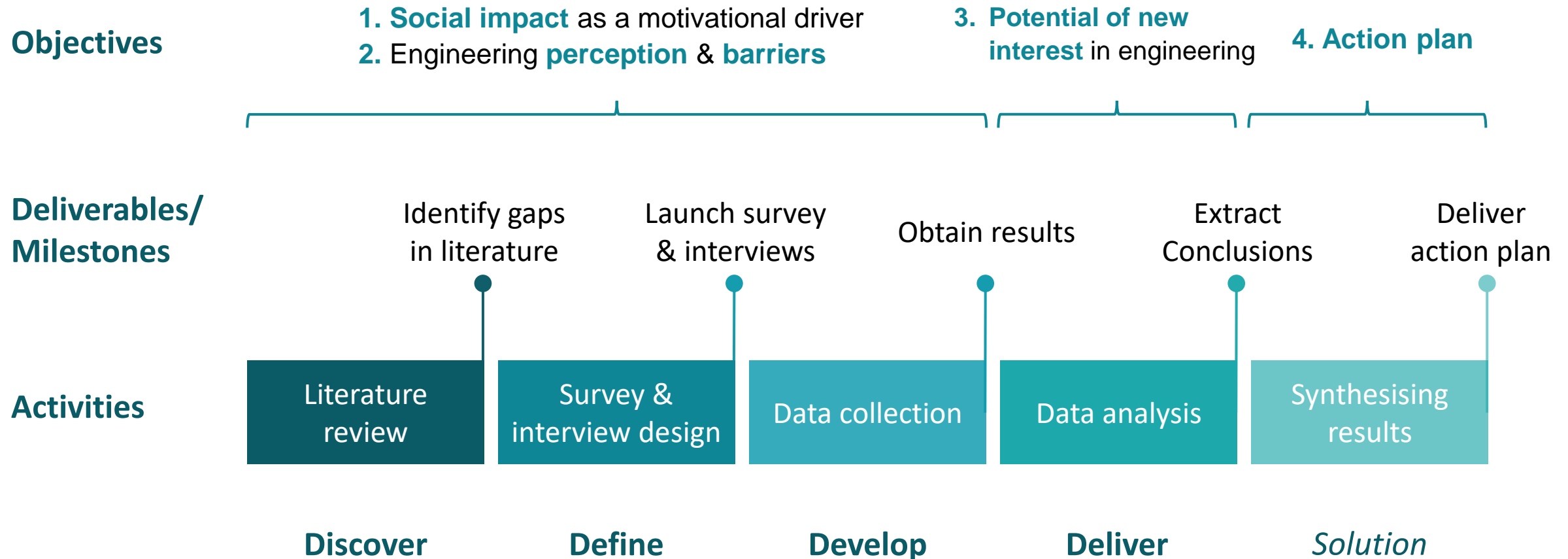
Investigate whether female representation in engineering degrees can be increased by showing the societal contribution side of engineering and how this can be done.



Objectives:

1. Find whether **social impact** is a significant driver in women's careers
2. Understand current students' **perception of engineering** and its link to **barriers** holding female students back from applying
3. Assess the **potential of new interest** in engineering from women if social impact was an evident opportunity
4. Translate findings into an **actionable plan for universities** to drive change

Methodology – Investigation Process



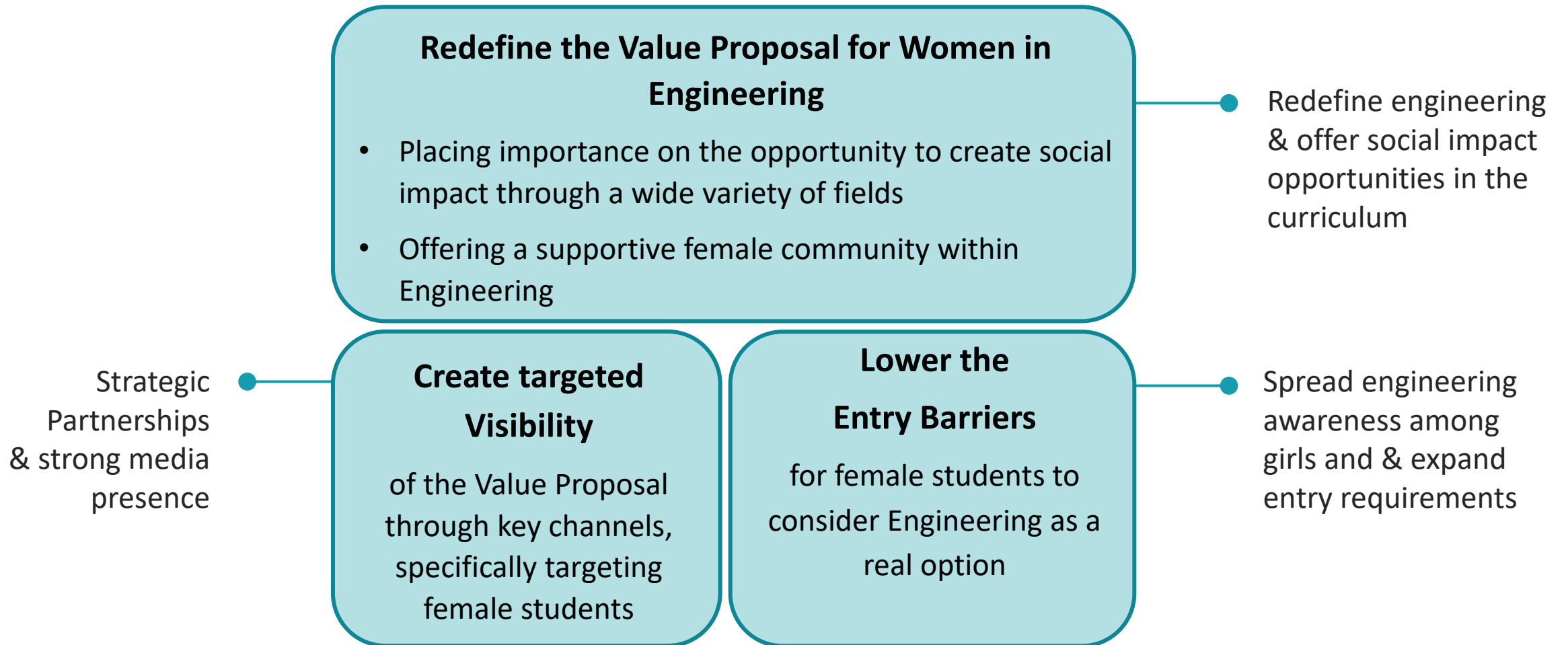
Interpretation of Results



Findings

1. Women are significantly **motivated and interested in social impact opportunities**
2. Social impact and Engineering are **not linked** by students → females are missing the purpose of engineering
3. Female students' interest can be increased by showing the **breadth and application of engineering**
4. Only girls who consider themselves **very skilled** at the STEM subjects involved will pursue engineering

Action Plan - Universities



Thank you!