€Design | Measuring Design Value

€Design team by
James Moultrie - Cambridge University, Institute for Manufacturing, IfM

COORDINATOR: PARTNERS: COFINANCED BY::

Policy makers data on design

marginal economic contribution	Policy makers receive information from
As a styling add on at the end of a technology push innovation model	WIPO, EPO, OECD statistics and DG MARK tender
As considered in CIS questionnaire	5.1 shape or appearance 7.1 Design registrations 9.1 aesthetic design

relevant economic contribution	
Design as integrator at the very outset of systemic innovation	Data not available to policy makers Need to add questions to CIS

Our hypothesis is that design may be one of the most important factors enabling value creation in firms and GDP growth of nations

COORDINATOR: PARTNERS:

COFINANCED BY::

need for new data

could CIS or Eurobarometer provide this data?

COORDINATOR: PARTNERS: COFINANCED BY::

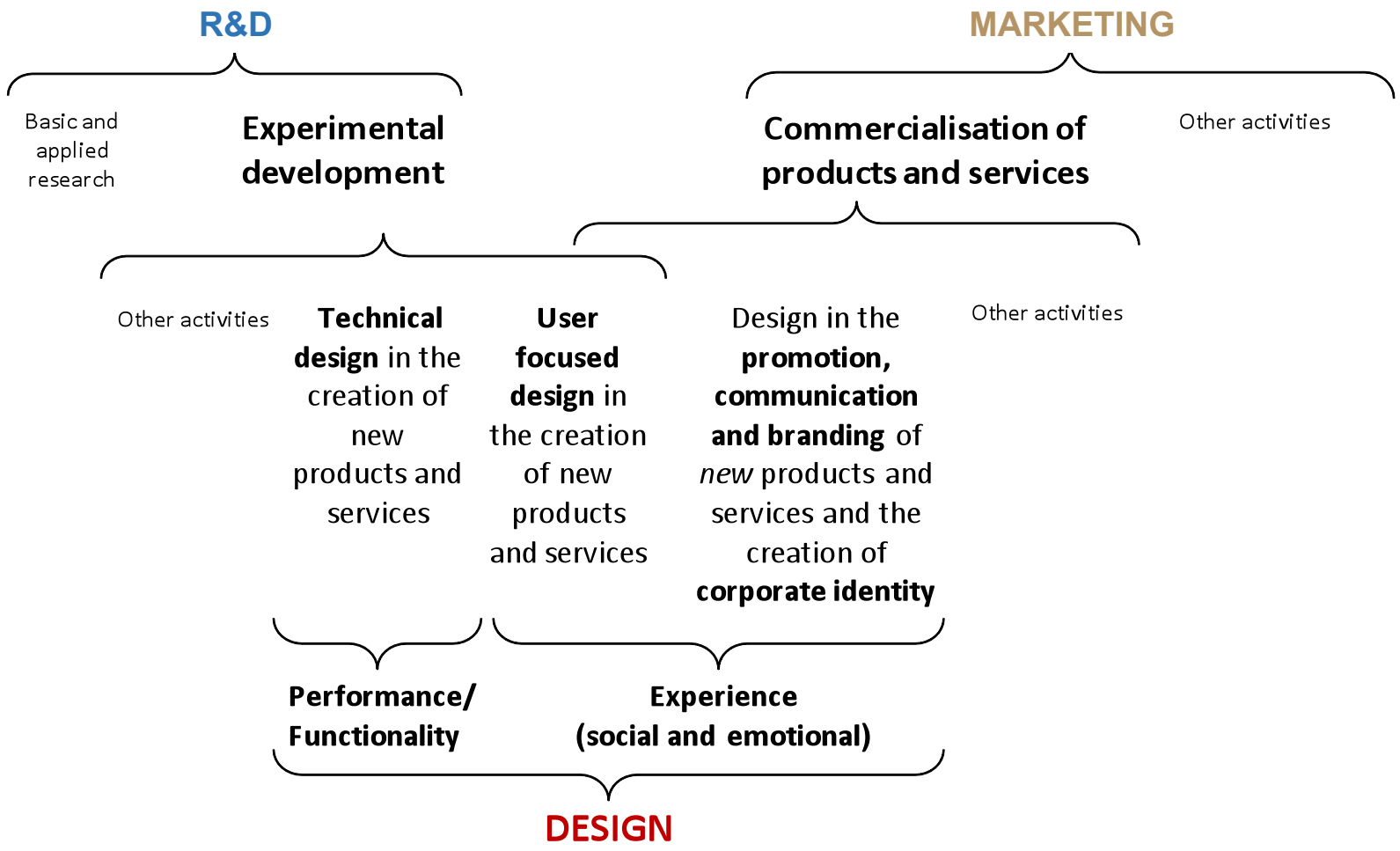
YES

- Introducing up to three questions in CIS or Eurobarometer
  - How goods and services compete
  - Attributes of introduced innovations
  - Resources used

COORDINATOR: PARTNERS:

COFINANCED BY::

Design falls between organisational boundaries



Moultrie J, Livesey F, Measuring design investment in firms: Conceptual foundations and exploratory UK survey, Research Policy, Available online 16 September 2013, ISSN 0048-7333, http://dx.doi.org/10.1016/j.respol.2013.08.005.

COORDINATOR: PARTNERS: COFINANCED BY::

Cognitive testing

- Can data be provided?
- Is the question clear?
- How difficult is it to answer?
- Are they understood consistently in different countries?
- Which question generates the most accurate responses?
- Data from 6 countries

COORDINATOR: PARTNERS:

COFINANCED BY::

Cognitive testing

	Questionnaire V1	Questionnaire V2	Questionnaire V3	Questionnaire V4
Denmark	5	-	-	10
Sweden	5	4	-	1
Hungary	5	-	3	15
Spain	5	5	4	20
UK	-	-	32	24
Austria	5		3	16

COORDINATOR: PARTNERS:

COFINANCED BY::

Questionnaire V1

- All face to face
- Adapted CIS questions to better represent design
- Mostly viewed as an improvement, but did still not result in consistent approval
- Respondents generally preferred an independent question on design
- Consistency across nations

COORDINATOR: PARTNERS:

COFINANCED BY::

Questionnaire V2

- All face to face
- Questions built ‘literally’ from new design definition
- Didn’t translate well
- No consistency in responses
- Conceptually difficult to understand

COORDINATOR: PARTNERS:

COFINANCED BY::

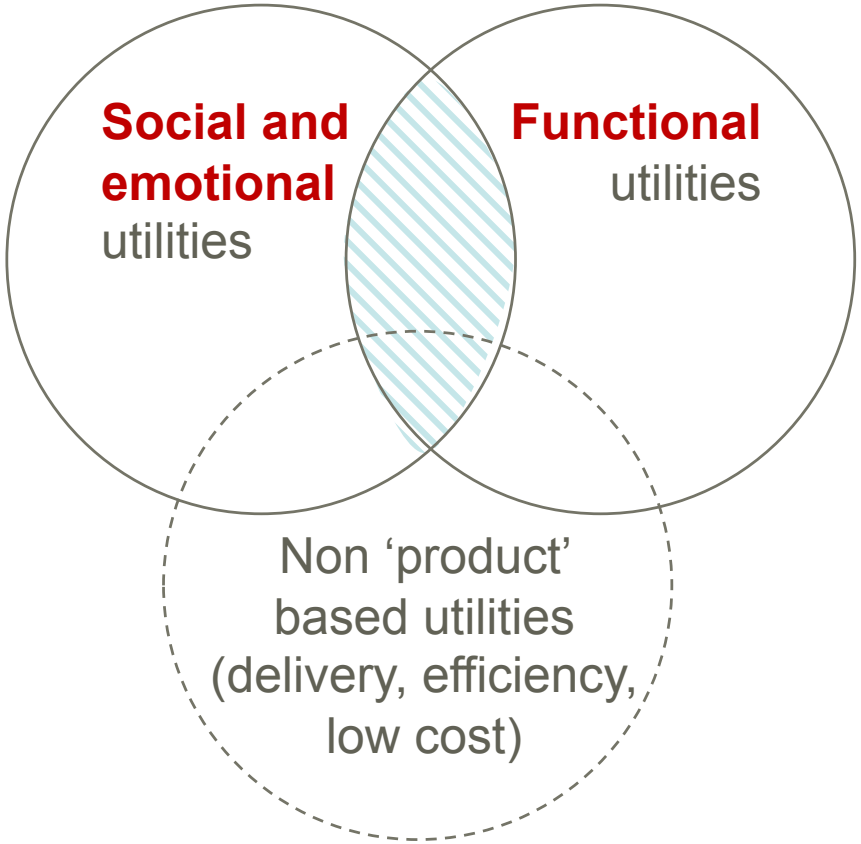
Types of questions

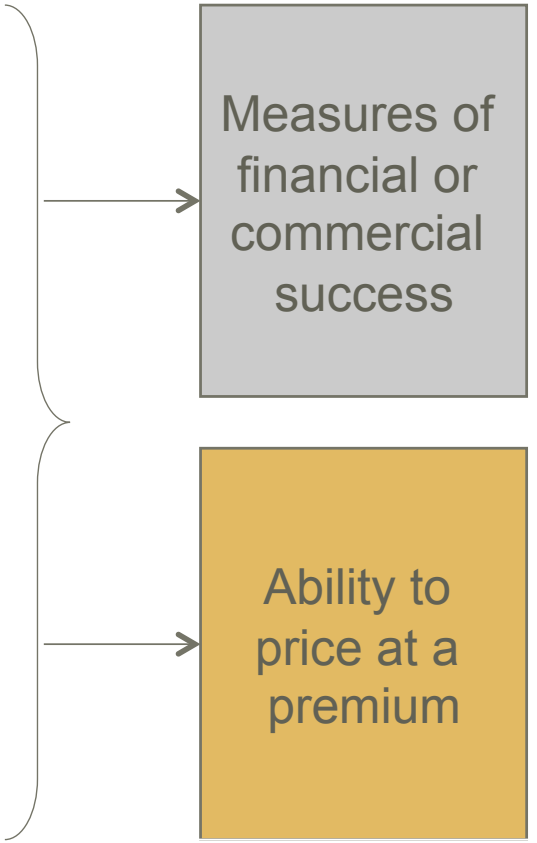
- Absolute values (€)
- Banded values (€10-100, £100-1000)
- Percentages
- Banded percentages (0-10%, 10-20%)
- **Binary (Yes/No)**
- **Scaled (e.g. 1-5)**
- **Asking indirectly about design**

COORDINATOR: PARTNERS:

COFINANCED BY::

Conceptual/analytical framework





Performance in relation to main competitors in the firm's market

Moderating influence of sector?

COORDINATOR: PARTNERS:

COFINANCED BY::

Questionnaire V3

- Asked about design's 'role'
  - Delivering new functionality/performance
  - Delivering new emotions/experiences
  - Delivering both

COORDINATOR: PARTNERS: COFINANCED BY::

Conclusions from V1 to V3

- Questions: to what extent are …
  - A firm's new products competing based on social/emotional utilities compared with competitive products?
  - A firm's new products competing based on functional utilities compared with competitive products?
  - A firm's new products competing based on cost or delivery efficiency compared with competitive products?
  - A firm's new products able to command a price premium?

COORDINATOR: PARTNERS: COFINANCED BY::

Questionnaire V3

- Likert-scale type questions preferred
- Question on ‘resources’ perceived as the simplest
- Question on the introduction of innovations successful
- Quantitative questions less successful
- Questions asking about ‘importance’ least successful:
  - “of course it is important”
- Question on innovation strategy not successful:
  - Do you follow a technology push or design led approach to innovation

COORDINATOR: PARTNERS:

COFINANCED BY::

Recommended Question – Introduction of innovations

During the three years 20XX-20YY, did your enterprise introduce …

Please tick Y or N in each case		Y	N
Goods that:	Provide changes in technology, performance or functionality, including usability	☐	☐
	Provide lower costs of production	☐	☐
	Provide changes to product form (appearance) or packaging	☐	☐
Services that:	Provide changes in performance (e.g. efficiency, speed) or new levels of functionality to customers (e.g. internet banking, pick-up and drop-off services for rental cars)	☐	☐
	Provide changes in user-experience	☐	☐
Production **process**, distribution method or delivery method that:	Reduce the cost of manufacturing or delivering goods and services (e.g. automation equipment)	☐	☐
	Increase the quality of manufacturing or delivering goods or services	☐	☐
	Enable the production or delivery of an entirely new product or service	☐	☐
Marketing methods that:	Use new media or new techniques for promoting goods and services	☐	☐
	Use new methods for product placement or new sales channels for goods and services	☐	☐
	Create a new brand image, brand symbols or brand identities for goods and services	☐	☐

Recommended Question Comparison of new products against competitors

For products (goods and services) introduced in the last three years, how do they compare against competitive offerings in your market place? *Note: If your firm has multiple product ranges targeted at different market segments, please answer for the dominant or most significant products in your portfolio that best characterise your business.*

Please ☒ one box only for each category

Technical performance or functionality in comparison to competitive products (e.g. efficiency, precision, speed, accuracy etc)

Significantly worse	Slightly worse	About the same	Slightly better	Significantly better	Not applicable
☐	☐	☐	☐	☐	☐

Style or aesthetics in comparison to competitive products (e.g. how the product or service looks, its appearance, shape or graphics)

Very dated, unattractive or unappealing	Slightly dated, unattractive or unappealing	About the same	Slightly more up to date, attractive or appealing	Significantly more up to date, attractive or appealing	Not applicable
☐	☐	☐	☐	☐	☐

Brand identity in comparison to competitive products (e.g. how strongly customer's associate with the brand or overall image of the product)

Very weak brand identity	Weak brand identity	About the same	Strong brand identity	Very strong brand identity	Not applicable
☐	☐	☐	☐	☐	☐

Delivery to customers in comparison to competitive products (e.g. speed of delivery, responsiveness, efficiency)

Significantly worse	Slightly worse	About the same	Slightly better	Significantly better	Not applicable
☐	☐	☐	☐	☐	☐

Sales price in comparison to competitive products

Significantly lower	Slightly lower	About the same	Slightly higher	Significantly higher	Not applicable

Recommended Question Design resources for innovation

For the implementation of new products (goods and services), please indicate the type of design resources that **best** describes the resources that you use (examples are provided).

Please ☒ one box only for each category

Please tick the most appropriate option			In-house	Outsourced	Both in-house and outsourced	No specific design resources used
Goods that:	Provide changes in technology, performance or functionality, including usability	e.g. engineering designers, software designers, ergonomists, electronic designers	☐	☐	☐	☐
	Provide changes to product form (appearance) or packaging	e.g. Industrial designers, product designers, interface designers	☐	☐	☐	☐
Services that:	Provide significant improvements in performance (e.g. efficiency, speed) or new levels of functionality to customers (e.g. internet banking, pick-up and drop-off services for rental cars)	e.g. Service designers, process designers, user interface designers, web designers	☐	☐	☐	☐
Production **process**, distribution method or delivery method that:	Reduce the cost or increase the quality of manufacturing and delivering goods and services (e.g. automation equipment)	e.g. Engineering designers, production engineers, process designers	☐	☐	☐	☐
Marketing methods that:	Use new techniques for promotion, use new methods for product placement or create a new brand image, brand symbols or brand identities for goods and services	e.g. Graphic designers, branding designers, strategic designers, web designers	☐	☐	☐	☐

- Data can be provided by introducing three questions.
  - How goods and services compete
  - Attributes of introduced innovations
  - Resources used

- Design as an economic contributor can be measured in the CIS or Euro Barometer.

COORDINATOR: PARTNERS:

COFINANCED BY::

Consistency!
questions and guidelines

COORDINATOR:

PARTNERS:

COFINANCED BY::