

# Using mental models research to review how we collect Standard Industrial Classification (SIC) and Standard Occupational Classification (SOC) information

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# Standard Industrial Classification (SIC) & Standard Occupational Classification (SOC)

## Standard Industrial Classification (SIC)

- First introduced into the UK in 1948
- Classifies business establishments and other statistical units
- Five-digit system divided into 21 sections, 88 divisions, 272 groups, 615 classes and 191 subclasses

## Standard Occupational Classification (SOC)

- First published in 1990
- The standard UK classification of jobs in terms of their skill specialisation and skill level
- Nine major groups, 26 sub-major groups, 104 minor groups and 412 unit groups

# Current SIC/SOC questions

## Standard Industrial Classification (SIC)



Describe the main activity of the business or organisation.



And was that in a private firm, business, limited company, or some other kind of organisation?



What kind of organisation was it?

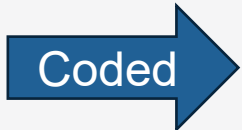
## Standard Occupational Classification (SOC)



What is the exact job title for your main job or business?



Describe what you do in that job or business.



- Algorithm based automatic coding tools
- Manually by interviewers
- Manually by expert coders

# Our research



Part of the wider Survey Improvement and Enhancement Plan



Online-first brings quality challenges



Using Respondent Centred Design principles and mental models approach

# Research questions



How do respondents conceptualise their SIC/SOC information?



What language and terms do they use?



Do current questions align to respondents' mental models of their SIC/SOC information?

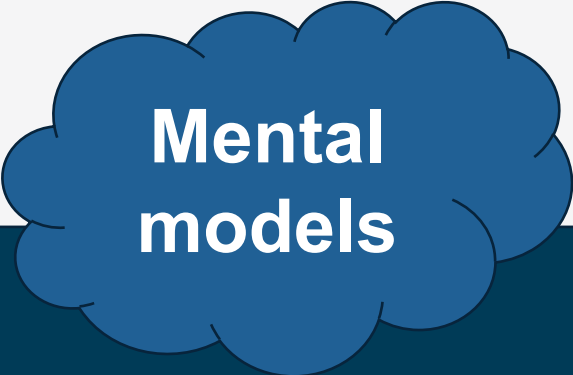


Would it be possible to use existing SIC/SOC index as basis of an interim frame?



Explore feasibility of potentially viable options that could be used for self-complete

# Methodology



Mental models

- ✓ 40 qualitative semi-structured interviews
- ✓ Purposive (non-probability) sample
- ✓ Open question to begin interview
- ✓ Show card 'think aloud' exercise
- ✓ Interviewer and observer present
- ✓ Conducted online via Microsoft Teams

# Mental models

A mental model is a concept, framework or worldview that guides a person's thought process  
(Wilson & Dickinson, 2021)



How participants conceptualised and described their job and industry



Interested in organic language and mental models



“Can you tell me about your main job?”

# Mental model interviews think aloud

Which, if any, of these categories would you pick to describe what you do in your main job or business? Please 'think aloud' and talk me through your thought process when answering.

1. Manger, Director and Senior Official
2. Professional occupation
3. Associate professional occupation
4. Administrative and secretarial occupation
5. Skilled trade occupation
6. Caring, leisure and other service occupation
7. Sales and customer service occupation
8. Process, plant and machine operative
9. Elementary occupation

How easy or difficult was it for you to choose a category?

Why did you choose this category?

Does the category you chose accurately describe what you do in your main job or not?

# Mental model interviews think aloud

**Thinking about your main job, which, if any, of these groups would you pick to describe the main activity of the organisation or business? Please ‘think aloud’ and talk me through your thought process when answering.**

- A. Agriculture, forestry and fishing
- B. Mining and quarrying
- C. Manufacturing
- D. Electricity, gas, steam and air conditioning supply
- E. Water supply; sewage, waste management and remediation activities
- F. Construction
- G. Wholesale and retail trade, repair of motor vehicles and motorcycles
- H. Transportation and storage
- I. Accommodation and food service activities
- J. Information and communication
- K. Financial and insurance activities
- L. Real estate activities

- M. Professional, scientific and technical activities
- N. Administrative and support service activities
- O. Public administration and defence, compulsory social security
- P. Education
- Q. Human health and social work activities
- R. Arts, entertainment and recreation
- S. Other service activities
- T. Activities of household as employers, undifferentiated goods and services, producing activities of household for own use
- U. Activities of extraterritorial organisations and bodies

# Occupation (SOC) mental models

- Job titles often taken from contracts, job adverts or organisational documents
- Reports of making up job titles and using different titles in different contexts
- Participants combined disparate job titles when describing their occupation and viewed themselves as having 'two jobs in one'

*“...when I have to describe my work in the hospital, I actually say I'm a transport manager, because I work with children who have cancer...so I say my job is to transport children to a better place, but that's a completely different like meaning of that word.”*

# Industry (SIC) mental models

## *Conceptualising Industry*

*“that's a tricky one because I don't like see it as an organisation.”*

- Mental models of business or organisation included a range of characteristics
- Those working for large businesses unsure of which organisation to discuss
- Organisation doing more than one thing = part of more than one industry?
- Participants employed as household staff evidenced difficulties
- Participants in casual and subcontracting roles were not clear on employer
- Terms “sector” and “field” appeared well understood but sometimes had different meanings

# Industry (SIC) mental models

## *Conflation of industry with other concepts*

- Described what they did individually in their job when answering questions around industry
- Self-employed participants often conflated industry with their own role
- This was also evidenced in those whose job was similar to the economic activity of their business
- Those in large organisations often conflated industry with their department, division or team

*“It's the thing of like where do I come under? Because I'm technically just one person, I'm not really an organisation. I mean, if it's the things that I do necessarily, there's quite a lot of different things that I think I would come under.”*

# Occupation (SOC) mental models

## *Disconnect between job title and description*

- There were participants who felt their job title accurately reflected what they do in their job
- Others felt it did not fully encompass all aspects or that their job title was vague and did not accurately describe their job
- Other participants reported their job titles matched their contract, but this was not accurate in terms of what they did in their job
- Evidence of roles changing and evolving within organisations

*“Associate banker...it's pretty wishy washy isn't it, doesn't really mean anything...there's so many roles within the bank, obviously. So just the term banker means nothing really. It just means you work for a bank and there are so many different things”*

# Classification terminology SIC & SOC

- Variation in their opinions of the classification categories
- Various strategies used to select category and varied as to whether they found it easy or difficult
- The terms “manager” and “professional” caused some issues
- Confidence in answers varied; some wanted to select more than one category or didn't identify with a category at all

*“I do think I'm a professional, I work to a really high standard, I've got a lot of skills...to me that's a stupid title, because everybody who goes to work is a professional, aren't they? If you empty the dog poop bins, you're a professional dog poop bin emptier. So, to me, it's like every job group is a professional group, so that's doesn't make sense to me”*

# General implications and considerations

- Self-complete surveys need ways of ensuring sufficient detail is provided
- Job title alone probably not enough
- Self-employed respondents struggled with industry questions
  - Requires adequate guidance
- Understanding of terms related to occupation and industry differs widely
- Observed conflation may require guidance
- Occupations and industries are constantly evolving
- Presenting respondents with lots of options (even high-level) is unlikely to yield accurate answers

# Conclusion and next steps

- The findings suggest the language currently used within the SIC and SOC frameworks is not well understood by respondents
- Since the mental model's research there has been desk research to develop plain English versions of the highest priority areas SIC framework, at the five-digit subclass level
- Development work has also begun on both redesigning and cognitive testing of SIC and SOC questions

# Thank you!

# Any questions?



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