What Microsoft excel can do for transdisciplinary research?
Instilling meaning in qualitative data

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Workshop outline

1. Group discussion
2. Qualitative research overview
3. Computer assisted qualitative data analysis
4. Qualitative analysis with Excel
5. Example: Com-Health
6. Hands on exercise and sharing
7. Wrap-up
Group discussion

In groups of 4 to 6... introduce yourselves and your experience with qualitative research
Qualitative research overview (I)

Theory is the research approach (philosophy) as well as the concepts that accompany it.

The literature review starts at the beginning and helps focus the question and design the study.

Figure 1.1: Steps in the Research Process

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Qualitative research overview (II)

A Possible Approach

- Data collection and management
- Organizing and preparing data
- Conceptualizing, classifying, categorizing (Coding)
- Connecting and interrelating
- Interpreting, explaining, presenting
Inductive vs. deductive reasoning
Content analysis

• Content of different kinds of qualitative data can be analyzed

• Manifest content analysis:
  “assessment of the surface or visible content of text. Visible content may include specific words, phrases or the physical space dedicated to a theme (for example the amount of space given to a topic in a newspaper).”

• Latent content analysis:
  “assessment of implicit themes within a text. Latent content may include ideologies, beliefs, or stereotypes.”

(Dunn, in Hay 2000)
BL: Mrs. Lam, on a personal note the other day, and this is a story which story which has been working its way through the Hong Kong media for media for some time now, my wife who works for you is a long-time civil long-time civil servant within SHK she said, you know I don't know if I can know if I can do this. If our CE says she only sleeps three, four, maybe five maybe five hours a day and that's the standard thing we're going to be held going to be held to I don't think I can survive this job. Can you say say something to soothe her?

Carrie Lam: First is, I never impose my own standards on my colleagues. Secondly, I stress work-life balance. Whether I could do it well is another thing. But I always preach and stress a work-life balance especially for my colleagues with young families. But these days are better. I was referencing a very intense period when I was preparing my first policy address and you know because we have advanced a policy address by almost three months. So everything has to be done in a very intense manner. But I'm picking up my sleep. Thank you very much for your concern.

BL: You look like somebody who sleeps more than three hours a day. Carrie thank you very much for your time it's our pleasure.

Source: CNBC Transcript: Carrie Lam, Hong Kong Chief Executive, 14 January 2018
## One option for content analysis – Coding

<table>
<thead>
<tr>
<th>Suggested steps (Dunn, 2000)</th>
<th>Specific operations (computer or manual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop coding system</td>
<td>Prepare a list of emergent themes by drawing on literature</td>
</tr>
<tr>
<td>Prepare material for analysis</td>
<td>Print material for hand coding or create an appropriate file format for software coding</td>
</tr>
<tr>
<td>Ascribe codes to text</td>
<td>Annotate by hand or allocating codes using software functions</td>
</tr>
<tr>
<td>Retrieve similarly coded text</td>
<td>Extract and compile similarly coded content or retrieve using software</td>
</tr>
<tr>
<td>Review data by themes</td>
<td>Assess content from individual codes across different sources and consider relationships between codes</td>
</tr>
</tbody>
</table>
Finding meaning in qualitative data

• Codes/themes are analyzed for patterns, e.g.
  – similarity and differences across respondent types (comparison),
  – frequency,
  – meaning,
  – sequence,
  – associations with other codes,
  – causation, etc.
Com-Health: Project on Youth Health and HK Communities

**Aim:** Understand how community and network social capital affect youths health

**Participants:** Cross sectional multilevel information on youth with different SES (n=1400; 17-23)

**Methods:** Sequential mixed methods study (Qualitative stage n=45 → establish conceptual framework → Quantitative data collection)

<table>
<thead>
<tr>
<th>Social Capital</th>
<th>Health outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community:</strong> Health, social and recreational facilities, norms</td>
<td>Physical, Psychosocial, Behavioral &amp; Mobility (Cross-generational, Edu Attainment)</td>
</tr>
<tr>
<td>Community trust, cohesiveness, participation, social agency</td>
<td></td>
</tr>
<tr>
<td><strong>Network:</strong> Family relationships; peers network; cross generational network</td>
<td></td>
</tr>
</tbody>
</table>
Com-Health

What are the different levels of social capital experienced by local and EM youths in their neighborhoods?
<table>
<thead>
<tr>
<th>Suggested steps (Specific operations)</th>
<th>Com-Health Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare a list of emergent themes by drawing on literature (Develop Coding System)</td>
<td>Literature review and theories to identify potential codes</td>
</tr>
<tr>
<td>Identify ethnicity as filters for comparison</td>
<td></td>
</tr>
<tr>
<td>Print material for hand coding or create an appropriate file format for software coding (Prepare materials for analysis)</td>
<td>Transcription</td>
</tr>
<tr>
<td></td>
<td>Building data frame in Excel for organizing data</td>
</tr>
<tr>
<td>Annotate by hand or allocating codes using software functions (Ascribe codes to text)</td>
<td>Coding using software <strong>(CAQDAS ie., Excel)</strong></td>
</tr>
<tr>
<td>Extract and compile similarly coded content or retrieve using software (Retrieve similarly coded text)</td>
<td>Organize similar codes (Word)</td>
</tr>
<tr>
<td>Assess content from individual codes across different sources and consider relationships between codes (Review data by themes)</td>
<td>Finding meanings and relationships in the codes <strong>(YOUR BRAIN)</strong></td>
</tr>
</tbody>
</table>
CAQDAS

• Computer-Assisted Qualitative Data Analysis Software
• CAQDAS allow us to manage, extract, compare, explore and reassemble
• Useful for working with multiple sources, in addition to organizing data within a single source
• Options:
  – Software programmes (NVivo, MaxQDA, AtlasTi), web-based programmes (e.g. Dedoose), software suites (Microsoft Office)
• We think of these as tools for analysis, but they still all rely on the analytical skill of the researcher
• Considerations: functionality, cost, access, ease of use
Why Excel?

😊 Part of the Office package
😊 Easily transferrable
😊 Compatibility
😊 Allow you to understand the organization process

😊 Tedious
😊 Takes time to build the framework
Excel for qualitative analysis

http://storage.lib.hkbu.edu.hk/P1.xlsx

http://storage.lib.hkbu.edu.hk/P2.xlsx

http://storage.lib.hkbu.edu.hk/TE2.docx
Excel for qualitative analysis (I)

Step 1: Transfer Transcript to Excel Sheet

- One transcript per sheet (Bottom)
- Open a new sheet name it “Codes” (Bottom)
- **Bold Questions (1)**
- Add variable rows (Top row), assign a variable name to each column (2)
- Add column to the left (Interviewer/Respondent), Indicate (3)
- Add column to right (Codes & Code No.) (4)
Excel for qualitative analysis (II)

Step 2: Start Coding in Excel

• Add column to the left, sequences, assign each row a number *This allows you to sort the interview and keep track of the original sequences at later stage (1)
• Start assigning codes (Content analysis) *If there’s more than one codes per quote, feel free to add as much row as possible
• Try coding ! * Each group use 2 separate computers, 1st computer (Code Interview 1); 2nd computer (Code Interview 2)
Step 3: Creates a code sheet

- After coding your first transcript create a code sheet
- Copy and paste your codes into this new code sheet
- Assign code # to each code
- Underline the code for later use
- Go back to your interview and assign them with code numbers
- Each group creates two code sheets based on your interviews
Excel for qualitative analysis (IV)

**Step 4: Define your Respondent**

- **ID**, gender & age **MUST** be defined
- Others characteristics depend on your research questions

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>Questions/Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td></td>
<td></td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>1</td>
<td></td>
<td>How do you define your neighbourhood? Where? 你怎樣定義你現時的生活社區? 在何處?</td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>2</td>
<td>R</td>
<td>蔡景華現時居住社區。我在蔡景華有很多朋友，亦有很多損友。Tiuan Keng Leng is my current living community. I have many friends in Tiuan Keng Leng, and I have many bad friends.</td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>3</td>
<td>R</td>
<td>蔡景華現時居住社區。我在蔡景華有很多朋友，亦有很多損友。Tiuan Keng Leng is my current living community. I have many friends in Tiuan Keng Leng, and I have many bad friends.</td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>4</td>
<td>R</td>
<td>What kind of activities do you do in your neighbourhood? 你在這個社區會做什麼?</td>
</tr>
</tbody>
</table>

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到女青做義工，探訪露宿者，探訪老人院。我們除了去麥當勞之外，有時會去女青玩。有些外展社工和我們很熟，有一個社工很疼我，他叫ivay，我小時候吸毒、欠債，雖然他明知不能借錢給我，但也幫了我，他跟我說只能借一次，自從那次之後我就戒了毒。我吸毒戒了一年，欠了一千五百多元外債。

Volunteer at YWCA, activities include visiting street sleepers and nursing homes. Apart from going to McDonald's for gathering, we sometimes go to YWCA. Some outreaching social workers are very close with us. A social worker cares for me a lot. His name is Ivay. I used to take drugs and was in debt when I was younger. Although he knew he couldn't lend me money, he still lent me to me and he told me that I could only borrow once from him. Since that time, I have quit drug. I took drugs for a year and I was in debt for 1,500 HKD.

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Volunteer, generation, resources, emotional

Interview 1  Interview 2  Codes  Combine
Step 5: Combine all Interviews/Transcripts in one sheet

- Open a new sheet, name it “Combine”
- Paste your coded Interview, i.e., interview 1 & 2 into a new sheet
- Go back to your groups and combine the 2 coded interviews into one file, fix the sequence column by revising the numbers

<table>
<thead>
<tr>
<th>ID</th>
<th>HH Income</th>
<th>Origins</th>
<th>Gender</th>
<th>Age</th>
<th>Sequence</th>
<th>Interview</th>
<th>Questions/Quotes</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID01</td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>1</td>
<td>1</td>
<td>How do you define your neighbourhood? Where? 你怎樣定義你現時的生活社區？在何處？</td>
<td>neighborhood location</td>
</tr>
<tr>
<td>ID01</td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>2</td>
<td>R</td>
<td>調景嶺是我現時的生活社區，我在調景嶺有很多朋友，亦有很多損友。Tiu Keng Leng is my current living community. I have many friends in Tiu Keng Leng, and I have many bad friends.</td>
<td>lots of friends, neighborhood</td>
</tr>
<tr>
<td>ID01</td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>3</td>
<td>R</td>
<td>調景嶺是我現時的生活社區，我在調景嶺有很多朋友，亦有很多損友。Tiu Keng Leng is my current living community. I have many friends in Tiu Keng Leng, and I have many bad friends.</td>
<td>neighborhood location</td>
</tr>
<tr>
<td>ID01</td>
<td>Above Threshold</td>
<td>L</td>
<td>M</td>
<td>17</td>
<td>4</td>
<td>1</td>
<td>What kind of activities do you do in your neighbourhood? 你在這個社區會做什麼？</td>
<td>Activities in neighborhood</td>
</tr>
</tbody>
</table>
Step 6: Creates QUOTES by linking information

Back then, yes. Because back then we have lots of carnivals, they were not from our community but basically there are from some schools, the famous ones was a fair at the Matilda hospital. They usually have fairs so my parents always bring me there. Everybody at the peak also go there as well. So that’s one of the factors that I felt I belonged to the community.

Excel : Concatenate Function

On a sheet of paper, write down how you want your quotes to be identified and also identify which column they belong to.
<table>
<thead>
<tr>
<th>ID</th>
<th>HH Income</th>
<th>Origins</th>
<th>Gender</th>
<th>Age</th>
<th>Sequer</th>
<th>Interview</th>
<th>Questions/Quotes</th>
<th>Codes</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How do you define your neighbourhood? Where? 你怎樣定義你現時的生活社區? 在何處?

```
=CONCATENATE(H2, "(", A2, ",", B2, ",", C2, ",", D2, ",", E2, ",", F2, ")")
```

**Function Arguments**

CONCATENATE

<table>
<thead>
<tr>
<th>Text1</th>
<th>Text2</th>
<th>Text3</th>
<th>Text4</th>
<th>Text5</th>
<th>Result</th>
</tr>
</thead>
</table>

Joins several text strings into one text string.

- **Text1**: text1, text2, ..., are 1 to 255 text strings to be joined into a single text string and can be text strings, numbers, or single-cell references.

Formula result = How do you define your neighbourhood? Where? 你怎樣定義你現時的生活社區? 在何處? (ID01)
Excel for qualitative analysis (VII)

Step 7: Codes sheet → Combine sheet

- In the Combine Sheet, add a column to the right, copy and paste the Code no. column onto this column.

- Copy and Paste all codes and codes no. in Codes sheet to the Quotes column in the Combine sheet.

- Add a column to the right and name it Sort, for the underlined rows, name it “0”, for the rest, name it “1”.

<table>
<thead>
<tr>
<th>I</th>
<th>J</th>
<th>K</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings neighborhood, scenic</td>
<td>29</td>
<td>Quiet, Scenic, Laid-back, Boring (because once you were up at the peak, you are stuck to just like walking around the peak. If you want to go down, basically it takes 30 minutes to go down to Wan Chai)</td>
<td>ID02_Above Threshold_EM_M_23_61</td>
<td>29</td>
</tr>
<tr>
<td>Feelings neighborhood, laid back</td>
<td>27</td>
<td>Quiet, Scenic, Laid-back, Boring (because once you were up at the peak, you are stuck to just like walking around the peak. If you want to go down, basically it takes 30 minutes to go down to Wan Chai)</td>
<td>ID02_Above Threshold_EM_M_23_62</td>
<td>27</td>
</tr>
<tr>
<td>Boring, neighborhood</td>
<td>24</td>
<td>Quiet, Scenic, Laid-back, Boring (because once you were up at the peak, you are stuck to just like walking around the peak. If you want to go down, basically it takes 30 minutes to go down to Wan Chai)</td>
<td>ID02_Above Threshold_EM_M_23_62</td>
<td>24</td>
</tr>
</tbody>
</table>

- Use Practice 2!
Excel For qualitative analysis (VIII)

Step 8: Transfer Excel data to Word

• Sort the data: Code no. → Sort → ID → ... → Sequences
• In the combine sheet, Copy the Quotes column (Including the underlined ones)

In Word....

• Paste it in an empty word document * Make sure the formatting is retained
• Highlight the table, click “+” on top left, select layout (Toolbar), choose convert to text
• Paragraph marks : Auto (Add Space to each paragraph)
• Highlight all underlined text , “Select” option (Toolbar), “Select text with similar formatting”, change all occurrences to Heading 2
Excel For qualitative analysis (IX)

• View with “Outline” function (Toolbar)
• Organize Codes and add overarching headings
• The original Excel file can help you match your codes with your quotes
• The original Excel file allows you to compare different groups with the sorting function under a certain category (e.g., Peer Support Network)
References

Thank you!
Any Questions?