Instructions for use:

Card sort analysis spreadsheet

Originally published: June 2007

Reformatted and edited: March 2020

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About the spreadsheet

These instructions explain how to use my card sorting analysis spreadsheet that can be found at https://maadmob.com.au/resources/card_sort_analysis_spreadsheet

This spreadsheet is used to analyse the outcomes from a card sort conducted with physical cards. You can also use it to analyse results from an online sort, though most online sorting tools contain a built-in analysis method.

The spreadsheet manages up to 400 cards, 40 participants and 200 standardised categories (categories that have similar labels and are combined).

About card sorting

I wrote a whole book about card sorting. You can find it here: http://www.rosenfeldmedia.com/books/card-sorting/

Tips for working with the spreadsheet

- The spreadsheet uses Excel and much of Excel's normal functionality. Excel can be touchy sometimes, especially with formulae so make sure you save often.
- If you need to delete, delete content from cells rather than deleting entire rows and columns.
- Save just before you sort anything–if something strange happens, you can return to your saved version.

Step 1: Prepare the master card list

The first step is to set up the card list in the spreadsheet.

Tab: Cards

Enter the card names in column 2 (card name). You can include up to 400 cards. Delete the content from any cells you don't need (don't delete the rows as formulae may go haywire).

Step 2: Create cards

If you are going to be making physical cards, the easiest method is to print the card names on printer labels and stick them directly on index cards. You can use the spreadsheet as the source for a mail merge to create the labels.

Make sure you include both the card number and name – you'll use the number to quickly enter the results into the spreadsheet later.

Step 3: Run your card sort

The fun part!

This analysis spreadsheet relies on a couple of things:

- All cards are only in one category. If participants indicate they'd like a card to be in more than one place, allow it and make a note of it, but you'll need to choose a primary category for the spreadsheet
- There is no hierarchy. Again, if participants indicate that they'd like to make groups of groups, allow it and make a note of the groups for later analysis, but you'll need a single level for the spreadsheet.
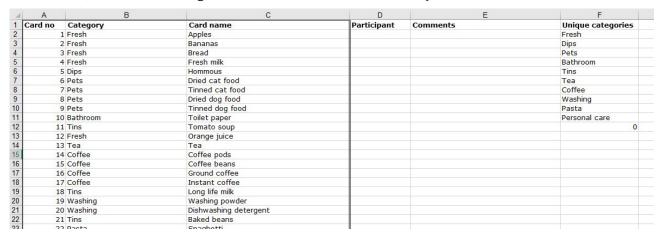
Step 4: Record the outcomes

Record the outcomes from each card sorting session in the analysis spreadsheet. The spreadsheet caters for up to 40 participants.

This is a fast step as a set of formulas do most of the work.

Tab: Sort 1–Sort n

Enter the category name (the name the participant has given to a group of cards) in column B (*Category*) and the relevant card numbers in column A. The card name will fill in automatically.

In column F, a list of the categories will also create automatically.

	A	B	C	D	E	F
1	Card no	Category	Card name	Participant	Comments	Unique categories
2	1	Fresh	Apples			Fresh
3	2	Fresh	Bananas			Dips
4	3	Fresh	Bread			Pets
5	4	Fresh	Fresh milk			Bathroom
6	5	Dips	Hommous			Tins
7	6	Pets	Dried cat food			Tea
8	7	Pets	Tinned cat food			Coffee
9	8	Pets	Dried dog food			Washing
10	9	Pets	Tinned dog food			Pasta
11	10	Bathroom	Toilet paper			Personal care
12	11	Tins	Tomato soup			0
13	12	Fresh	Orange juice			
14	13	Tea	Tea			
15	14	Coffee	Coffee pods			
16	15	Coffee	Coffee beans			
17	16	Coffee	Ground coffee			
18	17	Coffee	Instant coffee			
19	18	Tins	Long life milk			
20	19	Washing	Washing powder			
21	20	Washing	Dishwashing detergent			
22	21	Tins	Baked beans			
23	22	Pasta	Spaghetti			

Do this for all groups and cards. Check that you have everything included (that you have arrived at the correct line in the spreadsheet).

Add the participant name and any comments you want to remember from the session.

Tab: Summary

The results automatically populate the Summary tab.

	A	B	C	D	E
1	Card no	Card name	Sort1	Sort2	Sort3
2	1	Apples	Fruit & vegetables	Fresh	Fruit and veg
3	2	Bananas	Fruit & vegetables	Fresh	Fruit and veg
4	3	Bread	Essentials	Fresh	Bread
5	4	Fresh milk	Essentials	Fresh	Tea, coffee, drinks
6	5	Hommous	Dips	Dips	Snacks
7	6	Dried cat food	Pets	Pets	Pets
8	7	Tinned cat food	Pets	Pets	Pets
9	8	Dried dog food	Pets	Pets	Pets
10	9	Tinned dog food	Pets	Pets	Pets
11	10	Toilet paper	Essentials	Bathroom	Bathroom
12	11	Tomato soup	Packaged food	Tins	Cooking supplies
13	12	Orange juice	Drinks	Fresh	Tea, coffee, drinks
14	13	Tea	Drinks	Tea	Tea, coffee, drinks
15	14	Coffee pods	Drinks	Coffee	Tea, coffee, drinks
16	15	Coffee beans	Drinks	Coffee	Tea, coffee, drinks
17	16	Ground coffee	Drinks	Coffee	Tea, coffee, drinks
18	17	Instant coffee	Essentials	Coffee	Tea, coffee, drinks
19	18	Long life milk	Pets	Tins	Tea, coffee, drinks
20	19	Washing powder	Cleaning	Washing	Laundry
21	20	Dishwashing detergent	Cleaning	Washing	Kitchen
22	21	Baked beans	Packaged food	Tins	Snacks
23	22	Spaghetti	Essentials	Pasta	Cooking supplies

Step 5: Explore the results

Before you go further with the spreadsheet, spend some time looking at the results. Use the 'Summary' tab and sort the data according to different paticipants – look at what was similar and different across the sorts. Get an idea of what groups people created and some of the similarities and differences in the data.

This will help you with the next step and also make sure you think about the data broadly before delving into statistics.

Step 6: Standardise the category names

Tab: CatsRaw

Copy the categories for each sorter to the *Original Category* column in the *CatsRaw* tab.

	A	B	C
1	Sorter	Original category	Standardised category
2	Sort1	Fruit & vegetables	
3	Sort1	Essentials	
4	Sort1	Dips	
5	Sort1	Pets	
6	Sort1	Packaged food	
7	Sort1	Drinks	
8	Sort1	Cleaning	
9	Sort1	Italian	
10	Sort1	Fish	
11	Sort2	Fresh	
12	Sort2	Dips	
13	Sort2	Pets	
14	Sort2	Bathroom	
15	Sort2	Tins	
16	Sort2	Tea	
17	Sort2	Coffee	
18	Sort2	Washing	
19	Sort2	Pasta	
20	Sort2	Personal care	
21	Sort3	Bathroom	
22	Sort3	Bread	

The next step is to standardise categories – give those with similar names or concepts a consistent name. This will make analysis easier as you can combine groups where participants used the same basic concept but a slightly different label.

This is a tricky step and requires a lot of judgement. When working through it, consider:

- Do the obvious ones first – there will usually be a group of category names used by every participant.
- With the remainder, standardise the category name only if you are confident the concept is the same. You may have to look at the sorter's detailed data to check the concept.
- Don't over-standardise – only create a standard category if you are sure two labels mean the same thing.
- When a user has created a combined category name (e.g. fruit and veg), you can use the combined group, choose the most likely one or consider amending the sort to break it into two groups (do the latter only if it is clear which cards belong to which group).
- Check what a participant has put into a category if you need to clarify what they may have meant with a label.
- Be careful not to standardise different concepts just because different participants have grouped similar cards together under the same heading. Only standardise if the labels do represent the same concept.

I copy the whole list into a separate spreadsheet for this step and sort it in alpha order to spot similaries – it is easier and less risky than doing it in the main spreadsheet.

Tab: CatsRaw

Write the standardised category into the 'Standardised Category' column:

	A	B	C	D
1	Sorter	Original category	Standardised category	Unique standardised categories
2	Sort1	Fruit & vegetables	Fruit and veg	Fruit and veg
3	Sort1	Essentials	Essentials	Essentials
4	Sort1	Dips	Dips	Dips
5	Sort1	Pets	Pets	Pets
6	Sort1	Packaged food	Packaged food	Packaged food
7	Sort1	Drinks	Drinks	Drinks
8	Sort1	Cleaning	Cleaning	Cleaning
9	Sort1	Italian	Italian	Italian
10	Sort1	Fish	Fish	Fish
11	Sort2	Fresh	Fresh	Fresh
12	Sort2	Dips	Dips	Bathroom
13	Sort2	Pets	Pets	Tins
14	Sort2	Bathroom	Bathroom	Tea
15	Sort2	Tins	Tins	Coffee
16	Sort2	Tea	Tea	Washing
17	Sort2	Coffee	Coffee	Pasta
18	Sort2	Washing	Washing	Personal care
19	Sort2	Pasta	Pasta	Bread
20	Sort2	Personal care	Personal care	Cooking supplies
21	Sort3	Bathroom	Bathroom	Kitchen
22	Sort3	Bread	Bread	Laundry
23	Sort3	Pets	Pets	Snacks

The StandardSummary tab will be automatically populated with the standardised categories:

	A	B	C	D	E	
1	Card no	Card name	Sort1	Sort2	Sort3	S
2	1	Apples	Fruit and veg	Fresh	Fruit and veg	
3	2	Bananas	Fruit and veg	Fresh	Fruit and veg	
4	3	Bread	Essentials	Fresh	Bread	
5	4	Fresh milk	Essentials	Fresh	Tea, coffee, drinks	
6	5	Hommous	Dips	Dips	Snacks	
7	6	Dried cat food	Pets	Pets	Pets	
8	7	Tinned cat food	Pets	Pets	Pets	
9	8	Dried dog food	Pets	Pets	Pets	
10	9	Tinned dog food	Pets	Pets	Pets	
11	10	Toilet paper	Essentials	Bathroom	Bathroom	
12	11	Tomato soup	Packaged food	Tins	Cooking supplies	
13	12	Orange juice	Drinks	Fresh	Tea, coffee, drinks	
14	13	Tea	Drinks	Tea	Tea, coffee, drinks	
15	14	Coffee pods	Drinks	Coffee	Tea, coffee, drinks	
16	15	Coffee beans	Drinks	Coffee	Tea, coffee, drinks	
17	16	Ground coffee	Drinks	Coffee	Tea, coffee, drinks	
18	17	Instant coffee	Essentials	Coffee	Tea, coffee, drinks	
19	18	Long life milk	Pets	Tins	Tea, coffee, drinks	
20	19	Washing powder	Cleaning	Washing	Laundry	
21	20	Dishwashing detergent	Cleaning	Washing	Kitchen	
22	21	Baked beans	Packaged food	Tins	Snacks	

Tab: CatsSummary

Copy the list of standard categories from CatsRaw and paste them into column A of CatsSummary. The other columns will populate automatically (more about what these mean later).

	A	B	C	D	E
		Sorters who used this	Total cards in this category	Unique cards	Agreement
1	Standardised category				
2	Fruit and veg	2	4	2	1.00
3	Essentials	1	5	5	1.00
4	Dips	2	2	1	1.00
5	Pets	3	13	5	0.87
6	Packaged food	1	2	2	1.00
7	Drinks	1	5	5	1.00
8	Cleaning	1	6	6	1.00
9	Italian	1	1	1	1.00
10	Fish	2	4	2	1.00
11	Fresh	1	7	7	1.00
12	Bathroom	2	6	5	0.60
13	Tins	1	5	5	1.00
14	Tea	1	1	1	1.00
15	Coffee	1	4	4	1.00
16	Washing	1	2	2	1.00
17	Pasta	1	1	1	1.00
18	Personal care	1	4	4	1.00
19	Bread	1	1	1	1.00
20	Cooking supplies	1	3	3	1.00
21	Kitchen	1	1	1	1.00

Reading the results

What do you do with this now? Below I describe what each tab includes and means. Spend time looking through the results and considering why they are like they are and what it means to you.

Tab: CatsSummary

	A	B	C	D	E
1	Standardised category	Sorters who used this	Total cards in this category	Unique cards	Agreement
2	Fruit and veg	2	4	2	1.00
3	Essentials	1	5	5	1.00
4	Dips	2	2	1	1.00
5	Pets	3	13	5	0.87
6	Packaged food	1	2	2	1.00
7	Drinks	1	5	5	1.00
8	Cleaning	1	6	6	1.00
9	Italian	1	1	1	1.00
10	Fish	2	4	2	1.00
11	Fresh	1	7	7	1.00
12	Bathroom	2	6	5	0.60
13	Tins	1	5	5	1.00
14	Tea	1	1	1	1.00
15	Coffee	1	4	4	1.00
16	Washing	1	2	2	1.00
17	Pasta	1	1	1	1.00
18	Personal care	1	4	4	1.00
19	Bread	1	1	1	1.00
20	Cooking supplies	1	3	3	1.00
21	Kitchen	1	1	1	1.00

- Sorters who used this: this shows the number of participants who used this category (remember this is a standardised category–check the Original Category column for exact labelling)
- Total cards in this category: this is the total number of cards, from all participants, using this category.
- Unique cards: this is the number of individual cards in this category.
- Agreement: this is a measure of how much agreement there was between participant results for that category. It is a bit obscure, but very useful when you get your head around it.

As an example, for the category of 'pets', three participants used the category.. Between them, participants put 13 cards into the category and used five different cards. It has an agreement number of 0.87 – a number which has little meaning in itself, but much meaning when compared to other categories.

Compare it to the category of 'fish'. Two participants used that category and between them used four cards in total. Two unique cards were used and it's agreement is 1 – every participant who created a category of fish put the same two (and only two) cards in it.

Tab: Summary and StandardSummary

	Card no	Card name	Sort1	Sort2	Sort3
1	**Card no**	**Card name**	**Sort1**	**Sort2**	**Sort3**
2	1	Apples	Fruit & vegetables	Fresh	Fruit and veg
3	2	Bananas	Fruit & vegetables	Fresh	Fruit and veg
4	3	Bread	Essentials	Fresh	Bread
5	4	Fresh milk	Essentials	Fresh	Tea, coffee, drinks
6	5	Hommous	Dips	Dips	Snacks
7	6	Dried cat food	Pets	Pets	Pets
8	7	Tinned cat food	Pets	Pets	Pets
9	8	Dried dog food	Pets	Pets	Pets
10	9	Tinned dog food	Pets	Pets	Pets
11	10	Toilet paper	Essentials	Bathroom	Bathroom
12	11	Tomato soup	Packaged food	Tins	Cooking supplies
13	12	Orange juice	Drinks	Fresh	Tea, coffee, drinks
14	13	Tea	Drinks	Tea	Tea, coffee, drinks
15	14	Coffee pods	Drinks	Coffee	Tea, coffee, drinks
16	15	Coffee beans	Drinks	Coffee	Tea, coffee, drinks
17	16	Ground coffee	Drinks	Coffee	Tea, coffee, drinks
18	17	Instant coffee	Essentials	Coffee	Tea, coffee, drinks
19	18	Long life milk	Pets	Tins	Tea, coffee, drinks
20	19	Washing powder	Cleaning	Washing	Laundry
21	20	Dishwashing detergent	Cleaning	Washing	Kitchen

	Card no	Card name	Sort1	Sort2	Sort3	S
1	**Card no**	**Card name**	**Sort1**	**Sort2**	**Sort3**	S
2	1	Apples	Fruit and veg	Fresh	Fruit and veg	
3	2	Bananas	Fruit and veg	Fresh	Fruit and veg	
4	3	Bread	Essentials	Fresh	Bread	
5	4	Fresh milk	Essentials	Fresh	Tea, coffee, drinks	
6	5	Hommous	Dips	Dips	Snacks	
7	6	Dried cat food	Pets	Pets	Pets	
8	7	Tinned cat food	Pets	Pets	Pets	
9	8	Dried dog food	Pets	Pets	Pets	
10	9	Tinned dog food	Pets	Pets	Pets	
11	10	Toilet paper	Essentials	Bathroom	Bathroom	
12	11	Tomato soup	Packaged food	Tins	Cooking supplies	
13	12	Orange juice	Drinks	Fresh	Tea, coffee, drinks	
14	13	Tea	Drinks	Tea	Tea, coffee, drinks	
15	14	Coffee pods	Drinks	Coffee	Tea, coffee, drinks	
16	15	Coffee beans	Drinks	Coffee	Tea, coffee, drinks	
17	16	Ground coffee	Drinks	Coffee	Tea, coffee, drinks	
18	17	Instant coffee	Essentials	Coffee	Tea, coffee, drinks	
19	18	Long life milk	Pets	Tins	Tea, coffee, drinks	
20	19	Washing powder	Cleaning	Washing	Laundry	
21	20	Dishwashing detergent	Cleaning	Washing	Kitchen	
22	21	Baked beans	Packaged food	Tins	Snacks	

The Summary tab shows the raw results for all participants in a giant matrix; the StandardSummary shows the same using your standardised categories.

I find these useful to look along each row – seeing what category each participant used for each card. I also sort the sheets according to the results of an individual participant and compare. Sorting in different ways allows you to see different patterns.

Tip: there are many dependent formulas across tabs. I'm sometimes scared that sorting will make a huge mess. Save before you sort or back-up your original data

Tab: Correlation

Card no	Card name	Fruit and veg	Essentials	Dips	Pets	Packaged food	Drinks	Cleaning	Italian	Fish	Fresh
1	Apples	67%									33%
2	Bananas	67%									33%
3	Bread		33%								33%
4	Fresh milk		33%								33%
5	Hommous			67%							
6	Dried cat food				100%						
7	Tinned cat food				100%						
8	Dried dog food				100%						
9	Tinned dog food				100%						
10	Toilet paper		33%								
11	Tomato soup					33%					
12	Orange juice						33%				33%
13	Tea						33%				
14	Coffee pods						33%				
15	Coffee beans						33%				
16	Ground coffee						33%				
17	Instant coffee		33%								
18	Long life milk				33%						
19	Washing powder							33%			
20	Dishwashing detergent							33%			
21	Baked beans					33%					
22	Spaghetti		33%								

This tab visually shows the relationship between cards, categories and participants. Reading across a row, you can see how often a card was put into a category. Reading down a column shows which cards were placed into the category.