

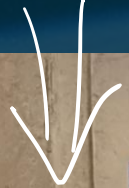
Can AI & ML help linking data across domains?

Topic Owner Presentation [Mohammad Chami]

MBSE 2023 Workshop
16/11/2023

WORKSHOP APPROACH

Q1



Q2



Using AI to assist in Data Linking

Other analogies

Can AI assist in Data Linking accross domains?

Q4

Corner 5
Can AI & ML help linking data across domains?
Luis Mansilla
Mohammad Chami

Which Data Linking problems are you facing?

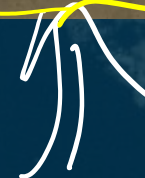
Q3

Using AI to assist in Data Linking?

Other types of Data Linking

Q4

Q3



* 5 min
* 4 Groups

Key Take Aways on the exercise

CAN YOU THINK OF ANY OTHER ANALOGIES?

Q1

ARE THERE ANY OTHER TYPES TO DATA LINKING?

Q2

CAN AI ASSIST IN LINKING DATA ACROSS DOMAINS?

Q4

WHICH DATA LINKING PROBLEMS ARE YOU FACING?

Q3

→ Q1: ANALOGIES of DATA LINKING:

→ BIG Picture of ANALOGIES

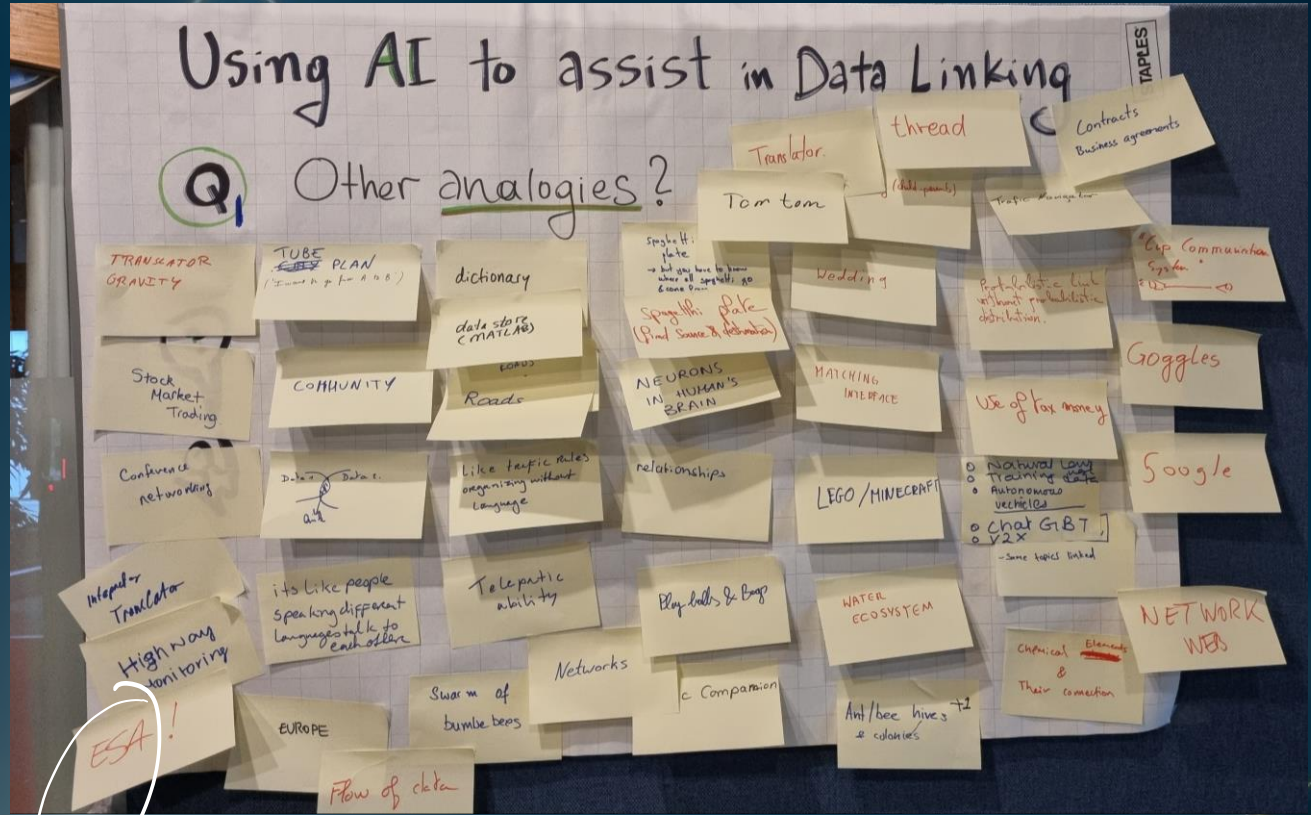
→ We DON'T have the ONE common understanding



→ Most common ones:

1. NEURONS
2. TRANSLATOR
3. DICTIONARY

□ Next Action: Make a survey and conclude with the ONE common analogy for Data Linking



Key Take Aways on the exercise

CAN YOU THINK OF ANY OTHER ANALOGIES?

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WHICH DATA LINKING PROBLEMS ARE YOU FACING?

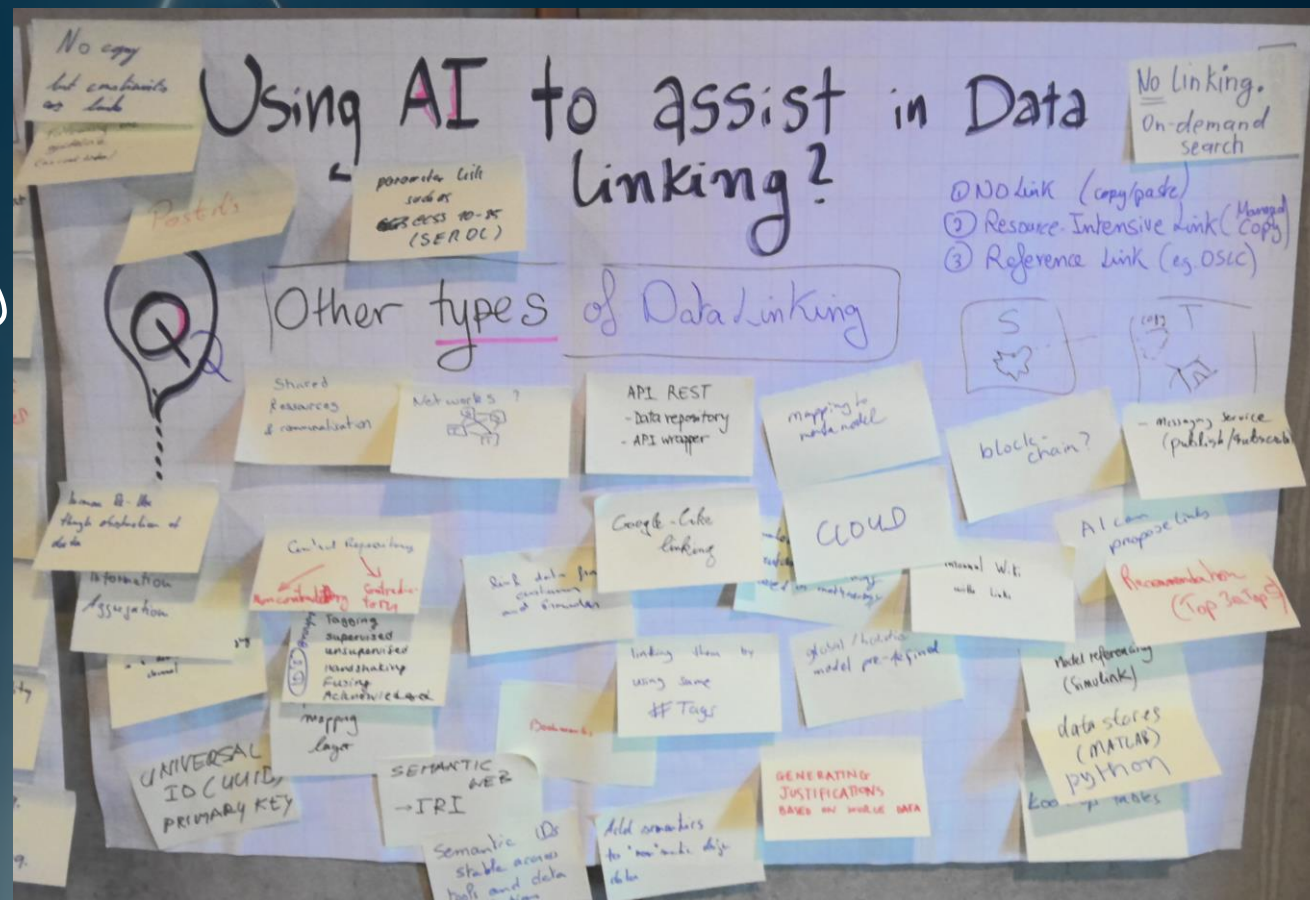
Q3

→ Q2: TYPES OF DATA LINKING?

- BIG Picture of TYPES
- TOO Many Types...
- We Don't need to re-invent a new type
- Most common ones:

1. CENTRAL REPOSITORY
2. BOOKMARKS, #, TAGS
3. REFERENCES (REST API)

❑ Next Action: Align on classifying the different types and priorities them based on key criteria.



Key Take Aways on the exercise



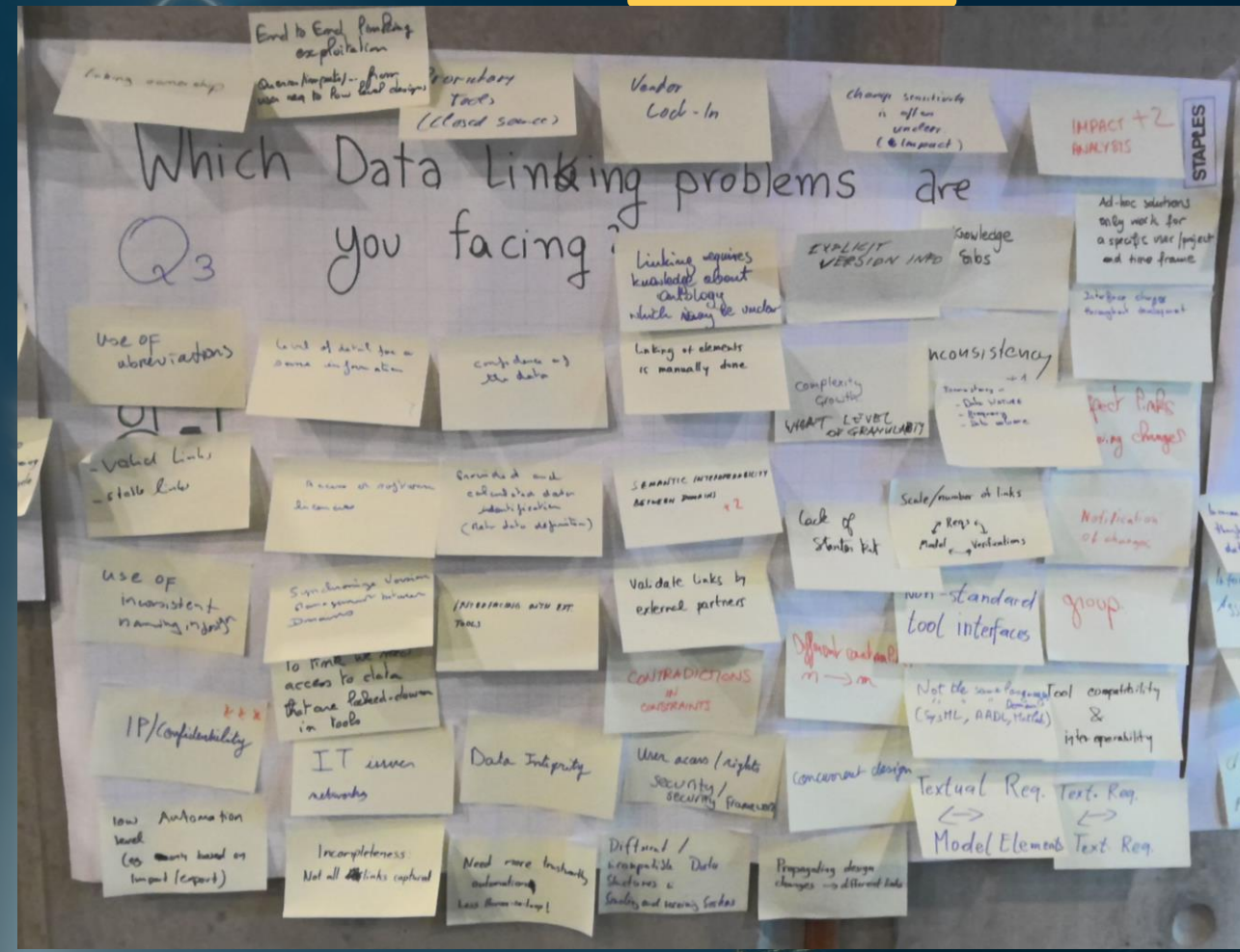
➔ Q3: DATA LINKING PROBLEMS?

- ➔ BIG Picture of PROBLEMS
- ➔ We have a looooooot problems
- ➔ Most common ones:



1. IMPACT ANALYSIS
2. SEMANTIC INTEROPERABILITY
3. IP/CONFIDENTIALITY

❑ Next Action: Tracing the data linking problems to existing solutions.



Key Take Aways on the exercise



Q1: CAN YOU THINK OF ANY OTHER ANALOGIES?

Q2: ARE THERE ANY OTHER TYPES TO DATA LINKING?

Q1

Q2

Q4: CAN AI ASSIST IN LINKING DATA ACROSS DOMAINS?

Q3: WHICH DATA LINKING PROBLEMS ARE YOU FACING?

Q4

Q3

→ Q4: (WHAT) CAN AI ASSIST in?

- BIG Picture of AI4DL Use Cases
- YES!!!! AI CAN ASSISST in Data Linking
- Most common ones:

1. LLMs for semantic mapping
2. Patterns discovery
3. Gaps analysis

□ Next Action: consolidate AI4DL use cases identified and evaluate their implementation status.

