

Building an inductive coding service for employee feedback



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Why text?

Text, analysed correctly can identify be a real driver for meaningful change. Our approach means we regularly find themes which are unlikely to have been included in a traditional survey.

From...

in the next survey

...To

“Change the music. It’s so moody and depressing and totally not our customer. We have had several complaints from customers and the team”

“Since the last survey, they have changed the music and it creates a better work place for staff and customers”

Need to understand any question

“How can we improve customer experience in our stores?”

“What could we do to improve the performance review process?”

“What could we do to improve your working life here?”

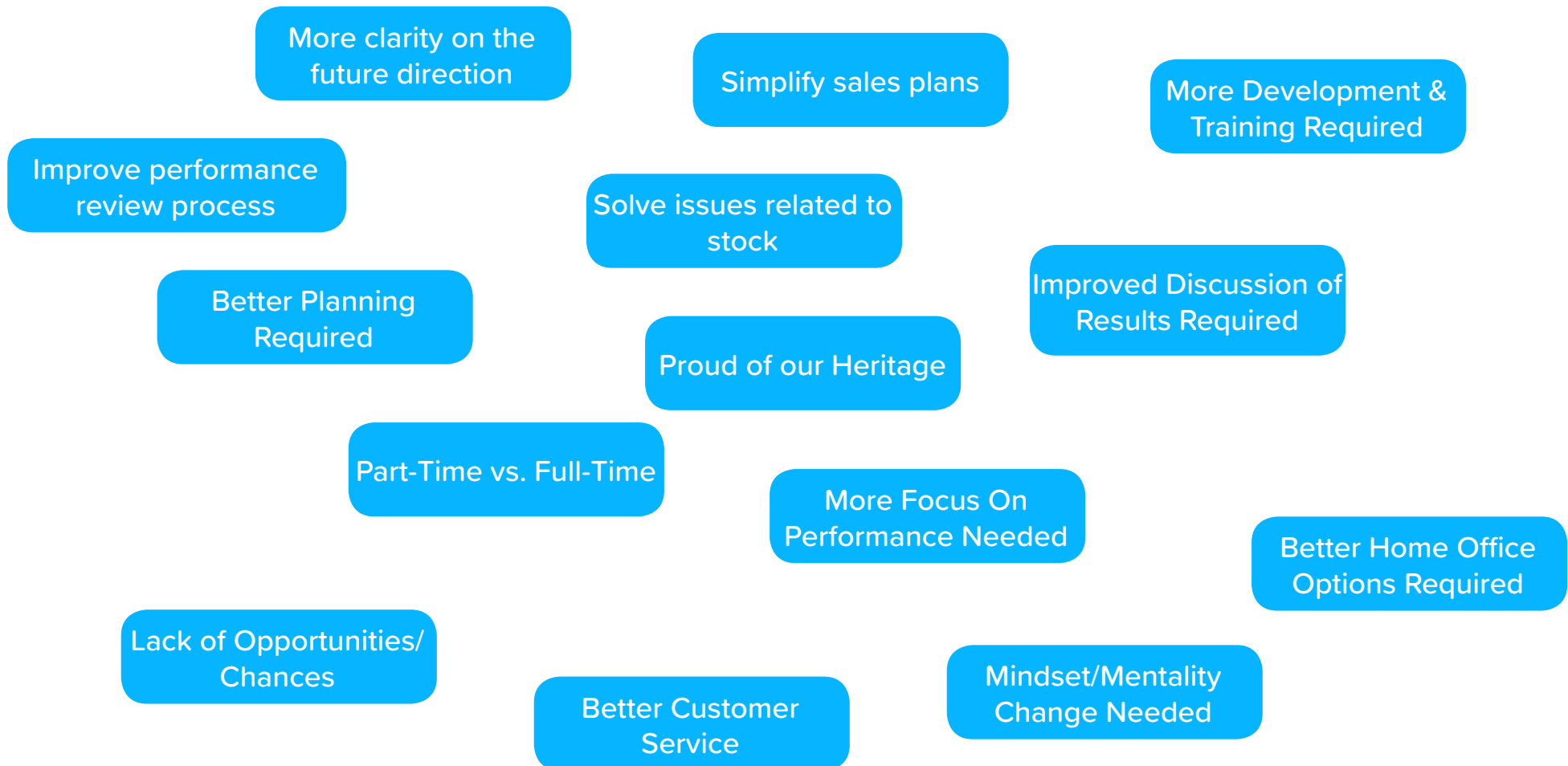
“What ideas do you have to improve the Christmas sales period?”

“How could HR improve the services they provide you as a manager?”

“If you were our Brand Director, what would you do first?”

Finding meaningful themes

Ideally the theme labels should be themselves reasonable answers to the question.



Key Challenges

In most instances our real competitor is “doing nothing.”

Sentence
fragments &
spelling

Multiple
languages

Medium-sized
datasets

Turnaround
needs to be
quick

Can't cost a
fortune

Specific Models

>

Generic Models

(Humans + Algorithms)

>

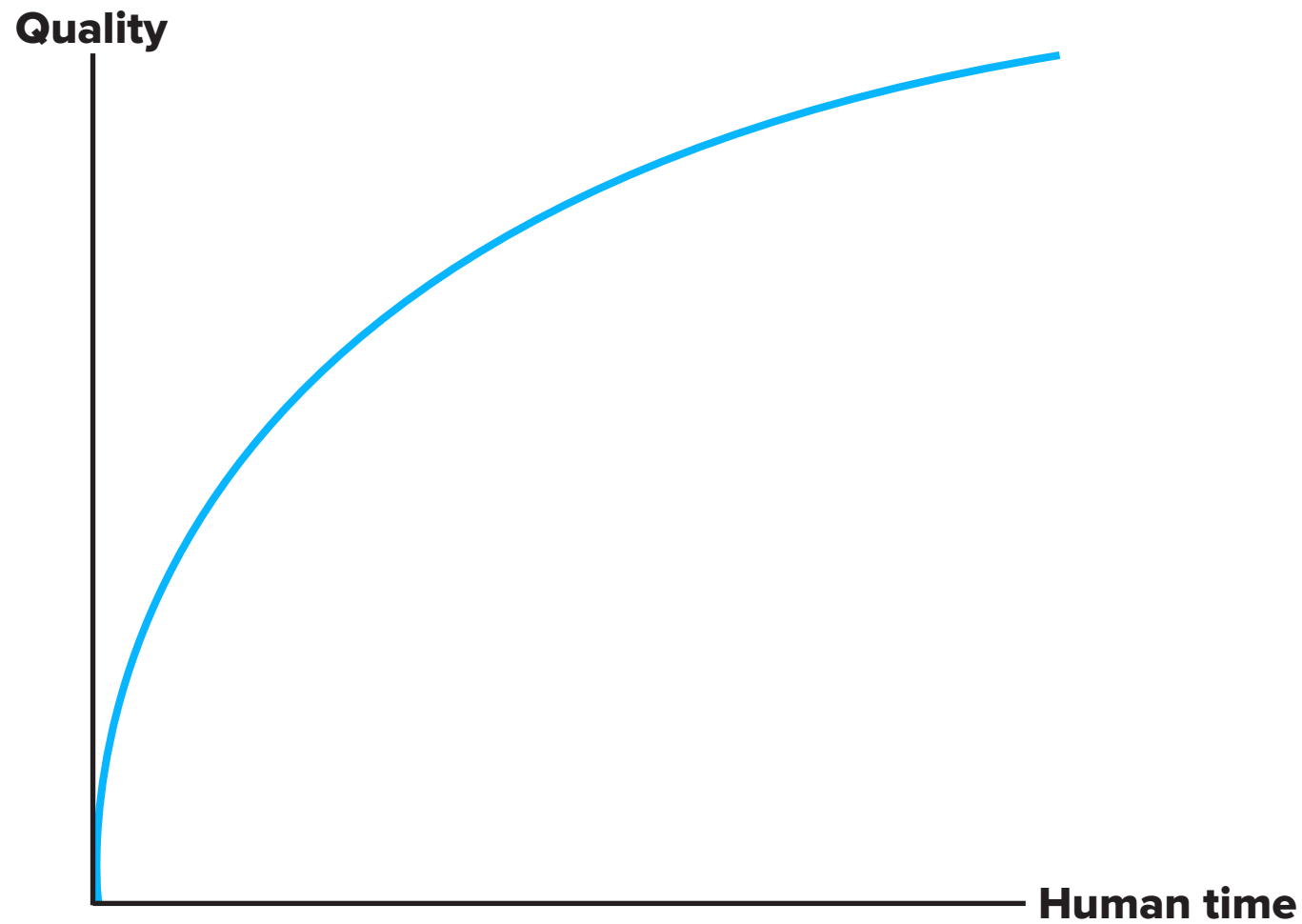
(Humans OR Algorithms)

**People in organizations develop
their own language**

{eg. Project Names, Acronyms, just plain misuse...}

Optimising on two variables

Given our constraints, there are two things that define our success



Mechanical Turk vs Our Coders

The expense of creating labelled data defines how we tackle the problem

Mechanical Turk

Assume that coding is cheap

Non-specialised coding

Data is 'open'

Tasks are provided uniformly

Our Coders

Assume that coding is expensive

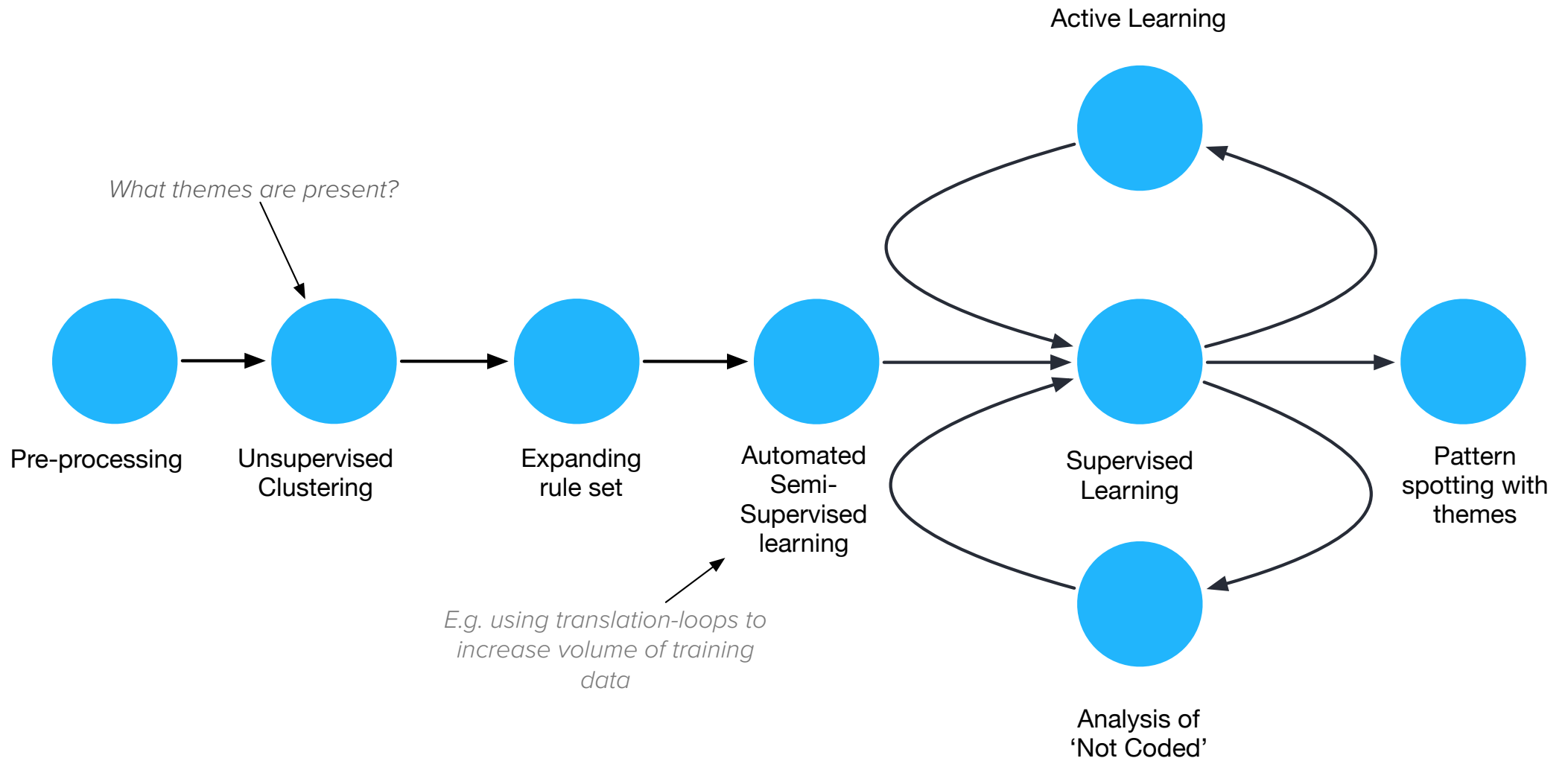
Domain Experts needed

Confidential Data

Provide tasks based on expected
marginal value

Our Process

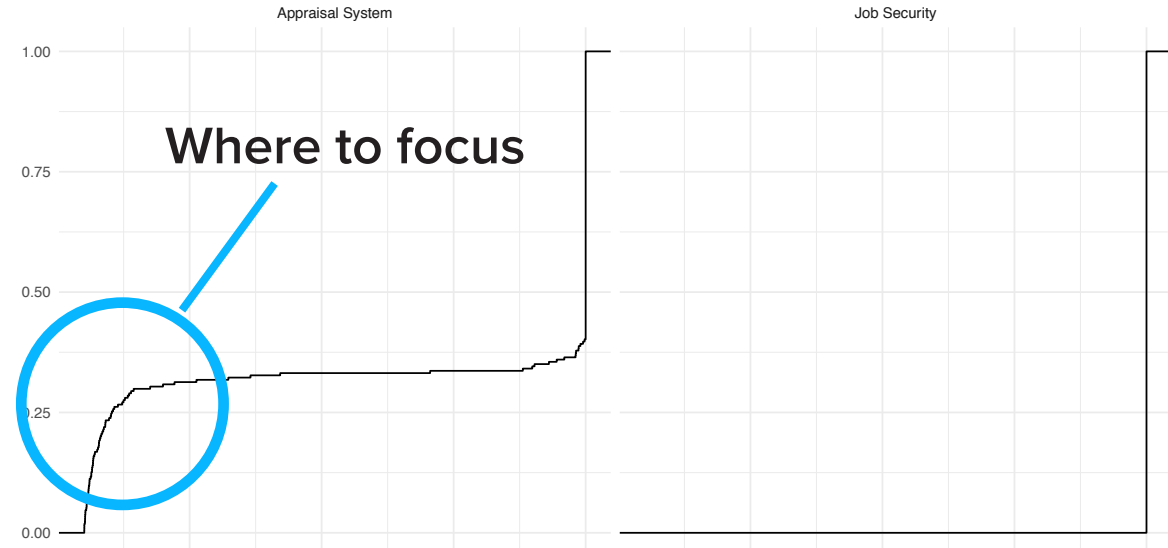
A highly-simplified representation of our overall text coding process.



Maximising human input

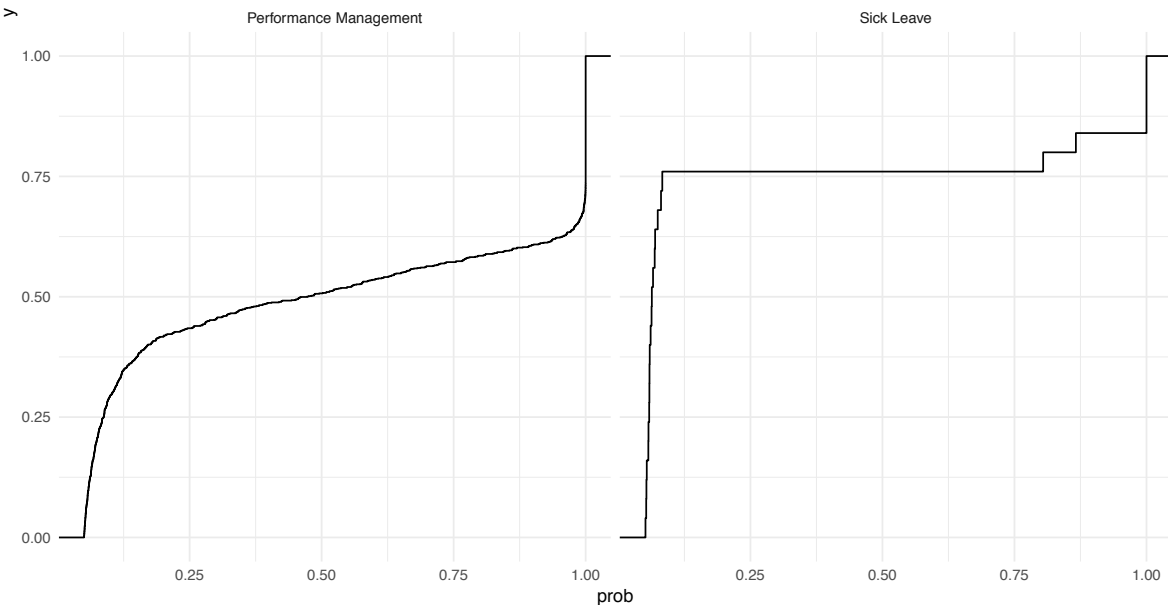
A few examples

Healthy



Overfit

More work needed



Possibly linked to another concept

Coding tools - Buy vs Build

We decided to build our own coding platform

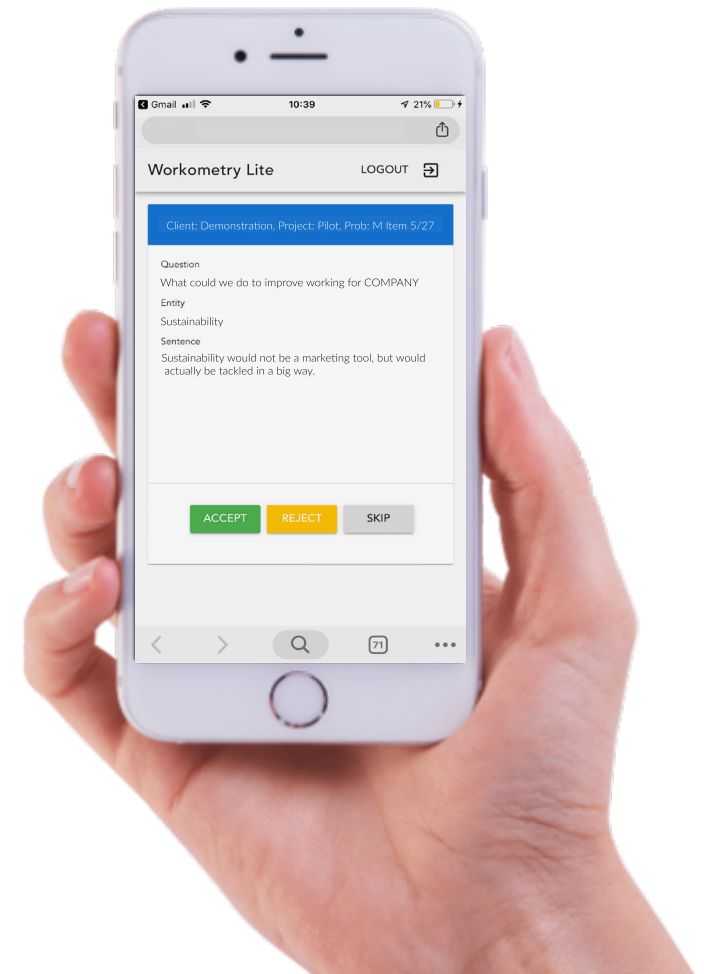
Provision domain experts to the right projects

Data Scientist out of the loop

Additional flexibility - eg visualisation

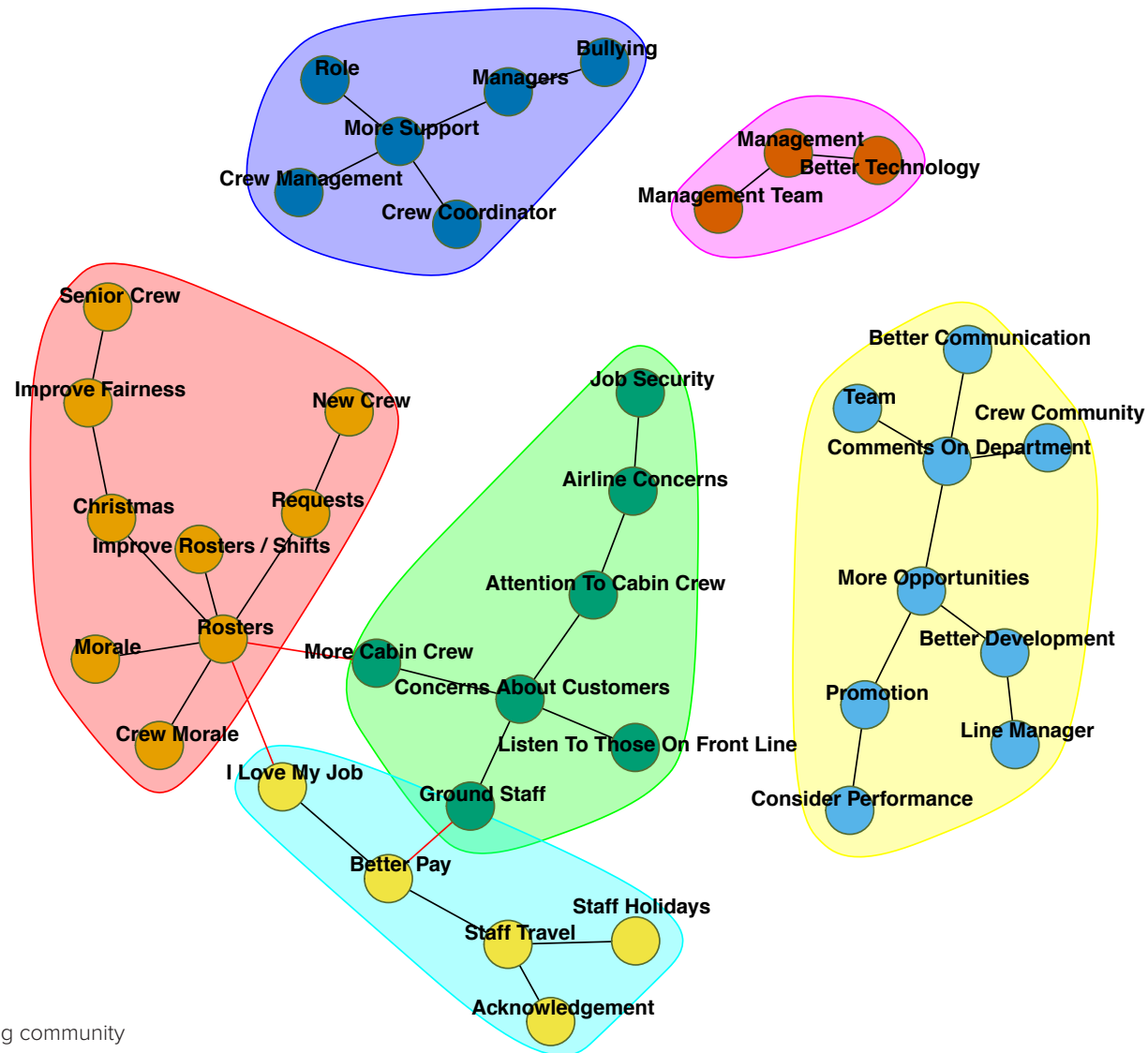
Measure productivity

Cost



Additional insight

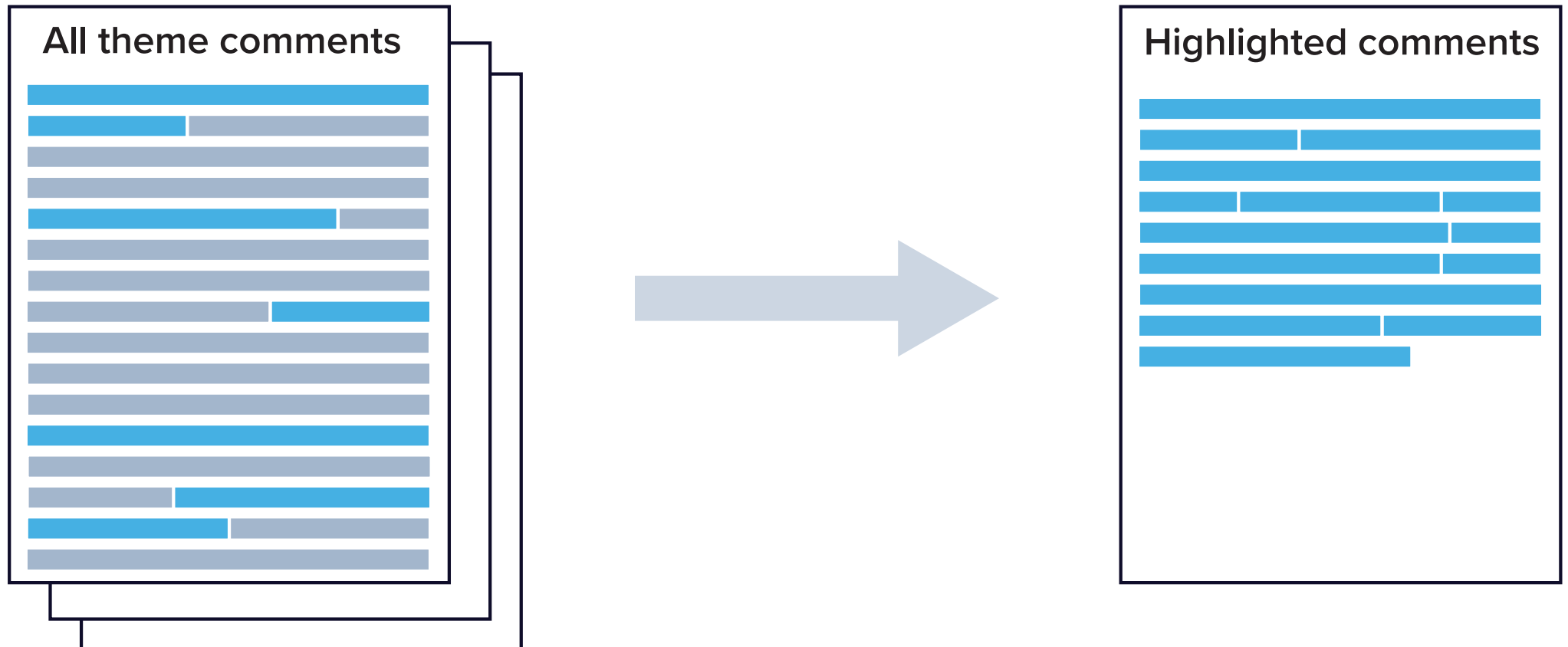
Most clients ask us to identify additional insight from their responses, either looking just at the text data or combining it with other employee information.



A probabilistic co-occurrence network using community detection to identify which themes employees are most likely to talk about together.

Summarising underlying text

We use proprietary document summarisation algorithms to identify example sentences



What has worked?

Some things have worked better than others

Domain-specific embeddings

Refine before automating

Experiment, experiment,
experiment

What next?

There's always too many ideas to try!

Improve automatic labelling

Improve tools for coders
(work on UI / UX)

Better models for uncertainty
(which to pass to human)

Building generic models for rare
but important themes

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