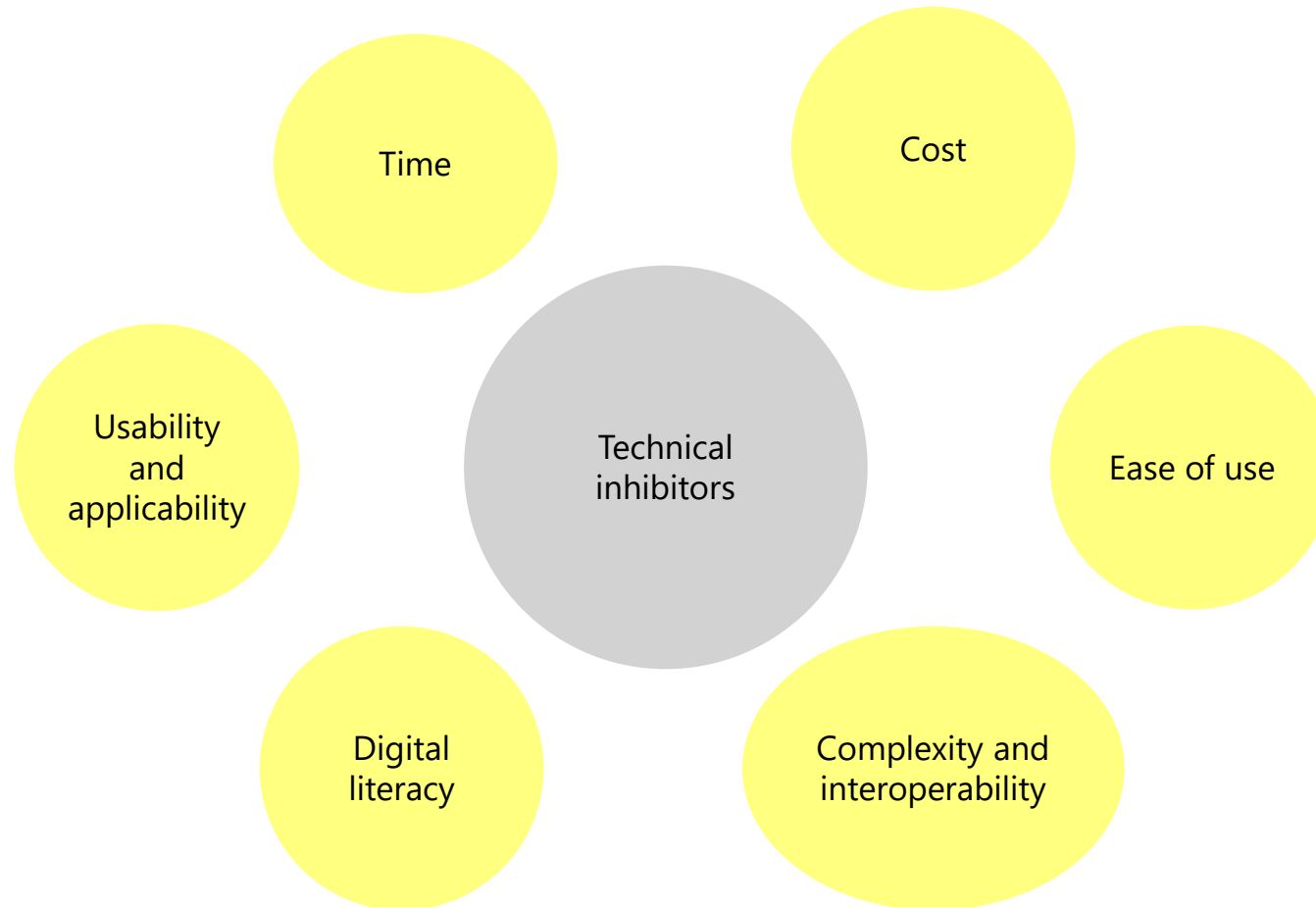


Challenges of BIM implementation

Dr Reyhaneh Shojaei

Homes UK 2020

Technical inhibitors to BIM implementation



Non-technical inhibitors - people

Resistance to change

Inappropriate leadership

Negative perceptions

Lack of knowledge of benefits of digital innovation

Lack of training and skills

Non-technical inhibitors - culture

Lack of collaboration

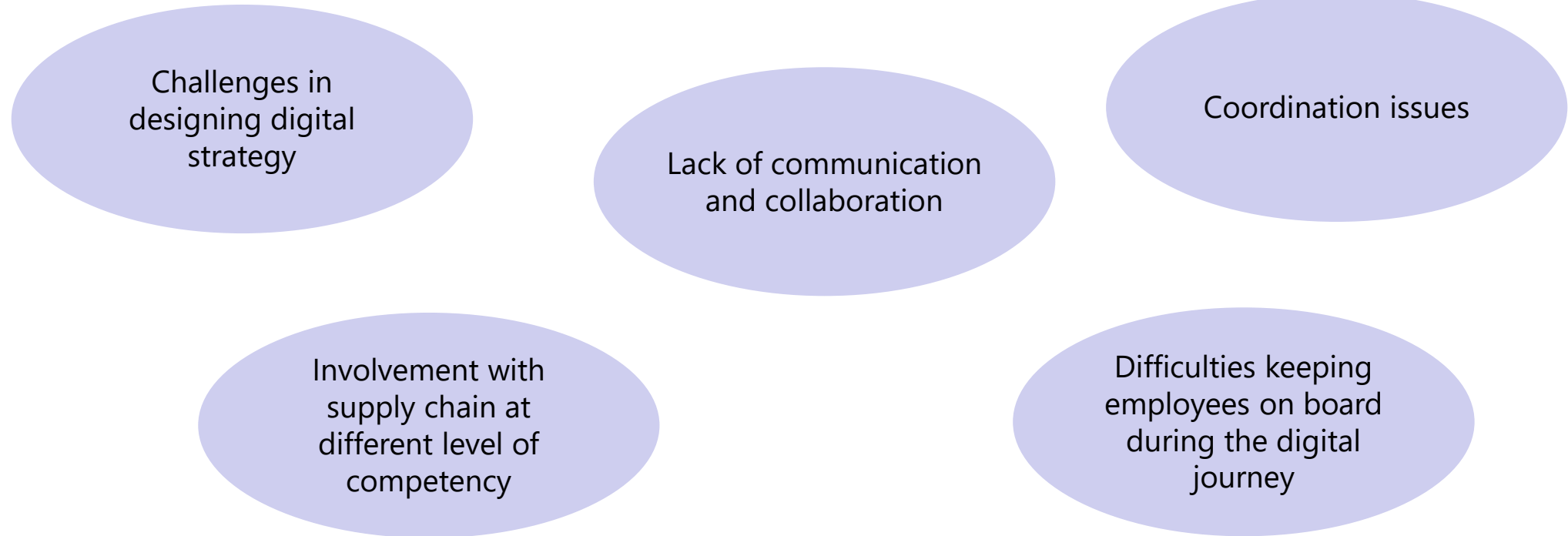
Risk aversion

Lack of organisational resources and support

Technology-centric mindset

Lack of clarity in current roles regarding digital responsibility

Non-technical inhibitors – process and procedure

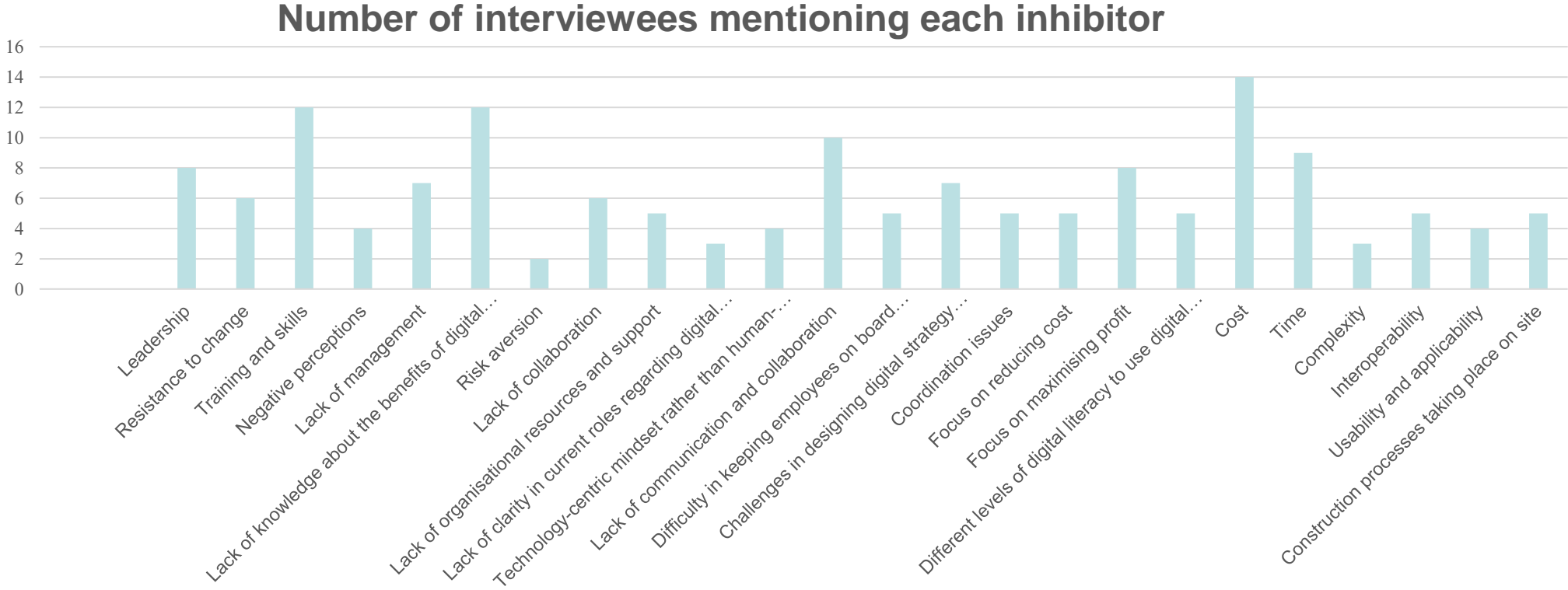


Non-technical inhibitors – goals

Focus on reducing
cost

Focus on maximising
profit

Interview results



Resistance to change



The willingness of actors within the industry to change plays a crucial role in the successful implementation of digital technologies.

Head of digital construction

I think this is an interesting psychological piece about how some people are very much about emotion and have a strong gut instinct... others are about lists and checklists, and want to see the figures on the table.

Lack of management support



A manager's desire to introduce new technologies to their organisation is dependent on their realising the benefits of using digital technologies.

Successful BIM implementation needs a supportive, motivated manager.



The BIM journey started with one person who had a feeling that this was a good idea. I know many individuals and companies who start these changes. They saw this was a good idea and they had kind of a vision for making change.

Lack of knowledge of benefits of digital innovation



Employees' lack of knowledge about the benefits of BIM can be a critical obstacle in the digital transformation journey.

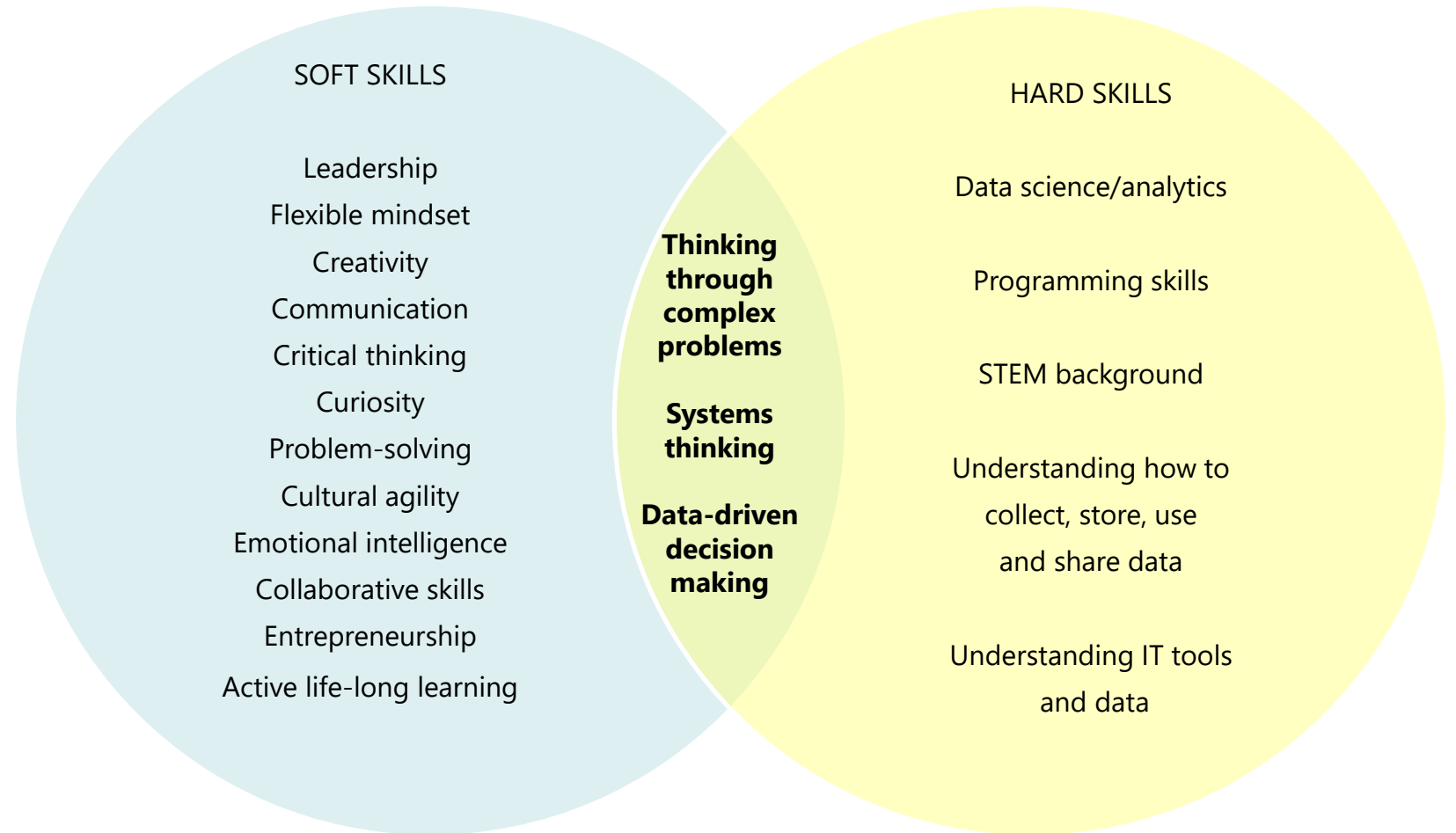
Digital manager

Employees are not clearly informed about the positive impacts that digital technologies can have on their role and day to day performance.

Lack of skills and expertise



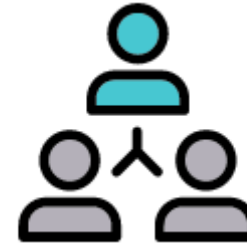
Lack of expertise and skills at inter- and intra-organisational levels is an issue.



Lack of communication and collaboration



Leaders with a human-centric vision of BIM are more successful in bringing change to their organisation.



Efficient collaboration (inter- or intra-organisational) relies on effective communication of information throughout a project. In project delivery, BIM implementation relies on data provided by multiple actors during the project development process.

Coordination issues



Coordination between architects, developers and people on site, establishing quality control procedures to ensure the accuracy of models and data sets are challenging but necessary.

One of the crucial inhibitors to the uptake of BIM is a lack of coordination between the developer and the design team, leading to clashes on site.

Head of
technology

We find that a lot of coordination errors shouldn't happen because we expect the model to detect a clash, and in my opinion, people get lazy because they rely on computers....

Architects are unable to produce enough information to give to a subcontractor and structural engineer. We need to ask them to rework, and it requires time and cost.

Organisational goals



Focusing solely on maximising profit or reducing costs can hinder the adoption of BIM.

Head of
procurement and
supply chain

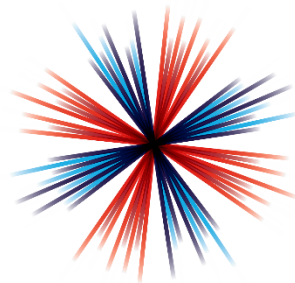
I think the big problem within construction generally is, if you talk to any main contractor.... we're all fighting for 2 or 3% profit each year, if we're lucky, and therefore there isn't enough in the pot to invest heavily in digital.... we're trying to find smart ways of doing it.

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This research forms part of the Centre for Digital Built Britain's (CDBB) work at the University of Cambridge within the Construction Innovation Hub (CIH) which brings together world-class expertise from the Manufacturing Technology Centre (MTC), BRE and CDBB to transform the UK construction sector.

The Construction Innovation Hub is funded by UK Research and Innovation through the Industrial Strategy Fund.



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