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Building Capabilities in Complex Environments

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The Virtual Interactive Relationship between BIM Project Teams:

Effective Communication to aid Collaboration in the Design Process



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Introduction



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Agenda



- Rationale
- Statement of the Problem
- Research Question
- Project
- Findings
- Conclusion

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Rationale



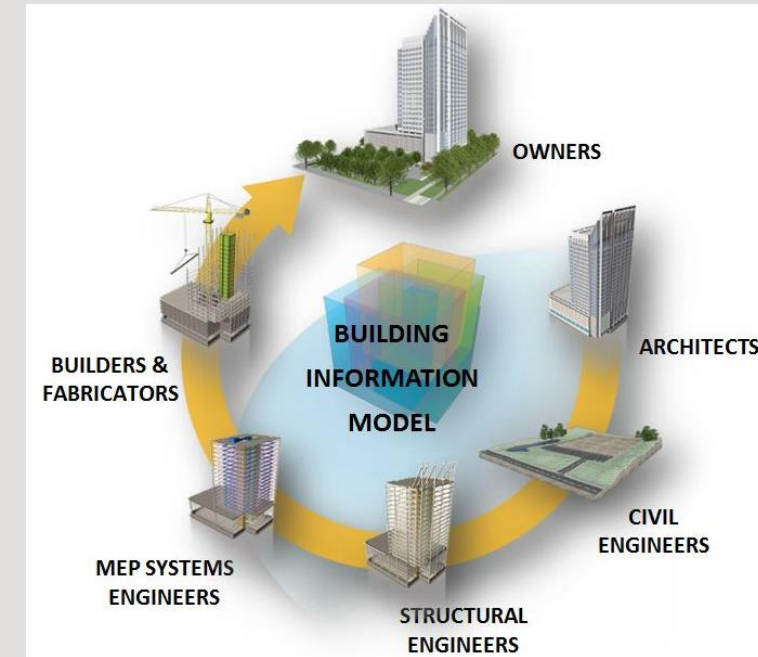
- Global Economy
 - Faster
 - Competitive Cost
- Multi-office Execution
- Virtual Teams



Collaboration

‘the action of working with someone to produce something’
(OD, 2012)

BIM is a shared source of information about a facility forming a reliable basis for decisions during its life-cycle (Eastman et al, 2012).





Communication

‘The imparting or exchanging of information by speaking, writing, or using some other medium’ (OD, 2012)



Statement of the Problem



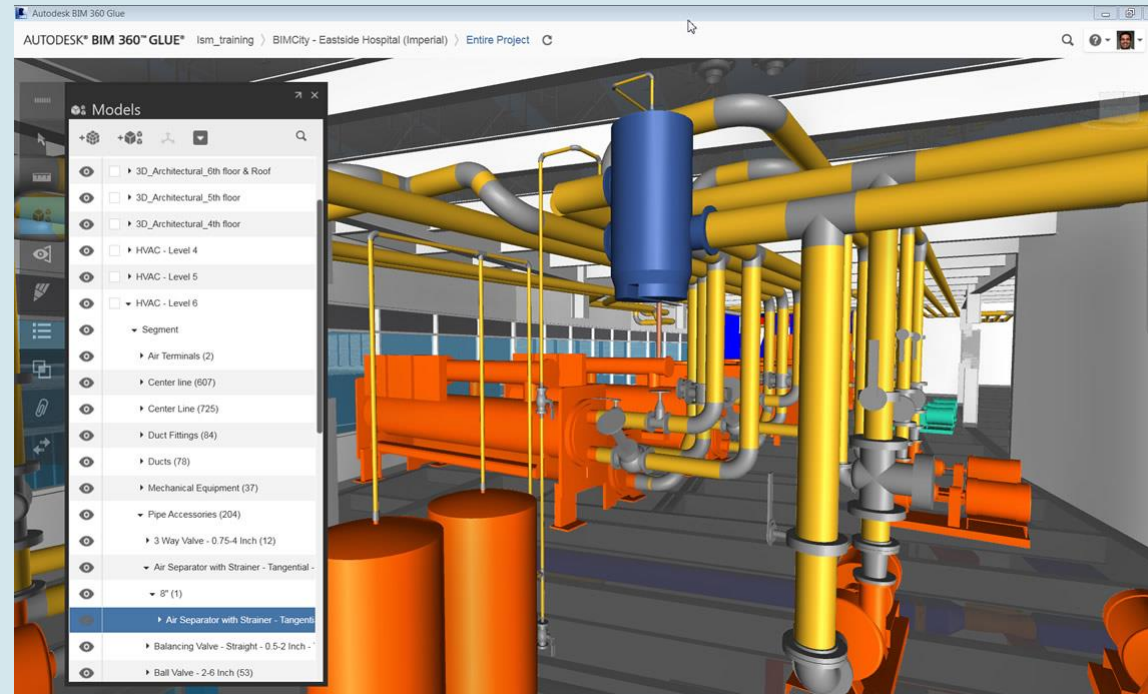
Communication – Trust - Rapport



trust is a crucial component for virtual communication but it can be difficult to achieve without face-to-face meeting (Laurito,2010)



Traditional fractured/adversarial relationships



But it was in the model!!!!!!



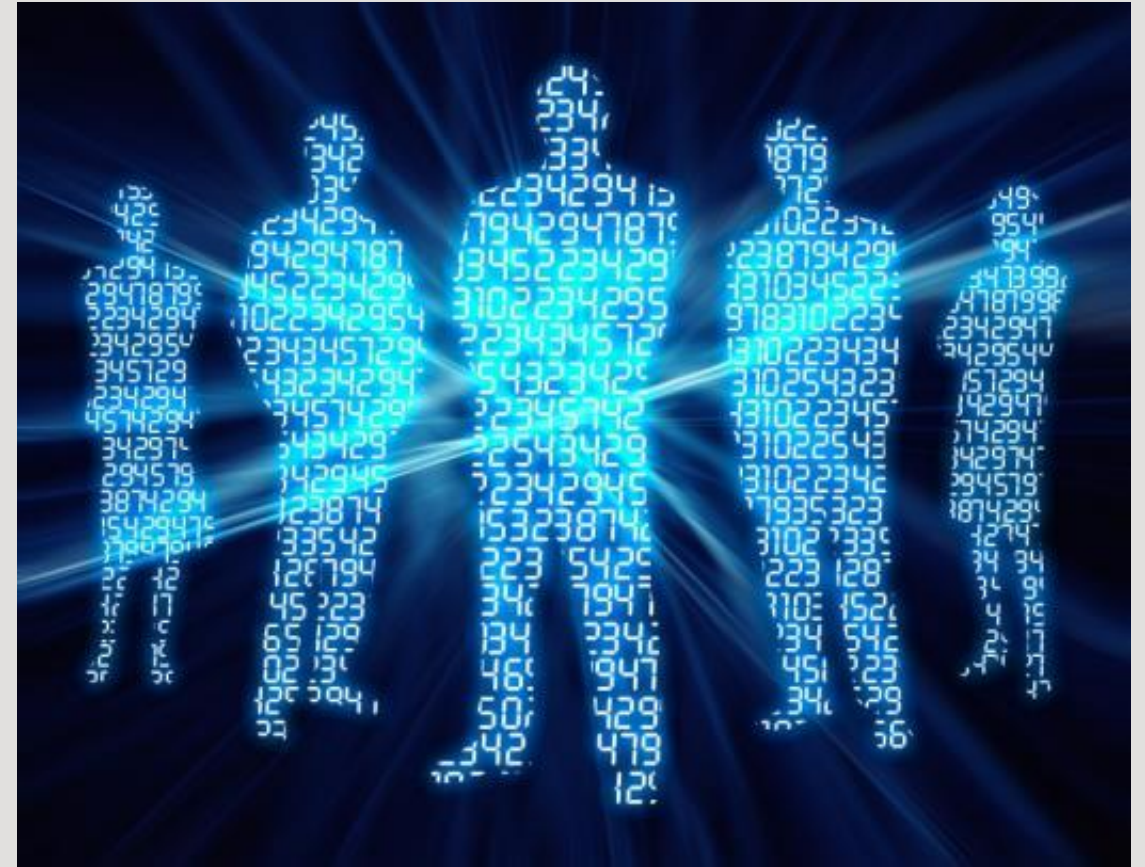
Research Question



What effective methods of virtual communication will aid collaboration throughout the design process?



- What is the current virtual relationship between the project team?
- How the team collaborate/communicate?
- What are the challenges to virtual communication between the BIM design team players?





Can a collaborative virtual environment with avatars replicate a physical face-to-face meeting?



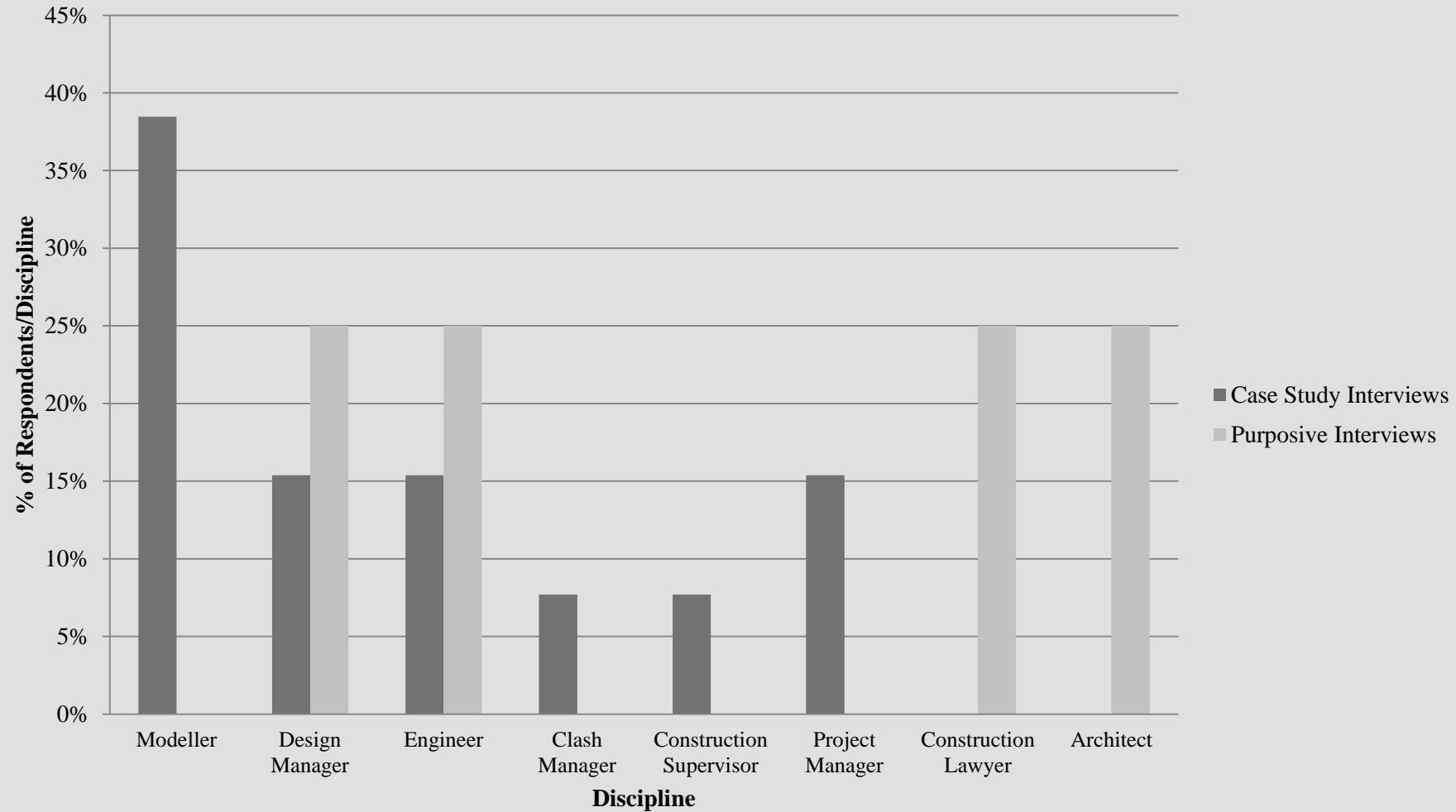
Project – Case Study



- 18,500sq.m Waste to Energy Facility-Dublin, Ireland
- BIM Processes
- Virtual Teams located in Dublin/ Wroclaw and Zurich
- Use virtual communication tools



Comparison of Case Study and Purposive Interview Respondents by discipline





Experiment



Control

- Meeting Face-to-Face

Experiment

- Collaborative Virtual Environment (CVE)

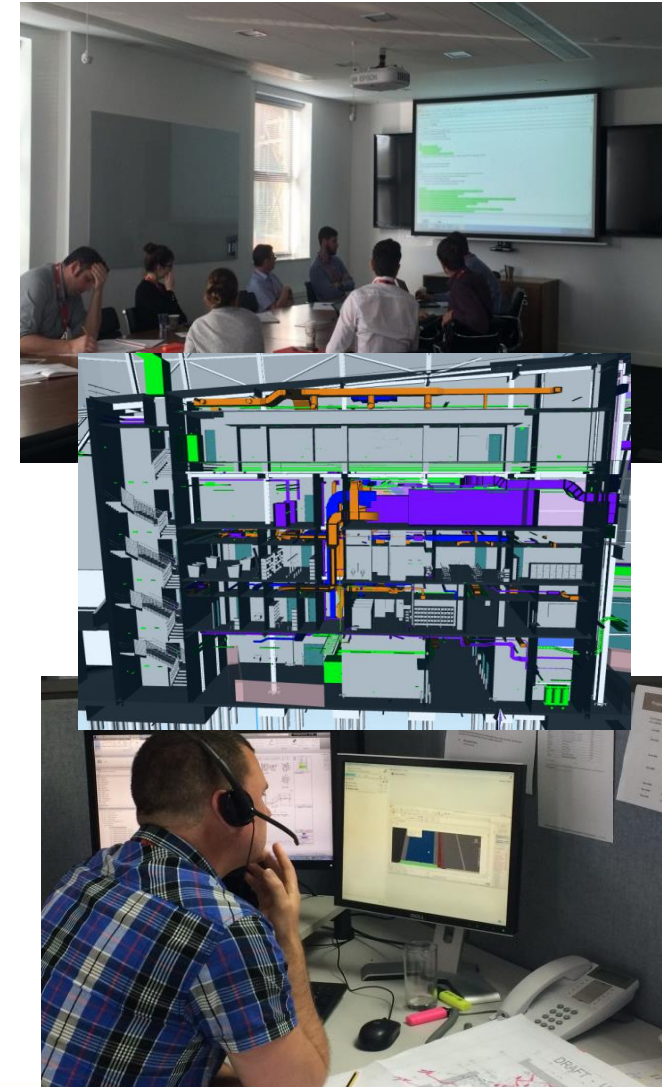
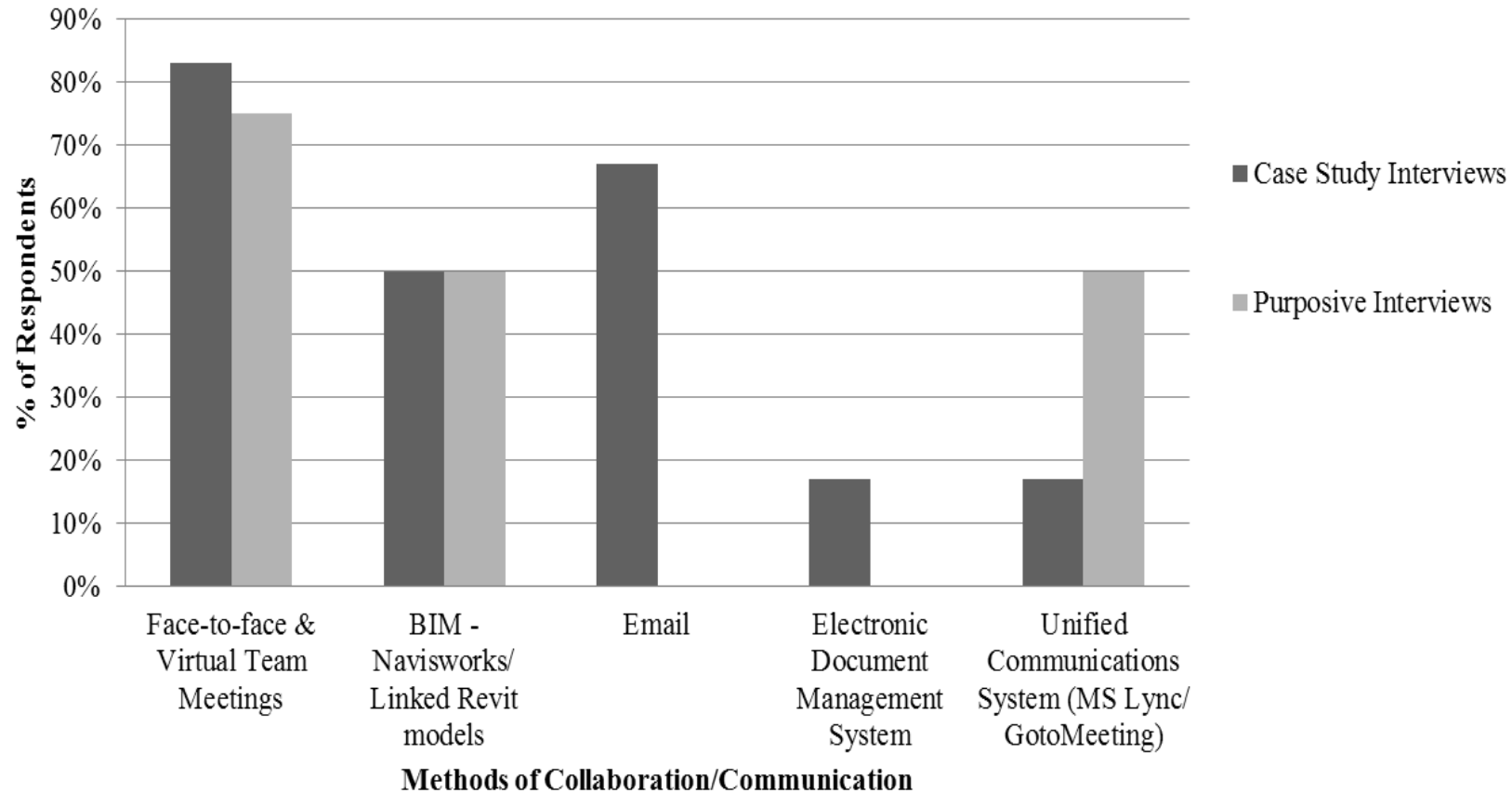


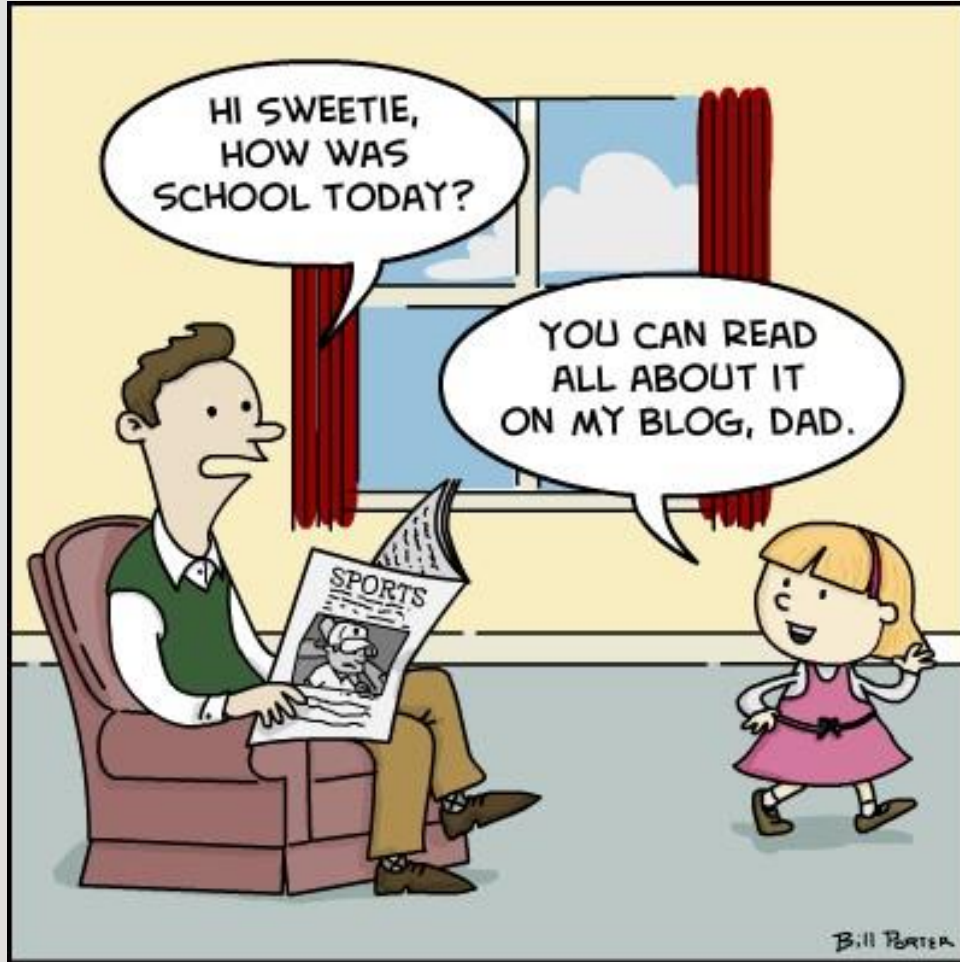


Findings

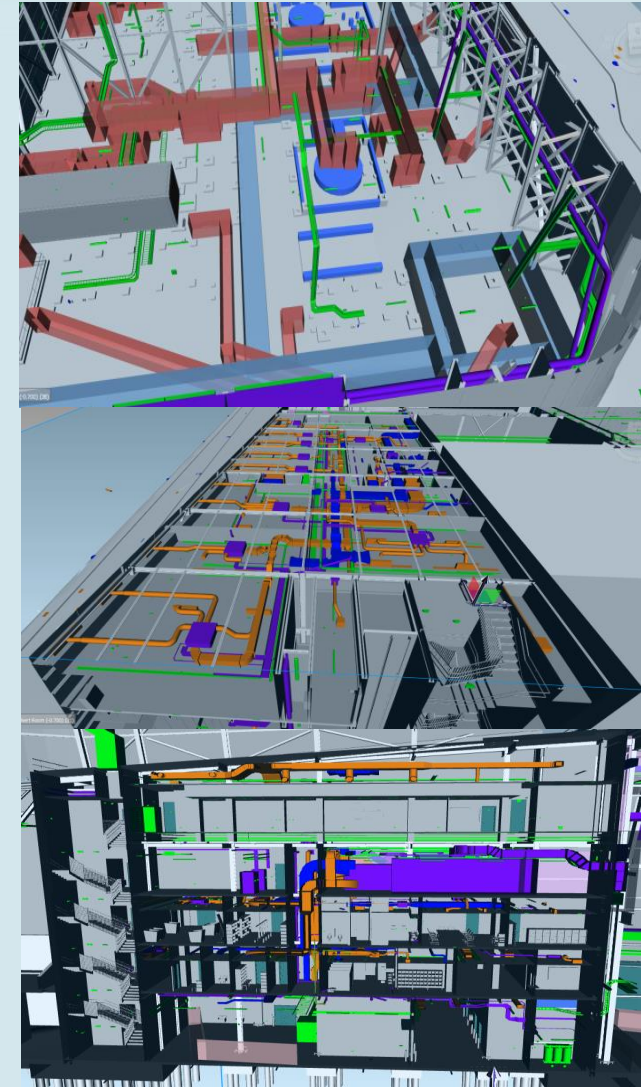


Comparison of Collaboration/Communication Methods Cited by Interview Respondents





- Digital Natives
- Digital Immigrants



Collaborative Virtual Environment (CVE)

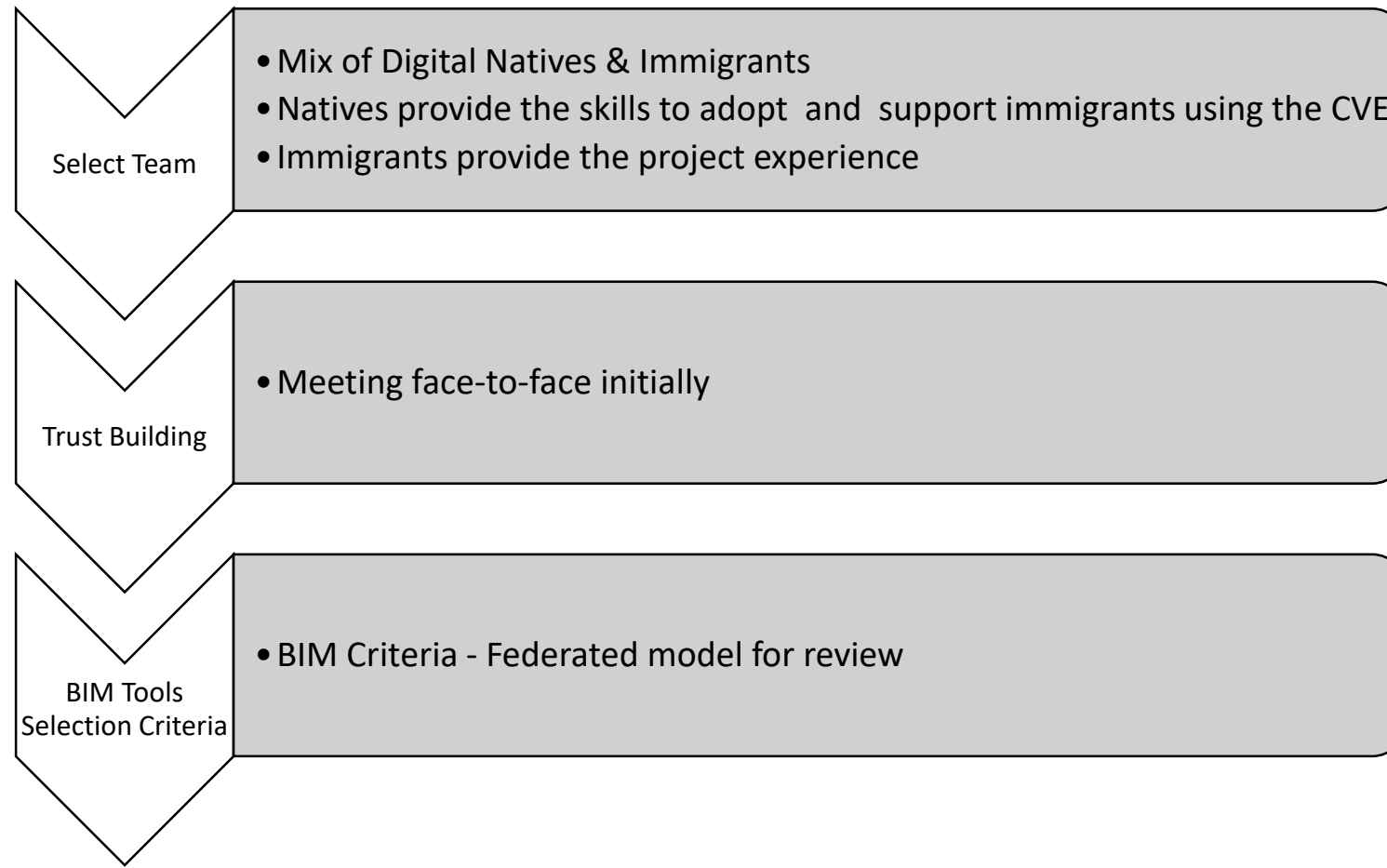
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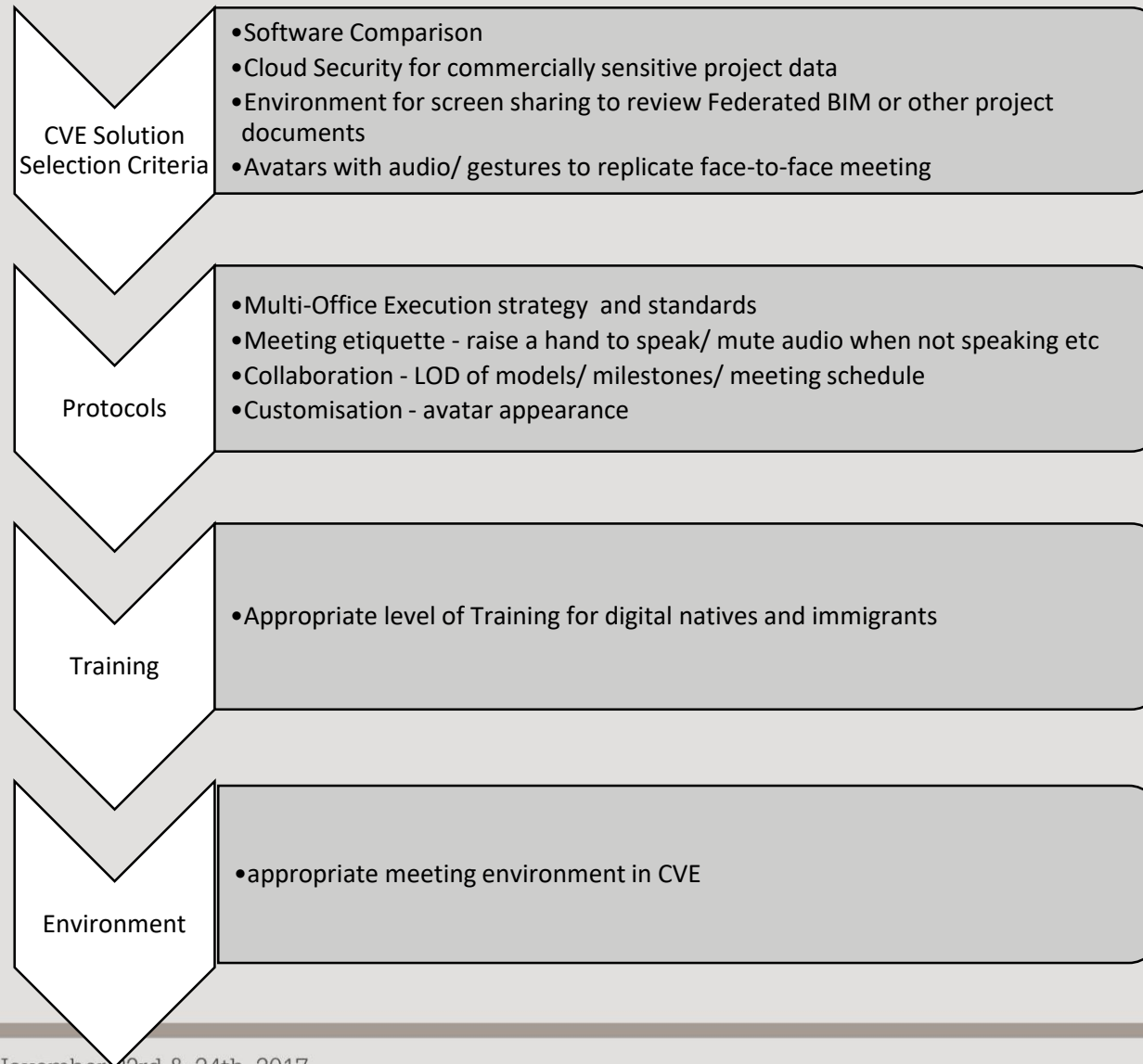


Conclusion



Virtual Communication Roadmap for Multi-Office Execution (MOE)







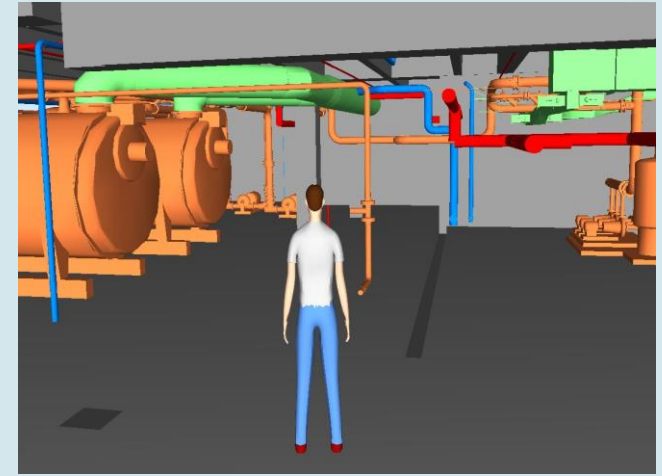
Further Research



- Virtual Reality



- Augmented Reality



- Virtual Site Meeting

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References



- Eastman, C., Eastman, C.M., Teicholz, P. and Sacks, R., 2011. BIM handbook: A guide to building information modeling for owners, managers, designers, engineers and contractors. John Wiley & Sons.
- Heller, R., Laurito, A., Johnson, K., Martin, M., Fitzpatrick, R. and Sundin, K., (2010). Global teams: trends, challenges and solutions. In *Cornell Center for Advanced Human Resource Studies. Partner Meeting, CAHRS*.
- Larsson, A. (2003, November). Making sense of collaboration: the challenge of thinking together in global design teams. In Proceedings of the 2003 international ACM SIGGROUP conference on Supporting group work (pp. 153-160). ACM.
- *Oxford Dictionaries (2015) Definitions, Oxford University Press, n.d. Web. <<http://www.oxforddictionaries.com/definition> (Accessed 16 August 2015)*



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Thank you

Presenters name