Making Building Models Part of the Team

How BIM plays a role in team performance
Differences in use or failure -> differences in team performance, satisfaction

How BIM is used determines its role in team performance
Understand the role that models play in team performance, satisfaction.

- BIM can be friend or foe
- Owners/Teams define the role of BIM

**Goals**

- Demonstrate using examples of teams interacting with paper, digital models
  - Differences in media use
  - Differences in team performance
Information as Divider

- Distraction
- Unfocused
- Low resolution
- Inaction

- Working to use information
- Unsatisfied
- Ineffective
- Low productivity
Models as Coordinators

- Focus
- Flow
Models as Place for Coordination

- Focus
- Flow
- Engaged
- Action
From bystander to active participant

As bystander

As workspace
Media as team player: workspace, facilitator, cheerleader

- Positive
- Participation
- Satisfied

TEAM PERFORMANCE/REACTION

- Focused
- Cycle through issues
- Resolution

MODEL USE

- MEP coordination
- Co-located
- Public/private views of models
- Model facilitator
Media as mediator, divider, communicator

Face-to-Face, Digital, Paper

- Positive, Negative
- Participation
- Mixed-satisfaction

PERFORMANCE/REACTION
- Focused
- Medium flow
- Medium resolution

- MEP coordination
- Public views of model
- Paper
Media as medium, distractor

Face-to-Face, Paper

- Positive, Negative
- Participation
- Low satisfaction

- Focused
- Low flow
- Low resolution
Media as space and place

Face-to-Face, Paper

- Positive
- High participation
- High satisfaction

PERFORMANCE/REACTION

- Focused
- High flow
- High resolution
It wasn’t the model but how teams used the media/information
Observed and analyzed use of models by teams

Compare paper-based to model-based

Looked at:
  • Nature of communication
    • Focus
    • Grounding vs. Acting
  • Addressing issues
    • Resolution rate

BIM in Practice
Discovering how teams make BIM a team player
Access->Action
Make information accessible

$y = 0.406x + 0.150$
$R^2 = 0.756$

% of time interacting with "shared" media
Media Interaction Richness

Increased roles of media in team interaction->performance
Implications for Projects/Owners

- Access
- Utilization
- Action
- Communication
- Level of Interaction

- Effective Communication
- Action
- Resolution
- Issue Identification
- Resolution
- Positive Interactions
What can Owners do

POSITIVE FACTORS
- Co-production
- Access
- Level of interaction
- Space focused on information
- Facilitators

NEGATIVE FACTORS
- Limited participation in models
- Limit access
- Spaces focused on people vs. information
- No facilitators

Satisfied
Focused
Resolve Issues
Communicate effectively

Unsatisfied
Unfocused
Inaction