Making Building Models Part of the Team

How BIM plays a role in team performance

Motivation -> Use

Quality

Cost

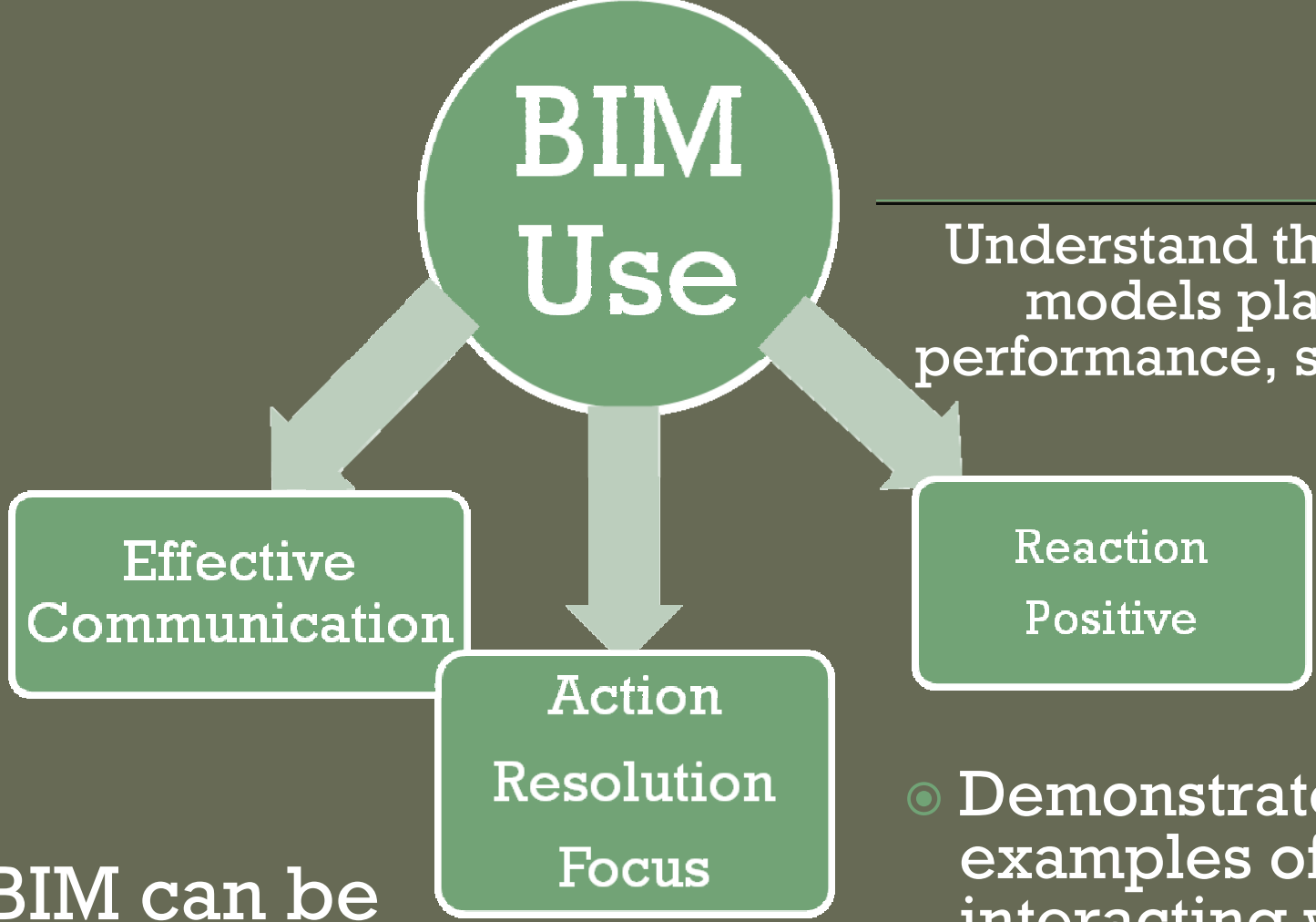
Time to Market

How BIM is **used** determines its role in team performance

Differences in use or failure -> differences in team performance, satisfaction

Goals

Understand the role that models plays in team performance, satisfaction



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

- 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

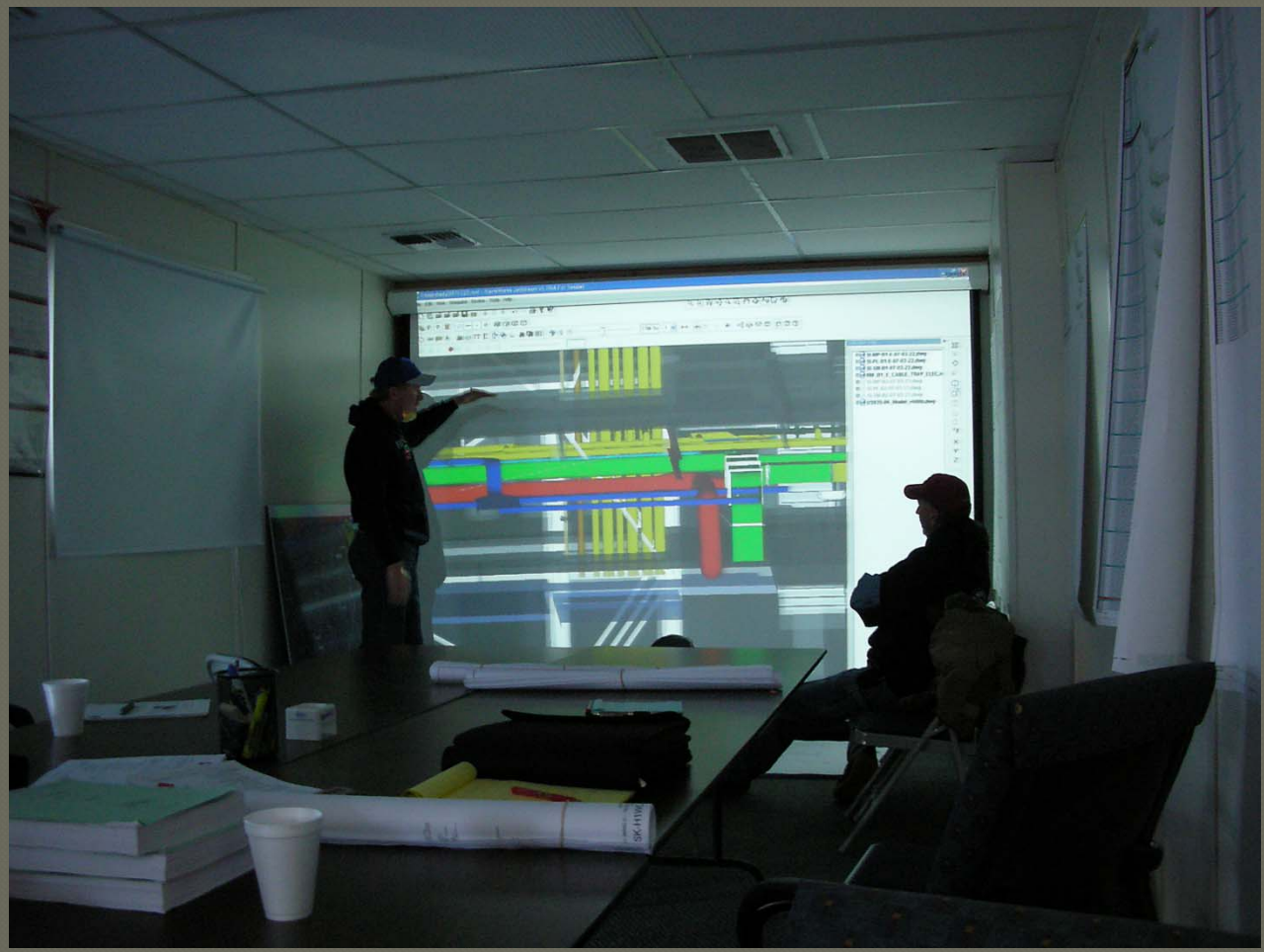
- Working to use information
- Unsatisfied
- Ineffective
- Low productivity

Models as Coordinators

- Focus
- Flow

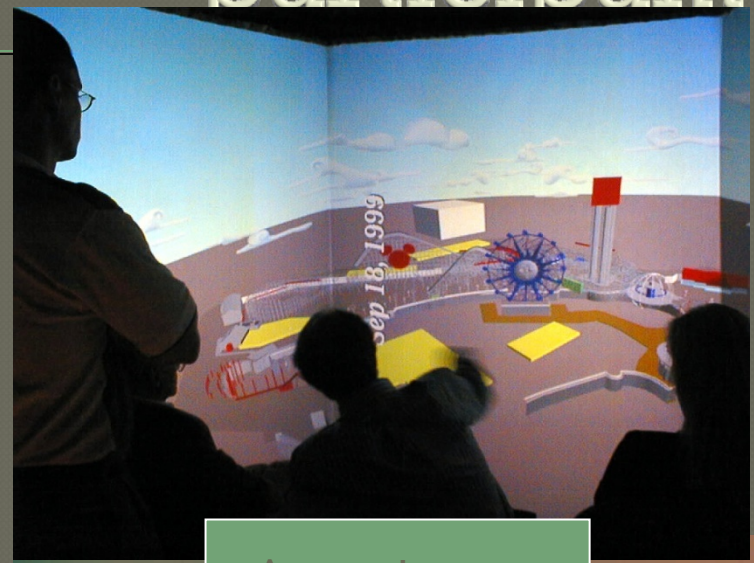
Models as Place for Coordination

- Focus
- Flow
- Engaged
- Action



From bystander to active participant

As bystander

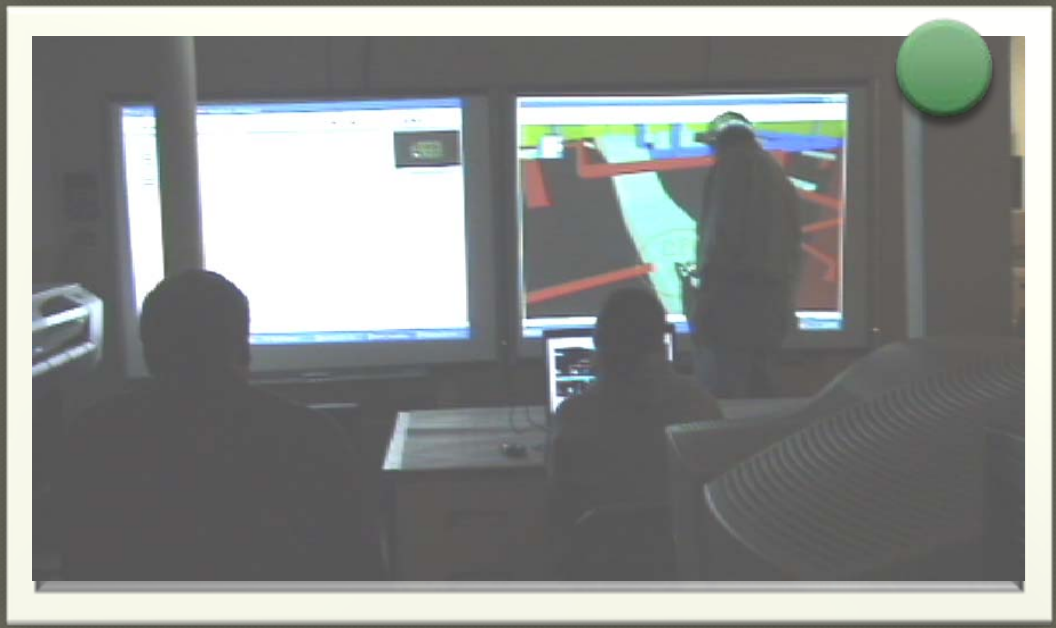


As workspace

Media as team player: workspace, facilitator, cheerleader

- Positive
- Participation
- Satisfied

MODEL USE



TEAM PERFORMANCE/REACTION

- Focused
- Cycle through issues
- Resolution

- 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

USE

PERFORMANCE/REACTION

- Focused
- Medium flow
- Medium resolution

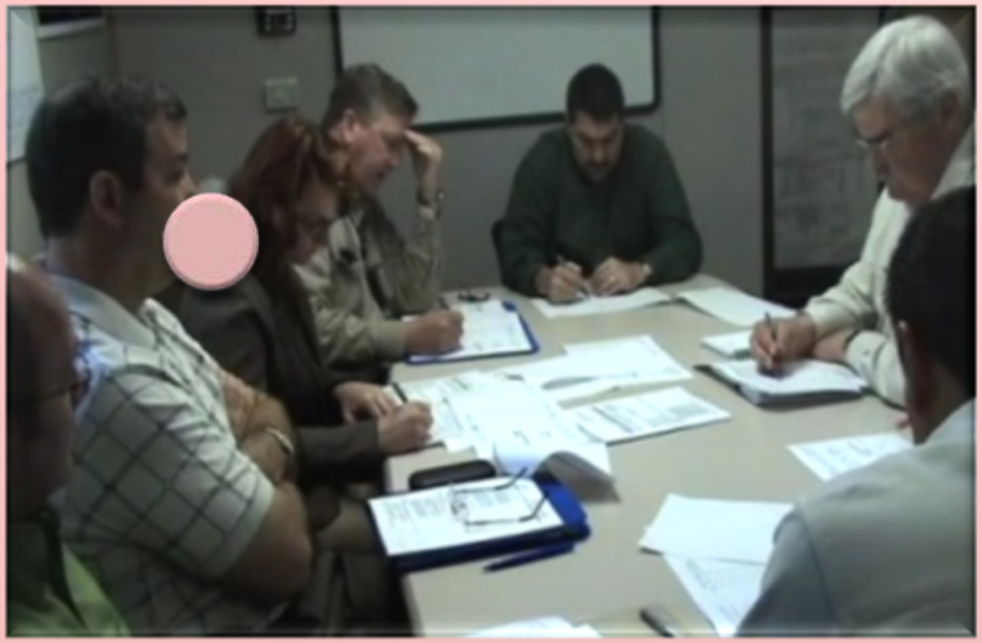
- MEP coordination
- Public views of model
- Paper

Media as medium, distractor

Face-to-Face, Paper

- Positive, Negative
- Participation
- Low satisfaction

USE



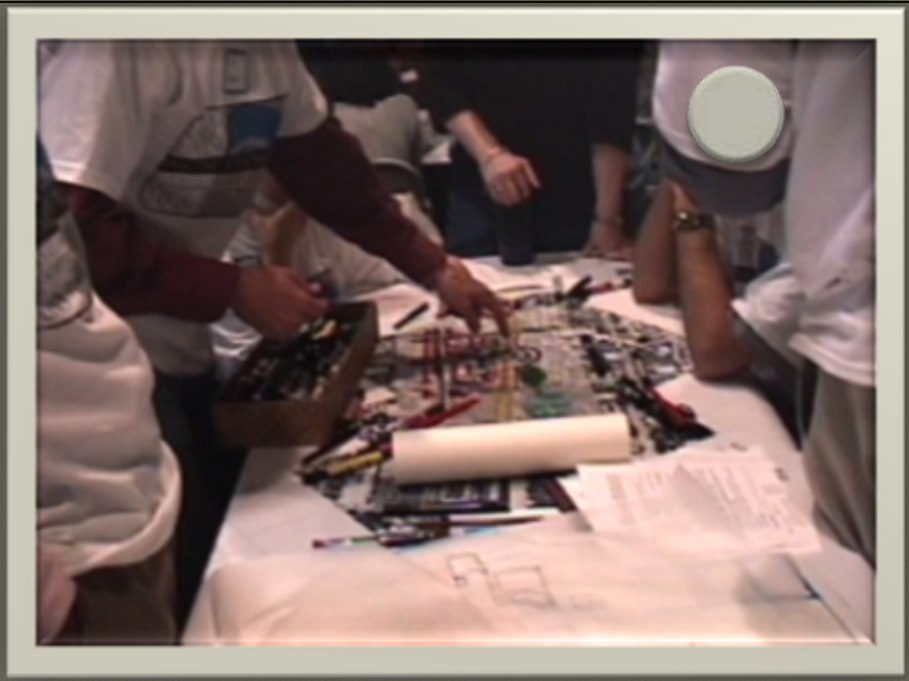
PERFORMANCE/REACTION

- Focused
- Low flow
- Low resolution

Media as space and place

Face-to-Face, Paper

- Positive
- High participation
- High satisfaction



USE

PERFORMANCE/REACTION

- Focused
- High flow
- High resolution

Which would you want on your project?

- Reaction
- Participation
- Satisfaction

USE

It wasn't the model but how teams used the media/information

PERFORMANCE/REACTION




- Focus
- Flow
- Resolution

paper

digital

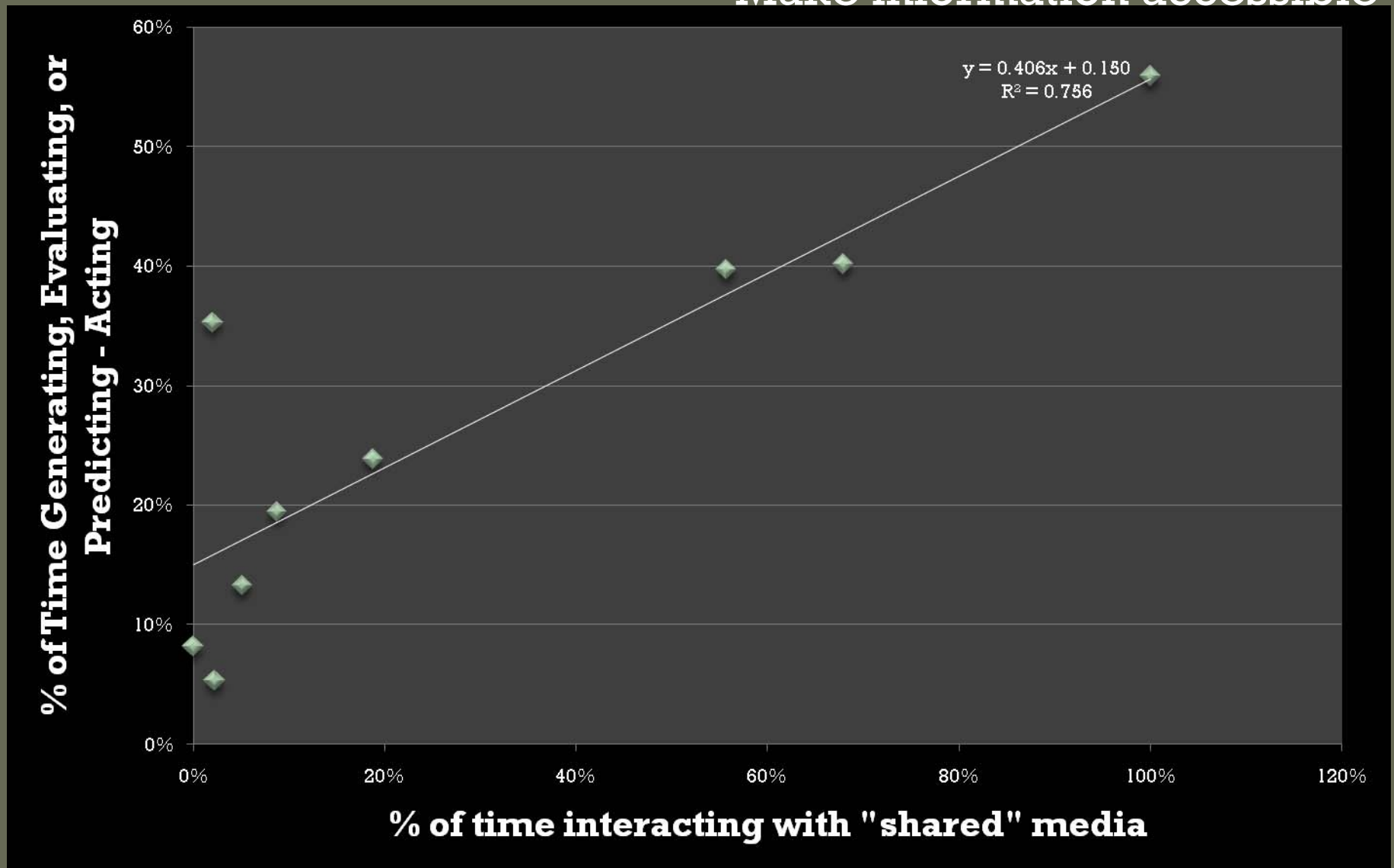
BIM in Practice

Discovering how teams make BIM a team player

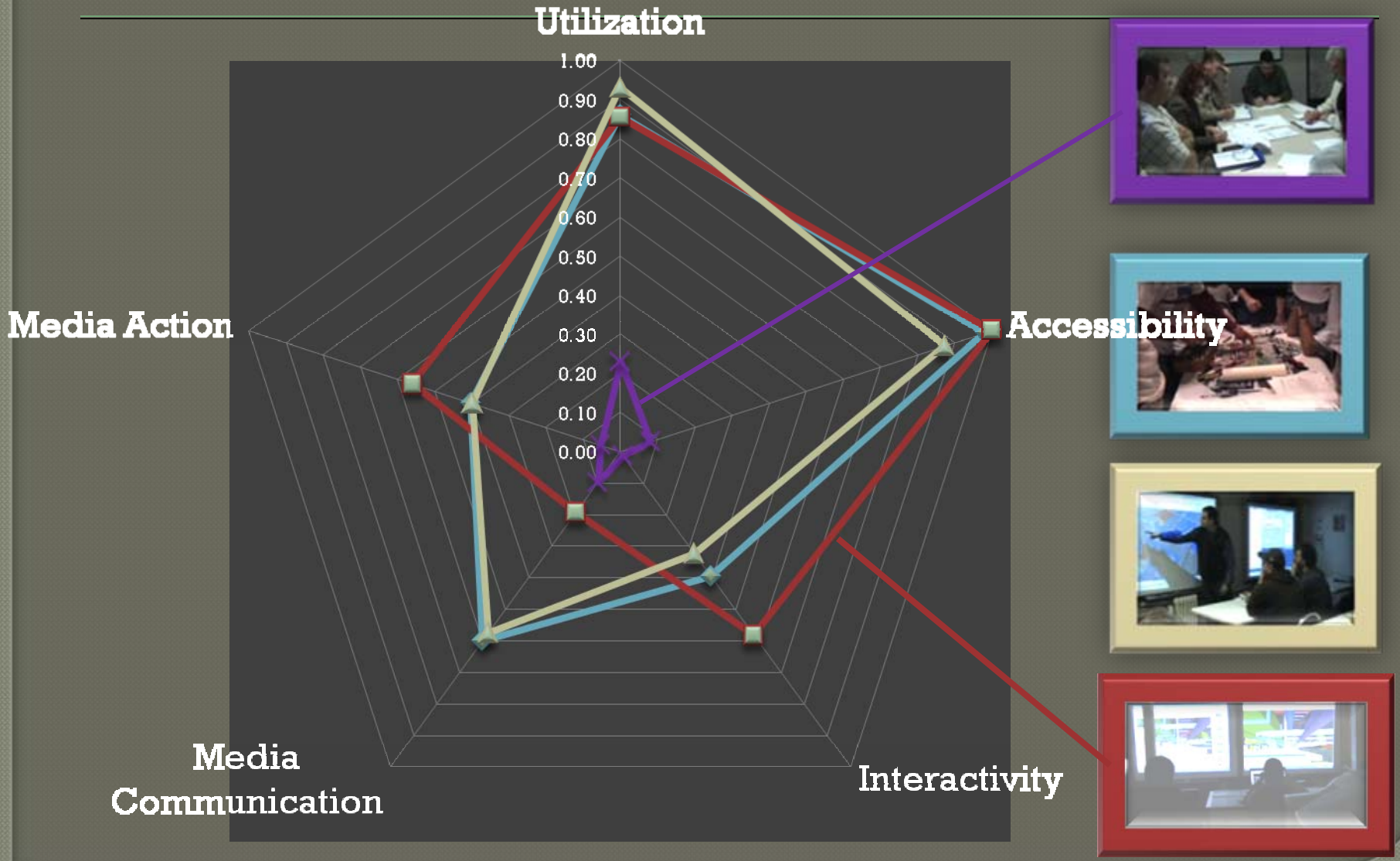
- Observed and analyzed use of models by teams
- Compare paper-based to model-based
- Looked at:
  - Nature of communication
    - Focus
    - Grounding vs. Acting
  - Addressing issues
    - Resolution rate

Access->Action

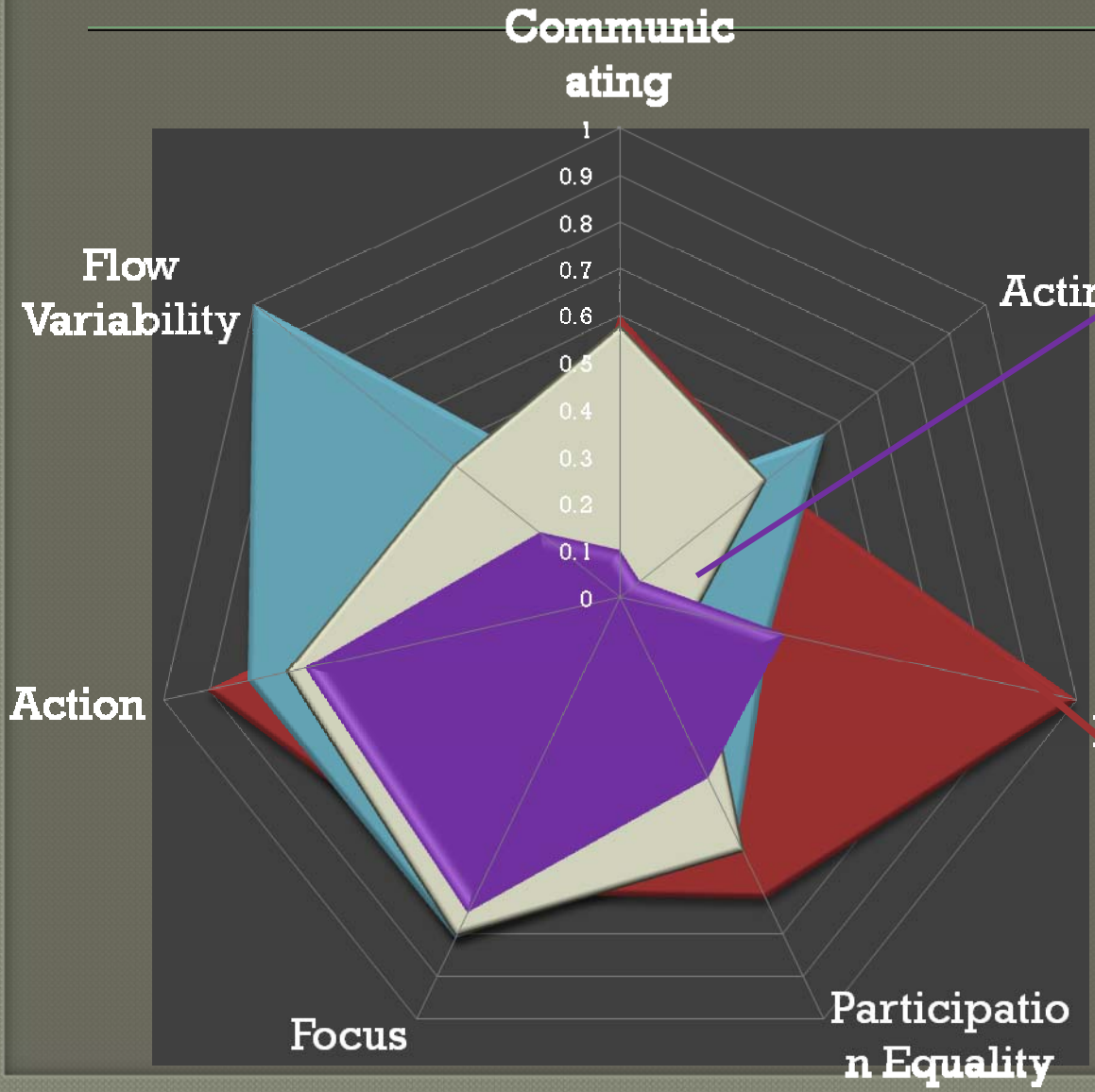
Make information accessible



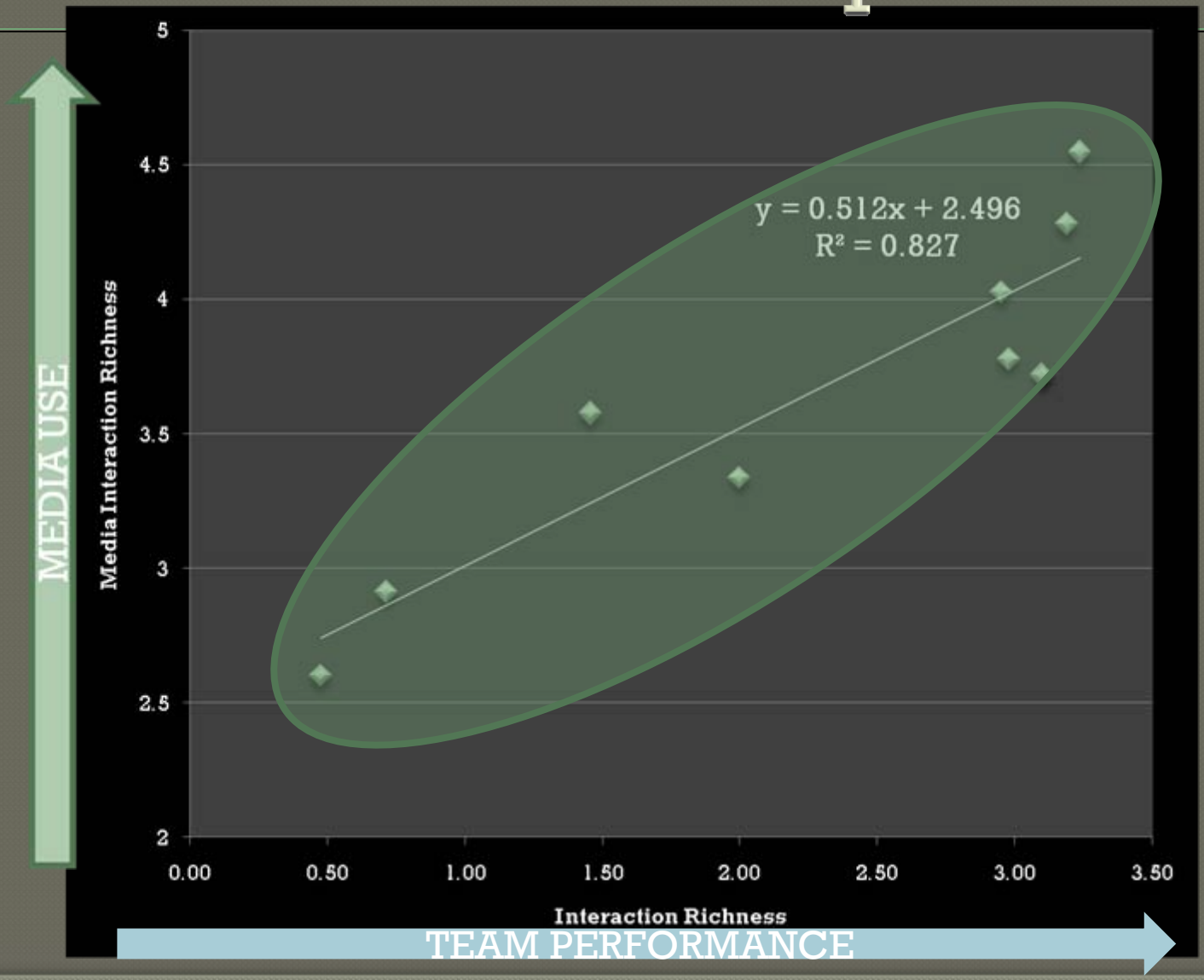
Media Use Profiles



Performance Profiles

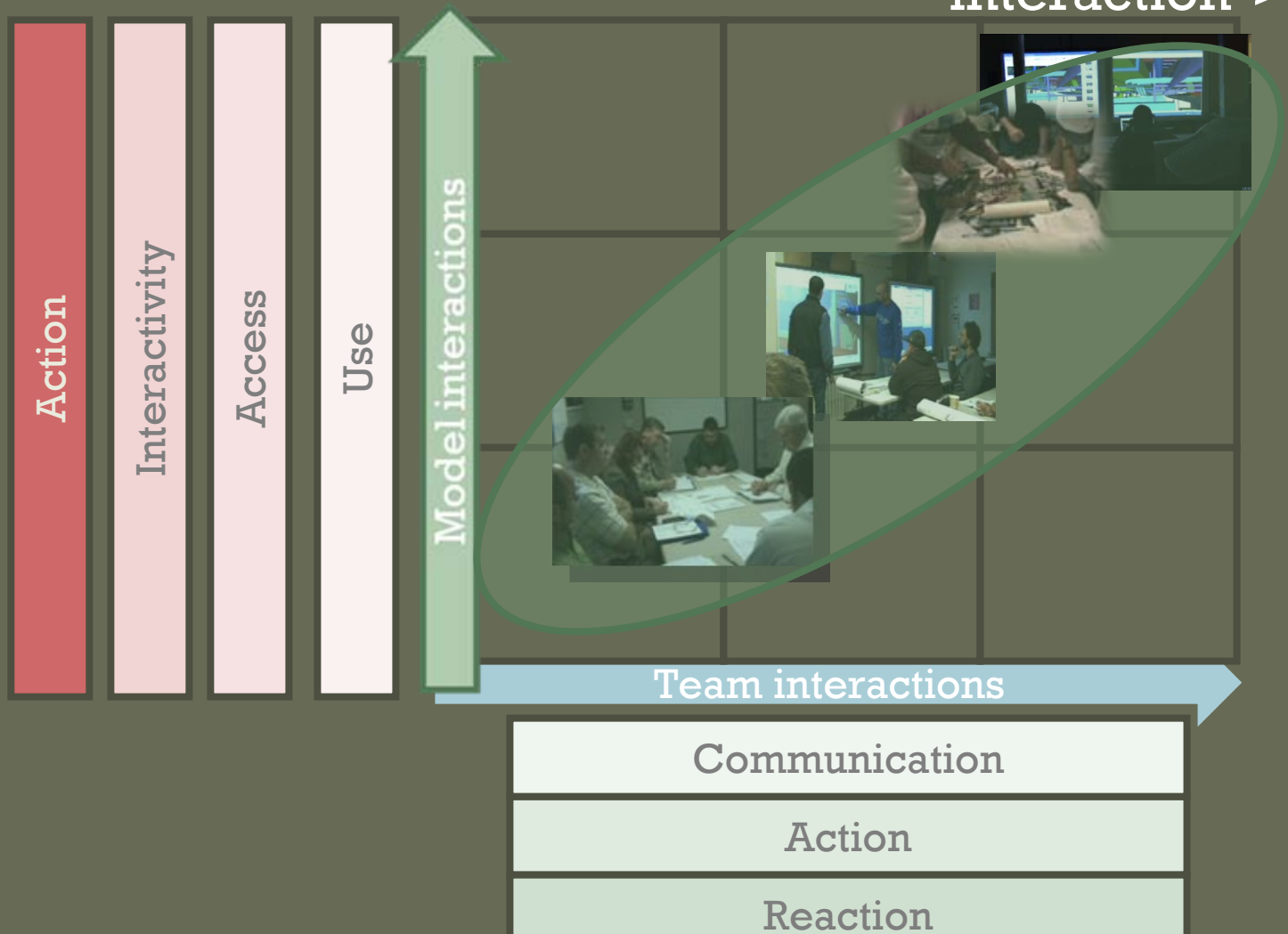


Media Interaction ←→performance

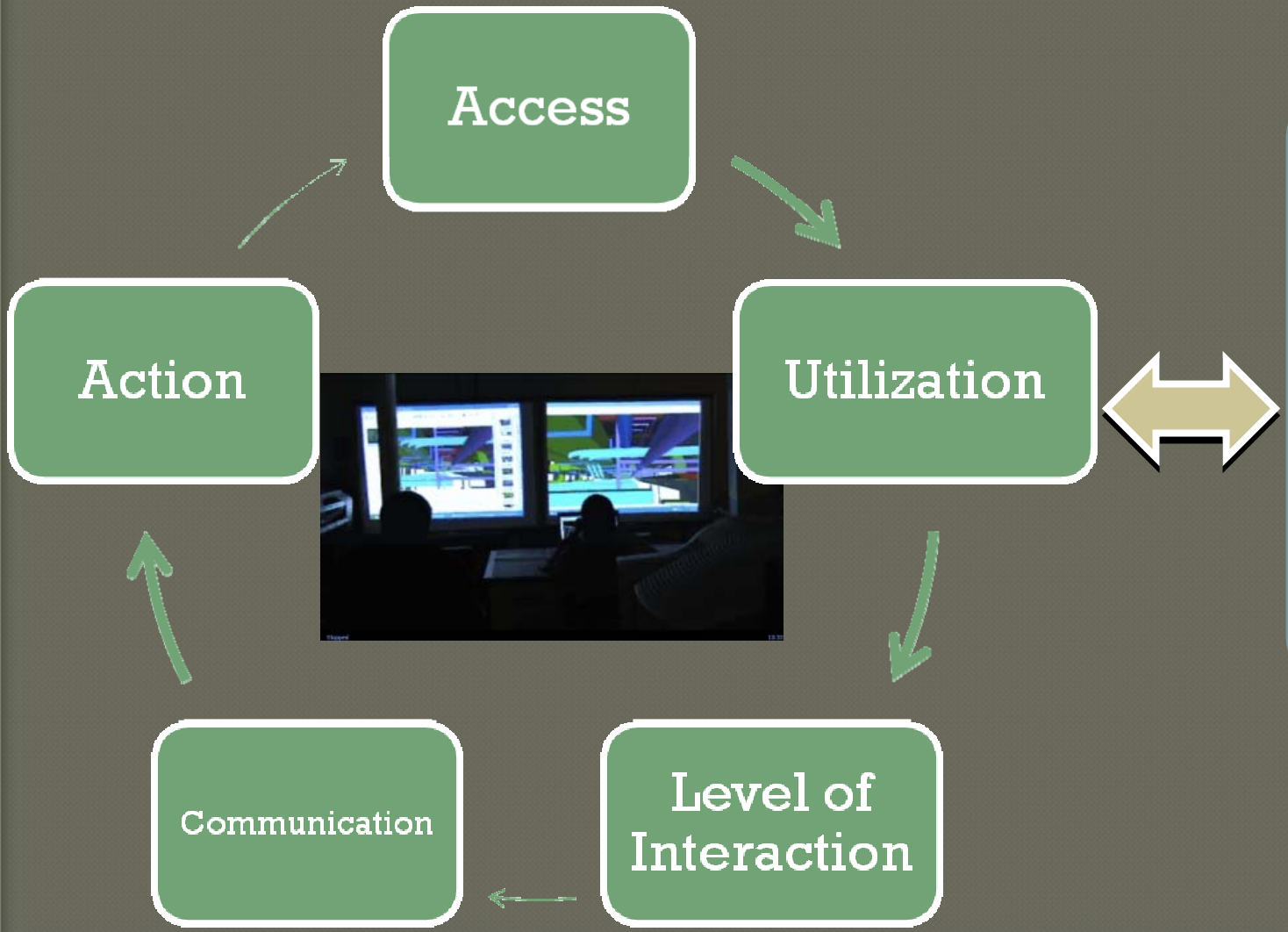


Media Interaction Richness

Increased roles of media in team interaction->performance



Implications for Projects/Owners



- 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

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Satisfied
Focused
Resolve Issues
Communicate effectively

NEGATIVE FACTORS

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

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Unsatisfied
Unfocused
Inaction