We are BIMing—Why Isn’t It Working as It Should?

Maria Minassian

Senior BIM Coordinator – Parsons Corp.
About the speaker

Maria Minassian

Maria has been working with Parsons Corp., for the past five years, as a Senior BIM coordinator for Infrastructure Transportation group, Rail and Water Treatment projects. An Architect by education, with many years of experience in Architectural Design, Urban Planning, BIM and GIS in building and Infrastructure projects, Maria was, previously, part of the BIM implementation team in several prominent multidisciplinary international firms in the world, specializing in large complex projects with design and construction teams scattered over the globe.
**BIM**

Shorter time

No reworks

No wait time

All data available
We are BIMming! But the magic is not happening…

Where is the Promised Land?

Where did we go wrong?

- Examine the process
  - Identify the problem(s)
  - Find out how to resolve it.
The Trilogy of Success
The Process

Convert 3D visions into 2D flat surfaces for communication
The Process

Drafting Boards and Drafting Tools
The Process

Drafting Boards and Drafting Tools
The Process

Design and Coordination “in series” – Spider Web
The Process

Engineering and Architecture wonders of the world
BIM Kicked in!

The Process

Think in 3D, Communicate in 3D and Resolve issues in 3D.

Rely on BIM Objects for Communication
The Process

Design and Coordination “in parallel”
The Technology

Cloud Computing  
Mobile Devices  
Powerful Processors  
Drones  
AI  
Augmented Reality  
Machine Learning  
Virtual Reality

1957 — Pronto, first commercial computer-aided machining (CAM) software
1963 — Sketchpad, CAD with graphical user interface
1975 — Building Description System (BDS)
1977 — Graphical Language for Interactive Design (GLIDE)
1982–2D CAD
1984 — Radar CH
1985 — Vectorworks
1986 — Really Universal Computer-Aided Production System (RUCAPS)
1987 — ArchiCAD
1988 — Pro/ENGINEER
1992 — Building Information Model as official term
1993 — Building Design Advisor
1994 — miniCAD
1995 — International Foundation Class (IFC) file format
1997 — ArchiCAD’s Teamwork
1999 — Onuma
2000 — Revit
2001 — NavisWorks
2002 — Autodesk buys Revit
2003 — Generative Components
2004 — Revit 6 update
2006 — Digital Project
2007 — Autodesk buys NavisWorks
2008 — Parametricist Manifesto
2012 — FormIt

We are babies.  
1960s — Technology has little impact. It is a curiosity.  
The company is king, but a benevolent king. Good focus on customer satisfaction, but customers have few options. Communication makes global business difficult to customer make geographic-based decisions.

We are still children.  
1970s — Technology is for academics and has little impact.  
Greater focus on margins and revenue. Customers become concerned about monopolies as customer satisfaction has less importance.

We are still children, but we can put to get what we want.  
1980s — Technology invades the home and starts to change behaviors.  
Customers become increasingly concerned about company practices and lack of customer satisfaction. Communications have improved to help customers make more informed decisions and to have better choices.

Like teenagers, we now have some control but don’t know what to do with it yet.  
1990s — Technology is everywhere. A great leap forward. It begins to connect us across the globe.  
We are growing up, and feeling pretty cool about it.  
2000s — Technology becomes fully-integrated into our daily lives. We are more fully in a digital world.

Welcome to adulthood!  
2010s — Technology becomes fully-integrated into our daily lives. We are more fully in a digital world. Social Business is the evolution of companies now nearly aware that how they act and how they engage with customers can be more important than price, that the relationship is part of the value.

Social Business is the evolution of companies now nearly aware that how they act and how they engage with customers can be more important than price, that the relationship is part of the value. Companies allow greater transparency into all aspects of the company and use social media channels to effectively engage with customers, but with a focus on WHAT the customer wants and HOW best to deliver it to the customer.
The People

BIM is one, but each office has its own flavor of BIM.
The People

“26% of rework is attributed to poor communication” BIM Hub

Written procedures for the BIM in your office
How much BIM is involved in your project

In BIM, there is no place for Data and Information Silos

How to share files
How to communicate with other team members

Data Silos

Design Changes? Decisions? Procedures?
New Comers?

Does everyone on your team know what is happening in the Project?
The People

Environment Silos
Before the switch to the open office plan, employees had been meeting face to face for nearly 5.8 hours per person over three weeks.

That number went down to 1.7 hours after the redesign.

Participants spending 72 percent less time interacting in person in the open space.

More emails with employees sending 56 percent more emails to other participants in the study.
Lack of Communication

Facts & Numbers

- **55%**: Rework
- **3-4%**: Added Costs
- **$15 Billions/yr**: Rework Cost
What do we learn from that?

- BIM is not about the Process, but about HOW we put that PROCESS IN ACTION
- BIM is not about Software or Technology but about CULTURE CHANGE
- BIM and Digital Communication CANNOT replace REAL LIFE COMMUNICATION
- Process and Technology are starting points with a potential to grow=> THIS IS WHEN BIM BEGINS

Enough said! What should be done?
What is the Solution?

Encourage ➞ Engage ➞ Educate
What is the Solution?

Encourage communication!!

*In BIM, if we succeed, we all succeed and if we fail, we all fail.*

- Visual communication
- Brainstorming rooms
- Encourage asking questions: Measure twice and Cut once!

- Make BIM Transparent again!
What is the Solution?

Engage!!

"If everyone is moving forward together, then success takes care of itself." - Henry Ford.

- Make a showcase out of little things
- Tips and Tricks Sessions
- Treat all teams EQUALLY!

- Make BIM a meeting place again.
What is the Solution?

Educate!!

“The only real mistake is the one from which we learn nothing.”
Henry Ford

- Encourage meetings using federated models.
- Delegate simple tasks
- Explain to your team how things are done.
- Expose your team to novelties in BIM world
  - There is no place for mystery in BIM
Thank You

Q&A