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Q&A WITH JEFF LOETHER, HOSPITALITY INDUSTRY EXPERT

ALWAYS START WITH A GOOD ROOM



Jeff Loether



There most definitely is a science to creating ideal meeting and event spaces for sound and visuals. For more than 30 years, this science—mixed with the art of design—has been at the heart of Jeff Loether’s work. He started his career with Marriott, in the Architecture & Construction Division. During that job, he became fascinated with what he calls “architechnology”: the building and integration of sound and visual technologies into a facility’s infrastructure and interior

design, particularly in rooms used by groups.

Today, Loether is president of [Electro-Media Design](#), a company he founded after

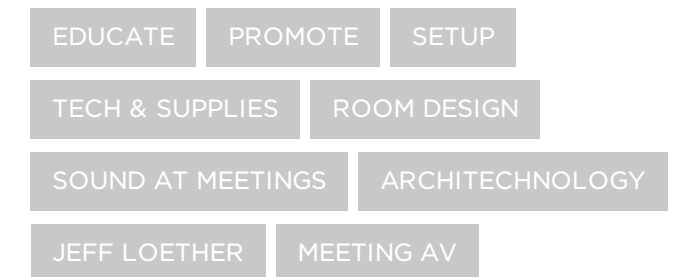
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leaving Marriott in 1990 to focus exclusively on architechnology consulting. Loether still supports Marriott by providing technology design services for renovations and new construction. We spoke with him about this work and what meeting planners should look for when choosing an event space.

Q: Can you explain psycho-acoustics and why it's important for the meeting planner?

It is—because of how human beings learn and communicate with one another. It's critical to understand our perceptual mechanisms, how our eyes work, how our ears work, and how our brain works with the signals that come from our eyes and our ears.

Sometimes, I'm asked, "What is the future of meetings?" To answer the question, instead of something right off the cuff, we'll say, "Let's reverse-engineer the question first, and let's define our terms. What is a meeting?" If we say a meeting—at its most core, fundamental level—is people communicating, if we can agree that people communicating is what a meeting is in its essence, then we should ask, "What's the future of communicating?"

That's where it gets all kind of wild, crazy and exciting because communication is now happening on so many different levels. It's happening in the digital realm. It's happening in the virtual realm. It's happening through cell phones, through projection and through sound systems, and through personal listening devices and second-screen technology, and virtual headsets and virtual reality. And all that communication is happening through technology that's rapidly changing.

We should then also ask, "What's the future of people?" A meeting is people

communicating. Communication is changing. Do we think that humans are changing? Do we think that our eyes are going to become sharper so that we will be able to distinguish the difference between a B, a 3, or an 8 and an H—in 10-point type on a screen that’s 50 feet away? Or read in the dark? Probably not.

Do we think that our ears are going to create listening distinctions that’ll allow us to hear through noise, through the noise of reverberation or through the noise of HVAC systems that are too loud? It’s the hearing and the listening that give us the meanings of the words.

“ “WHAT KEEPS COMING BACK OVER AND OVER AGAIN IS HOW IMPORTANT THE ROOM IS.” ”

Q: What factor is most important when it comes to acoustics?

In psycho-acoustic studies, there is this phenomenon called intelligibility. We have a meter that we use to measure the percentage of the consonants that are communicated from point A to point B—point B being the listener—and the effectiveness of communication has to do with the percentage of consonants in our Western languages.

In the East, it has more to do with clarity in the lower frequencies, the vowel-type sounds. In the West, it’s edges of the words that create the distinction between “bat” and “cat” and “fat” and “hat” and “sat.” Those are consonants. There are many more consonants than vowels.

That’s what we study, and in the industry, 85 percent effective communication of

consonants is what is defined as pretty good. That's great communication. We measure that, and we design for that. To get that, we have to reduce interference from noise and reverberation.

Q: How does that play out when considering a meeting space?



Creative Space



When we think about the future of meetings and intelligibility and communication, what starts to come into play is the realization that all these technological advancements still have to play in an environment with analog human beings. Because our eyes are analog; they are not digital. Our ears are analog.

The room itself is an analog phenomenon. It's not black or white, off or on, ones or zeroes. It is Technicolor, and it's shades of gray, and it's

one to 100, instead of one or zero. We don't have parity checking. In the world of digital, there is making sure that the bit or byte, or packet of information made it through complete. One way that you see where that does not work is when you're looking at jittery or grainy streaming video because you don't have time to do parity checking.

When you get video breaking up, that's an example of digital gone wrong. Analog, that's life. That's the way it always is. If you didn't catch something, you'd have to say, "Excuse me, would you please repeat that?" When we're one on one, that's easy to do, or on the phone with somebody, but when you've got a presenter and an

audience of a couple hundred people, you can't ask people to repeat all the time.

Interestingly, we've also found that good quality hotel house sound systems—the systems where the sound is built into the ceilings—are 20 percent more intelligible, 20 percent better than speakers on sticks. When you're using a house sound system, the sound energy goes straight down out of the ceiling, past the ears of the listener, and then it's either absorbed by their bodies or the table, the carpet or the chairs. Some of it does get reflected, but then it goes back up to the ceiling where it's usually absorbed by the ceiling and the air between the table and the ceiling.

It doesn't come back down. It doesn't excite the reverberant field. That reverberant field is the “boominess” of a room. What counts for intelligibility is the direct sound from the speaker to the ear. Any other path for that sound—if it comes from the speaker and bounces off the wall and then comes to you, or bounces off the back wall and then comes to you—that's, by definition, “noise.” Signal-to-noise ratio is what matters in life. The signal is the direct sound; the noise is everything else, the undesired sound.



Q: How can a planner gauge a room's sound quality?

When you go in, do a site survey. Ask the venue to turn on the air-conditioning and turn it on high. Sooner or later, you're going to need to have it cranked on high in your meeting. Now, listen. Listen to what it sounds like. How noisy is it? You can get an app for your phone if you want to start actually putting numbers to this stuff. There is a free app that you can use as a sound meter.

You can also clap your hands and listen to what happens to that explosive sound of you clapping your hands. You may hear something that sounds like, wap, wap, wap,

wap, wap. That would be flutter echo. If you have a typical echo, there's (there's) a (a) distinct (distinct) return (return) of the clap (clap). Technically, an echo has at least 25 milliseconds between the initial sound and the return sound, which equals about 30 feet of actual physical distance.

If you clap your hand and you just listen to how long it takes for the sound of that clap to go away, that's measured in seconds. According to Marriott standards, that needs to be less than 1.2 seconds for large rooms, and that again comes out of all of the background of research on adult learning environments, good listening and intelligibility. That's what's been written into the Marriott standards: the minimum performance to create the best listening environment.

Q: What factors should drive the technology used at a meeting or event? You want to wow them, but you want to wow them for a reason, right?

Absolutely. A lot of times, we're asked, "What should we equip this room with? What kind of technology should we include?"

We say, "What do you want to do with it? Who is your audience? What is your bottom line? What do you need to have happen? What's the outcome of this meeting?"

There are collaboration and presentation style meetings. Presentation style is mostly one way. It's a sage on the stage. It's the information: "I've got all the answers. I'm going to share those answers with you today." Collaboration requires a completely different kind of technology.

Collaboration is, "We have all these questions, and hopefully by the end of the day,

with your help, the group, the audience, with all of us together, we are a lot smarter than any of us by ourselves.” This is the guide on the side, that facilitated collaborative event and a lot of times that has a charge-up, which is a general session, and then breakouts to topic specifics, and then a reconvene, and a report back, and then a recharge with new questions that came out of those, and then breakouts again. That kind of meeting is much more collaborative because that’s on a need-to-share basis compared with a need-to-know presentation style.

What happens is, in collaborative meetings, a lot of times there are fewer people. There are maybe 35, 75 or a couple of hundred people at the most. Then, when the outcome of all that gets taken back to the corporate headquarters, wherever that is, and boiled down, then they have a presentation style meeting for 2,000: “This is what we did. This is what we figured out.”

Q: In the end, what’s critical for the meeting planner to think through?



Classroom-Style Seating



What keeps coming back over and over again is how important the room is and how important the acoustics are, and how important the lighting, how important the built-in sound system and the built-in technologies. More and more of these technologies are getting built-in: flat-panel displays in meeting rooms. You see, the things that created the AV rental business—expensive, finicky equipment that needed a technician to run it—those things are no longer

true.

The AV equipment is affordable; you can get it at Costco or Best Buy. It's not finicky; it's very, reliable, very easy to use, and our users are a lot more adept at working with technology than they used to be. The building-in of all this stuff makes it so much easier to use, but the rest of the room, the infrastructure, has to be complementary.

Understand how people see—for instance, glossy displays, where you see reflections of light fixtures. If you're holding a phone with a glossy display and you have a reflection, you can just move your hand a little bit. If you're sitting in this chair and you're seeing the traffic in the street outside the window reflected in that display, you can't read that display. So non-glossy displays are a must.

There are so many factors that create stress that we normally are not aware of, and that's what we are dedicated to understanding. How does that room and how does that technology work with human beings and our perception mechanism? It always comes back to the room. We cannot fix a bad room with technology.

The other thing is, say you have a room and the lighting isn't right for your event. It's easy to bring in lights. You can hang lights from the ceiling, you can stick lights on light-tree stands. There are so many ways you can fix the visual aspects. But how do you fix acoustics? You can't bring in quiet. And nothing says quality like quiet.

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