

Common Acoustics Design Misconceptions

Designing a space to limit sound reverberation is intuitive.

False: Acoustical design is complicated, needs sophisticated equipment and often requires the use of computer modeling.

Add acoustical panels throughout the space to limit the noise.

False: Acoustical design is dependent upon the type of noise, whether it is high- or low-pitched and other specific factors that are linked to each unique location.

If a loud restaurant is the goal, then an acoustical engineering consultant is not necessary for the restaurant's architectural design.

False: No matter what the sound goals are, acoustical engineers can help to make sure the goal is attained without causing harm to employees and undue discomfort to the average patron.

If one restaurant has retrofit acoustical work done to correct a noise problem, then the same techniques can be used for other restaurants.

False: Acoustical design is dependent upon the unique conditions for each restaurant. However, chain restaurants' floor plans that are the same in each location can have nearly the same design applied. If outdoor noises affect the indoor sound quality, design alterations would be needed.

If the restaurant was designed with acoustical materials, it will not be contemporary and will look unattractive.

False: There are many new acoustical materials available that are attractive and that don't detract from a restaurant's overall design.

started up and transmitted a loud, low frequency sound throughout the restaurant. "When the hood kicked on, the voices got louder and the music was turned up. The effect of noise building upon noise was remarkable," she says.

Many of the retrofit acoustical projects that Schott handles also relate to outdoor noise, which may not impact customers but does impact the restaurant's neighbors. She says it's hard to predict how the surrounding community will be affected by a restaurant's design in terms of the noise it generates but if considerations are put into place from the beginning, then alterations later are natural and fairly easy to engender. Restaurants can solve outdoor sound issues by setting up wall screens and by installing smaller and more plentiful speakers set at a lower volume.

Acoustics Design and Materials

In laymen's terms, acoustics design is the study of how sound transmits through a space and through materials. "Each material has its own reverberation properties. Likewise, each unique space will encourage sound to travel throughout at differing magnitudes," says Schott. Indeed, acoustical design is complex and always involves a little bit of experimentation.

Contemporary architectural trends and modern restaurant designs often include harder surfaces such as tile, glass, concrete and metals that sound bounces off of versus more traditional materials that inherently have greater sound-absorption qualities. Likewise, open kitchen designs and outdoor seating present more challenging acoustical situations for restaurant owners.

"An acoustical engineer is usually a member of the building design team much in the same way as a structural engineer or a mechanical engineer," says Schott. After the acoustics engineer receives a schematic plan, the engineer evaluates the space against the sound level intent, analyzing how noise will transmit and reverberate throughout. The engineer then offers suggestions to the interior designers and architects on how to make design changes to meet the sound level intent. At times, it's something as simple as adding a certain amount of square feet of absorptive material to the space.

Such acoustical materials are no longer ugly and awkward, as many were in the past. One way to solve noise pollution problems is to place select materials in target locations. "The restaurant's design does not ever need to be compromised. Creative acoustical materials may include draperies hung from the ceiling and linen-wrapped baffles. The options are varied. Work the acoustics into the design from the beginning and there will not be a problem later," Wolf advises.

Among the many complex projects that Schott's acoustical design team has tackled was a wine-tasting restaurant built inside of a cave at a Napa Valley winery. "As one may imagine, the acoustics in a cave are not at all conducive to the type of environment the restaurant owners had hoped for their venue," says Schott. "Ultimately, an innovative type of plaster that was designed to absorb noise was applied to the real stone. You would be amazed at how real the plaster appears and at the same time how effectively the sound is controlled in the space."

While most restaurant spaces present fewer acoustical challenges than a wine cave might, finding the perfect mix of quiet and liveliness is nonetheless a moving target. Every space is unique and requires a different approach with various spatial dimensions, materials, furnishings and equipment used, noises from surrounding environments, music and, of course, the dynamic number of patrons. What's indisputable, however, is that acoustics demands attention. Says Wolf, "One thing is for sure, acoustical design is critical and it must be incorporated into the beginning design work." +

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Designing for MILLENNIALS



BY AMELIA LEVIN, Contributing Editor

Socially aware. Constantly connected. Technologically savvy. These attributes all describe the Millennial generation and make designing a restaurant for this demographic all the more challenging.

Millennials. What age group are we really talking about? College students? Recent grads? Young professionals? Young parents? While many analysts categorize this demographic as the age group born after 1983, the U.S. Census uses Millennial and “Generation Y” interchangeably, lumping those born between 1977 and 1992 into the category. Foodservice research firm Technomic uses the Census definition, while also referring to those aged 19 and under to “post Millennials.” The NPD Group, in comparison, considers Millennials to be people ages 18 to 28 years old. All in all, definitions range from about 12 to 35 years of age.

What does this mean for restaurants and restaurant design? It’s a complex proposition.

“Generations aren’t monolithic,” says Clark Wolf, a restaurant consultant, author, designer and founder/president of Clark Wolf Company, New York City. “You have to figure out what type of Millennial you’re talking about.” Wolf notes he tries to focus on catering to twentysomethings or thirtysomethings instead.

When it comes to restaurant design, architects and consultants say they’re not designing specifically *for* these age groups, but they are certainly taking Millennials into major consideration.

There’s a reason for that: industry experts project Millennials to become the strongest brand and consumer influencers since the Baby Boomer generation and, according to the United Nation’s Department of Economic and Social Affairs, by the year 2030, Millennials will outnumber non-Millennials by 22 million. Chris Muller, dean of Boston University’s School of Hotel Administration, once said that in five years Millennials would surpass Baby Boomers as the largest users of restaurants in the United States. Guess what? That was five years ago.

4FOOD

In a concept that heavily integrates technology and social media, this fresh-local-sustainable-healthier “stuffed” burger restaurant in midtown Manhattan caters to both younger and older Millennials, who typically stop in for a quick, workweek lunch. Founder Adam Kidron’s idea came about in a quest to “de-junk” fast food (see video on <http://4food.com/corporate/>), with a new type of donut-shaped burger made from sustainably raised beef, wild-caught salmon and other proteins that staff could stuff with fresh vegetables for a healthier alternative. 4Food uses the centers for a bunless burger or skewer option atop a salad or rice.

With 300 million burger possibilities from 7 different patties, including a vegan option, 15 different vegetable-based fillings, and four breads, the concept meets the Millennial search for complete customization, using better-for-you options and a made-for-you approach. Working in a downstairs prep kitchen, staff make most items on the premises, including pickles, condiments, mozzarella and bread. “Technology is an important focus for us,” says Khahlidra Levister, executive vice president and chef. Customers can use their

“We wanted to give people different options to order their food — some people are more comfortable ordering online or through a tablet because they are more visual,” Levister says.

Over the in-person ordering counter, a series of 10 additional LCD screens scroll through the build-your-own burger options, along with suggested creations. Both the in-store iPads and website offer complete descriptions and nutritional information on ingredients as well as an option to “create your own account.”

“We invite our guests to register and create a profile for which you automatically receive \$5 to put toward a purchase,” Levister says. In creating the profile guests answer a series of questions that

will help us make suggestions for them based on gender, age, allergies, food intolerances and other general taste preferences.

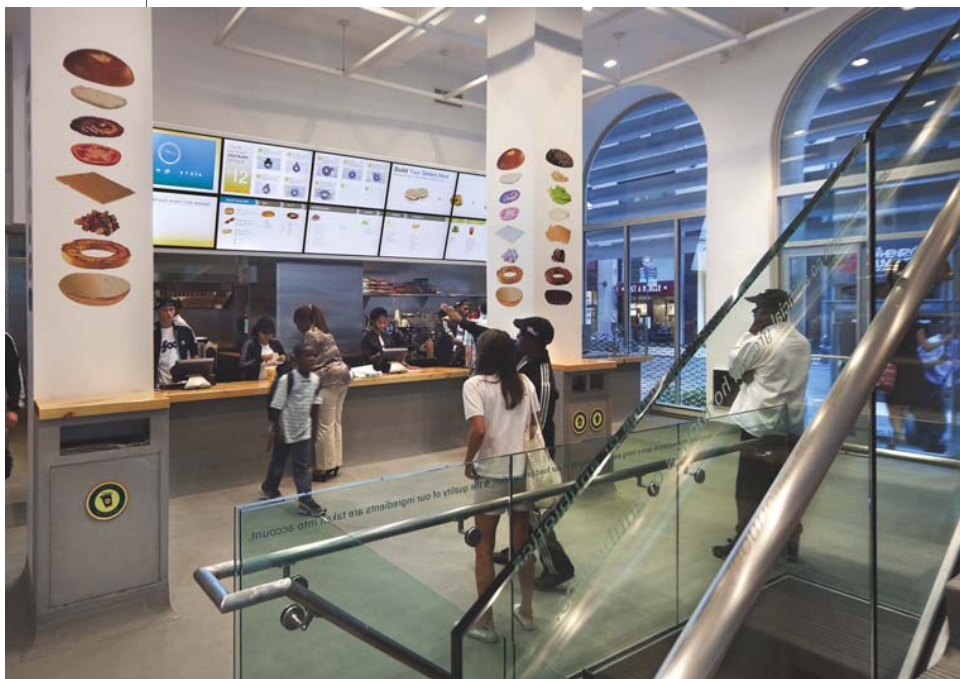
“No two people are asked the same questions, as the system plays off of what you’ve just answered,” she says. “If you’re very active and you like to run, we might recommend something with healthy carbs, or if you’re vegan or vegetarian, the program can offer up suggestions for an entirely meat-free meal.” An additional 25 cent discount is available to those who post their meal creations on Facebook.

The burger concept also focuses on sustainable design, Levister says. Designer/Architect and Managing Partner Michael Shulman designed the space using wood from pine grown in properly managed forests as well as other renewable resources. Trays, utensils and other disposables come from compostable and biodegradable material, and the restaurant composts waste on site using a machine that breaks it down into a liquid safe for wastewater treatment.

Seating design is open and social, a style appreciated by Millennials — for to-go orders,

guests can take a seat on the “bleachers” to sit and chat while waiting for pick-up, or grab a seat by one of the iPads to socialize online. Communal tables fill the upper level while a dining room downstairs seats 76. Light woods, clean whites and glass staircases and windows form a minimalist design to highlight the digital menu boards, wall screen and the food.

- **Opened:** September 2010
- **Location:** Midtown Manhattan, NYC
- **Number of Units:** 1
- **Next Units Planned:** 4Food Japan – 2013, other locations in NYC and the U.S.
- **Managing Partners:** Adam Kidron (founder), Michael Shulman
- **Concept Chef and Menu Developer:** Khahlidra Levister
- **Designer and Architect:** Michael Shulman
- **Square Footage:** 5,500
- **Seating Capacity:** 120



Over the in-person ordering counter at 4Food, a series of 10 additional LCD screens scroll through the build-your-own burger options, along with suggested creations.

own smartphones, tablets or one of 4Food’s six bolted-down iPads at the ordering station to customize and order their burger as well as tweet and Facebook their creations in real-time, he says. A 240-square-foot LCD “media wall” (and 4Food’s website homepage) shows the latest tweets and top-rated burger picks, along with information about some of the local farms and suppliers.

"In our research we take into consideration not just the group as a whole, but also unique characteristics in each group because at age 20 you're at a very different life stage than at age 30 — you could be in college or married with kids," says Sara Monnette, director of consumer and market research for Chicago-based consultancy Technomic, Inc. "Though right now Millennials represent a numerically smaller group than Baby Boomers, they go out to eat more often than everyone else, frequenting everything from quick-serve restaurants to fast-casual to upscale dining eateries."

According to Technomic's *The Generational Consumer Trend Report (2012)*, younger Millennials (roughly 18 to 27) are more likely to visit family-style restaurants, while older Millennials (about 28 to 35) are more likely to patronize concepts that specialize in a particular type of food. In addition, the report found, younger Millennials' fast-paced lifestyles and emphasis on convenience has led them to use delivery more than their older peers. Millennials are also more likely to use restaurants for that social connection and social experience compared to older generations.

Though The NPD Group, A Port Washington, N.Y.-based market research firm, recently released a report showing that, since the 2008 recession, Millennials have eaten out slightly less, Monnette thinks this won't affect future trends. "We don't see restaurant dining as something they will suddenly cut out later in life but we do see it as being more integrated in their lives," she says.

From quick-serves considering online or in-house tablet ordering systems to upscale restaurants looking to redesign their bars to capitalize on cocktail programs, catering to Millennials has many design implications.

Millennials embrace technology, even in restaurants.

We've already seen some of the influences of this burgeoning consumer group taking hold in foodservice operations. At Shepherd University in Shepherdstown, W. Va., Scott Anderson, associate director and chef for the college's dining services, had to adapt the school's foodservice operation soon after joining the team after noticing how most of the students eat with one hand while texting, talking and scrolling Facebook on their smartphones with the other.

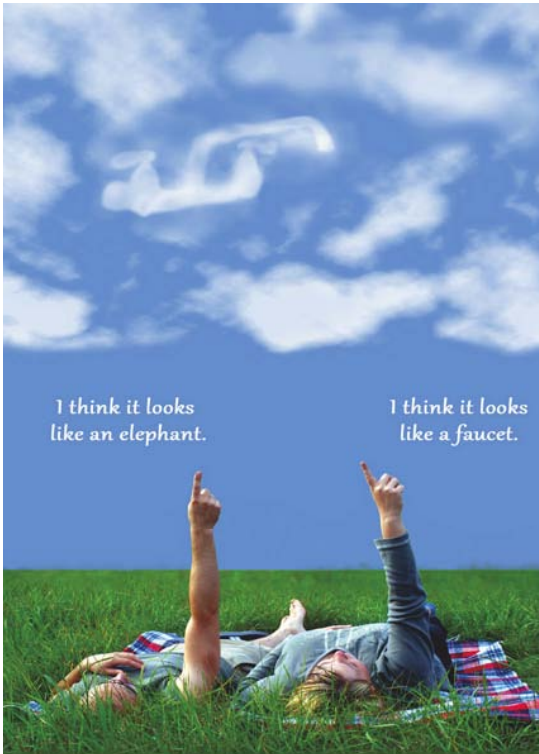
"I once saw a student text her friend who was literally sitting across from her instead of talking," Anderson says. "I knew then our menu choices had to change based upon that."

Anderson replaced the bulk-entrée serving line with a slew of more portable items like sandwiches, tacos, veggie sticks and more "friendly foods" that wouldn't create a mess with a phone nearby.

He also hooked up 32-inch, LCD TV screens to replace traditional paper menus, using PowerPoint slides that automatically scroll through different menu items every 3 to 5 seconds. By setting up small laptops with HDMI outputs at the serving stations, Anderson can also change the menu from right behind the line for different meal periods or if he runs out of certain foods.

Anderson scatters information signs with QR codes that students can scan using their phones, instantly accessing nutritional data and background information about the origin of their food. The school is also looking into creating an online ordering system in the near future. "As each school year progresses we're seeing more students who are even more tech savvy than the last group, and it's starting at a much younger age, all the way into grade school or even earlier," Anderson says.

There's a reason for this, explains Jim Matorin, founder of SMARTMARKETING, a food marketing and consulting firm in Philadelphia. Millennials are considered "digital natives," he says. "This group has grown up on technology and social media; it is an integral part of their lifestyle," he wrote. In other words, they don't know life without computers or even the Internet. That means post-Millennials don't even know life




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without smartphones and, according to Nielsen, 62 percent of people ages 18 to 34 currently own a smartphone. Soon the same could be said for tablet readers and social media.

“More restaurants are using online ordering, and I think we will only see that continue,” Matorin says. “Some restaurants have tablets and even tables with touch screen ordering. In the next couple years I could see people coming in, placing their order on a touch screen and sitting down to wait for their food. Maybe there’s a greeter or someone to bring the drinks.”

Wi-Fi access, digital screens, and menu boards are important pieces of the digital-Millennial puzzle as well, says Rudy Miick, FCSI, principal of Miick & Associates, a Boulder, Colo.-based restaurant consultancy. “As a restaurant owner or designer you need to think about how wired can you be, and really embrace technology to stay ahead of competition and cater to this growing group,” he says. “Free Wi-Fi is one thing, but what if you set up a private booth like a phone booth where you could Skype your friends in London having an early dinner? Millennials like to stay connected.”

Beyond that, everything will become more integrated, from ordering to paying for bills to social media to review sites and even reservation systems, according to Miick. “The days of the traditional POS are pretty much over,” he says.

Millennials will continue to use social media, even in restaurant settings.

According to Technomic’s generational report, most Millennials look up restaurant menus online, but younger Millennials are much more likely than older Millennials to interact with restaurants through many different online mediums: review sites like Yelp, Facebook, Twitter, blogs and mobile-device applications. In fact, the report adds, Facebook is by far the leading social media site Millennials use to connect with restaurants.

Restaurants have gone beyond simply maintaining a web page — some have done away with the traditional format in lieu of Facebook fan pages. 4Food, a fully wired burger concept in New York City, not only integrates social media on its web page, it also streams live Twitter feeds on an in-store LCD screen (see sidebar).

Bertucci’s, a 95-unit casual Italian chain with restaurants throughout the Northeast, recently launched a new digital campaign as part of “The Millennial Project,” says Skip Weldon, senior vice president of marketing. In addition to online ordering, the chain also posted a series of YouTube videos with executive chef Jeff Tenner demonstrating new menu items and cooking tips. For a generation that grew up with the Food Network, offering insight into the kitchen and the chef is an easy way to connect to younger customers.

In addition to being able to “ping” each other through the restaurant pages, Millennials also interact with their friends and eateries through gaming, Matorin says. “Some restaurants and bars are experimenting with digital tabletop ordering so why not add a games element where tables can play against each

other?” he says. Other concepts host digital scavenger hunts, trivia nights and other games where customers can win points for redemption at the restaurant.

Millennials want consistent food and dining experiences.

The digital age has actually created a need for restaurants to make sure their food is not only delicious but delicious every time, says A.J. Barker, a chef, concept developer, design and MAS consultant for Think Tank Hospitality Group, Durham, N.C.

“In the late ’90s if someone needed more attention about their food or their experience or if there was a problem, there was always room to rectify that in person,” he says. “Now, [Millennials] might appear happy, but they’ll walk out and 10 minutes later they’re blasting you on Yelp.” In many cases, they’re blasting restaurants while they’re still dining.

As a result, restaurants have found they need to focus on streamlining their kitchen and equipment to become more efficient and consistent with their cooking, and to make up for lost employees, high turnover and challenging training, Barker says. In a way, they’re becoming just as digital with their equipment as Millennials are with their lives.

“Europe has used smart kitchen technology for decades, but it’s now catching on in the U.S.,” Barker says, referring to the integration of software with energy-efficient kitchen pieces to allow for online monitoring of energy use, HVAC operations, temperatures in walk-in coolers and more. In fact, with many of these systems, restaurant owners and managers can monitor the entire back of the house 24/7 using their smartphone or tablet.

More programmable, digital controls were slow to catch on in the United States because many argued staff could not handle using them. Barker thinks the tables have turned when it comes to smart kitchens and equipment. “Right now we’re training the next generation of chefs, and it’s a lot different from how I was trained,” he says. Tech-savvy Millennials are the next generation of restaurant employees.

Smarter digitally-based equipment means smaller kitchens, Barker adds. “Before a piece of equipment that would take up 10 feet by 16 feet in a room and multiple employees to operate now takes up 2 by 5 feet and 1 employee to work,” he says. “Why wouldn’t I want to buy a combi oven that can take the place of 3 different pieces of equipment, that’s 99 percent consistent and can be programmed with all the recipes on hand to essentially cook by itself?”

In fact, Barker continues, some restaurants now cook entire, large menus simply using a high-speed toaster oven, faster conveyor oven, induction burners and even induction Panini grills (think: Panera). Sous vide, a water bath-based, hands-off cooking method is also making a comeback.

Aside from the food, Millennials also look for consistency in the overall dining experience. In other words, says Barker, they want to know what to expect. “Prior to the Millennial generation, you could call yourself a barbecue restaurant or

a gourmet hamburger concept and leave it at that,” he says. “The reality is Millennials don’t see any of that type of branding because there are no loyalty lines. They see the experience as it is and want to know what to expect.”

From a design perspective, Barker calls this “escalator branding,” or painting a clear picture of what the dining experience will be like before a customer even enters the door. Branding and exterior design is one thing, but inside, he says, “architecturally you can show if the dining experience will be a 15-minute or 30-minute visit.”

Splitting up the space into clearly defined fast ordering, full-service seating, retail or takeout section or counter spaces will clearly indicate multiple dining options. “You don’t want someone walking into a restaurant and it’s wide open and you don’t know which direction you’re supposed to go,” Barker says. “As designers we need to make sure that if the manager is taking care of an unhappy guest for 15 minutes, others aren’t standing there bewildered or lost. In the build out you make it so the right choice is obvious. The design has to show you with a firm hand how this experience is going to be whereas in the past a host may have done that.” In quick-serve this might translate into using partitions or other structures to create clearly defined lines toward an ordering area, pickup area and seating area.

Millennials like customizable, tasty, wholesome food that also caters to their dietary needs.

Customization and high-quality ingredients are extremely important to Millennials, at both quick-serve and full-serve eateries, according to Monnette. And that trend continues even with takeout and delivery, according to Technomic’s generational report. Millennials say taste, accuracy and speed of service are imperative.

It’s no wonder, seeing as how Chipotle’s customizable menu setup continues to lead the fast-casual segment and is the model for new concepts. “At places like Moe’s and Chipotle, you’re walking down the line and you’re seeing all the ingredients and picking exactly what you want, and everything is interactive, and they just tricked you into spending \$9 for basically a buffet burrito,” Barker says.

While Millennials might not actively seek healthy foods per se, they look for more foods considered wholesome, and less processed, according to Technomic’s generational report. Equipment and design-wise, that means more space for tables that staff use to prep fresh produce, along with plenty of walk-in cooler space and other refrigeration.

A recent report by CCD Innovation and Packaged Facts (*The Culinary Trend Mapping Report*) pointed out that Millennials want to see more variety in terms of fruit and vegetables, often in the form of more vegetarian and vegan options. They also want to see items that cater to those with food allergies and sensitivities. That might mean offering almond butter in addition to peanut butter, soy and almond milk in addition to cow’s milk and plenty of gluten-free foods.



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"Years ago if I opened a burger place and asked, what about gluten free; people would laugh," Barker says. "Now, almost all new places have to have a gluten-free option. Millennials want to know they are being taken care of and they'll mock you if you didn't think of something in the way of their dietary needs."

From a design standpoint, Barker says, this might lead to more restaurants creating separate gluten-free and allergen stations in their kitchens. At the front of the house, serving areas might even be segregated in the future.

With 11 percent of Millennials being children of immigrants with a penchant for trying new foods, this age group seeks plenty of ethnic variety in their meal options, Technomic's report states. In fact, Mexican and Asian fare are becoming the new comfort foods, taking the place of — or in addition to — Italian favorites, according to the CCD Innovation report. Street food, according to Matorin, either in the form of authentic ethnic food or a combination of cultures (i.e., "naanwiches," and "Korean barbecue tacos"), also plays to the type of clean, portable food Millennials seek.

Wolf adds that open kitchens in restaurants will continue to become the norm. Made-for-you in front of you food carries with it a connotation of freshness and transparency. "In the old days, people disappeared to the back of the house and reappeared with your food," he says. "Millennials have grown up seeing the whole thing."

In an era of celebrity chefs and slews of TV shows glamorizing cooking and restaurant life, food has to be a focus, Wolf adds. Bare tables with subtle overhead spotlights help showcase dishes, while many designers have scaled back on the brightness of their interior color palettes and even artwork to turn the focus more toward the open kitchen, the chefs and the food.

Millennials eat at all different times of the day and night.

Restaurants now stay open later than before and offer mid-morning meal options and afternoon snacks, says Monnette. "I think that's crucial because as these dayparts are blurring you see Millennials eating more throughout the day as opposed to a traditional breakfast, lunch and dinner," she says.

That said, Millennials also want good take-out, delivery, curbside pickup and other on-the-go options. Overall, a third of Millennials would like to prepare meals at home but do not have the time, according to Technomic's report.

"Millennials feel busy and overwhelmed, even though there is a higher rate of unemployment with this age group," Monnette says. "So, they seek out restaurants for a quick, convenient meal that will allow them to get through their day more effectively."

And, with a penchant for consuming adult beverages (8 in 10 consumed an alcoholic beverage in a bar, restaurant or other on-premise venue in the span of a week, according to Technomic), many upscale restaurants now look to combine late-night menus and snacking options using small plates and an expanded bar space.

Millennials want locally, seasonally and sustainably grown food as well as local and sustainable design.

By now, the concepts of locally grown and sustainable food should be familiar to most everyone in the restaurant community, and Millennials certainly are one of the key demographics that flock to places showing concern for smaller farmers, animals, and local communities — both from a socially conscious and flavor perspective.

Even design has gone local, Wolf points out. "I'm seeing more restaurants want to do more naturally developed locations. Even McDonald's has gone back and looked at real places for design inspiration, rather than create cookie cutter replicas of some imagined spot."

Millennials like authenticity. The use of urban-inspired, natural materials and eco-friendly, renewable resources can help with that, Wolf adds. "The back dining room is made from wood used for the original 1860s building. A light fixture might have a more organic shape. Chairs might be classic picnic style but brighter colors. Restaurants are looking for materials that have a story to tell."

Miick agrees that a dedication to sustainability should extend beyond the food. Buildings certified as LEED by the U.S. Green Building Council communicate a commitment to eco-friendly design. Even clearly announcing sustainable elements of design can have a strong impact on marketing, he adds.

That said, recycling, composting and trash bins should all have clear designations. Disposables should be labeled biodegradable and compostable. "You can't have just a trash can anymore, or just say you're doing all these green things," Miick says. "The proof has to be in the concept."

Technomic's report backs this up. "Social responsibility is more important to younger than older Millennials, indicating that ethical or green practices may become more important to the restaurant purchasing decision as consumers age," it states.

Millennials want more seating options to socialize.

Miick isn't convinced all Millennials want communal dining, but the option for flexible, more social seating certainly fits their bill.

"I've been looking into more 30-inch by 48-inch tables instead of 30-inch by 30-inch deuces that can comfortably seat a 4-top or expand to 6 with 2 seats on each end," he says. Miick has also experimented with using tables with leaves or extensions that can accommodate larger groups on a moment's notice. Reason being, many Millennials like to join already seated groups of friends as the dining progresses.

At the same time, many Millennials have no issues going to a restaurant alone and socializing only on their smartphones. While communal seating still works for this, many restaurants also look to lounge and countertop seating designs to fit this need, according to Miick. +