



White Paper:

Making The Customer Experience Your No.1 Priority Through Sound

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1 : Abstract

Internet shopping and the pandemic have shown people that modern urban life is possible without leaving home, with frightening potential consequences for the hospitality and retail industries. Socialising will always be human nature, but it's clear that shops, restaurants and hotels need to raise their game now, as they face increased competition from online shopping, home entertainment and home-delivery takeaways or DIY gourmet meals.

The common consensus is that the future of retail and hospitality lies in consistently memorable customer experience, ideally with a social element. This requires careful design from the ground up: adding the odd 'experiential' novelty to existing spaces will not suffice.

An important element of excellent customer experience is sound. Historically, sound in both retail and hospitality has been almost accidental – undesigned, incongruent with the brand values, and even hostile, occurring as noise to many customers. Research has now shown that this was a major mistake.

This white paper explains why sound is so important, reveals the common errors that often result in poor sound in retail and hospitality industries, and shows how to use sound to improve, rather than damage, customer experience, brand affinity, sales and profits.



2 : The problem: noise

For some time, the number one complaint in hotels has been not service or food, but noise. This is a consistent finding from ReviewPro (2.5 million guest reviews) and the JD Power survey (47,634 guests); on TripAdvisor, 31% of guests cite noise as a problem and there are over 900,000 complaints about it, featuring common nuisances such as nightclubs, restaurants, HVAC, corridor noise and in-room fridges. Even these numbers are massively under-reporting the problem, because JD Power also reports that only about 40% of upset guests actually complain.

In restaurants, the last Zagat dining trends survey before Covid found that noise was the number one complaint, while a major 2021 US survey revealed that two thirds of adults found loud restaurants annoying and would avoid them. In the UK, Action on Hearing Loss found many high street restaurants imposing noise levels on their customers and staff of well above 85 dB, the level at which hearing protection is legally obliged for workers; unsurprisingly, 43% potential diners said they preferred staying in for a peaceful takeaway rather than going out.

Shopping malls around the world increasingly impose unpleasant soundscapes on shoppers: studies in countries including Portugal, Canada, Sweden and the UK have revealed that these large spaces produce long reverberation times and high noise levels of 70-80 dB – equivalent to traffic noise on a busy road – often exacerbated by playing music through sound systems that were designed only for life safety announcements. In shops, poor quality sound systems and bland or offensive music programming are common issues, along with staff selecting music for their own needs, which often differ from those of shoppers – plus, of course, tired, clichéd Christmas music every year, from November or even earlier.

If noise is unpleasant for the majority, it is even worse for the 20 million people in the UK who are hard of hearing or suffer from tinnitus or hyperacusis, and for the neurodiverse population (those with autism, ADHD or depression). Many organisations are now responding by creating spaces or times when such people can work, shop or eat in much more peaceful surroundings. Catering for auditory diversity is increasingly important, and can attract a large potential customer base who are forced to stay away from noisy places: several supermarkets have instituted quiet times for exactly this reason.

We now have a wealth of research proving that noise is bad for people. Let's find out why.



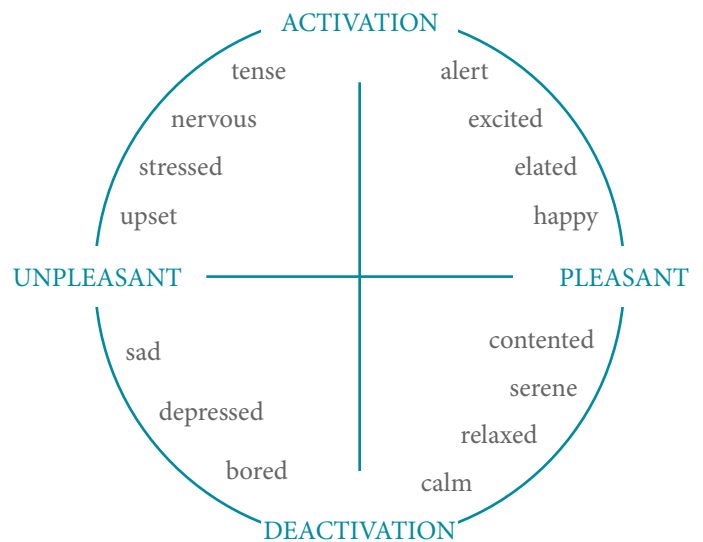
3 : Sound affects!

Western culture has become almost entirely ocular. The eyes have it, as we live our lives through screens – and as our architects design appearance rather than experience. We spend 93% of our lives indoors, so the noise in the spaces in which we live, work, learn, heal, shop and socialise continually erodes our wellbeing, effectiveness and happiness.

Possibly because so much of the sound around us is unpleasant, we have become used to suppressing our consciousness of it. Nevertheless, sound powerfully affects us, usually without our being aware of it.

Most of the research on sound in retail and hospitality analyses music, and is based on the 'circumplex model', which maps human emotions on two axes: arousal (how stimulating a sound is) and valence (how pleasant a sound is). Increased arousal may create positive feelings like excitement, but it also speeds people up. Valence is very important, and is negatively correlated with noisiness – for example, a 2022 US study found that around two thirds of adults found noisy restaurants unpleasant and annoying, and said they would avoid them.

Sound changes how we feel. Hearing is still our primary warning sense, so any sudden or unexpected noises can trigger a fight/flight response, flooding us with the stress hormones cortisol and noradrenaline. Conversely, gentle natural sounds like soft surf or rainfall can soothe and relax us. Sound can powerfully affect our emotional state: unpleasant noise often leads to fatigue, stress and even anger, while pleasing sound such as liked music or birdsong releases 'happy hormones' such as endorphins and oxytocin. Music can have a positive or negative impact on emotions, depending on the individual listener's preferences and tastes – how much we like it or associate it with good feelings – as well as the ambience in which it plays. Positive emotional responses to brands and their spaces are strongly associated with greater patronage frequency and spending, while liked music is associated with longer dwell time and increased sales, so careful music selection and high-quality delivery are critical in both retail and hospitality spaces. Other sound can also powerfully affect feelings: when birdsong was installed in the toilets of BP service stations across Europe, customer satisfaction rose by 50%.



Sound changes what we do. Research has shown that fast-paced music makes us walk, chew and drink faster; loud music causes people to buy more drinks in bars, but tends to reduce dwell time in shops. In a busy fast-food outlet or a bar, speeding people up may be desirable – but in a mall, store, hotel or upmarket restaurant, the evidence shows that slowing them down is probably much more profitable. Slow-paced music increased retail sales in a supermarket by 38% as shoppers slowed down, spending 12% longer in the store; slow-paced soundscapes in a shopping mall increased dwell time by 8% and tenant sales by 10%. In restaurants, slow-paced music lengthened meal times by at least 20%, resulting in 40-50% more being spent on drinks from the bar. There is also evidence that soothing or liked music increases people's willingness to engage with sales staff. A consistent finding across many surveys is that most people say they will not return to overly noisy places, so footfall, repeat sales and recommendations by word of mouth or social media are also at risk from excessive noise.

Sound even changes what we buy. In a famous study, alternating French and German background music in a supermarket dramatically affected purchasing decisions: on French music days, French wine outsold German by a ratio of 5:1, while on the German music days, German wine outsold French by 3:1 – while most shoppers remained unconscious of the music. In another study, playing classical music in a wine store caused people to spend more due to choosing better quality wines: classical music is often associated with quality. And in a restaurant,

Cross-modal effects. Our senses interact all the time, often through 'masking', where overloading one sense suppresses the sensitivity of others. A series of studies have established that noise degrades our ability to taste food and drinks – something that restaurant and café proprietors who take pride in their produce might find concerning. Also possibly for this reason, people in densely-populated, noisy shops or restaurants prefer calming sound, while a quiet, sparsely populated space can be enlivened or enriched with more energetic sound. Congruent, well-designed sound giving the same message as a space's visual design can amplify the brand and experience – while incongruent sound can undermine and even nullify all the money lavished on visual appeal. This applies especially to the concept of quality: promising quality to customers is quickly invalidated by low-quality sound.

So sound affects your customers' experience and behaviour, in positive or negative ways – and as a result it affects your brand affinity, customer loyalty, dwell time, footfall, repeat business – and hence your sales and profit. **There is a huge return on investment in appropriate, engaging, high-quality sound.**

Let's look at the simple steps you can take to ensure that sound is working for you, not against you.



4 : Cleaning up

First, it's important to minimise noise, because as we've seen, noise damages customer satisfaction and sales. It's very hard to make good sound in a space with bad acoustics, and even lovely music imposed on top of noise is just more noise. There are two actions to take.

Check your acoustics. Modern architects love hard materials like metal, glass, stone and wood. Sadly, all these materials reflect most of the sound that hits them back into the room, dramatically increasing noise levels. It may be desirable to have some areas feel 'live' with a long reverberation time, but where conversation is important or a quieter ambience is desirable, reverberation time should be one second or less. You can test the acoustics in any space when unoccupied by simply clapping your hands and counting how long it takes for the sound to die away. If in doubt, call in an acoustician for a quick check. If you find a problem, there are now some superb acoustic treatments available that look as good as they sound, such as printed wall panels, cool-looking ceiling tiles, or colourful suspended clouds and baffles. Also, plants can soak up a lot of sound, as well as bringing nature into your space.

Cut your noise. Part of the reason for high volume levels in retail and hospitality spaces is that they start with a high 'noise floor' – technically the noise in an unoccupied space, but I would suggest that a more useful definition is 'non-customer-generated noise', which includes the sound made by your staff.

Here is a checklist for noise control: choose the ones that apply to you and check them off.

- ☒ When buying any mechanical and electrical (M&E) equipment, specify noise output less than 40 dBA at one metre.
- ☒ For existing equipment like HVAC, doorway fans, powered doors, lifts, escalators, travelators, chiller cabinets, vending machines and fridges, check the noise output with a sound meter. If it's over 40 dBA at one metre, investigate remedial action such as replacement, baffles or boxing in.
- ☒ Give someone the responsibility of checking all your M&E equipment weekly, or at least monthly, to spot hums, squeaks etc so they can be quickly fixed.
- ☒ Place non-customer-facing equipment like dishwashers, smoothie makers and coffee stations in back of house spaces, behind closed doors.
- ☒ Avoid open-plan kitchens in customer spaces.
- ☒ If you have trolleys, make them as quiet as possible: plastic versions can be almost silent.
- ☒ Select low-noise hand dryers - the loudest can be well over 100 dB.
- ☒ If on a noisy high street, keep the doors closed.
- ☒ Ensure your audio system is not producing distorted or unpleasant sound.
- ☒ Train staff in quiet working – especially waiting and bar staff.
- ☒ Make sure door closers are working so that doors don't bang.
- ☒ Please, please fit glides on chair and table legs if they are on hard floors.

5 : Designing for the ears

Optimise your sound system. One of the most common errors I have come across in the twenty years I've been auditing retail and hospitality sound is low-quality audio. All too often, someone with no understanding of the power of sound (often this is IT, because audio systems are now digital) 'value engineers' the audio budget for a construction or refit project, downgrading the sound system to low-cost, low-quality components – or even worse, a sound system intended purely for life safety announcements is put to work delivering music or other sophisticated sound. And all too often, the entire system is built as a single, inflexible zone, even in a huge shopping mall.

The result is always degraded customer experience, leading to stress, fatigue and negative emotional states. Low-cost loudspeakers often have restricted frequency range, ignoring high and low frequencies and sounding tinny and cheap. They may also distort, buzz or rattle, especially if not installed by a qualified integrator. In malls, traditional point-source speakers are often positioned high up, far from customers' ears, so their signal gets lost in reverberation. In restaurants and bars, inappropriate speakers can also create 'hot spots' where the sound is too loud for diners who are unfortunate enough to be directly underneath one, but almost inaudible in between speaker locations.

All these faults arise because of incorrect, or even absent, sound system design. Pro audio has come a long way recently, and there are now brilliant solutions for all needs. With such a wide range of sophisticated equipment available, thinking that you can do without professional system design is a major mistake. Explain your current and likely future needs to a qualified audio specialist (known as an integrator) and they will design a system that matches them perfectly.

Here are the seven mistakes I most regularly come across, listed so that you can avoid them in your own space.

Seven deadly sins of commercial sound

- 1 Visual-only design: no sonic strategy or audio system design
- 2 Ignoring customer experience for the ears
- 3 Poor acoustics
- 4 Loud M&E
- 5 Low-quality sound systems
- 6 Inflexibility, especially in zoning
- 7 Inappropriate music



And here are three principles you can apply to achieve the perfect sound system for your space.

- Care.** Your sound is a critical touchpoint and expression of your brand. System design and installation are complex, so always employ an experienced professional integrator to make sure your system exactly matches your current and future needs, and to install and commission it to create the best possible customer experience. Please do not let IT professionals specify your sound system (and electricians install it) simply because 'it's just part of the network'. Great sound is an art as well as a science, and achieving it requires a lot of specific skill and experience.
- Quality.** Even if your brand is cheap and cheerful, that's no excuse for nasty sound. High-quality components produce high-quality staff and customer experience every day, and the cost can be amortised over multiple years. Do not compromise on this critical element of your brand experience: the return on investment is always substantial.
- Flexibility.** Future-proof your system by creating multiple zones with a central processor so you can easily combine or reassemble them as your space or audience changes. Flexible zoning means you can deliver the perfect sound for each area, matching demographics, usage, energy levels and so on. One size does not fit all in modern retail or hospitality! Also, make sure you take advantage of modern digital signal processing (DSP) which allows professionals to manipulate your sound for the best possible results.

Following these principles should give you an excellent system. Now let's consider what you could play through it.

Design the right content. For each zone that could benefit from designed sound, answer these four questions:

Function - what kind of sound will support people in whatever they will be doing in the space? In particular, how important is speech intelligibility?

Environment - what sound will work well with the specific noise, acoustics and sound system in that particular space, at that particular time? Often thinking about this may give rise to a sound strategy that changes throughout the day, as occupancy or ambience alters.

People - who will be in the space both staff and customers) and what sound will please them? You may need to communicate carefully with staff if their needs (typically stimulation because they are there all day, every day) conflict with customers' needs. Also, do you want to create defined quiet zones or times for people who find noise particularly challenging?

Brand - what sound will best deliver or match your brand values or promise? What associations do you want the sound to engender?



Now define the outcomes you want: what moods, pace of movement and actions are you looking to encourage in each zone or time slot?

Music is the most commonly deployed sound, but needs to be carefully considered, because independent research shows that up to a third of the UK population dislike piped music. If it works for your brand and customers, then employ a specialist partner to craft, curate and deliver a unique playlist using genres and styles that exactly match your needs. Whether you choose a global giant or a specialist boutique agency, avoid off the shelf playlists, because you will just sound bland and undifferentiated. This is particularly important at Christmas, when most shoppers will not thank you for yet more Slade or Jona Lewie. Always have at least three times days' worth of content on your playlist to avoid the irritation that comes with repetition, especially for staff. Refresh the list regularly, turning over at least 10% of the tracks every month so that your playlist completely renews each year. Use high-quality mono sound files (160kbps MP3 or better). The more specific your audience, the more effective music can be: it's very hard to please all the people all the time, so for broad-appeal it has to be so generic that it becomes meaningless, which is exactly why Marks & Spencer stopped playing music.

Soundscapes are another option, often featuring nature-based sound, which aligns with the practice of biophilia (reconnecting people with the outdoors through plantings, nature illustrations etc). These are almost universally popular, demand little attention and tend to be associated with positive, relaxed, but alert states. They can also be branded by weaving in tonal elements or a sonic logo from time to time.

Voice announcements or in-store advertising have been deployed in some European malls. I'm not a fan, unless the voice is branded and the announcements have some value to shoppers, ideally offers they can act on immediately such as a free baked good with a coffee for the next hour.

Branded radio is a custom-created radio station with DJs. This is not to be confused with playing a commercial radio station in your space, which I strongly discourage as you have no control: I've even heard competitors' ads playing in some spaces that do this. Asda Radio broadcasts 24 hours a day, even entertaining colleagues who are working through the night, while The Standard London hotel has a radio studio in its lobby, broadcasting into the hotel and online. Branded radio can be very effective in delivering brand personality and maintaining contact even when customers are at home, but it's by far the most expensive of all the sonic options.



6 : Four Golden Rules

The most important checklist of all, and it's easy to remember as they form an appropriate acronym in **CAVE**, the Latin for beware – which reminds you that good sound is good business, while bad sound will cost you both money and customers every day.

Rule 1: **make it congruent.** Your sound must accurately express your brand values and personality, enhancing the quality of the brand experience you are delivering to everyone in the space. Can you identify your spaces with your eyes shut?

Rule 2: **make it appropriate.** The sonic experience you create for customers and staff must be something that they will enjoy, in that specific place, at that specific time. Keep checking in on this, as things can quickly change, and inappropriate sound is probably just noise.

Rule 3: **make it valuable.** If your sound is not adding something, giving a gift to the people in the space, then switch it off and try again. Sometimes silence is the right sound, because (to adapt the adage) if you can't say something valuable, then don't say anything at all.

Rule 4: **make it effective.** Sound affects people in complex and sometimes contradictory ways: do you want to push arousal, making people feel excited, when it also cuts dwell time? The only way to be sure once you've made all your plans and ensured you have excellent delivery is to test sound, and keep tracking its effects on sales, customer satisfaction, dwell time or any other important variables. How to do this is the subject for another whole white paper, so it may be best to speak to a specialist audio branding or research agency about it.

We hope you can use this practical white paper to design and maintain superb, profitable and beneficial sound in your spaces.



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