
SCIENTIFIC REPORT

Sound for Business

The business effects of background music across restaurants & bars, hotels, premium retail, and workplace environments.

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Contents

1. Introduction	3
2. Background Music in Restaurants & Bars	4
2.1 Impact on Customer Behaviour	5
2.2 Impact on Revenue/Business Performance	6
2.3 Effect on Brand Perception and Experience	6
2.4 Interim Summary	7
3. Background Music in Hotels	8
3.2 Impact on Revenue/Business Performance	9
3.3 Effect on Brand Perception and Experience	9
3.4 Interim Summary	9
4. Background Music in Premium Retail	10
4.1 Influence on Customer Behaviour	10
4.2 Impact on Revenue/Business Performance	11
4.3 Effect on Brand Perception and Experience	12
4.4 Interim Summary	13
5. Background Music in Workplace & Co-working Spaces	13
5.1 Employee Behaviour and Well-being	14
5.2 Productivity and Business Performance	14
5.3 Workplace Experience and Acoustic Environment	15
5.4 Interim Summary	15
6. Cross-Sector Comparison	16
7. Conclusion	17
References	17
Appendix Table A1	20

1.

Introduction

Background music is one of the most extensively researched atmospheric cues in commercial environments because of its demonstrated ability to influence customer behaviour, shape brand perceptions, and improve business performance. Across restaurants, hotels, premium retail stores, and workplace settings, carefully curated soundscapes are increasingly used to create memorable customer experiences, reinforce brand identities, and support strategic business objectives. Rather than serving merely as entertainment, background music is now widely recognised as a strategic environmental cue capable of influencing consumer behaviour and enhancing commercial performance (Bitner, 1992; Garlin & Owen, 2006; North & Hargreaves, 2008). Although its commercial application has expanded considerably over recent decades, the intentional use of music to regulate emotions and influence human behaviour has a much longer history. Today, this practice has evolved into a global commercial industry, with billions of music tracks played annually across retail stores, hospitality venues, and other public spaces, highlighting the growing strategic importance of professionally curated sound environments for businesses (Hargreaves & Krause, 2014; GEMA, 2025).

From a scientific perspective, background music has become one of the most frequently investigated environmental stimuli because of its ability to influence consumer responses through multiple psychological mechanisms. Much of the literature is grounded in the Stimulus–Organism–Response (S–O–R) framework (Mehrabian & Russell, 1974), which explains how environmental stimuli influence consumers' emotional and cognitive states and subsequently shape behavioural responses such as dwell time, spending, satisfaction, and purchase intentions. More recent servicescape research has expanded this perspective by emphasising multisensory customer experiences and cross-modal interactions, arguing that music rarely acts in isolation but interacts with visual, spatial, and social cues to influence customer evaluations (Spence, 2021; Pizzolitto, 2024). Early empirical studies primarily investigated isolated musical characteristics—such as tempo, genre, and volume—and consistently demonstrated that manipulating these variables affects consumer behaviour. More recent research has shifted towards the concept of music congruency, suggesting that the effectiveness of background music depends less on individual musical features than on its alignment with the physical environment, brand identity, and customer expectations (Garlin & Owen, 2006; Roschk et al., 2017; Trompeta et al., 2022). Notably, Garlin and Owen (2006), Michel et al. (2017), Roschk et al. (2017), Trompeta et al. (2022) and Pizzolitto (2024) provide comprehensive review evidence showing that contextual fit consistently explains stronger and more robust business effects than isolated musical characteristics (see Appendix A). Despite more than four decades of research, evidence remains fragmented across different commercial settings. While restaurants, hotels, retail environments, and workplaces all use background music strategically, the underlying objectives and psychological mechanisms differ substantially. This report therefore synthesises the current scientific, peer-reviewed, and published evidence on the business effects of background music in premium commercial spaces. Thus, the report deliberately disregards findings that have not been published in

peer-reviewed journals yet, such market research or industry-provided data, even when thematically very close (e.g. GEMA, 2025)

The review focuses on four sectors that are particularly relevant for providers of commercial sound solutions: restaurants and bars, hotels, premium retail, and workplace & co-working environments. Across these sectors, the literature is analysed with respect to three overarching outcome dimensions: customer (or employee) behaviour, business performance, and brand perception & customer experience. By comparing published scientific findings across these commercial settings, the report identifies common patterns, highlights sector-specific differences, and derives evidence-based implications for the strategic implementation of background music in premium commercial environments. This written summary is complemented by a Table A1 in the Appendix summarising findings from the most important studies in the field.

2.

Background Music in Restaurants & Bars

Restaurants and bars are among the most extensively researched commercial environments in the field of background music because of the direct relationship between atmospheric cues, customer behaviour, and business performance. Over the past three decades, a substantial body of empirical research has demonstrated that background music influences customers' emotions, consumption behaviour, spending, and overall service experiences (North & Hargreaves, 2008; Garlin & Owen, 2006). A meta-analysis by Garlin and Owen (2006), synthesising findings from more than 30 empirical studies, confirms that musical characteristics such as tempo, genre, familiarity, and volume consistently affect behavioural outcomes including dwell time, approach behaviour, and purchase behaviour. Early experimental research primarily investigated the isolated effects of specific musical characteristics particularly tempo, genre, and volume on observable consumer outcomes such as shopping pace, dwell time, spending, and consumption behaviour (Milliman, 1982, 1986; Areni & Kim, 1993; North et al., 1999). The meta-analysis by Garlin and Owen (2006), synthesising findings from more than 30 empirical studies, confirms that such musical characteristics consistently affect behavioural outcomes. However, more recent research, as summarised in the meta-analysis by Trompeta et al (2022), has shifted towards a broader perspective, suggesting that the effectiveness of background music depends less on individual musical characteristics and more on its congruency with the physical environment, brand positioning, and customer expectations (Pizzolitto, 2024). Rather than acting as an independent stimulus, music is now understood as one element of a multisensory servicescape that shapes customers' emotional and cognitive responses. Hospitality environments provide particularly favourable conditions for investigating these effects. Restaurants and bars combine multiple sensory cues including lighting, interior design, food, and music while simultaneously offering measurable behavioural outcomes such as consumption pace, dwell time, purchasing decisions, and customer spending. In addition, customers repeatedly make purchasing decisions throughout their visit, allowing researchers to directly observe how atmospheric cues influence both behavioural and commercial outcomes. As outlined in the Introduction, these effects can be explained by the S-O-R

framework, whereby background music influences behavioural and commercial outcomes through customers' emotional and cognitive responses. Consequently, background music should be regarded not simply as entertainment but as a strategic component of the hospitality servicescape that supports customer satisfaction, operational objectives, and business performance. The following sections synthesise the literature across three key dimensions: (1) customer behaviour, (2) business performance, and (3) brand perception and customer experience.

2.1 Impact on Customer Behaviour

A substantial body of research demonstrates that background music significantly influences customer behaviour in restaurants and bars by shaping customers' emotional and cognitive responses. Rather than directly determining behaviour, background music affects behavioural intentions, consumption patterns, and approach behaviours through factors such as tempo, volume, genre, and music congruency (Garlin & Owen, 2006; North & Hargreaves, 2008). One of the most consistent findings concerns the effect of musical tempo on consumption pace and dwell time. Field studies consistently show that slower-tempo music encourages customers to remain longer in restaurants, creating a more relaxed dining experience. Milliman (1986), in a field experiment involving 1,392 customer groups, found that slow-tempo background music increased the average time customers remained at their table after being served from 45 to 56 minutes (+24%) and increased the average bar bill per customer group from US\$21.62 to US\$30.47 (+41%, $p < .01$). Similarly, Caldwell and Hibbert (2002) found that slow background music increased both dining duration and customer expenditure, while the recent field experiment by Malcman et al. (2024) confirmed that slower music prolonged customers' visits, whereas faster music increased table turnover. These findings are reflected in hospitality practice. Based on interviews with restaurant managers, Areni (2003) reported that many restaurants deliberately adjust musical tempo according to operational objectives using faster music during peak hours to increase table turnover and slower music during quieter periods to encourage longer stays and additional beverage purchases. This practice, commonly described as *"eat to the beat,"* reflects both managerial experience and experimental evidence demonstrating that musical tempo can regulate customer pacing and restaurant turnover (Areni, 2003; Milliman, 1986). Besides tempo, music volume also influences customer behaviour. Guéguen et al. (2008) found that increasing background music from 72 dB to 88 dB reduced the average time customers needed to finish a drink from 14.5 to 11.5 minutes, demonstrating that louder music can accelerate consumption behaviour in bar environments. Background music further influences purchasing decisions through cognitive priming. North, Shilcock, and Hargreaves (2003) demonstrated that classical background music increased the selection of premium menu items in restaurants. This suggests that music reinforces perceptions of quality and prestige, subtly guiding customers towards higher-value purchases. Finally, background music contributes to the overall dining experience by interacting with customers' sensory perceptions. Spence et al. (2011) demonstrated that specific musical features, including high pitch, consonant harmonies, and faster tempos, are associated with sweeter taste perceptions, whereas low pitch, dissonant sounds, and slower musical passages enhance the perception of bitterness or richness. These cross-modal correspondences indicate that background music shapes not only customer behaviour but also the subjective evaluation of food and beverages. Overall, the evidence consistently shows

that background music influences customer behaviour through multiple psychological mechanisms. While tempo and volume primarily regulate consumption pace and dwell time, genre and music congruency shape purchasing decisions and the overall dining experience. Consequently, background music should be regarded as a strategic management tool for influencing customer behaviour rather than merely as entertainment.

2.2 Impact on Revenue/Business Performance

Beyond influencing customer behaviour, background music also contributes to measurable business outcomes by affecting customer spending and revenue generation. However, the magnitude of this effect depends largely on musical characteristics and, more importantly, on the congruency between the soundscape and the overall restaurant concept. Rather than increasing sales directly, music can create an atmosphere that encourages customers to spend more and engage longer with the dining experience. One of the strongest empirical findings concerns the effect of music genre on customer expenditure. In a field experiment conducted in a British restaurant, North, Shilcock, and Hargreaves (2003) compared classical music, popular music, and silence across different evenings. Customers exposed to classical music spent significantly more per visit, primarily because they selected more expensive menu items and wines rather than remaining longer in the restaurant. Similarly, Areni and Kim (1993) found in a wine store experiment that classical music increased purchases of higher-priced wines, demonstrating how music can subconsciously prime perceptions of quality and prestige. Recent research suggests that these commercial effects are driven less by a specific musical genre than by music congruency. In his systematic literature review, Pizzolitto (2024) concludes that background music is most effective when it aligns with the brand identity, store concept, and customer expectations, whereas incongruent music can weaken positive behavioural and financial outcomes. Music volume also influences spending behaviour. Lammers (2003) reported that average customer expenditure increased from US\$18.57 under loud music conditions to US\$21.63 when identical music was played at a lower volume. Lower sound levels appear to create a more comfortable dining atmosphere, encouraging longer stays and higher spending, whereas excessively loud music can impair communication and reduce the overall dining experience. Finally, the presence of background music itself appears to generate commercial value. Jacob (2006) found that customers spent significantly more in hospitality environments with background music than under silent conditions, suggesting that music contributes to a more welcoming atmosphere that encourages consumption. However, in a recent field experiment Malcman et al. (2024) found that music tempo did not find a significant effect on the amount of the final bill, but only on the amount of tips. Overall, the literature consistently indicates that background music represents a strategic business tool rather than merely an atmospheric enhancement. Current evidence summarised in the meta-analysis by Trompeta et al. (2022) suggests that the effects of music due to individual music features are rather small, but that robust and significant effects arise when music is selected that is congruent with the hospitality concept, target audience, and desired customer experience.

2.3 Effect on Brand Perception and Experience

Beyond influencing customer behaviour and business performance, background music also plays a central role in shaping brand perception and the overall customer experience. Within hospitality environments, music is an essential component of the servicescape, influencing

how customers evaluate the atmosphere, service quality, and brand identity (Bitner, 1992; North & Hargreaves, 2008). According to the (S–O–R) framework, these effects arise because background music shapes customers' emotional and cognitive responses, which subsequently influence their overall evaluation of the service experience. One of the most consistent findings is the importance of music congruency. In a study of ethnic restaurants, Wen, Leung, and Pongtornphurt (2020) found that culturally congruent background music enhanced perceived authenticity, food quality, and the overall dining experience. Similarly, Michel, Baumann, and Gayer (2017) showed that a strong fit between music and the service environment improved perceived service quality and atmospheric comfort, reinforcing the intended brand image. The importance of music is also reflected in hospitality practice. Based on interviews with restaurant managers, Areni (2003) reported that background music is deliberately used to avoid "dead silence," create a welcoming atmosphere, and positively influence guests' first impressions, demonstrating its role in supporting the overall brand experience. Background music also enhances emotional engagement. Dubé and Morin (2001) found that pleasant background music generated more positive emotional responses and higher customer satisfaction. In addition, Jeon et al. (2016) showed in a restaurant service experiment that allowing customers to participate in playlist selection increased emotional engagement and strengthened their connection with the dining environment, suggesting that customer participation can further enhance the hospitality experience. Overall, the literature indicates that background music is an integral element of hospitality branding rather than a passive atmospheric feature. When aligned with the restaurant concept and customer expectations, it strengthens perceived quality, emotional engagement, and the overall customer experience.

2.4 Interim Summary

Overall, the literature provides strong and consistent evidence that background music is a strategic component of the hospitality servicescape, influencing customer behaviour, business performance, and brand perception. The strongest evidence relates to customer behaviour, as it is supported by numerous field experiments and meta-analyses (Garlin & Owen, 2006; Trompeta et al. 2022). Across studies, manipulating musical tempo, volume, or genre consistently affected dwell time, consumption pace, and purchasing behaviour. For example, increasing music volume from 72 to 88 dB reduced the time needed to finish a drink by around 21% (Guéguen et al., 2008), while softer background music increased average customer spending from US\$18.57 to US\$21.63 (Lammers, 2003). Meta-analytic evidence further indicates that these effects are generally very small to moderate, and show a good amount of heterogeneity across different studies and hospitality settings (Garlin & Owen, 2006; Roschk et al., 2017; Trompeta et al., 2022; see Appendix A). More recent research extends these findings by showing that successful outcomes depend less on isolated musical features and more on music congruency the alignment between the soundscape, restaurant concept, brand identity, and customer expectations (Trompeta et al., 2022). When this congruency is achieved, background music not only enhances customer satisfaction and the dining experience but also strengthens brand perception and supports commercial performance. From a managerial perspective, the findings suggest that background music should be viewed as a strategic business resource rather than simply an atmospheric enhancement. Carefully curated soundscapes can support customer flow, encourage higher-value purchases, reinforce brand

positioning, and create more memorable hospitality experiences.

3.

Background Music in Hotels

Compared with restaurants and bars, empirical research on background music in hotels is less extensive but has grown considerably over the past two decades. While restaurants primarily use music to influence immediate consumption behaviour, hotels pursue broader experiential objectives. Guests interact with the hotel across multiple service touchpoints including reception areas, lobbies, restaurants, bars, elevators, wellness facilities, telephone systems, and increasingly digital booking channels making background music an important element throughout the customer journey (Magnini & Parker, 2009). Research suggests that background music in general can reduce stress, improve perceived service quality, strengthen emotional engagement, and support spending on ancillary services (Magnini & Parker, 2009; North & Hargreaves, 2008). In addition, evidence indicates that carefully designed acoustic environments may enhance employee well-being and workplace performance (Magnini & Parker, 2009). Beyond these behavioural effects, background music contributes to brand differentiation by reinforcing perceptions of atmosphere, authenticity, and service quality. This is particularly relevant in a highly competitive hotel market, where many service offerings are perceived as functionally similar (Magnini & Parker, 2009). The following sections synthesise the available evidence on hotels across three outcome dimensions: (1) customer behaviour, (2) business performance, and (3) brand perception and customer experience.

3.1 Influence on Customer Behaviour

Background music (BGM) influences customer behaviour across multiple stages of the hotel customer journey, particularly by shaping guests' emotional responses during service interactions (Garlin & Owen, 2006). One of the most consistent findings is its ability to reduce stress and create a more positive service experience. In an empirical study, Dubé and Morin (2001) demonstrated that pleasant background music significantly increased customers' emotional pleasure, which subsequently improved their overall evaluation of the service environment. Rather than directly changing behaviour, music enhanced positive affect, resulting in higher customer satisfaction. Background music also plays an important role in managing waiting experiences. Magnini and Parker (2009) found that a carefully designed acoustic environment reduced guests' negative perceptions of waiting during reception and telephone interactions. Although music did not shorten objective waiting times, it improved perceived waiting quality, increased customers' patience, and strengthened overall service evaluations. These findings are particularly relevant because the first interaction with a hotel often occurs before arrival through a telephone enquiry or reservation call, making the acoustic environment an important contributor to first impressions. Overall, the available hotel-specific evidence suggests that background music primarily enhances guest experiences by reducing stress, improving waiting experiences, and creating more positive service interactions. Given the multiple touchpoints throughout a hotel stay, these findings underline the importance of a consistent acoustic strategy rather than isolated music interventions.

3.2 Impact on Revenue/Business Performance

Beyond influencing customer behaviour, background music can also support business performance across multiple hotel touchpoints, including restaurants, bars, lounges, and spa facilities, where positive guest experiences may encourage additional spending (Magnini & Parker, 2009). Rather than increasing revenue directly, music enhances guests' perceptions of comfort, service quality, and the overall hotel experience, creating favourable conditions for ancillary purchases (Garlin & Owen, 2006). From an operational perspective, Areni (2003) found that hospitality managers deliberately used background music to regulate employees' working pace, maintain motivation during demanding shifts, and create a more positive working atmosphere. Managers also reported that repetitive playlists reduced employee satisfaction over time, leading many hotels to update playlists regularly and, in some cases, involve employees in music selection. Overall, the available evidence suggests that background music contributes to hotel business performance primarily through indirect mechanisms by enhancing guest experiences and supporting employee performance rather than by directly increasing revenue.

3.3 Effect on Brand Perception and Experience

Among the various effects of background music, its contribution to brand perception and customer experience is particularly important within the hotel industry. Unlike restaurants or retail stores, hotels compete not only through functional service quality but through memorable guest experiences across multiple service encounters. Consequently, background music has become an integral component of the hotel servicescape, helping to communicate brand identity and differentiate hotels in an increasingly competitive market (Bitner, 1992; Rosenbaum & Massiah, 2011). A central finding is the importance of music congruency. Magnini and Parker (2009) argue that background music should be aligned with the hotel's positioning and atmosphere to reinforce perceptions of quality and create a consistent guest experience across different touchpoints. Similarly, Spence (2021) emphasises that music is most effective when it complements other sensory elements of the servicescape rather than functioning as an isolated atmospheric cue. Empirical evidence further shows that pleasant background music enhances guests' emotional responses and evaluations of the service environment. Dubé and Morin (2001) found that pleasant music significantly increased emotional pleasure, resulting in more favourable service evaluations. Supporting this broader evidence, the meta-analysis by Garlin and Owen (2006) concluded that positive emotional responses to background music are consistently associated with higher customer satisfaction and stronger approach intentions across commercial service environments. Overall, the literature suggests that strategically curated background music strengthens hotel brand identity by creating emotionally positive and consistent guest experiences across multiple touchpoints, thereby supporting customer satisfaction and long-term brand differentiation.

3.4 Interim Summary

Overall, the evidence suggests that background music supports hotel performance primarily by shaping guests' emotional responses rather than directly influencing behaviour. Across the reviewed studies, positive effects are consistently reported for customer satisfaction, perceived service quality, and waiting experiences, while operational benefits mainly arise through enhanced employee motivation and improved service delivery (Dubé & Morin, 2001; Magnini & Parker, 2009; Areni, 2003). A key finding is that these benefits depend less on

individual musical characteristics than on music congruency. Hotels achieve the greatest impact when background music is aligned with the property's brand identity, physical environment, and guest expectations, creating a coherent experience across multiple customer touchpoints (Trompeta et al., 2022). Consequently, background music should be viewed as part of a broader brand and experience strategy rather than as a purely atmospheric feature. While hotels primarily use background music to enhance the overall guest experience across multiple touchpoints, the following section examines premium retail, where music is employed more directly to influence shopping behaviour, purchase decisions, and sales performance.

4.

Background Music in Premium Retail

Among all commercial environments, retail represents the most extensively researched setting within atmospheric marketing. Since the pioneering field experiments by Milliman (1982, 1986), numerous laboratory and field studies have demonstrated that background music systematically influences customer behaviour, purchasing decisions, and commercial performance. Consequently, retail has become the primary context in which key mechanisms such as behavioural pacing, cognitive priming, and emotional responses have been empirically established (Turley & Milliman, 2000; Garlin & Owen, 2006; Roschk et al., 2017; Michel et al., 2017). Retail environments provide particularly favourable conditions for studying these effects because customer behaviour can be measured objectively through variables such as walking speed, dwell time, sales volume, product choice, and purchase value. Accordingly, several of the strongest empirical findings on the business effects of background music originate from retail settings (see Table A1 in the Appendix). While early retail research primarily examined isolated musical features such as tempo, genre, and volume (Milliman, 1982, 1986), more recent evidence adopts a broader perspective. The systematic literature reviews by Michel et al. (2017); Roschk et al. (2017) concludes that background music is most effective when it is congruent with the store environment, brand positioning, merchandise, and customer expectations. Rather than functioning as an isolated atmospheric cue, music interacts with other elements of the servicescape including store design, employee behaviour, and visual merchandising to shape both customer experiences and commercial outcomes (Bitner, 1992; Baker et al., 1994; Michel et al., 2017). The following sections examine the role of background music in premium retail across three dimensions: (1) customer behaviour, (2) business performance, and (3) brand perception and customer experience.

4.1 Influence on Customer Behaviour

A substantial body of empirical research demonstrates that background music significantly influences customer behaviour throughout the shopping process (Turley & Milliman, 2000; Garlin & Owen, 2006, Roschk et al., 2017; Michel et al., 2017). Compared with other commercial environments, retail provides particularly robust behavioural evidence because customer movement, shopping duration, and purchasing decisions can be observed directly under real shopping conditions. One of the most consistent findings concerns the relationship between musical tempo and shopping pace. In one of the earliest field experiments, Milliman (1982) demonstrated that slow-tempo background music (72 BPM) significantly reduced customers'

walking speed compared with fast-tempo music (94 BPM). As a result, shoppers spent more time in the store, leading to a 38.2% increase in daily sales. However, note that in Milliman's (1982) study sales volumes between the fast-music and no-music conditions did not differ significantly. Though in general, the positive relationship between the presence of slow tempo music and time spent in store have subsequently been replicated across numerous retail settings and confirmed by the meta-analysis of Garlin and Owen (2006), which identified tempo as one of the strongest predictors of customer arousal, browsing behaviour, and dwell time. Together, these studies suggest that tempo provides retailers with a practical tool for regulating customer flow and increasing exposure to merchandise. Beyond tempo, background music also influences how customers experience the shopping environment. Yalch and Spangenberg (1990, 1993) found that familiar and age-congruent music encouraged customers to browse for longer while simultaneously reducing their subjective perception of shopping time. As a result, customers remained in the store longer without perceiving the shopping experience as more time-consuming, increasing opportunities for additional product exposure and unplanned purchases. More recent research shifts the focus from individual musical features to music congruency. In their systematic literature review, Michel et al. (2017) conclude that background music is most effective when it is congruent with the store environment, brand positioning, and customer expectations. This broader perspective is consistent with the servicescape framework proposed by Bitner (1992), who argues that customer responses emerge from the interaction of multiple environmental cues rather than from music alone.

4.2 Impact on Revenue/Business Performance

Background music not only shapes customer behaviour but also contributes directly to retail business performance by influencing purchasing decisions, average spending, and product choice. Compared with hospitality settings, retail research provides particularly strong evidence for these commercial effects because purchasing behaviour can be measured directly through sales data under real shopping conditions (Garlin & Owen, 2006; Michel et al., 2017). One of the most influential explanations for these effects is cognitive priming. In a landmark field experiment conducted in a wine store attached to a restaurant, Areni and Kim (1993) found that customers exposed to classical music selected significantly more expensive wines, spending an average of \$7.43 compared to \$2.18 for customers listening to Top40 music. This occurred despite customers spending a similar amount of time in the store (11.01 minutes vs. 8.97 minutes). The results suggest that classical music activated associations of sophistication and prestige, thereby increasing consumers' willingness to purchase premium products rather than increasing the quantity of purchases. This priming effect was further demonstrated by North, Hargreaves, and McKendrick (1999) in a supermarket wine display. When French accordion music was played, approximately 83% of the wines sold were French wines, compared with 35% under German folk music. Conversely, German wines accounted for approximately 65% of sales under German folk music, compared with 17% under French music (see Appendix A). Remarkably, although purchasing behaviour changed substantially, most customers reported in post-purchase interviews that the background music had not influenced their decisions, highlighting the largely subconscious nature of these atmospheric effects. Further evidence comes from a field study by Andersson et al. (2012), conducted in a consumer electronics store in Sweden, which compared shopping days with and without

background music. Customers stayed significantly longer when music was played ($M = 22.87$ vs. 14.82 minutes) and spent almost twice as much ($M = 2,079$ SEK vs. $M = 1,169$ SEK) as customers shopping under the no-music conditions. These findings are supported by the meta-analysis of Garlin and Owen (2006) and the systematic review by Michel et al. (2017), which conclude that musical genre generally produces stronger effects on purchasing behaviour than physical dimensions of the music (e.g. tempo or volume) alone, although the magnitude of these effects varies across product categories, store formats, and customer segments. In addition, music tempo has been shown to mitigate adverse effects of crowded stores on consumer spending. In a field experiment by Knöferle et al. (2017) shoppers bought more products with fast background music playing (compared to slow music or no music) under crowded conditions that are normally detrimental to retail revenues. Likewise, the systematic literature review by Roschk et al. (2017) concludes that successful retail music strategies should not rely on universally effective genres but instead prioritise music congruency the alignment between background music, brand positioning, product assortment, contextual factors, and customer expectations. Overall, the literature indicates that background music supports business performance primarily by influencing how many items consumers, buy, what they buy and how much they spend. For retailers, these findings suggest that strategically curated and adapted music can serve as a cost-effective instrument for encouraging premium product choices and strengthening commercial performance.

4.3 Effect on Brand Perception and Experience

Beyond influencing immediate purchasing behaviour, background music plays an important role in shaping customers' perceptions of retail brands and the overall shopping experience. According to Bitner (1992) and Roschk et al. (2017), the servicescape consists of multiple environmental cues that jointly influence customers' cognitive and emotional evaluations. Within this framework, background music interacts with visual design, lighting, store layout, and employee behaviour to create a coherent brand experience rather than acting as an isolated atmospheric stimulus. According to the meta-analysis conducted by Roschk et al. (2017), the presence of background has small but significant and robust positive effects on shoppers' subjective pleasure and satisfaction perception as well as on their behavioural intentions for future purchases. The importance of this multisensory interaction was also demonstrated by Baker, Grewal, and Parasuraman (1994), who found that ambient factors, including background music, significantly influenced customers' perceptions of merchandise quality, store image, and overall service quality. These findings suggest that customers do not evaluate products independently but interpret them within the broader retail environment. Consequently, background music can strengthen perceptions of quality and reinforce a retailer's desired market positioning. Retailers therefore benefit most from designing a coherent auditory environment that complements the overall shopping experience. This multisensory perspective is further supported by Spence (2021), who argues that auditory, visual, tactile, and social cues jointly shape consumers' emotional responses and long-term brand evaluations. When these sensory elements are perceived as consistent, customers experience the retail environment as more authentic, memorable, and distinctive, ultimately strengthening brand attachment and customer loyalty. Overall, the literature suggests that background music contributes not only to short-term shopping behaviour but also to long-term brand equity by reinforcing store identity, enhancing perceived quality, and creating more

engaging and memorable shopping experiences.

4.4 Interim Summary

Overall, the literature provides strong evidence that background music is a strategic component of modern retail servicescapes. Across field experiments, laboratory studies, and review articles, background music has been shown to influence shopping pace, dwell time, product choice, customer spending, and store evaluations (see e.g. meta-analysis by Roschk et al., 2017 and Appendix A). For example, Milliman (1982) reported a substantial increase in sales for slow-tempo music compared to fast-paced music, while Areni and Kim (1993) and North et al. (1999) demonstrated that background music can subconsciously orient consumers towards premium products and influence product choice through cognitive priming. A consistent conclusion of both the meta-analysis by Garlin and Owen (2006) and the systematic literature reviews by Michel et al., (2017) and Trompeta et al. (2022) is that the effectiveness of background music depends less on individual musical characteristics than on music congruency the alignment between the soundscape, the retail environment, brand positioning, and customer expectations. From a managerial perspective, these findings suggest that background music should be regarded as a strategic marketing instrument rather than merely an atmospheric enhancement. When integrated into the overall retail concept, it can strengthen customer experience, reinforce brand perception, and support commercial performance.

5.

Background Music in Workplace & Co-working Spaces

The role of background music changes fundamentally when moving from customer-oriented commercial environments to workplaces. Whereas restaurants, hotels, and retail stores primarily use music to influence consumer behaviour and commercial performance, workplace soundscapes are designed to support employee well-being, cognitive performance, and productivity. Consequently, research focuses less on purchasing behaviour and more on how acoustic environments affect employees' concentration, stress, motivation, and overall workplace experience (Haake, 2011). This shift has become increasingly relevant as traditional cellular offices have been replaced by open-plan offices and co-working spaces that encourage collaboration and flexibility. Although these environments facilitate communication, they also expose employees to substantially higher levels of ambient noise and acoustic distractions. Unlike customer-facing environments, where background music is typically centrally controlled, workplace research increasingly identifies auditory autonomy as a key determinant of positive employee outcomes. Haake (2011) found that office employees preferred self-selected music played through headphones over centrally broadcast background music because it improved concentration, reduced distractions, and increased perceived privacy. These findings are supported by the systematic literature review by Pizzolitto (2024), which concludes that the effectiveness of workplace music depends primarily on task complexity, individual preferences, and the fit between the acoustic environment and employees' work activities rather than on universally beneficial musical

characteristics. Building on this evidence, the following sections examine the role of background music in workplace and co-working environments across three dimensions: (1) employee behaviour and well-being, (2) productivity and business performance, and (3) workplace experience and acoustic environment.

5.1 Employee Behaviour and Well-being

A growing body of research demonstrates that background music can positively influence employees' well-being by improving mood, reducing stress, and increasing motivation during everyday work activities. Unlike customer-oriented environments, workplace music primarily aims to support employees' psychological well-being rather than influence commercial behaviour. One of the most influential studies in this field was conducted by Lesiuk (2005), who investigated software developers working with and without self-selected music. Employees reported significantly more positive moods, higher perceived work quality, and greater task enjoyment when listening to their preferred music, whereas removing music was associated with lower positive affect and reduced self-rated performance (see Appendix A). These findings suggest that self-selected music supports emotional regulation during everyday office work. The importance of auditory autonomy was further demonstrated by Haake (2011), who found that employees in office-based roles preferred listening to self-selected music through headphones rather than centrally broadcast background music. Participants primarily used personalised music to improve concentration, regulate their mood, and reduce distractions in open-plan offices. Rather than serving as entertainment, self-selected music functioned as an acoustic barrier that increased perceived privacy and employees' sense of control over their working environment.

5.2 Productivity and Business Performance

The relationship between background music and workplace productivity is considerably more complex than in customer-oriented commercial environments. Rather than producing universally positive effects, its impact depends on task complexity, individual preferences, and employees' control over the acoustic environment (see Appendix A). For routine and repetitive tasks, music has generally been associated with improved performance and motivation. Lesiuk (2005) found that software developers who listened to self-selected music reported higher work quality, greater task enjoyment, and more positive moods than during periods without music. Similarly, Banbury and Berry (2005) showed that background music reduced mental fatigue and helped maintain alertness during monotonous office tasks, supporting sustained performance over longer working periods. Evidence for cognitively demanding tasks is less favourable. Furnham and Bradley (1997) demonstrated that background music, particularly music containing lyrics, impaired performance on memory-intensive tasks by competing for limited cognitive resources. Likewise, These findings indicate that knowledge-intensive work benefits from acoustic environments that minimise unnecessary cognitive load. Reflecting these findings, the meta-analysis by Kämpfe et al. (2011) conclude that there is no universally optimal workplace soundtrack. Instead, productivity is highest when employees can adapt the acoustic environment to their individual preferences and the cognitive demands of different tasks. From a managerial perspective, these findings suggest that workplace performance is supported less by centrally broadcast background music than by providing employees with auditory autonomy.

5.3 Workplace Experience and Acoustic Environment

Beyond its effects on individual productivity, the acoustic environment plays a central role in shaping employees' overall workplace experience. As organisations increasingly rely on cognitively demanding work that requires sustained attention, working memory, and problem-solving, employee well-being, concentration, and satisfaction have become important strategic resources. Consequently, workplace design has shifted from simply introducing background music to creating acoustic environments that minimise distractions while supporting different work activities. One of the strongest empirical findings concerns the detrimental effects of office noise. Schlittmeier et al. (2008) demonstrated that increasing ambient noise from 35 dBA to 55 dBA significantly impaired employees' verbal working memory, increased mental fatigue, and reduced intrinsic motivation (see Appendix A). These findings indicate that even relatively small increases in office noise can measurably affect cognitive performance, highlighting the importance of effective acoustic design in open-plan offices. Rather than relying solely on continuous background music, the systematic literature review by Pizzolitto (2024) recommends a broader approach to workplace acoustics, combining sound masking, quiet zones, nature sounds, and personalised listening options to accommodate different tasks and individual preferences. This reflects a shift from standardised music systems towards flexible acoustic environments that support both collaboration and focused work. Acoustic interventions also play an important role during recovery periods. Khalfa et al. (2003) demonstrated that relaxing music accelerated physiological stress recovery as indicated by significantly reduced salivary cortisol levels compared with a control condition. These findings suggest that well-designed soundscapes can support not only cognitive performance during work but also employees' recovery and long-term well-being. Overall, the literature indicates that successful workplace soundscapes extend beyond background music alone. Instead, organisations benefit from flexible acoustic environments that reduce unnecessary noise, support recovery, and provide employees with sufficient control over their auditory surroundings.

5.4 Interim Summary

Overall, the literature demonstrates that the business effects of background music in workplaces differ fundamentally from those observed in customer-oriented commercial environments. Rather than influencing purchasing behaviour, workplace soundscapes primarily affect employee well-being, cognitive performance, and workplace satisfaction. The evidence suggests that self-selected music can improve mood, reduce stress, and support productivity during routine and repetitive tasks (Lesiuk, 2005; Banbury & Berry, 2005). In contrast, Furnham and Bradley (1997) and Schlittmeier et al. (2008) show that background music and office noise can impair performance during cognitively demanding tasks by increasing cognitive load and reducing working memory performance. Consequently, the effectiveness of workplace music depends less on the presence of music itself than on task characteristics and employees' ability to control their auditory environment. Reflecting these findings, Haake (2011) identifies auditory autonomy as the central principle of effective workplace acoustic design. Rather than relying on centrally controlled background music, organisations should create flexible soundscapes that combine personalised listening options with broader acoustic design strategies. From a business perspective, such environments can improve employee well-being, reduce cognitive distractions, and support sustained

productivity; however, the magnitude of these benefits varies depending on task complexity, individual preferences, and the degree of auditory autonomy provided (see Appendix A).

6.

Cross-Sector Comparison

Comparing the four sectors reveals that the business effects of background music are highly context-dependent and yet the majority of the reported effects of music appear to be positive. The yet unpublished *Music Impact Study* commissioned by the German royalties collecting society GEMA, suggests an 8% increase of revenues for retail and a 5.4% increase for restaurants and bars due to the presence of music (GEMA, 2025). Thus, while it appears safe to assume that music effects are generally positive albeit small, the strategic purpose of music differs according to the objectives of each servicescape. While restaurants, hotels, and retail environments primarily use background music to influence customer behaviour and commercial performance, workplace and co-working environments focus on employee well-being, cognitive performance, and workplace experience. Across customer-oriented sectors, background music influences behaviour through emotional and cognitive mechanisms. In restaurants and bars, tempo, volume, and music congruency can affect dining pace, dwell time, and spending. For example, in an older but much-cited study slow-tempo music (72 BPM) increased supermarket sales by 38.2% compared with fast-tempo music (94 BPM) (Milliman, 1982), while classical music encouraged restaurant customers to select higher-priced menu items (North et al., 2003; see Appendix A). In hotels, music serves a broader experiential function by reducing perceived waiting times, enhancing emotional responses, and reinforcing a consistent brand identity across multiple customer touchpoints (Dubé & Morin, 2001; Magnini & Parker, 2009). Retail research provides particularly strong evidence for commercial outcomes, demonstrating that background music influences product choice through cognitive priming. For example, French accordion music increased the share of French wine purchases by about 50%, whereas German folk music had a similar effect on German wines (North et al., 1999; see Appendix A). In contrast, workplace and co-working environments pursue fundamentally different objectives. Rather than encouraging consumption, workplace soundscapes aim to support employee well-being and productivity. Evidence consistently shows that positive effects depend on task complexity and employees' ability to control their auditory environment, with auditory autonomy emerging as a central principle of effective workplace acoustic design (Haake, 2011). Likewise, the meta-analysis by Kämpfe et al. (2011) and the systematic literature review by Pizzolitto (2024) conclude that no single music strategy is universally effective across different workplace settings. Despite these sector-specific differences, one finding is remarkably consistent across the literature. Both the meta-analysis by Garlin and Owen (2006) and the systematic literature review by Pizzolitto (2024) conclude that background music is most effective when it is congruent with the physical environment, brand identity, target audience, and intended business objective. Rather than relying on universally effective musical characteristics contemporary research advocates a holistic approach in which background music is strategically integrated into the overall servicescape. For commercial music and sound solution providers, these findings highlight that effective soundscapes require context-specific acoustic strategies that align

music with the functional goals of each environment.

7.

Conclusion

This report demonstrates that background music is far more than a passive environmental stimulus. Across restaurants and bars, hotels, premium retail environments, and workplace settings, it functions as a strategic component of the servicescape that influences customer behaviour, employee well-being, brand perception, and business performance. The findings consistently show that the effectiveness of background music is highly context-dependent. While restaurants and retail environments primarily use music to influence customer flow, spending, and purchasing decisions, hotels employ music to create emotionally engaging guest experiences across multiple touchpoints. In workplace environments, by contrast, the primary objective is to support employee well-being and cognitive performance, with auditory autonomy emerging as a key success factor. Consequently, there is no universally effective music strategy, but the intelligent use of music can make an important difference in all environments. However, the successful implementation of music depends on aligning the acoustic environment with the specific objectives of each commercial setting. A second key finding is the evolution of research over the past four decades. Whereas early empirical studies primarily examined the isolated effects of individual musical parameters, more recent evidence including the meta-analysis by Garlin and Owen (2006) and the systematic literature review by Pizzolitto (2024) demonstrates that music congruency is the strongest predictor of positive outcomes. From a managerial perspective, these findings suggest that background music should no longer be regarded as an aesthetic afterthought but as a strategic business resource. When carefully aligned with organisational objectives, target audiences, and the characteristics of the environment, well-designed soundscapes can strengthen customer experiences, improve employee well-being, reinforce brand positioning, and support measurable business outcomes. Hence, the key question for organisations is no longer whether background music should be used, but how it can be strategically designed to achieve specific behavioural and commercial objectives. For sound and music suppliers, this means moving beyond simply delivering music towards enabling intelligent, context-specific soundscapes that create measurable value across a wide range of commercial environments.

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Appendix Table A1

Study	Study type	Sample / Setting	Reported quantitative findings & effect sizes	Business implication
Study	Study type	Sample / Setting	Reported quantitative findings & Effect sizes	Business implication
Milliman (1982)	Field experiment	Field experiment in a supermarket; N = 216 (customer survey), N = 45 (walking-speed observations)	Walking time between observation points: 127.5 s vs. 108.9 s. Average daily sales increased from US\$12,112.85 to US\$16,740.23 (+38.2%, $p < .05$).	Slow-tempo music (≤ 72 BPM, mean = 60 BPM) slowed customers' walking pace compared with fast-tempo music (≥ 94 BPM, mean = 108 BPM), increasing browsing time and overall sales.
Milliman (1986)	Field experiment restaurant;	Restaurant (N = 1,392 customer groups (dwell time observed for a subsample of customer groups)	Table time after meal: 45 min vs. 56 min (+24%). Average bar bill per customer group increased from US\$21.62 to US\$30.47 (+41%, $p < .01$). Demonstrates that music tempo can regulate table turnover and increase high-margin beverage sales.	Slow-tempo background music increased customers' post-meal dwell time and bar consumption compared with fast-tempo music.
Areni & Kim (1993)	Field experiment	Premium wine store	Classical BGM significantly increased average total spent per customer compared to Top-40 BGM (US\$7.43 vs. US\$2.18, $p < .05$), despite identical shelf time and total bottle volume bought.	Cognitive priming: Classical music primes concepts of sophistication, driving willingness to pay for premium products.
North et al. (1999)	Field experiment	Supermarket wine display (N = 82 shoppers)	French music led to a 50% French wine sales; same increase effects for German music ($p < .001$). Only 2.3% (1 of 44 interviewed) attributed their choice to BGM.	Subconscious priming: BGM genres prime specific cultural knowledge, directly steering product choice.
Khalfa et al. (2003)	Laboratory experiment	Post-stress trial (N = 24)	Post-stress exposure to relaxing music halted the post-task cortisol surge and significantly accelerated salivary cortisol decrease back to baseline ($p < .05$) compared to quiet recovery.	Auditory soundscapes (specifically relaxing music) directly downregulate HPA-axis activity, curbing physiological stress responses and accelerating recovery compared to silence.
North et al. (2003)	Field experiment	British restaurant (N = 393 dining parties)	Classical BGM significantly increased spend per head (£32.51) compared to Pop BGM (£29.46) or No BGM (£29.73) ($p < .05$), driven by higher spending on starters and coffee.	Musical genre/congruency directly increases total transaction value in hospitality.
Lesiuk (2005)	Field experiment / Time-series	Software developers (N = 56)	Listening to self-selected BGM resulted in lowest task completion time and highest baseline quality ratings; removal of music significantly lowered positive affect ($p < .01$).	BGM improves work performance and mood during routine/cognitive tasks when self-selected.
Garlin & Owen (2006)	Meta-analysis	32 empirical studies (N = 148 effect sizes)	Economic outcomes: overall $d = 0.14$; genre $d = 0.50$; familiarity $d = 0.35$; music vs. silence $d = 0.28$. Arousal: tempo $d = 0.48$. Pleasure: music presence $d = 0.38$. Perceived waiting time: $d = 0.39$. Actual dwell time: $d = -0.28$ (slower music $\rightarrow$ longer stays).	Overall small-to-moderate but robust effects of background music across commercial environments. Genre and familiarity had the strongest effects on spending, while tempo primarily affected arousal and dwell time.
Guéguen et al. (2008)	Field experiment	Two bars (N = 40 male patrons)	High volume (88 dB) vs. medium volume (72 dB) increased consumption rate (11.45 min vs. 14.53 min per glass) and total drink volume ($p < .05$).	Higher volume accelerates consumption speed in alcohol/beverage settings.

Study	Study type	Sample / Setting	Reported quantitative findings & effect sizes	Business implication
Schlittmeier et al. (2008)	Laboratory experiment (3 sub-experiments)	Exp. 1: n = 20 (short-term memory) Exp. 2: n = 24 (mental arithmetic) Exp. 3: n = 28 (verbal-logical reasoning)	Lowering speech level (55 to 35 dBA) and intelligibility significantly reduced cognitive impairment in verbal short-term memory and mental arithmetic ($p < .05$).	Background speech actively reduces cognitive capacity and increases subjective disturbance; silence remains optimal for focus.
Magnini & Parker (2009)	Literature review	Hospitality contexts	Synthesised empirical studies on auditory cues in hotel lobbies and servicescapes, showing improved wait-time perception and brand evaluation.	Narrative review: BGM manages customer perception of service quality during waiting periods.
Haake (2011)	Survey & interviews	Office workers in UK (N = 295)	Frequent music listening at work (~33% of working hours), primarily via headphones. Key motivations: concentration, mood regulation, and noise masking.	Workplace: Employees favour individual <i>auditory autonomy</i> over centrally broadcast BGM.
Malcman et al. (2024)	Field experiment	Diners in restaurant in Tel Aviv (N=282 tables)	Effect of music tempo on time spent is significant ($p < .001$) as well as on tips given ($p < .05$), but not on bill amount ($p > .05$).	Waiters can benefit from the right music choice.
Pizzolitto (2024)	Systematic literature review	~140 peer-reviewed articles (2017–2022 / overall ~40 yrs review)	Qualitative synthesis of soundscape research. Identified <i>music congruency</i> and multisensory integration as primary drivers of positive customer responses across business settings.	Overarching review: Establishes that BGM is an integral servicescape element rather than an isolated stimulus.