



Original Article

The influence of brand sound on brand recognition of Vietnamese consumers

Dao Cam Thuy*, Phung Tuan Kiet, Kieu Trang An, Do Vu Phuong Anh

VNU University of Economics and Business

No. 144 Xuan Thuy Road, Cau Giay District, Hanoi, Vietnam

Received: September 12, 2023

Revised: December 11, 2023; Accepted: December 25, 2023

Abstract: The appearance of sound in advertising messages will connect consumers with a brand more easily and effectively. Brand sound is the use of sound to enhance brand recognition for customers. There have been many businesses in the world using their own brand name to increase their brand recognition among customers. This article aims to determine the influence of brand sound on brand recognition in the Vietnam market through a survey of data including 352 samples. The analysis results show that there are three independent factors that have the greatest impact on brand recognition, including Harmony in the melody of the label, Music genre, and Emotion of the label. Based on the research results, the authors also make some suggestions to help businesses improve the efficiency of using brand names for their brand development campaigns.

Keywords: Brand sound, brand recognition, brand image, music genre, brand emotion.

1. Introduction

Music has a very important role in human life because everyone likes to listen to music. The person who listens to music with pleasure in his life knows the importance of music in the real-life world. If a person is interested in music, then that person is always happy in his/her life, and remains stress-free in every problem. The University of Arizona (USA) in an article in 2017 synthesized four main influences of music on people. These include: bringing positive

energy, relieving stress and fatigue, improving health and the ability to concentrate and increasing the body's immunity.

Music brings value to a brand in three ways: identity, interaction and profits. Specifically, the use of music establishes an emotional connection with the brand, increases brand recognition, and creates excitement and echoes beyond the brand's core products or services. It also provides customers with valuable content for their discovering and sharing, creates value to get the customer's attention, and develops a

* Corresponding author

E-mail address: thuydc@vnu.edu.vn

<https://doi.org/10.57110/vnujeb.v2i6.221>

Copyright © 2023 The author(s)

Licensing: This article is published under a CC BY-NC 4.0 license.

real connection with consumers. When used in the correct way, music not only creates just loyalty but also generates real empathy (Jackson & Jankovich, 2013).

Research on the influence of brand sound on consumer behavior has also been studied by some authors. Sound brings value to the brand in three ways: identity, interaction and information; thereby it influences customer attention to the brand and products (Jackson & Jankovich, 2013). Brand sounds from familiar local tunes also influences customer behavior in product selection, as well as the customer's first impression and support for the product. (Valkeinen, 2020; Zander, 2006). Brand sound also reflects the brand personality, is part of brand equity and affects brand recognition (Brotsky, 2011).

Brand sound often causes people to recall an event at the time they heard the sound. Thanks to this feature, businesses can leave their brand highlight for customers to remember and directly influence the behavior of potential customers. Factors of brand sound affecting brand recognition have been studied. Such factors are the concordance between the brand's sound and the brand image, the emotions of brand sound and the popularity of brand sound (Jäncke, 2008), and the suitability between brand sound and brand personality or customer emotions (Hou et al, 2019; Elizaveta & Alexander, 2018). According to Minsky and Fahey (2017) elements of the sound (consistency, distinctiveness, linkage, likeability, appropriateness) or elements of musical instruments such as tempo, timbre, pitch, and complexity (Puligadda & Van Bergen, 2023) or kind of music (Wagner, 2008) have a significant influence on brand recognition.

This study aims to synthesize the elements of brand sound, brand image and their impact on customer's brand recognition. Research results contribute academically to testing brand sound scale and brand image scale and the causal relationship of these factors and brand recognition. The authors propose a research model including six factors affecting brand recognition, in which there are three independent factors. These are the Harmony in the melody of the Instrument (SHH), the Genre of the Music (TL) and the Emotion of the Instrument (CX). In addition, there are three intermediate factors,

including: the Uniqueness and Difference of the brand (DD), the Suitability of the brand sound and the image (PHHA), and the Suitability of the brand sound and the customer's emotions (PHCX).

2. Literature review

2.1. Brand sound

Music is a kind of creative art that creates and arranges sound by combining elements such as melody, rhythm, timbre, pitch, volume, emotion, and mood, to create a perceptual and message-transmitting audio experience (Cook, 1998). Music is one of the factors that affect human emotions, including pleasure and excitement, thereby having an impact on consumer behavior (Pernille, 2012).

Brand sound is a piece of music or a short song composed based on the core values of the brand and product; they are easy-to-remember and are repeatable pieces of music. The brand sound is usually placed at the beginning or the end of an advertisement (Tam Nguyen, 2020).

According to the research of Nguyen (2020), the elements that make up the musical score include:

1) Sound logo: Like a pictorial logo, sound logo is a component of the brand, making an important contribution to reinforcing customers' perception of the brand. A sound logo is heard at the same time as the brand logo to enhance recognition. For example, the brand sound of Nokia when turning on the phone.

2) Brand voice is an element of a brand sound to differentiate among brands. Brand voice helps to reveal and emphasize the personality of the brand.

3) Brand song: A song sung by a singer or composed by a company to express the core values of the brand or the product. However, these songs are often used at a certain stage and change, so they will not create uniformity in the customer's brand identity process.

2.2. Brand recognition

Brands have symbolic meaning and can help consumers achieve their basic identity goals and projects (Belk, 1988; Escalas & Bettman, 2015; Fournier, 2009; Naehyun et al., 2000). Thus,

consumer-brand recognition is a consumer's perceived state of identification with a brand and is a valid and powerful expression in the search for meaning.

Brand recognition is the degree to which a brand is recognized for recognized brand attributes or communications among consumers. Brand recognition will help consumers lean toward a product when given the choice between one product and another one they have never heard of. According to Samiee, Shimp, and Sharma (2005), a lower level of brand recognition is inconsequential in the choice process of the consumer and a high level of brand recognition shows the saliency of the brand origin. Brand recognition is one of the main sources to distinguish one product from its competitor.

Brand recognition is a customer's ability to recognize and recall the brand name, logo, or other characteristic elements of a product or service of a company or organization. It can be defined as an important component of branding, which helps to create a connection between the customer and the brand and promotes customer trust and loyalty. The purpose of brand identity is to create a good impression with customers, increase awareness, differentiate from competitors and increase the value of the brand. Brand identity can also include defining market targets, developing marketing and advertising strategies, designing logos, product packaging, websites and other marketing materials.

2.3. Brand image

The brand image can be explained as how the customers perceive the brand. It is the key to how consumers make their choices after gathering information about the particular brand and the alternatives (Ataman & Ülengin, 2003).

Brand image can be defined as perceptions of a brand that are reflected by the brand associations held in a consumer's memory (Keller, 1993). It helps the consumer in recognizing his/her needs and wants regarding the brand, and it distinguishes a brand from competitors. For consumers to have a particular brand image they must first have a brand node in their memory that affects how different kinds of information are associated with the brand. This brand image is consumers' overall perception

and evaluation of the brand and influences their purchasing and consuming behavior (Anwar et al., 2011; Fan, 2009).

Brand sound and brand image are interrelated and both represent a brand personality. If the above two factors are properly complemented, they will help customers have a positive perception of the brand. On the contrary, the brand will not be deeply ingrained in the customer's mind if these identification elements are in opposition.

2.4. Research models and hypotheses

Based on the previous research model and related articles, the research team determined that there are many factors in the brand that affect purchase behavior and brand recognition. However, there are some important elements of the brand's music that affect brand recognition, such as: the harmony of the brand, the congruence between the brand's music and the feeling, the popularity of the brand, and the distinctiveness and uniqueness of the brand.

The harmonization of the musical score is the balance and concordance between musical elements to create a complete, homogeneous and memorable piece of music. The basic musical elements include the melody, rhythm, timbre, and low pitch of the music. Harmonization is also built on learned rules and conventions, similar to grammar in a spoken language, which the composer must rapidly recall and apply to the current context (Winston et al., 2021). The harmony of melodies as well as appropriate repetition will increase the listener's preference for the sound (Loui, 2007). When used correctly, a musical label can create a strong impression and help customers remember the brand easily. However, if the music is not harmonized, it can cause distraction and discomfort for customers, making them unable to remember the brand. Freitas et al. (2011) have researched musical harmony through algorithms that represent each melody with different timbres, creating its own uniqueness and difference and not overlapping with other music. This study analyzes the influence of harmonization on the uniqueness and distinctiveness of brand sound, thereby affecting customers' brand recognition.

H1: The harmonization of brand sound has a positive influence on its uniqueness and distinctiveness.

Kinds of music are categories that classify songs and musical compositions based on common musical characteristics; for example; popular music genres such as Pop, Rock, Hip-Hop, Jazz, Blues, Country, Classical, and Electronic, etc. A musical genre is characterized by the common characteristics shared by its members. These characteristics typically are related to the instrumentation, rhythmic structure, and harmonic content of the music and influence listeners' taste for music (Tzanetakis & Cook, 2002). Music genres are often used to identify and classify songs and musical compositions as well as to guide music lovers looking for new songs and works to their liking. The music genre is a fundamental component of music information retrieval systems and has been gaining importance and enjoying a growing amount of attention with the emergence of digital music on the Internet (Li, 2005). According to research by Beverland (2006), the music genre has an influence on consumer perception of a brand when the music has its uniqueness and is consistent with the brand personality being presented to the audience. This study analyzes the influence of music genre on 2 factors (1) the uniqueness and distinctiveness of brand sound and (2) the suitability of the brand sound and brand image.

H2: The genre of music positively influences the uniqueness and distinctiveness of brand sound.

H3: The music genre has a positive effect on the relevance of brand sound and brand image.

Emotions are mental states triggered by music when listeners are exposed to the music. These emotions can include joy, relaxation, excitement, confusion, fear, anxiety, insecurity, and more. The feel of a score is influenced by many factors such as the genre of the music, the melody, the lyrics, and the context in which the music is broadcast or replayed. Listeners may be invited to experience those emotions themselves, either actually or in imagination, by empathizing with the musical persona as he or she travels on a psychological journey through the music. Such experiences are typically reinforced by the arousal of actual physiological states and action tendencies in listeners (Jenefer & Robert, 2012).

Music creates pleasant emotions that will activate natural human biological mechanisms and movements to receive pleasant information. These activities help listeners better remember and recognize elements associated with music; for example, brands or products (Koelsch et al., 2006).

Brand sonic has an impact on customers' perception of the brand if it creates a pleasant feeling and is played repeatedly (Kemp et al., 2023). According to research of Bongers (2019), sound symbolism or the sound of a brand can be used to elicit an emotional response, which in turn could affect a consumer's conative attitude. It also elicits an emotional response that can affect buying intention when used in a brand. This happens when the sound has a big enough difference that customers can identify and match the brand's products. This study analyzes the influence of music genre on three factors (1) the uniqueness and distinctiveness of brand sound; (2) the suitability of the brand sound and brand image; and (3) the suitability of the brand sound and customer's emotions.

H4: The emotion of brand sound has a positive influence on the uniqueness and distinctiveness of the brand.

H5: The emotion of brand sound affects the suitability of the audio brand and brand image.

H6: The emotions of brand sound positively affect the suitability of brand sound and customer's emotions.

The uniqueness and differences of the brand are extremely important factors in building brand identity (Keller, 2001). Brand differentiation strategies focus on making a product stand out among a similar group of products. It happens within each brand category and can take on many forms, such as physical and emotional (Ehrenberg et al., 1997). The difference and uniqueness in a brand represents the competitive advantage of that brand. The difference is often associated with product quality, price, distribution, communication and brand identity system (Romaniuk et al., 2007; Cornelia & Ratneshwar, 1991; Anne et al., 2020). The uniqueness and distinctiveness of instruments are the unique and different characteristics of the music used as an audio brand distinct from other music. These characteristics include melody, rhythm, timbre, structure, style, emotion, and the message that

the label wants to convey to the listener (Jennifer et al., 2010). This research analyzes the influence of the uniqueness and differences of the brand on customers' recognition of that brand.

H7: The uniqueness and difference of the brand sound positively affect the brand recognition.

The match between the music brand and the brand image is the selection of a music brand that matches the brand image to create a positive impression and good brand identity. The audio brand and image must match in terms of colors, fonts, logos and ad copy to create a unified and recognizable brand experience for customers. Research by Klink (2001) shows that brand-appropriate (compatible) music can improve consumer brand recognition, while unbranded music (incompatible) may adversely affect brand recognition. Research by Minsky and Fahey (2017) also shows that music must remain consistent with the brand, in accordance with the brand's values, images, and messages. There should be an analysis of the influence of the association between brand sound and brand image on customers' brand awareness.

H8: The suitability of brand sound and brand image positively affects brand recognition.

The match between brand emotions and customer emotions is an important factor in creating a connection between customers and

brands. If the emotions conveyed by the music tag match the emotions of the customer, the customer will feel closer to and more empathetic to the brand. This can help increase customer loyalty and improve brand image and standing. However, if the tagline doesn't match the customer's feelings, they may feel alienated or disinterested in the brand. Therefore, choosing the right audio brand and conveying the right emotions is very important for advertisers and marketers. Research by Hou, Zhao and Zheng (2019) has shown that the match between the emotional characteristics of the advertising audio brand and the emotional characteristics of customers can create a better brand experience for customers. Research by Elizaveta and Alexander (2020) also shows that music that brings a good feeling to listeners will help increase brand recognition and recall. As a result, the authors chose the following hypothesis about the suitability between brand sound and customers' emotions that affect their brand perception.

H9: The suitability of brand sound and customer emotions positively affects brand recognition.

Based on the above analysis and considering the context, the author proposes a model to study the elements of the brand name affecting the level of brand recognition as shown in Figure 1.

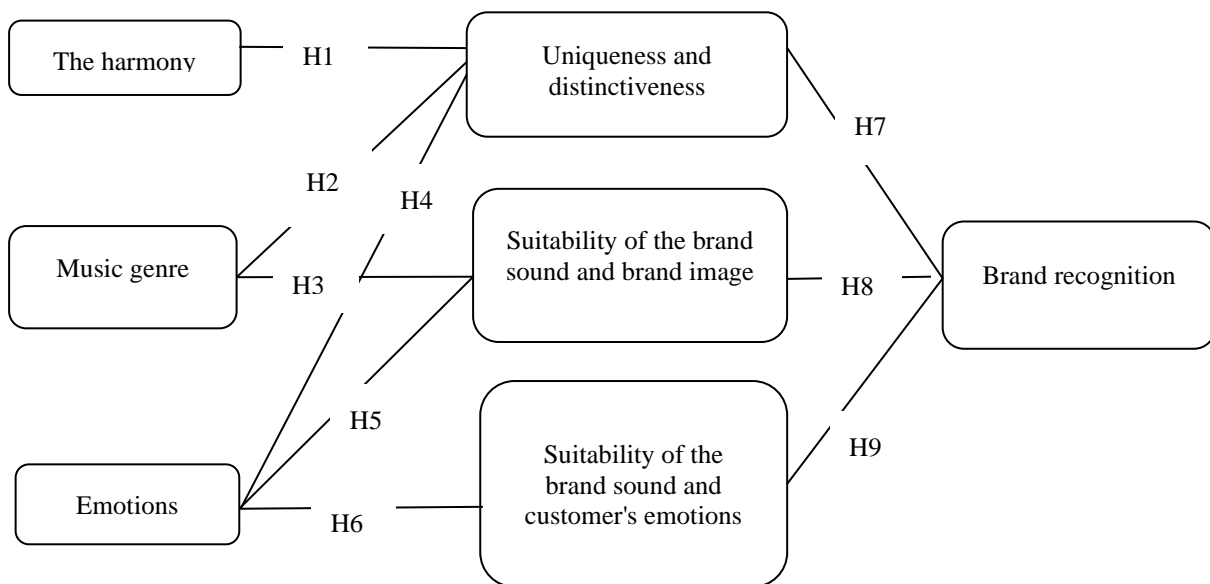


Figure 1: Proposed model
Source: Authors.

3. Methodology

3.1. Data collection methods

Data is collected by a quantitative research method through online interviews with customers of all ages in Vietnamese market. The questionnaire was submitted online in 2022 and has a sample size of 352 observations.

This sample size is adjusted from Hair et al. (2014) where the minimum observation size is 5 observations for the estimated parameters. Thus, for 27 observed variables, the minimum sample size is 135 observations. To increase the representativeness of the sample, the research team chose the size of 352 samples in the Vietnamese market.

3.2. Measurement and methodology

The questionnaire is divided into three parts. The first part is information about the customer's demographics, the second part is about the elements of the brand that affect the brand recognition, the last part is the customer's email information so that the author team can send them a few thank-you gifts for taking the survey. All questions in section two are worded positively to avoid survey fatigue and exhaustive errors. All measurements used in the study used a 5-point Likert scale. Valid data were analyzed through the following steps: (i) Descriptive statistics, (ii) Test of reliability and validity, (iii) exploratory factor analysis, (iv) Factor analysis confirmatory factor (CFA), and linear analysis Structural equation modeling (SEM).

The scale is built based on previous scales, including: the harmonization factor of the musical score with four observed variables (Sanjay & Noah, 2023), the musical genre factor with three observed variables (Wagner, 2008), the emotional factor of the musical score includes three observed variables (Roberto & Anders, 2011), the uniqueness and distinctiveness factor of the score includes four observed variables (Jennifer et al., 2010), and the factor of concordance between the brand's music and the image of the brand consists of six observed variables (Alpert & Alpert, 1989). The factor of concordance between music brand and customer emotions consists of four observed variables (Sanjay & Noah, 2023). The brand

recognition factor consists of three observed variables Klink (2001).

4. Research results

4.1. Descriptive statistics

The study collected a total of 352 responses from the target group through online surveys. According to the statistics described below the characteristics the sample are:

- Gender: 189 male (53.7%), female 163 (46.3%)
- Age: under 18 years old (9.9%), from 18-22 years old (57.1%), from 22-35 years old (22.2%), over 35 years old (13.5%).
- Occupation: Pupil (9.9%), College student (57.1%), Worker (32.9%).
- Level of interest in music: not interested (8.3%), interested (52.4%), very interested (39.3%).

4.2. General research model testing

To test the reliability of the research model, the author first considers Cronbach's Alpha coefficient for official research data. The results show that the coefficients of Cronbach's Alpha of the research variables are all > 0.6 , so the scale is at a good level, ensuring consistency (Trong & Ngoc, 2008). Table 1 summarizes the reliability and total variance of the scales after conducting the formal study.

The results show that the uniqueness and difference of the musical score after the second run and the other variables all have Cronbach's Alpha coefficients greater than 0.6. The component variables have correlation coefficients with the total variable all greater than 0.3.

The observed variables were evaluated for convergent and discriminant values by exploratory factor analysis (EFA). The data were used for exploratory factor analysis by promax rotation. The result has a KMO of $0.864 > 0.5$. Bartlett's test result is 2978.160 with a significance level of Sig p-value of $0 < 0.05$. Furthermore, the EFA procedure also shows that 25 observed variables were initially divided into seven groups, at Eigenvalues = 1.041. The total value of variance extracted = 69.499 % $> 50\%$, so the common part of the conceptual scales

contributes to the concept higher than the individual part and error. Moreover, the extracted factors are all quite good, reaching from 0.611 to 0.874. Thus, the first step shows that the values of the factor scales are all accepted.

The CFA results after considering the correlation between the observed variable errors show that the model with TLI = 0.939 is acceptable; Chi squared/df = 1.556 is good since

it's somewhere between 1 and 3; RMSEA = 0.047 is good (RMSEA < 0.08), PCLOSE = 0.670 > 0.001 is good. Therefore, the indicators are satisfactory. Thus, the model fits the market data.

The AVE of the variables are all greater than 0.5, so the extracted variances of the scales are all standard; convergence is guaranteed. The MSV of each factor is smaller than AVE, so it ensures the difference between factors.

Table 1: Cronbach's Alpha test results

Scale	Observed variables	Cronbach's Alpha	Corrected Item-Total Correlation
The harmony of brand sound	4	0.803	0.590
Music genre	3	0.768	0.566
Emotions from brand sound	3	0.784	0.584
Uniqueness and distinctiveness (The first time)	4	0.597	0.231
The uniqueness and difference (The second time)	3	0.723	0.567
Suitability of the brand sound and brand image	6	0.768	0.586
The suitability of the brand sound and customer's emotions	4	0.806	0.580
Brand recognition	3	0.890	0.767

Source: Primary data.

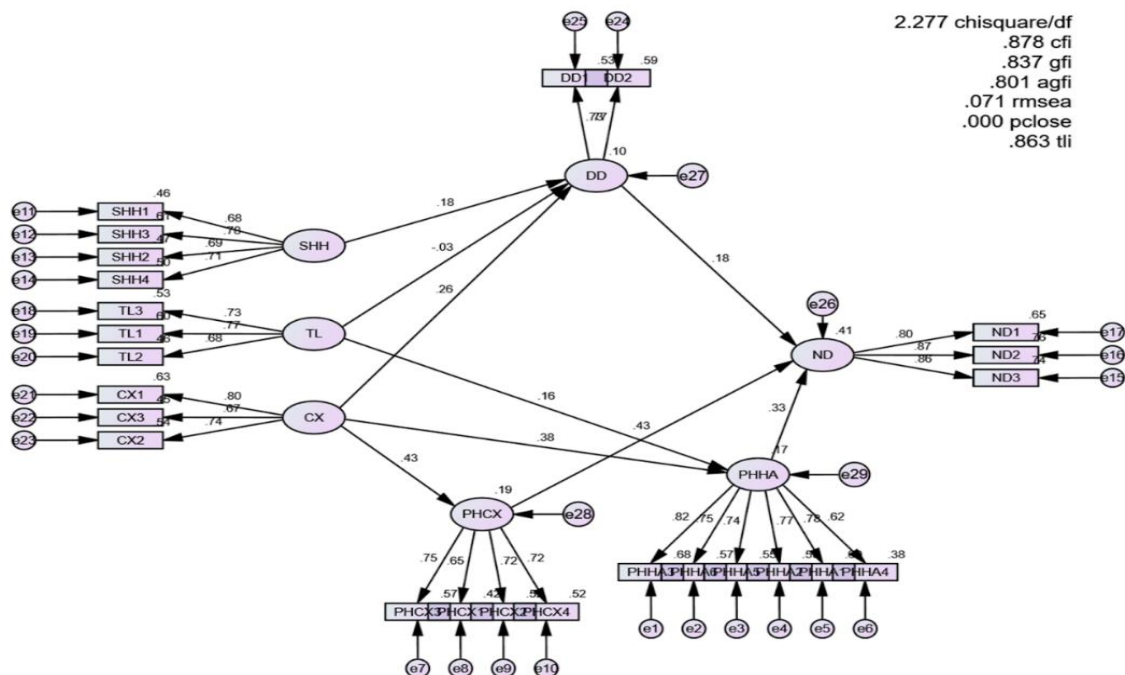


Figure 3: Estimated results of the research model (normalized)

Source: Primary data.

The SEM model analysis method was used to test the fit of the research model. The estimated results of the proposed model are shown in Figure 3. Specific metrics include Chi Square/df = 2.277, CFI = 0.878, TLI = 0.863, GFI = 0.837, RMSEA = 0.71. Thus, the proposed research model achieves a degree of compatibility with market data.

On the basis of the theory of brand recognition, thanks to the brand name in Vietnam, 9 hypotheses have been stated in the proposed research model. After performing some calculations to evaluate the data and the model's suitability, the research will test the initial hypotheses.

Table 6: Regression coefficient results

			Estimate	S.E.	C.R.	P
DD	<---	CX	0.262	0.087	2.998	0.003
DD	<---	TL	-0.027	0.079	-0.341	0.733
DD	<---	SHH	0.187	0.088	2.116	0.034
PHCX	<---	CX	0.476	0.09	5.28	***
PHHA	<---	CX	0.395	0.078	5.037	***
PHHA	<---	TL	0.159	0.072	2.221	0.026
ND	<---	PHCX	0.359	0.058	6.144	***
ND	<---	PHHA	0.295	0.056	5.292	***
ND	<---	DD	0.165	0.065	2.56	0.01

Source: Primary data.

Conclusions can be drawn from the results presented in Table 6. Through the table of results of testing the causal relationship between the research concepts and the reliability of the statistical estimates, it can be seen that most of the relationships in the research model have statistical significance at 5% ($p < 0.05$) except for music with uniqueness (0.773). So there are eight hypotheses in the model, all with $p < 0.5\%$, these eight hypotheses are supported. The regression weights of the supporting hypotheses are all positive, confirming that all factors have a positive influence. In other words, the effects are positive. The results are shown in Table 7.

The normalization results of the SEM linear structure model show that there are two indicators affecting the uniqueness and distinctiveness factor: the harmonization of brand sound and emotions. There are two indicators affecting the suitability of the brand sound and the brand image factor: music genre and the emotions. The emotions of brand sound positively affect the suitability of brand sound and customer's emotions. The results also show that all three factors: uniqueness and distinctiveness, suitability of the brand sound and brand image, and suitability of the brand sound and customer's emotions, affect brand recognition.

The impact of the indicators and factors all have positive values for the indicators and

factors that have a positive impact on brand recognition. The results are as below:

- The harmonization of brand sound has a positive influence on the uniqueness and distinctiveness with a critical numerical normalization of 0.176.

- The emotion has a positive influence on the uniqueness and distinctiveness with a critical numerical normalization of 0.259.

- The emotion of brand sound affects the suitability of audio brand and brand image with a critical numerical normalization of 0.38.

- The music genre has a positive effect on the relevance of brand sound and brand image with a critical numerical normalization of 0.161.

- The emotions of brand sound positively affect the suitability of brand sound and customer's emotions image with a critical numerical normalization of 0.431.

- The uniqueness and difference of the brand sound positively affect the brand recognition with a critical numerical normalization of 0.182.

- The suitability of brand sound and brand image positively affects brand recognition with a critical numerical normalization of 0.334.

- The suitability of brand sound and customer emotions positively affects brand recognition with a critical numerical normalization of 0.432.

Table 7: Results of testing the hypotheses in the research model

Hypothesis	Estimate		Conclude
	Not standardized	Standardized	
H1	0.187*	0.176	Accept
H2	-0.027	-0.028	Not accept
H3	0.159*	0.161	Accept
H4	0.262**	0.259	Accept
H5	0.395***	0.38	Accept
H6	0.476***	0.431	Accept
H7	0.165*	0.182	Accept
H8	0.295***	0.334	Accept
H9	0.359***	0.432	Accept

Source: Primary data.

5. Conclusions, limitations and further research

5.1. Discussion

The results of this research have shown that the suitability between brand sound and customer emotion (PHCX) has the strongest impact on brand recognition with a standardized regression weight of 0.432. This indicates when the music is in harmony with the customer's emotions, it will greatly increase the customer's recognition of the brand, because emotions play a very important role in human life. This is also explained by hypothesis H5: Brand sound sentiment has an impact on the suitability of brand sound and brand image with a normalized regression weight of 0.38. Thus, emotions play a very important role in both Brand Image and Brand Identity, which can be leveraged to increase brand values and awareness.

The suitability of brand sound and brand image is also the factor that has a great impact on brand recognition with a standardized regression weight of 0.334. Brand image is an important factor affecting brand recognition because this may be the first thing that customers perceive when they first interact with a brand (besides the brand name). Therefore, building appropriate brand music enhances the brand image, thereby increasing the customer's ability to remember and recognize the brand.

The uniqueness and difference of the brand sound is the factor that has the least influence on brand recognition with a standardized regression coefficient of only 0.182. This can be explained by the music perception tastes of the majority of

consumers currently. Brand sound can be new, unique and creative, but if it is too strange or goes against the general trend of music perception of the majority of customers, this factor can be considered unsuitable for customers and makes them not want to remember the brand. The creation and distinction of each brand's music product is still a relatively important factor in distinguishing the brand from which to improve brand recognition.

In the group of factors that influence the uniqueness and difference of the brand sound, the harmony in the melody of the soundtrack and the emotion of the soundtrack have a positive impact on this group of factors with a standardized regression weight of 0.176 and 0.295 respectively. The emotional element of the brand sound has a great impact on the intermediary factor, this further strengthens the role of emotions in brand recognition in general and the difference of the music brand in particular. A melody representing the brand can create appropriate emotions for the listeners, create a special feeling and be deeply remembered by customers.

In the group of factors that influence the suitability of the brand sound and brand image, the music genre and the emotion of the soundtrack have a positive impact on this dependent variable with standardized regression weights of 0.161 and 0.38 respectively. The combination of choice of music genre has a relative impact on the balance between the brand sound and the brand image, so this factor can be considered when firms implement brand sound strategies.

In the group of factors affecting the compatibility between music and customer emotions, emotion is the factor that greatly influences the dependent variable with a standardized regression weight of 0.431. This shows that the harmony between the brand sound and the customer's emotions is important and closely linked to influencing the customer's brand recognition.

According to the research results, hypothesis H2 is not accepted, meaning that the uniqueness and distinctiveness of the brand are not affected by the genre of brand sound. In fact, a brand sound is usually of short duration, from about several seconds to a minute. The development of digital music helps brands to be able to mix different kinds of music genres, making them difficult to identify if the listeners are not music experts. Therefore, the difference and uniqueness of the brand do not come from the music genre that businesses choose as their brand sound.

The results of the research suggest businesses should choose appropriate brand music to enhance customer recognition of their brand. Businesses need to create and develop music to ensure its harmony with the brand image and music genre while still maintaining the positive and memorable emotions of their customers. They also do not need to pay much attention to the music genre when creating brand sounds; it can be one or a combination of many different music genres.

5.2. Limitations

In addition to the achieved results, the study still has some limitations in terms of sample size, it is still small compared to the study population, and this can also affect the reliability of research results.

Besides, the research on brand sound and its impact on brand recognition and perception has not been studied by many scholars in Vietnam. Therefore, it may be some factors of the brand sound that affect different levels of brand recognition which were studied in other countries are still missed in this research.

5.3. Further research

Research on brand sound is necessary in this competitive context. Brands try to use many

tools in the brand identity system to enhance brand awareness among customers. Therefore, this research can be expanded to different industries in the Vietnamese market such as the cosmetics industry, the FMCG industry, and the F&B industry etc.

In addition, further research into brand sound elements such as tempo, melody, timbre, volume, duration, and popularity that impact brand recognition would also contribute to helping businesses understand better their customers' tastes and behaviors, from which appropriate brand sound decisions can be made. Future studies can also select groups with different demographics to compare the influence of brand sound on their perceptions.

References

- Anwar, A., Gulzar, A., Sohail, F. B., & Akram, S. N. (2011). Impact of brand image, trust and affect on consumer brand extension attitude: The mediating role of brand loyalty. *International Journal of Economics and Management Sciences*, 1(5), 73-79.
- Ashford University. (2017). How does music affect your brain? <https://www.ashford.edu/online-degrees/student-lifestyle/how-does-music-affect-your-brain>
- Ataman, B., & Ülengin, B. (2003). A note on the effect of brand image on sales. *Journal of Product & Brand Management*, 12(4), 237-250. <https://doi.org/10.1108/10610420310485041>
- Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15(2), 139-168. <https://doi.org/10.1086/209154>
- Beverland, M., Lim, E. A. C., Morrison, M., & Terziovski, M. (2006). In-store music and consumer-brand relationships: Relational transformation following experiences of (mis) fit. *Journal of Business Research*, 59(9), 982-989. <https://doi.org/10.1016/j.jbusres.2006.07.001>
- Bongers, T. F. J. (2019). Emotion-sound symbolism in brand names: A linguistic and experimental study of emotion-related sound symbolism and its effects on buying intention when applied to brand names. Tilburg University.
- Bresin, R., & Friberg, A. (2011). Emotion rendering in music: Range and characteristic values of seven musical variables. *Cortex*, 47(9), 1068-1081. <https://doi.org/10.1016/j.cortex.2011.05.009>
- Brodsky, W. (2011). Developing a functional method to apply music in branding: Design language-generated music. *Psychology of Music*, 39(2), 261-283. <https://doi.org/10.1177/0305735610387778>

- Ehrenberg, A., Barnard, N., & Scriven, J. (1997). Differentiation or salience. *Journal of Advertising Research*, 37(6), 7-15.
- Escalas, J. E., & Bettman, J. R. (2015). Managing brand meaning through celebrity endorsement. *Brand Meaning Management (Review of Marketing Research, Vol. 12)* (pp. 29-52). Emerald Group Publishing Limited. <https://doi.org/10.1108/S1548-643520150000012002>
- Fan, Q. (2019). Relationship among China's country image, corporate image and brand image: A Korean consumer perspective. *Journal of Contemporary Marketing Science*, 2(1), 34-49. <https://doi.org/10.1108/JCMARS-01-2019-0006>
- Fournier, S., & Lee, S. (2009). Getting brand communities right. *Harvard Business Review*.
- Freitas, A., & Guimaraes, F. (2011). Melody harmonization in evolutionary music using multiobjective genetic algorithms. *Proceedings of the Sound and Music Computing Conference*.
- Hair, J. F. Jr., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26, 106-121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hou, J., Zhao, X., & Zheng, J. (2019). The impact of consistency between the emotional feature of advertising music and brand personality on brand experience. *Journal of Management Analytics*, 6(3), 250-268. <https://doi.org/10.1080/23270012.2019.1613684>
- Jackson, D., Jankovich, R., Eric, S., & Marcus, D. (2013). *Hit Brands: How Music Builds Value for the World's Smartest Brands* (2013th ed.). Springer.
- Jäncke, L. (2008). Music, memory and emotion. *Journal of Biology*, 7(6), 21. <https://doi.org/10.1186/jbiol82>
- Jenefer, R., & Robert, S. H. (2012). Emotions in music. *Music Theory Spectrum*, 34(2), 71-106. <https://doi.org/10.1525/mts.2012.34.2.71>
- Judy, I. A., & Mark, I. A. (1989). Background music as an influence in consumer mood and advertising responses. *NA - Advances in Consumer Research (Vol. 16, pp. 485-491)*. Association for Consumer Research.
- Keller, K. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57, 1-22. <https://doi.org/10.2307/1252054>
- Keller, K. L. (2001). *Building customer-based brand equity: A blueprint for creating strong brands*. Marketing Science Institute.
- Kemp, E., Kopp, S. W., & Bui, M. M. (2023). Healthcare brands sound off: Evaluating the influence of sonic branding in shaping consumer perceptions. *International Journal of Pharmaceutical and Healthcare Marketing*, 17(3), 340-352. <https://doi.org/10.1108/IJPHM-10-2022-0093>
- Klink, R. R. (2001). Creating meaningful new brand names: A study of semantics and sound symbolism. *Journal of Marketing Theory and Practice*, 9(2), 27-34. <https://doi.org/10.1080/10696679.2001.11501889>
- Koelsch, S., Fritz, T., v. Cramon, D. Y., Müller, K., & Friederici, A. D. (2006). Investigating emotion with music: An fMRI study. *Human Brain Mapping*, 27(3), 239-250. <https://doi.org/10.1002/hbm.20180>
- Li, T., & Ogihara, M. (2005). Music genre classification with taxonomy. *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP '05) (Vol. 5, pp. v/197-v/200)*. IEEE. <https://doi.org/10.1109/ICASSP.2005.1416274>
- Loui, P., & Wessel, D. (2007). Harmonic expectation and affect in Western music: Effects of attention and training. *Perception & Psychophysics*, 69, 1084-1092. <https://doi.org/10.3758/BF03193946>
- Minsky, L., & Fahey, C. (2017). *Audio Branding*. Brilliance Audio.
- Naehyun, P. J., Sangmook, L. & Lynn, H. (2012). Impact of restaurant experience on brand image and customer loyalty: Moderating role of dining motivation. *Journal of Travel & Tourism Marketing*, 29(6), 532-551. <https://doi.org/10.1080/10548408.2012.701552>
- Nguyen, V. T. (2020). The process of building a brand for Vietnamese businesses. *Industry and Trade Magazine*. <https://tapchicongthuong.vn/bai-viet/quy-trinh-xay-dung-thuong-hieu-cho-doanh-nghiep-viet-nam-77123.htm>
- O'Rourke, A. M., Carrillat, F. A., & Wang, P. Z. (2022). Is brand differentiation necessary for success? The role of purchase goal and confidence in the brand's position. *Journal of Marketing Management*, 38(3-4), 369-397. <https://doi.org/10.1080/0267257X.2021.1966076>
- Tzanetakis, G. & Cook, P. (2002). Musical genre classification of audio signals. *IEEE Transactions on Speech and Audio Processing*, 10(5), 293-302. <https://doi.org/10.1109/TSA.2002.800560>
- Pernille, K. A., Kristensson, P., Wästlund, E., & Gustafsson, A. (2012). Let the music play or not: The influence of background music on consumer behaviour. *Journal of Retailing and Consumer Services*, 19(6), 553-560. <https://doi.org/10.1016/j.jretconser.2012.06.010>
- Psyche, L., Wessel, D. L., & Kam, K. L. H. (2010). Humans rapidly learn grammatical structure in a new musical scale. *Music Perception*, 27(5), 377-388. <https://doi.org/10.1525/mp.2010.27.5.377>
- Puligadda, S., & Van Bergen, N. (2023). The influence of sound logo instruments on brand personality perceptions: An investigation of brand ruggedness and sophistication. *Journal of Business Research*, 156. <https://doi.org/10.1016/j.jbusres.2022.113531>
- Romaniuk, J., Sharp, B., & Ehrenberg, A. (2007). Evidence concerning the importance of perceived brand differentiation. *Australasian Marketing*

- Journal*, 15(2), 42-54.
[https://doi.org/10.1016/S1441-3582\(07\)70042-3](https://doi.org/10.1016/S1441-3582(07)70042-3)
- Samiee, S., Shimp, T., & Sharma, S. (2005). Brand origin recognition accuracy: Its antecedents and consumers' cognitive limitations. *Journal of International Business Studies*, 36, 379-397.
<https://doi.org/10.1057/palgrave.jibs.8400145>
- Trong, H., & Ngoc, C. N. M. (2008). *Research data analysis with SPSS* (Vol. 1). Hong Duc Publisher.
- Valkeinen, S. (2020). *Influence of music in advertising on consumer attitude and purchase intention - The effect of an international and local music on the Finnish audience*. JAMK University of Applied Sciences.
- Winston, J. L., Jazwinski, B. M., Corey, D. M., Colombo, P. J. (2021). Music training, and the ability of musicians to harmonize, are associated with enhanced planning and problem-solving. *Front Psychol.*, 12.
<https://doi.org/10.3389/fpsyg.2021.805186>.
- Zander, M. F. (2006). Musical influences in advertising: how music modifies first impressions of product endorsers and brands. *Psychology of Music*, 34(4), 465-480.
<https://doi.org/10.1177/0305735606067158>