



Effects of Music Dimensions on the Customer's Behavior Visiting Commercial Centers by Moderating Factors: Case Study Retail Stores in District 1 of Tehran, Iran

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Abstract

To attract the customer, gain profit and increase purchase, organizations should understand the customer's behavior and factors affecting such as environmental factors. In fact, customers communicate with the buying and selling environment through the interior and exterior elements of the store. For example, among the internal factors affecting the attractiveness of the store, music is one of the factors that is ignored by managers of organizations and stores. According to the study results, it was attempted to prove the effect and dimensions of music as an environmental factor on the customer's behavior. This issue is investigated in the form of nine hypotheses, including the effects of music dimensions separately and the effects of music dimensions on different age groups and both genders of men and women. Finally, according to the results, it was concluded that the hypothesis of the effects of music dimensions was confirmed separately, the hypothesis of the effects of music dimensions on gender was rejected, and the hypothesis of the effects of music dimensions on different age groups was confirmed.

Keywords: Age, Customer's behavior, Environment, Genders, Market, Music, Music dimensions, Music style, Physical dimensions Preferential dimensions.

1. Introduction

The retail market is highly competitive. To differentiate themselves from other competitors and increase their market share, retailers and service institutions can seek to provide conditions to create a satisfying purchase for their market customers. In the retail industry, customers deal with the store environment before using the purchased items, and the customer's experience is created in the store environment. Therefore, in a store, the attitude that is induced on the customer in this environment is much more important than other factors such as product variety (Katler & Armstrong, 1999). In fact, as much as the environmental variables and the exterior space of commercial centers play a major role in attracting and directing customers inside, paying attention to the internal variables and the interior space will also have an undeniable effect on attracting customers. Factors such as the lighting, aroma, music, setting the appropriate temperature and cleanliness of the environment increase the personality of the store environment. Interior design is one of the most important elements of a store to present a beautiful image of the store and plays a very important role in influencing the customer's behavior and promoting the store. Also, in this way, customers are encouraged to buy from the store in the future, which is the goal we are looking for (Mehrabian & Russell, 1974). In other words, the customer's behavior, according to internal and external environmental factors, includes a set of psychological and physical processes that begin before purchase and continue after consumption. One of these influential environmental factors, which is referred to as an internal factor in many countries of the world, is music, which is referred to as the most important and effective environmental factor. In fact, The aim of this research is to explore the utilization of music as a strategic tool for improving customer experience and boosting sales in retail outlets. Through the provision of an appropriate auditory environment, retailers can not only stand out from the competition but also create emotional attachment to the customers, and finally, they can enhance customer satisfaction and loyalty. Recent studies have shown that music is the strongest instrument to shift consumer behavior. Researches made on that matter have proved that music has a deep effect on mood, emotions, and buying decisions. The data acquired implies that the intentional use of music can manifest as a more pleasant and welcoming shopping environment. Additionally, music can be used as a tool for brand differentiation and to enhance the overall atmosphere of the establishment. Retailers can take advantage of the psychological and emotional impact that music has on people and thus compose music lists that fit both their goals and the market niche they are aiming at. Research in this field has a potential effect on business performance, including providing guidelines that show how to increase sales using music or the effect of music on social psychology. For example, for the variable of music, according to a study by the Gallup Inc (1996), 91% of the customers stated that music affected their purchase behavior. The same research has shown that 86% of these customers stated that music should be added to the interior of the store, while music has influenced purchase intention of 33% of the respondents. For this idea, the results emphasize that music can be a very important

environmental variable (Herrington 1996). Buyers like listening to music while shopping and feel that stores playing background music pay attention to customers.

The objective of this study was to create a suitable environment using music for the customer to avoid unpleasant environments and be attracted to a pleasant environment. Research on music as an independent variable has focused on the effect and dimensions of music on behavior.

The next section of this article reviews previous studies of researchers on the effect of the use and dimensions of music on the customer's behavior, and the hypotheses. The method, discussion and results are also examined.

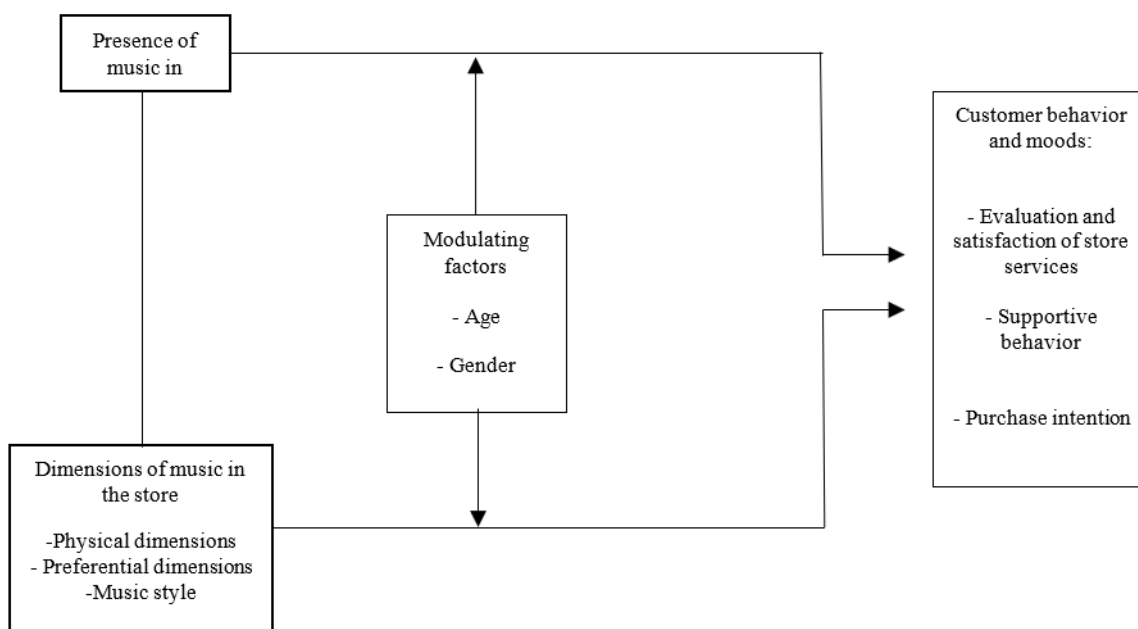


Figure 1. Conceptual model of the research.

2. Previous Studies and Hypothesis Development

A wide range of music in retail stores has proven its usefulness in influencing customer behavior and perception. The studies conducted so far mainly looked at the affective and behavioral variables (Jain and Bagdare, 2011). Hui and Dube (1997) found that music leads to emotional evaluation of the environment for customers who are waiting for a service. Positive background music also creates a positive environment for waiting. Likewise, et al. Irena Vida(2007) found that music had a positive effect on shopping length, which indirectly affects the customer's spending. To illustrate, pleasant background music contributes to a happier shopping atmosphere, thus, increased customer satisfaction and probably longer dwell time In short, because the effects of music on the human mind and psyche have been proven, music is considered as one of the environmental factors affecting customers in a shopping center, and shopping centers should implement these factors to maintain their competitive advantage with other centers and based on the widespread belief that in-store music can positively respond to customers' needs, managers mutually consider significant sources for in-store music composition and store design (Morrison, M., & Beverland 2003). In fact, music appears to impact a variety of dependent variables, such as affective ones (mood, arousal pleasure, emotion) (Bitner, 1992; Tansik and Routheaux (1999), financial returns (value of sales, quantity purchased, gross margins) (North et al., 2000, 2003), attitudes and perception (liking, brand loyalty, service quality) (Chebat et al., 1993; Grewal et al., 2003), temporal effects (duration perceived/actual, time to consume) (Holbrook and Gardner, 1993), and behavioral variables (patronage frequency, store choice, in-store traffic flow) (Turley and Milliman, 2000; Garlin and Owen, 2006).

It should be mentioned, after deciding to equip the store with music, managers should have a plan to develop this internal factor as the physical dimension of music, preferential dimension of music and music style in their store. In the other word, music must be very carefully introduced by managers to make them feel that it is something extra in the overall presentation of the store and that it is something they prefer as customers. Physical dimensions are defined as variables that can be measured (Oakes 2000). Previous studies have shown that low music speed is 72 beats per minute or even less and high music speed is 94 beats per minute or more (Milliman 1982 and 1986). The second physical dimension, i.e. volume, depends on the loudness of the music. Therefore, previous studies have considered on average 60 dB as soft music and 90 dB as loud music. In addition, there are few studies on music in commercial centers. For example, major and minor states are indicators that make the customer understand the sad or happy state of music (Peretz, Gagnon, Bouchard 1998). Compared to the physical dimension of music, the preferential dimension is not easily measurable (Oakes 2000). Because this variable depends on the customer's subjective evaluation. In our study, preferential dimensions can be divided into three different indicators. The first index can be defined as the customer's interest in the piece of music, the second index is popularity, and the third index can be defined as music that is compatible with the way services are provided in commercial centers (Herrington & Capella 1996). Finally, musical style refers to a conventional category, to which pieces of music belong, or we can say, a common tradition and / or a set of conventions (Samson 2012).

Hence, this study is very important for implementation and the main objective of this study was to determine the effect and dimensions of music in commercial centers in District 1 of Tehran, Iran, by analyzing the effects on the customer's behavior given the moderating factors, when buying. The main question in this study raises, Is playing music in commercial centers in District 1 of Tehran, Iran, affects the customer's behavior? Considering this question and the main objective of this study, the following 9 hypotheses were developed and tested.

H₁: The physical dimension of music has an effect on the customer's behavior.

H₂: The preferential dimension of music has an effect on the customer's behavior.

H₃: The dimension of music style has an effect on the customer's behavior.

- H₄. The factor of gender plays a moderating role in the effect of the physical dimension of music on the customer's behavior.
- H₅. The factor of gender plays a moderating role in the effect of the preferential dimension on the customer's behavior.
- H₆. The factor of gender plays a moderating role in the effect of music style on the customer's behavior.
- H₇. The factor of age plays a moderating role in the effect of the physical dimension of music on the customer's behavior.
- H₈. The factor of age plays a moderating role in the effect of the preferential dimension on the customer's behavior.
- H₉. The factor of age plays a moderating role in the effect of music style on the customer's behavior.

3. Method

This study focused on investigating the effect of music use on the customer's behavior in clothing commercial centers located in District 1 of Tehran, Iran, where music is played, with the sample size of n=384 for 6 months since April 2018 to May 2019. It should be noted that the sampling method in this study was simple random. In this method, all the major shopping centers in District 1 of Tehran were included. The statistical population was unlimited based on the customer's estimate who visited commercial centers for 6 months, and the sample size was n=384 based on Cochran's formula. The independent variables in this study were the physical dimension, preferential dimension and music style which have been investigated. The dependent variable in this study was the customer's behavior, which was investigated. The tools of data collection in this study were library study and questionnaire. The questions raised in the questionnaire are closed-ended, and the Likert scale was used to measure and evaluate the opinions and willingness of people. The content of the questionnaire was according to the research hypotheses and the data related to the research literature obtained from the library studies. According to one of the data collection techniques in an extensive way, a structured questionnaire was designed and used for data collection. The questionnaire is developed in two parts. The first part includes the personal information of the respondent. In this part, the respondents have been asked 5 questions to specify their gender, age, level of education, employment status, and marital status, so that their effects can be studied. In the second part, by asking 13 questions from the hypotheses considered in this study, the effect of music on the customer's behavior in commercial centers has been measured. In this article, Cronbach's alpha with 30 initial questionnaire samples has been used to confirm the reliability and confirmatory factor analysis (CFA) and opinions of professors and experts in this field have been used to confirm the validity of the questionnaire. Since the value of Cronbach's alpha obtained from all research variables is above 0.7, it can be said that the questionnaire has acceptable reliability.

Table 1. Cronbach's alpha of research variables and dimensions.

Variable	Cronbach's alpha
Physical dimension of music	0/709
Preferential dimension of music	0/719
Music style	0/726

To confirm the validity, CFA and opinions of professors and experts in this field have been used. In this way, the factor load of each indicator with its own structure has a value of t higher than 1.96. Considering the validity of the questionnaire and developing hypotheses (9 hypotheses) about the measured concepts and testing these hypotheses, it was concluded that the measurement tool had the necessary accuracy to measure that structure.

4. Results

Next, to test the hypothesis, the normal distribution was tested by Kolmogorov-Smirnov statistic to use appropriate statistical tests according to the results. To select a statistical test for research, we should decide whether to use parametric tests or nonparametric tests. One of the criteria for this selection is the Kolmogorov-Smirnov statistic. Kolmogorov-Smirnov statistic shows the non-normality of the data distribution. It means that it compares the distribution of a trait in a sample with the distribution assumed for the population. If Kolmogorov-Smirnov statistic is rejected, the data has a normal distribution, and it is possible to use parametric statistical tests for research. In contrast, if Kolmogorov-Smirnov statistic is confirmed, it means that the data does not have a normal distribution, so we should use non-parametric tests for research. Using SPSS for Kolmogorov-Smirnov statistic result, if this was significant (i.e. p was lower than 5%), it means that the data distribution is not normal and we should use non-parametric tests, and vice versa. Because its confirmation is a sign of non-parametric data.

Table 2. Normal distribution of data using the Kolmogorov-Smirnov statistic.

Dimension	KS	Significance level
Effect of the physical dimension of music on the customer's behavior	2/304	0/000
Effect of the preferential dimension of music on the customer's behavior	2/220	0/000
Effect of the dimension of music style on the customer's behavior	2/203	0/000
Effect of music on the customer's behavior	1/862	0/002

As shown in Table 2 and according to the results of Kolmogorov-Smirnov statistic, it was found that the data had no normal distribution. Therefore, non-parametric tests were used.

To test the significance of the effect of music on the customer's behavior, the sign test is used for non-normal data. The sign test is a non-parametric test.

Table 3. Scales compared to the mean score.

Dimension	Z-statistic	Significance level
Effect of the physical dimension of music on the customer's behavior	-3/566	0/000
Effect of the preferential dimension of music on the customer's behavior	-3/412	0/001
Effect of the dimension of music style on the customer's behavior	-13/133	0/000
Effect of music on the customer's behavior	-10/537	0/000

To answer the question, does music affect the customer's behavior? given the non-normal distribution of the data and average of the components compared to the mean score (according to the use of the five-point Likert scale, the average limit was considered equal to 3), the sign test was used. As shown in Table 3, the results show a significant effect of music on the customer's behavior.

Table 4. Mean comparison of two groups of women and men.

Dimension	Man-Whitney U	Significance level
Effect of the physical dimension of music on the customer's behavior	16770	0/130
Effect of the preferential dimension of music on the customer's behavior	18020	0/724
Effect of the dimension of music style on the customer's behavior	17940	0/668
Effect of music on the customer's behavior	17390	0/350

When two independent samples (women and men) are assumed in the population and the data of these two samples are slightly abnormal, the Mann-Whitney test is used. As shown in the above table, it was found that because the significance level of the two groups of women and men is higher than 0.05, no significant difference was in any of the studied scales in the two groups of male and female respondents.

Kruskal-Wallis test was used to test the hypotheses related to the difference in age group. This test was used to test different hypotheses for several independent samples. In other words, when the prerequisites of parametric tests are not met - for example, the statistical distribution of the variables is not normal, Kruskal-Wallis test is used instead

Table 5. Summary of the results of Kruskal-Wallis test on the effect of the physical dimension of music on the customer's behavior in different age groups.

Age group	Mean rank	Degree of freedom	Chi-square	Significance level
Below 20 years	236/15	4	4/527	0/339
21-30 years	189/83			
31-40 years	206/16			
41-50 years	195/25			
Above 50 years	162/60			

The summary of the results of Kruskal-Wallis test shows that because the significant level was more than 0.05, the effect of the physical dimension of music on the customer's behavior in different age groups was not significant.

Table 6. Summary of the results of Kruskal-Wallis test on the effect of the preferential dimension of music on the customer's behavior in different age groups.

Age group	Mean rank	Degree of freedom	Chi-square	Significance level
Below 20 years	233/44	4	13/953	0/007
21-30 years	181/82			
31-40 years	240/36			
41-50 years	222/61			
Above 50 years	222			

The summary of the results of Kruskal-Wallis test shows that because the significance level was less than 0.05, the effect of the preferential dimension of music on the customer's behavior in different age groups had a significant difference.

Table 7. Summary of the results of Kruskal-Wallis test on the effect of music style on the customer's behavior in different age groups.

Age group	Mean rank	Degree of freedom	Chi-square	Significance level
Below 20 years	201/44	4	16/727	0/002
21-30 years	192/42			
31-40 years	228/49			
41-50 years	87			
Above 50 years	198/50			

The summary of the results of Kruskal-Wallis test shows that because the significance level was less than 0.05, the effect of the dimension of music style on the customer's behavior in different age groups had a significant difference.

Table 8. Summary of the results of Kruskal-Wallis test on the effect of music on the customer's behavior in different age groups.

Age group	Mean rank	Degree of freedom	Chi-square	Significance level
Below 20 years	240/44	4	13/565	0/009
21-30 years	189/34			
31-40 years	229/23			
41-50 years	118/64			
Above 50 years	185/30			

The summary of the results of Kruskal-Wallis test shows that because the significance level was less than 0.05, the effect of music on the customer's behavior in different age groups had a significant difference.

Table 9. Summary of the results of hypothesis test.

Hypothesis	Test result
The physical dimension of music has an effect on the customer's behavior.	Confirmed
The preferential dimension of music has an effect on the customer's behavior.	Confirmed
The dimension of music style has an effect on the customer's behavior.	Confirmed
The effect of the physical dimension of music on the customer's behavior had a significant difference in gender groups.	Rejected
The effect of the preferential dimension of music on the customer's behavior had a significant difference in gender groups.	Rejected
The effect of the dimension of music style on the customer's behavior had a significant difference in age groups.	Rejected
The effect of the physical dimension of music on the customer's behavior had a significant difference in age groups.	Rejected
The effect of the preferential dimension of music on the customer's behavior had a significant difference in age groups.	Confirmed
The effect of the dimension of music style on the customer's behavior had a significant difference in age groups.	Confirmed

5. Discussion

The objective of this study was to investigate the effect and dimensions of music on the behavior of buyers of retail centers in Tehran, Iran. First, we had an overview of the study results from the demographic dimension and based on the hypothesis test results, and then, according to the results, conclusion and suggestions were presented. In this study, the statistical sample consisted of 384 customers of shopping malls, to whom the questionnaires were delivered and returned in person. 53% of the respondents were women and 47% were men. For age, 4.4% of the respondents were under 20 years old, 78.9% between 21 and 30 years old, 9.1% were between 31 and 40 years old, 3.6% were between 41 and 50 years old, and finally 3.9% were over 50 years old. Next, to test the hypothesis, Kolmogorov-Smirnov statistic was used to use appropriate statistical tests according to the results of this test. As shown in Table 2 and according to the results of Kolmogorov-Smirnov statistic, it was found that because the significant level of the data was less than 5%, the data had no normal distribution. Therefore, non-parametric tests were used. For the rejection or confirmation of the H1, H2 and H3 on the effects of music dimensions on the customer's behavior, the sign test was used for non-normal data. To answer the question, Does music affect the customer's behavior? given non-normal distribution of the data and the average of the components compared to the mean score (according to the use of the five-point Likert scale, the average limit was considered equal to 3), the sign test was used. As shown in Table 3, the results show a significant effect of music on the customer's behavior. As a result, H1, H2 and H3 were confirmed. Mann-Whitney test was used to confirm or reject H4, H5 and H6. As shown in Table 4, because the significance level of the two groups of men and women was more than 0.05, no significant difference was in any of the studied scales in the two groups of male and female respondents. As a result, H4, H5 and H6 were rejected. Some studies have shown that gender plays a moderating role in the effect of music style on the customer's behavior. Grewal et al. (2003) found that men and women responded differently to atmospheric variables such as the number of visible staff, the number of consumers, and the presence (or absence) of music. Kellaris and Rice (1993) found a gender difference in auditory sensitivity that could explain why women responded more positively than men to music played at a lower volume. Kellaris and Altsech (1992) have investigated the effect of music and gender on time experiences and found that gender plays a significant role in managing time in the store. Kellaris and Mantel (1994) suggested that gender and its interaction with mood (induced by music) can affect consumers' time perceptions. Also, studies have shown that women prefer slower, softer music and men prefer louder, faster music, regardless of music style (Stipp 1990). Some researchers have suggested that gender differences are in auditory sensitivity and that men and women have different auditory stimulation and that women respond positively to music that has a lower tempo more often (Kellaris and Rice 1993). According to the study results, it was concluded that the previous studies are not consistent with the study results and studies by Grewal et al. 2003 Kellaris and Rice (1993), Kellaris and Altsech (1992), Kellaris and Mantel (1994), and Stipp (1990) on the effects of music dimensions on gender are rejected.

Kruskal-Wallis test was used to confirm and / or reject H7, H8 and H9. Table 5 shows that because the significance level of the age groups was higher than 0.05, the effect of the physical dimension of music on the customer's behavior in different age groups had no significant difference. Table 6 shows that because the significance level of the age groups was lower than 0.05, the effect of the preferential dimension of music on the customer's behavior in different age groups had a significant difference. According to the results of Table 7, because the significance level of the age groups was lower than 0.05, the effect of music style on the customer's behavior in different age groups had a significant difference. In general, according to the results of Table 8, it was concluded that the effect of music on the customer's behavior in different age groups had a significant difference. In a study, Holbrook and Schindler (1989) mentioned that music should be suitable for the age group of buyers and customers. In a study, Grace Yuna Lee and Youjae Yi (2008) entitled "effect of music on purchase intention by moderating factors" showed the sense of excitement inside the store had a positive effect on "purchase intention" of customers. As a result, the study results are consistent with the results of the present study.

6. Conclusion and Recommendations

Based on the researcher's analysis, there is a lack of studies focused on internal factors influencing consumer purchase behavior. Yet, understanding consumer behavior is crucial for addressing the challenges facing businesses and increasing product sales. The significance of internal factors affecting purchase behavior becomes evident here.

Knowing how much these factors influence purchasing decisions and what enhance them can significantly aid the economic growth of retail businesses. Considering the statistical results from previous sections, discussing this indicator and its relation to sales volume in shopping centers leaves no room for further debate.

Referring to earlier sections and considering music as an internal factor, it helps sellers understand how the dimensions of music and the positive emotions through moderating factors can increase purchases. Based on the correlation between music dimensions and purchase behavior, sellers should enhance the excitement of shopping in customers, reducing the time between purchase intent and actual purchase. This increases product visibility, thereby raising the likelihood of purchase. Sellers can reduce the risk of purchase for customers by using tactics such as selecting music genres that align with various age groups, choosing universally appealing music, or using music that complements sales staff interactions with customers and product information dissemination (preference dimension).

According to previous findings, sellers should focus more on different age groups rather than gender while they selecting music for their shop. The results related to the preference dimension and music style across various age groups show that the negative relationship between these variables and purchase behavior was not confirmed. This can be a strength for making purchases, as sellers can leverage it. Since customers in this type of purchase are less concerned about various risks, they can be easily guided toward making a purchase. Ignoring risks means disregarding the product price, potential issues during use, discrepancies between the product and the consumer's expectations, changes in others' perceptions due to using the product, and the time needed to learn how to use it.

Each of these mentioned factors can be an avenue for retailers to drive sales, especially in today's competitive markets where everyone seeks to mitigate these risks to attract customers' attention. This does not mean ignoring these aspects to achieve sales; rather, it implies that the seller feels fewer obstacles in their path to selling the product and can focus on other aspects to attract customers.

Furthermore, it is suggested that this research should be conducted in other settings, such as restaurants, to gain more insights into consumer behavior using this internal factor. Additionally, by limiting research to specific goods or product groups and expanding the research model by adding other independent or moderating variables, it will be easier to obtain more accurate results and avoid generalizations in this area.

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