EFFECT OF BACKGROUND MUSIC TEMPO ON THE BEHAVIOR OF CUSTOMERS: IN THE CASE OF SUPERMARKET BUSINESS

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Abstract

Background music has been used to improve customer behavior by improving emotional and behavioral characteristics. The present research examines the effects of music tempo of two language songs on customer shopping behavior. A survey was conducted at Arpico Super Center Kandy comprising with five experimental treatment viz no music, high tempo English song, low tempo English song, high tempo Sinhala song, and low tempo Sinhala song. The response of 30 randomly selected customers were evaluated for each type of treatments and in total 150 customers was interviewed. Overall, the study reveals that significant variations on customer behavior were found among the music tempo particularly English and Sinhala songs ($p < 0.05$). Lower tempo music of both languages had positively affected customer behavior resulted in the highest level of pleasure, arousal, and satisfaction after purchase. On other hands, a considerable number of customers neither attracted by the tempo nor the language of music. Thus this study suggests to maintaining a lower level of music tempo will encourage the majority of the customer behaviors hereby could be used as a strategy to improve sales volume.

Key Words: Consumer behavior, Music, Supermarket, Tempo

1 Introduction

Background music plays an important role in the premium market chain from the last decade and it can be readily controlled by management in shopping outlets (Garlin & Owen, 2006), ranging from loud to soft, fast to slow (tempo), vocal to instrumental, heavy rock to light rock, or classical to contemporary urban. Music is the invisible tool which stimulates emotions and feelings of listeners. Therefore, the behavior of the buyer can be affected by background music (Wijk, et al., 2018). Ambient background music creates a tranquilizing and pleasant atmosphere inside a supermarket and is one of the vital complete factors in a retail environment which holds, returns to life, increase liveliness, creates satisfaction and unforgettable experience for consuming (Vida, et al., 2007)

The music tempo is known as the speed or rate at which the rhythm progresses, and the music tempo can be controlled by the researchers when the types of the song are changed. Though recent published empirical research on the effect of music tempo on consumer behavior in various place in the world, for instance, Dillman & Potter (2007), Droit-Volet, et al. (2013), Kyu Kim & Gal Zauberman (2019), Lammers (2003), Milliman (1986) and Thompson, et al. (2001) used music tempo as controlled independent variable. However, the research on music tempo is lacking in Sri Lankan retail and supermarket context.

Music is an environmental factor which can influence an individual's emotional reactions. Mehrabian and Russell (1974) developed the mentioned theory and postulates that the environment affects three emotional states: pleasure, arousal, and dominance (PAD). Consequently, Russell & Pratt (1980) developed a two-dimensional model based on pleasure and arousal. However, The PAD model has been extensively well-founded in research. The model had been utilized by Donovan & Rossiter (1982), Donovan & Rossiter (1994) to examine the emotions of consumers during their shopping time. The findings revealed that pleasure anticipated consumer behavior in terms of extra time spent inside the store and unplanned purchasing and that arousal could predict less spending

in unpleasant store environments. Dubé, et al. (1995) found that background music manipulated the level of arousal and pleasure to a higher level, which leads to increase the desire to affiliate with staff in a bank. Mehrabian and Russell model has been utilized as a validated model for various consumption settings, for an instance, Massara, et al. (2010) used the model to assess the relationship between consumers and retail environment.

Research on music characteristics such as music tempo, volume, type, and genre are used as an independent variable has focused on how the valence of music affect customer behavior in different retail settings. For an example, Kyu Kim & Gal Zauberman (2019) investigated how the intertemporal trade-off decisions of customer influenced by music tempo and found that fast tempo music influenced the consumer decision on purchasing in retail shops. While, slow music tempo significantly increase time spent inside the shopping outlets (Milliman, 1986). Background music tempo variations can affect the length of stay inside the shopping outlets and sales. For instance, the purchase amount was significantly larger when the slow tempo music was played (Caldwell & Hibbert, 1999; Lammers, 2003).

Music loudness or volume influences consumer behavior in shopping. Variation in customer behavior was studied using a degree of background music loudness, for an instance, Smith & Curnow (1966) studied the effect of music loudness on supermarket customer behavior, found that customers shrink their spending time inside the outlet when the loud session was played. Further, a different level of music volume was tested to find customer spending in the restaurant. Resulting in this test revealed that the soft volume of background music significantly increases the spending behavior of consumers (Lammers , 2003).

Types of music on the money spending behavior of wine purchasing were investigated, the study found that classical music significantly raises the money spent to purchase wine. In addition, rather than increasing the amount of wine purchased, customers selected more expensive wine during the time of classical music playing (Areni & Kim, 1993). Further, Music genre also influences the consumer behavior and it is defined as It is a conventional category that identifies pieces of music as belonging to a shared tradition or set of conventions. The study conducted by Areni & Kim (1993) to understand the change of customer behavior by background music type found that classical music type positively increase sales.

Music impacts the variety of independent variables such as customer's mood, arousal, pleasure and emotion (Dillman Carpentier & Potter, 2007; Droit-Volet, et al., 2013 and Thompson, et al., 2001), financial returns known as sales volume, quantity purchased and profit margin (North, et al., 2000 and North, et al., 2003), attitudes and perception of consumers (Areni & Kim, 1993 and Grewal, et al., 2003), behavioral variables such as purchasing frequency, store choice, time spending (Garlin & Owen, 2006 and Turley & Milliman, 2000) and temporal effects like time taken to purchase, duration to perceived (Holbrook & Gardner, 1993 and Kyu Kim & Gal Zauberman, 2019). The purpose of this research is to investigate whether the music tempo played inside the supermarket affects the behavior of the customer. Further, the findings of this study will be useful to promote supermarket business to choose which tempo of songs are more profitable to the business.

Considering the above mentioned literature in mind, a conceptual framework was developed to investigate the hypothesis (Figure 1), stating that music tempo of both language songs (Sinhala and English) positively affect emotional status (the pleasure, arousal of customers) and the behaviors of the customers (satisfaction on purchase, enjoyment and time spending for shopping). However, this study enabled to investigate the former two behaviors
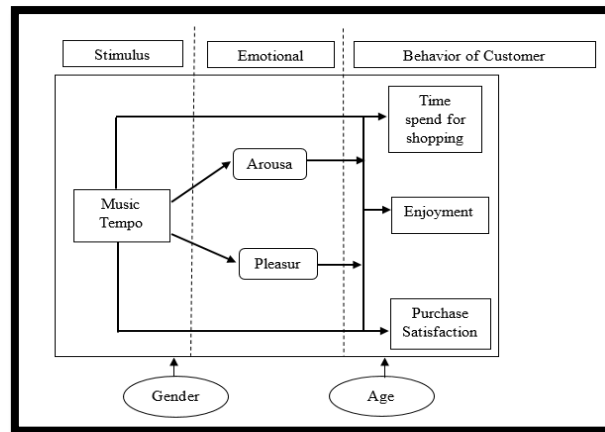
Figure 1: Conceptual framework

From the above conceptual framework two main hypothesis were developed; (1) music tempo effects the emotions of customers (2) music tempo effects the behavior of customers.

2   Methodology

The study was conducted at Arpico Super Center located in **Kandy city where the region is** approximately 200,000 population with a range of lower to middle-income group of locals. The store has been categorized as large scale supermarket chain had been in existence at its current location for several years with a reasonably stable core market.

Experimental Design
This study covered for twelve weeks starting on December 2013 and ended on February 2014 considering the possible factors to minimize the effect of public holidays (Milliman, 1982; Paz Toldos, et al., 2019). Furthermore, the trials were conducted on randomly selected weekdays, starting from 10 am to 4 pm in order to capture participants who are less in a hurry and to keep the type of participants constant. A structured questionnaire was employed among the customers based on quasi-experimental design to evaluate the effects of five treatments *viz,* No music condition – No songs were played (Xo), high tempo English songs (X1), low tempo English songs (X2), high tempo Sinhala songs (X3), low tempo Sinhala songs (X4). The level of music tempos was selected based on previous studies viz low tempo songs were played at 60 beats while high tempo songs at 96 beats (Milliman, 1982; Paz Toldos, et al., 2019). The list of songs played during the investigation period were selected based on the year 2014 online top twenty scores for Sinhala and English songs among Sri Lankans, while considerable efforts were made to play a constant and mild volume (60 decibels) for each treatment except Xo (No music condition).

2.1   Data Collection and Analysis
The survey comprises of randomly chosen 30 customers per treatment. In total, 150 customers were interviewed during this study, among those 80 were females and 70 were males. The questionnaire contained measurements for dependent variables (Table 1). Five point likert scale was used to satisfaction of purchasing, pleasure and arousal (1- Strongly disagree, 2- Disagree, 3- Neither agree nor disagree, 4- Agree, 5- Strongly Agree). Pleasure and arousal of customers were measured using five tools.

Subsequently, data were analyzed with STATA 13 statistical software. Initially, Cronbach's alpha (CA) test was carried out to check the reliability of data (Table 2). Factorial ANOVA was used to test the effect of the tempo of both language songs on the dependent variables. One way ANOVA and multiple regression analysis were used to test hypotheses.

3   Results and Discussion

3.1   Cronbach's alpha (CA) test.

Cronbach's alpha (CA) value is the index which indicates the reliability and validity of measurement used to measure the data and reflects the accuracy of interpretation from the data (Tavakol & Dennick, 2011). The present analysis reveals that CA value for all dependent variables in this study was above 0.70 depicting that the measurement CA was in the acceptable range. According to previous studies the acceptable values of CA, are ranging from 0.70 to 0.95 (Bland & Altman, 1997; Cronbach, 1951and Schoonheim-Klein, et al., 2008).

3.2   Effect of Music on Purchase satisfaction

The present study revealed that customers felt satisfaction while background music was played on the shop floor. The lower tempo music was highly preferred than the high tempo songs. Statistical analysis found that there was a significant effect observed for music tempo of both language songs (p=<0.05). Customer gained increased purchase satisfaction for low tempo English songs compare with high tempo (MD= 0.94, p <0.05), while comparing high tempos, English songs increased the level of satisfaction than the Sinhala songs (MD= 1.21, p= <.05). Overall, lower tempo music conditions increased the level of satisfaction among supermarket customers. The reason could be explained that the music impact on shoppers' emotions and satisfaction levels (Morrison, et al. 2011). However, cautious measures must be taken while playing music as a substantial number of customers were not impacted by the background music since they felt satisfaction without background music.

Table 1 Dependent variable and measures

| Dependent Variable	Tools	Measures (5 – Point Likert Scale)
Satisfaction Of Purchasing	Unsatisfied - Satisfied	1- Strongly disagree 2- Disagree 3- Neither agree nor disagree 4- Agree 5- Strongly Agree
Pleasure	Unhappy – happy Unsatisfied -satisfied Annoyed- pleased Bored-relax Despairing-Hopeful	
Arousal	Relax - Stimulated Calm- excited Quiet-energetic Sleepy-awake Not aroused- aroused	
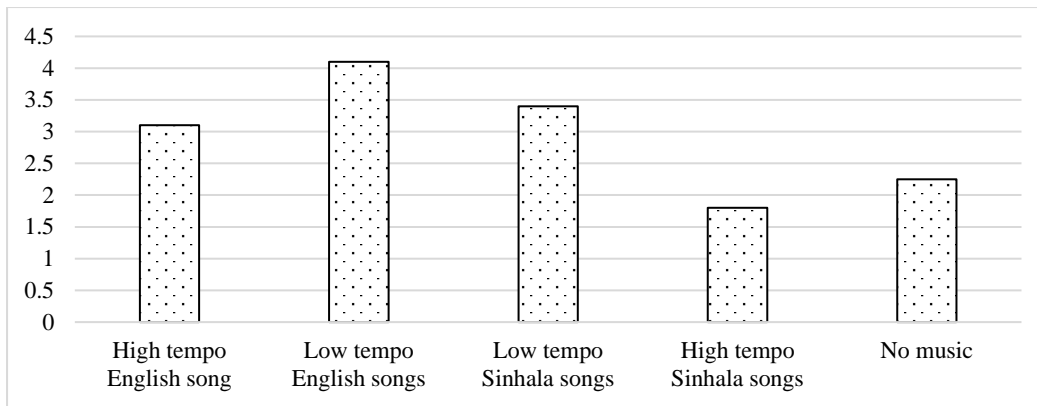
Figure 2 Level of purchase satisfaction for different music tempo

3.3   *The Effect of Music on Pleasure*

The music pleasure was investigated using five main tools (happy or satisfied or pleased or relax or despairing) described in the "Dependent variable and measures" (Table 1). Similar trends were seen as for customer purchase satisfaction. Low tempo songs raised pleasure than the higher tempo counterparts. Statistical analysis revealed that both English and Sinhala songs had significantly affected the customer's pleasure ($p < 0.05$). Furthermore, customers felt increased pleasure during the low tempo songs than high tempo thus for English songs (MD= 1.00, $p<0.05$) and Sinhala (MD =1.80, $p <0.05$). In contrary, customer pleasure was increased by high tempo English songs than Sinhala (MD= 1.58, $p <0.05$), while the substantial number of customers were not impacted by the background music as they felt reasonable pleasure without them.

The reason behind this observation could be that playing background music motivates customers to be happy or pleased or satisfied or relax. Similar studies were conducted in a restaurant environment and found that the music effects the pleaser of customers (Lammers 2003). The variation in tempo of each language songs would intrude the pleasure of the supermarket customer. Specifically, the low tempo of English songs produces a salient effect on pleasure.
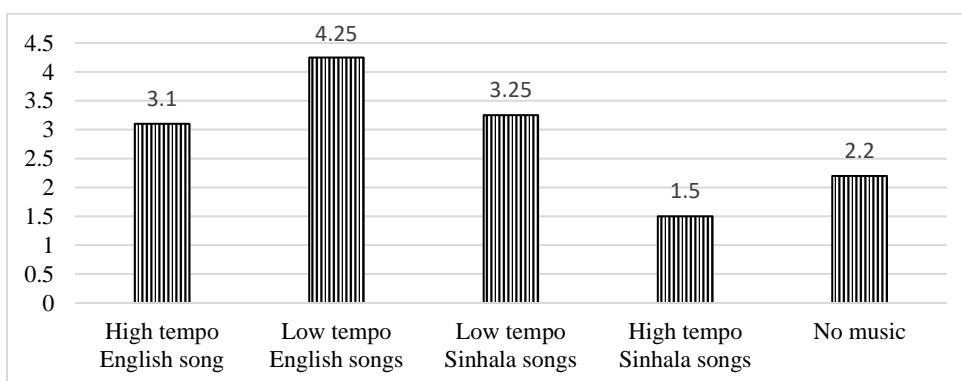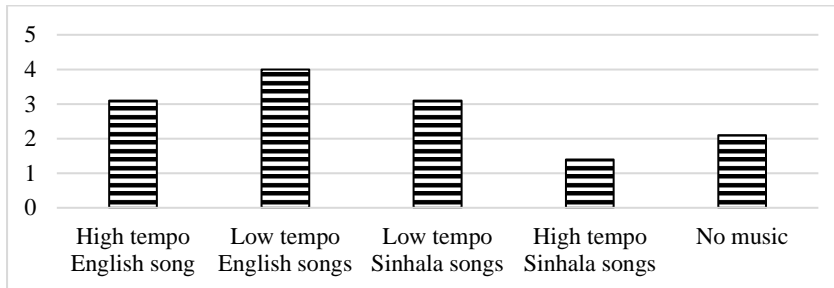

Figure 3 Level of pleasure for different music tempo

3.4   *Effect of Music on Arousal*

Statistical analysis revealed that the arousal of supermarket customers was significantly affected by music tempo ($p<0.05$). As showed in customer pleasure, the arousal was significantly increased by the low tempo of both English (MD= 0.89, $p= <0.05$) and Sinhala (MD=1.74, $p=<0.05$) songs than high tempo. However, the significant differences in arousal were observed between without music condition and high tempo Sinhala songs (MD = - 0.7, $p<0.005$). This finding indicates that high tempo Sinhala songs reduce the level of stimulation or excitement or

energy of customers in comparison to other experimental conditions. Further keeping the shopping environment in no music condition is better than high tempo Sinhala music condition.

Typically low tempo songs intrude the arousal of supermarket customers. Obviously, the low tempo of English songs increased the level of arousal in compare to other conditions. Music effects arousal was explained by Sweeney & Wyber (2002) revealed that slow tempo increases the level of pleasant lead to boost the arousal. Our results provide direct support to previous suggestions that music was judged to be more arousing than no music condition (Droit-Volet, et al., 2013) because a customer feels stimulated or exited or energetic during the time of songs are being played.

Figure 4 Level of arousal for different music tempo

3.5 *Implications*

As an implication of this study, playing low tempo English song for a long duration of business hours lead the customers to increases the level of pleasure and arousal of the customers. Thereby, the satisfaction on purchasing experience is raised. Because of this intuition, customers will be derived to purchase more and more goods and services in a particular outlet. Therefore, it is presumed that the sales volume and number of the loyal customer may increase

The study demonstrated that music tempo of different language songs can significantly affect the behavior of supermarket customers. Low tempo music significantly affects customer emotions and behavior, namely pleasure, arousal and customer satisfaction after purchase. This could be explained this study area consists of multi-cultural and multi-faith communities as such three communities Sinhalese, Tamils and Muslims visit the store for purchasing. Owing to this reason people with Sinhala language barriers would cause to prefer English songs. In addition, the customer's age, education level, employment status and adherence to Western lifestyles would have attracted them for English songs. In contrary there was a substantial number of supermarket customers were not attracted by playing music as some communities believe that listening music may hinter their religious believes. Thereby they ignore listening to music. Our finding reveals that the high tempo songs were least preferred by customers.

4   Conclusion

Music is considered a stimulus which encourages the emotional and behavioral change customer. Our research found that playing low tempo song for a long duration of business hours had led the customers to increases the level of pleasure and arousal of the customers. However, supermarket operators must take cautious measures while playing music as a substantial number of customers had neither impacted by the background nor music tempos. This study could be further explored by analyzing customer age group, gender, and purchasing power and through impacts on diverse interior environmental changes such as altering wall decorations, lighting and product promotions within the premises.

5   References

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