

# The Effects of Service Clues on Likelihoods of Additional Purchase

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## ABSTRACT

Customers' overall perceptions of experiences depend on small "performances" also known as clues (Berry et al., 2006), which can be classified into three categories: functional clues, clues indicating whether the product does what it is said to do; mechanic clues, which depend on the sensory presentation of the service; and humanic clues, clues deriving from behavior and appearance of service providers. While mechanic and humanic clues are important in creating customer loyalty for future visits and purchases, the question remains whether they encourage purchase at the time service is rendered, particularly related to a dining experience. While it is known that music speeds up the pace at which customers eat their food, it has not been researched whether music and better-quality service can encourage them to purchase additional items after their meal, such as dessert. This research, therefore, seeks to investigate how music and service-with-a-smile impact customers during their dining experience as it relates to likelihoods of additional purchases. Images of the food itself and the food being served were used to simulate the dining experience. Participants were surveyed and asked to rate their likelihood of purchase. It was found that images of the food itself with lively pop music resulted in the highest likelihoods of purchase. Interestingly, surveyed respondents preferred service of desserts without human interaction (i.e., no server in the image). However, between the images in which the food items were served, participants preferred the image of a server with a smile than without.

## Literature Review

### Functional, Mechanic and Humanic Clues

Clues are small "performances" that influence a customer's overall perception of an (Berry et al., 2006). Among the many clues that influence a customer's perception, there are three main categories that a clue can be categorized as. The first are functional clues, clues that relate to the technical quality of the offering or whether the product does what it is said to do. The second are the mechanic clues which depend on the sensory presentation of the service, this includes sights, smells, sounds, tastes, and textures. Lastly are humanic clues, clues that come from the behavior and appearance of service providers, such as choice of words, tone of voice, and even neatness of the people dealing with the product or service.

For example, when a customer sits down at a restaurant, functional clues regarding service include very basic elements such as being seated at a table in a restaurant with working lights where a meal can be prepared and enjoyed by customers. Berry et al. (2006) describes functional clues as the "what" of the service experience or the technical quality of the service. In other words, they relate to the core of any service. Though in many ways it can be considered the basic service that many companies would seek to successfully provide, these basic services should not be minimized. In researching customers switching behavior, Keaveney (1995) found that core service failures constituted the most cited reason for switching services amongst respondents: 44%. It is true that core services (i.e., functional clues of services) are vital in running successful, competitive

businesses. However, as Berry et al. mentioned, “[strong functional clues] alone are insufficient because functionality usually does not exceed customers’ service expectations” (2006, p. 47 ). In other words, only giving strong functional clues – providing core services – is not enough for customers to be amazed by the service they have received or to perceive that they have received excellent service.

In contrast to the functional clues that are often considered as the bare-minimum service to consumers, mechanic clues have the ability to further enhance the experience of the service or product by managing customer moods. Doing so is essential to gaining positive reviews of services rendered because consumers are guided by their emotional state: people in a “happier” mood have a “happier” experience (Schwarz, 2000), while those in a poor mood will have a poor experience. Leading customers’ experiences, therefore, requires influencing their emotional states, which cannot be done through the use of functional clues but can be done through the use of mechanic clues. According to Berry et al. (2006), mechanic clues come from inanimate objects which offer a physical representation of the intangible service. For example, consumers often judge the physical appearance of a restaurant before entering. These physical appearances include facility design, equipment, furnishings, displays, signs, colors, textures, sounds, lighting, and even price points (Berry et al., 2006). Such environmental signals of tangible and intangible facets of the company’s space can induce a good or positive mood within its customers. A clean exterior, reasonable prices, vibrant colors, and even music that matches the atmosphere of the restaurant can bolster positive moods. Mechanic clues, therefore, are vital for all organizations providing goods and services since the visual representation influences how a consumer thinks of the service or products.

Finally, humanic clues are the clues that are given by humans through “behavior, appearance of service providers, choice of words, tone of voice, level of enthusiasm, body language, neatness, and appropriate dress” (Berry et al., 2006). Similar to mechanic clues, humanic clues are also associated with the emotional perception of quality and, therefore, mood. For example, when a server at the restaurant approaches the customer with a smile and maintains good eye-contact while talking, the mood of a consumer becomes positive, promoting a more positive evaluation of their experience and a more favorable review. It is known that many companies heavily focus on customer service for this reason. According to Berry et al (1994), exceeding customers’ expectations requires the element of pleasant surprise, and the best opportunity for this is when service providers and customers interact. Pleasant surprises come when it is least expected, and the factor that is most unpredictable is human interaction. While functional and mechanic clues are typically more fixed, humanic clues can be more easily modified. This makes it easier to positively change an experience through interactions between the customer and service providers. It is easy to exceed customers’ expectations as there is such a small difference between a mediocre interaction and an outstanding interaction. A smile, the tone of voice, body language, even whether their uniform is properly tucked in or not could change a satisfactory interaction to an outstanding one.

## Empirical Studies and Findings

As mentioned before, mechanic clues are based on physical attributes which include facility design, equipment, furnishings, displays, signs, colors, textures, sounds, and lighting. All these physical elements make up the atmosphere of the location of where the service is offered. According to Milliman (1986), atmosphere is a term used to describe the experience that is felt, but not always seen. Atmosphere is controlled with various elements, and the most easily manipulative element is music. Milliman (1986) found that background music played at restaurants, affected the speed at which customers would eat their food: the faster the tempo of the music, the faster the customers would finish their food and leave the restaurant. Similarly, Milliman (1982) found that slow-tempo music produced a “slower” atmosphere at a medium-sized supermarket, causing shoppers to move more slowly and spend more time there. Another study found that louder music increases the customer’s rate of spending but decreases the time that is spent at supermarkets (Smith and Curnow, 1966).

Another variable that is adjustable is scent and smell. According to the study conducted by Spangenberg et al. (1996), customers evaluated the overall store, the store environment, and merchandise more positively when the store was scented compared to when it was not scented. Similarly, they were more likely to express a stronger intent not only to revisit the store but also to purchase the merchandise, though intensity of purchase intent varied according to whether customers already viewed the product favorably. It was also found that in a scented condition, customers perceived that they had spent less time in the store despite not staying longer than customers in the non-scented condition (Spangenberg et al., 1996). Interestingly, these findings applied regardless of the type of scent applied, meaning that what matters was the presence or absence of any scent in stores. Other studies reveal how pleasant scents increase the time that is spent in stores and casinos (Lipman, 1990; Hirsch and Gay, 1992), alleviate stress (Pacelle, 1992), and increase positive moods as well as promote prosocial behaviors such as helping others (Baron, 1997).

Therefore, physical attributes have real impact on customer behavior, affect and mood, evaluation of stores and products, intentions to buy, and a myriad of other perceptions. It is therefore of the utmost importance to take such mechanic clues into consideration in marketing and promoting goods and services provided within a physical space. According to Ryu et al. (2021), mechanic clues and physical environments become the “tie-breaker.” In restaurants, for example, when price and food quality become neutralized with competition, the physical environment “breaks the tie” in which is the more favorable restaurant.

Humanic clues are based on the clues given by human interaction and elements that make the interaction more complex. Humanic clues include the appearance of service providers, choice of words, tone of voice, emotional involvement, etc. While humanic clues are based on the clues that are given by human interaction, human interaction and communication between a customer and service provider can be divided into two categories: verbal and nonverbal (Baker, 2016). Physical attractiveness, eye-contact, and courtesy/attitude of the service provider are few elements among nonverbal communications. According to Kim and Baker (2016), eye-contact and courtesy of the service provider is valued very highly in the entire interaction between the customer and service provider. While physical attractiveness is also part of the nonverbal communication category, it does not have a significant effect on the customer’s overall satisfaction with the interaction and at most only enhances the experience (Kim and Baker, 2016). Physical attractiveness also influences what customers expect from the service provider in attitude and behaviors (Ahearne, 1999). However, expectations are “debunked” easily and a high expectation from an attractive service provider could be detrimental to the satisfaction for the customer because the service was not up to par to their expectation. Essentially, customers would not replace a service provider that is less attractive with great eye-contact and courtesy for a more attractive service provider with little eye-contact and bad courtesy.

Physical attractiveness of an employee is hard to manipulate, however uniforms are one of the few ways that physical attractiveness could be manipulated. Uniforms are used to give brand identity, atmosphere, expectations of the service, and to affect an employees’ attitude (Nelson and Bowen, 2016). While uniforms are also under physical attractiveness, uniforms add more to the brand image and affect employees’ self-confidence (Nelson and Bowen, 2016). When service providers self-confidence and credibility is heightened, the service providers’ attitude toward customers is also changed positively resulting in better encounters and better experiences.

As humanic clues are completely based on human interaction, the tone of voice, choice of words, and energy that they give off cannot be overlooked. The tone of voice, choice of words, and emotion that the service workers emit allow the customer to make a conclusion about their attitudes. According to a participant in Berry and Lampo’s study (2004), the mechanic clues (grocery store being new and clean) did not matter to them as the employees were rude and lazy. The participants stated that they preferred the old grocery store with worse mechanic clues because the people were nicer (i.e., better humanic clues) (Berry and Lampo, 2004). Thus, humanic clues are critical in influencing customer feelings and perceptions about a restaurant or store: no matter how good the functional and mechanic clues may be, humans highly value what and how they feel.

Because humanic clues involve human interaction, these clues can help establish emotional connections between service providers and their customers. According to Berry and Lampo (2004), powerful brands have an emotional connection to their customers. Emotional connection involves establishing a close and trusting relationship based upon value alignment as well as services that are “periodically provided, personally important, intimate, complex, variable in quality, family oriented and/or highly interactive” (Berry and Lampo, 2004). By building an emotional involvement with their customers, service providers make advocates who are both loyal and prepared to sustain the relationship (Berry and Lampo, 2004). The emotional involvement with customers comes with personalized experiences, experiences that everyone might have but that feels unique and fitted to you. For example, if a customer goes to a restaurant every Thursday at the same time and orders the same dish, the server might have a table ready for the customer and serve the dish without even taking an order. Although this can be done with every customer, the customer feels appreciated and believes that he or she has made a personal, emotional relationship with the restaurant which results in loyalty. Humanic clues are, therefore, important in creating “an emotionally rich experience” (Berry and Lampo, 2004).

## Research Question

Although mechanic and humanic clues are important in creating customer loyalty for future visits and purchases, questions remain as to whether they encourage purchase at the time service is rendered, particularly as it relates to their dining experience. Though music was found to speed up the pace at which customers eat their food, there has not been research as to whether music can encourage them to purchase additional food, such as dessert. What is also uncertain is whether better quality service perceived by customers, such as service with a smile, elicits more purchases during the dining experience. How does music and service-with-a-smile impact customers during their dining experience as it relates to likelihoods of purchases?

## Data & Methods

A quantitative analysis using a questionnaire was conducted in order to test 1) whether mechanic clues such as music and 2) humanic clues signaling quality of service could increase the likelihood of a customer purchasing a product. Inferential statistics involve defining a set of variables and testing hypothesized relations among these variables (Lau, 2017), in particular whether there are statistically significant differences between the mean values of the groups of participants according to treatment type.

Both sets of observations consist of the same images: images of the dessert presented in various settings. The set of images consist of one singular cookie (Figure 1), a few cookies on a pedestal (Figure 2), a pan of cookies (Figure 3), a pan of cookies presented by a server whose arms and torso are only visible (Figure 4), and a pan of cookies served with a smile (Figure 5). The first survey sent to participants asked participants to rate their likelihood of purchase according to each of the images listed above. In this survey, the images were presented without music. The second survey asked participants to once again rate their likelihoods of purchase for the same images but this time presented with upbeat, fun, and lively music. The objective of using this research method was to determine whether there is an association between the use of music (i.e., mechanic clue) and likelihood of purchase as well as better quality service as signified by “service with a smile” (i.e., human clue) and the likelihood of purchase.



**Figure 1.** Single Cookie



**Figure 2.** Cookies on Pedestal



**Figure 3.** Pan of Cookies



**Figure 4.** Cookies with Server



**Figure 5.** Cookies served with a smile

Before sending out the questionnaires, it was necessary to first select participants. Participants of the study were sampled using convenience sampling and snowball sampling. A public announcement was posted on my personal social media account. Participants were enlisted through known contacts as well. In order to simulate a “dining experience” with elements of service, this research displayed pictures of desserts and the dessert “experience.” The desserts (cookies) were baked at home and were made sure to be nearly uniform in size to minimize potential bias. Once the cookies were baked, pictures of the cookies themselves and with the “server” holding the tray of cookies were taken with a smartphone. After the pictures were taken, they were transferred over to iMovie in order to add music to test mechanic clues and its relation to likelihood of purchase. In iMovie, the pictures used the Ken Burns effect, an effect often used by filmmakers to create movement within an image through zooming in and/or out of the frame. Even the pictures without music were presented in the form of a video with only the Ken Burns effect. The video with no music was 15 seconds and the video with pop music played ‘Sugar’ by Maroon 5 for 25 seconds, longer than the no music video in order to capture the peak of the song.

The analysis focused on comparing the means of the different trials (i.e., control, treatment 1, treatment 2) by using a paired sample t-test. These t-tests can be used to determine if there were statistically significant differences between the mean values of the likelihood of purchasing a product for each trial and the control trial in which no treatments were applied (i.e., no music vs music and no humanic cues vs. humanic cues). If p-values for the paired sample t-test were less than the critical value of 0.05, then we could reject the null hypothesis that the mean values associated with the control and treatment trials were essentially the same. This would imply that the treatment had an impact on the mean likelihood of purchasing a product on the sample population.

## Results

**Table 1.** Paired Sample t-tests for Images with and without Background Music

	Treatment Trial Music (St. Dev.)	Control Trial No music (St. Dev.)
Image 1*** p = 0.0032449	5.8333 (3.052227383)	4.9666 (3.316451568)
Image 2*** p = 0.0002038	5.500 (2.635958251)	4.2666 (2.728310503)
Image 3*** p = 0.00002848	6.1333 (2.556038595)	4.9666 (2.988291335)
Image 4*** p = 0.0065224	5.3333 (3.110974269)	4.5333 (3.148435119)

Note: \* =  $p < 0.10$ ; \*\* =  $p < 0.05$ ; \*\*\* =  $p < 0.01$

**Table 2.** Paired Sample t-tests by Image Comparisons

	Treatment Trial Music (St. Dev.)	Control Trial No Music (St. Dev.)
Image 3 (pan of cookies) vs Image 4 (no smile / only arms)	6.1333 (2.5560)  5.3333 (3.1109)  p = 0.1620683	4.9666 (2.9883)  4.5333 (3.1484)  p = 0.1620683
Image 3 (pan of cookies) vs Image 5 (smile / arms)	6.1333 (2.5560)  5.9333 (2.7784)  p = 0.56517985	4.9666 (2.9883)  4.9333 (3.6192)  p = 0.94908125
Image 4 (no smile / only arms) vs Image 5 (smile / arms)	5.3333 (3.1109)  5.9333 (2.7784)  p = 0.07405953	4.5333 (3.1484)  4.9333 (3.6192)  p = 0.3662217

## Discussion

During the span of a month, 40 participants were surveyed. In order to calculate the data collected, a paired sample t-test was used. Any p-value under 0.05 was deemed as statistically significant. It was statistically proven that the second observational set with lively, pop music had higher values than the set without music, showing that mechanic clues like music do influence the likelihood of purchase. All p-values from comparing the first and second set were under 0.05, providing statistically significant support that music positively affects the likelihood of purchase from a customer.

The second set of images presented with pop music exhibited different rating patterns depending on how the dessert was laid out and whether servers were present in the image. While not statistically proven, the image with a singular cookie on average received higher ratings of likelihood of purchase from participants than the image with multiple cookies, as the mean value for the singular cookie was 5.833 while the mean value for multiple cookies was 5.5. What exhibited statistically significant differences in likelihoods of purchase were the image of a pan of cookies and an image of the pan of cookies being served with only arms visible: people preferred the image of the sole pan of cookies rather than the image of the pan of cookies with arms serving the pan of cookies (p-value of 0.03). Interestingly, it was found that people preferred having no one serve the food as long as the food could somehow be served without human interaction. However, if it was to be served with human interaction, they prefer the image of the server with a smile rather than an image without the smile. While not statistically significant, differences between the mean likelihoods of purchase between the two images were present. The pan of cookies without a “server” had a mean value of 6.133, the pan of cookies served with server arms visible had a mean value of 5.333, and the pan of cookies served with a smile had a mean value of 5.933.

Therefore, it could be concluded that when showing food to be purchased, images of the food itself with pop/lively music would result in the highest likelihood of purchase. However, what is still unclear is whether service with a smile would actually result in a higher likelihood of purchase since the p-values for that comparison was not less than 0.05. Though the difference in means was not statistically significant, it does not imply that the means are the same, but rather that it is unclear as to whether there were real differences that would be found in similar sample populations or whether the results were indicative of chance events.

## Limitations

There were several limitations in this study related to sampling. The most important limitation was that participation was elicited using convenience sampling. Drawing participants using my personal social media account and through personal requests resulted in having many participants who knew me, which could have introduced bias into my results. The participants who knew me personally could have had similar tastes and therefore skewed the data in a certain direction. For example, it may have been possible that those who knew me generally do not care about service and are more interested in the food item, hence skewing the results for likelihoods of purchase towards higher values for images without servers or simulated server interaction. Another limitation was that images that exhibited some movement were used instead of actually placing participants in service environments. The simulation could have biased the results as well, since the images that were to portray service interactions may have been perceived as artificial and awkward. This could have consistently caused participants to give lower likelihoods of purchase scores because they were rating not the service but the artificial and possibly awkward simulation of that service. Future research should test the impact of music and service clues through the actual service of goods to be purchased, eliciting additional comments regarding how participants felt about the music and their service experiences.

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