



Self-service versus human interaction in private consumption: The moderating role of brand personality

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How to cite: Lee, S. S., Park, K., & Kim, Y. (2022). Self-service versus human interaction in private consumption: The moderating role of brand personality. *Social Behavior and Personality: An international journal*, 50(4), e11322

We explored how consumer attitudes toward service delivery types (self-service technology vs. face-to-face) differ in a private consumption context depending on the brand personality (underdog brand vs. top-dog brand). Using banking service (Study 1) and hotel service (Study 2) scenarios, we empirically investigated the interaction effects between service delivery types and brand personalities on consumer attitudes. The results indicate that for humanized underdog brands consumers showed a more positive attitude toward self-service technologies than toward face-to-face services. However, for the top-dog brands there were no significant moderation effects. Thus, when managers in the marketing field are planning to regulate new directions for their service policy, they need to be very cautious by considering both consumption context and brand personality. We have theoretically and practically expanded the existing literature on service delivery by focusing on private consumption services.

Keywords

private consumption; self-service technologies; underdog brands; top-dog brands; anthropomorphism; face-to-face service

Article Highlights

- Brand personality significantly affected consumer adoption of self-service technologies in the context of private consumption.
- When brand personality was strongly humanized, consumers preferred self-service technologies compared to face-to-face service, especially when they perceived maintaining psychological distance as critical.
- Future research could examine how to increase consumer satisfaction with humanized brands when served by human employees in the private consumption context.

Privacy is defined as “the right to be let alone” (Wang et al., 1998, p. 64). Sometimes, for reasons related to personal privacy, consumers may not want to be noticed by others when consuming (e.g., bank transactions that contain personal information, or a secret trip with a lover). In these cases, *self-service technologies* (SSTs) can be an optimal service method in that they are delivered without human interaction. In contrast to public consumption, which happens among a crowd, *private consumption* usually occurs alone or when the individual is accompanied by only a few people (Rodas & John, 2020). Thus, in the private consumption

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process, when a humanized brand is involved people may not fully enjoy their consumption experience and may feel uncomfortable. This is because a *humanized brand* may be considered as a living, breathing organism—a real human—which hinders consumers from enjoying their private consumption. Thus, we anticipated that consumers would prefer SSTs to face-to-face services when consuming private services, especially for underdog brands, as they are described as more humanized products than top-dog brands (Y. Kim et al., 2019). Specifically, consumers may feel anxious about humanized brands when sharing their private consumption information, as these brands are considered to have a mind and intention similar to that of humans (H.-Y. Kim & McGill, 2018).

Thus, in this study we explored how consumer attitudes toward SST versus face-to-face service delivery differ in the private consumption context depending on the brand personality (underdog brand vs. top-dog brand).

Theoretical Background

Before illustrating the empirical study results, we thoroughly reviewed the literature on service delivery types and the effects of anthropomorphized brand personality in the private consumption context.

Service Delivery Types

The development of technology has had a major impact on society and generated significant changes in the service industry (Weijters et al., 2007). The most representative change in this industry is the mode of service delivery. In the past, face-to-face interaction with employees has been an inevitable part of the service delivery process. However, high-technology-based SST reduces the need for staff and has even brought the advent of unmanned stores (Wu et al., 2019). Although the benefits of SST are obvious in terms of cost-effectiveness for business owners, the quality of SST has been questioned from the perspective of consumer experience (Meuter et al., 2003), especially in private consumption contexts such as finance and the hospitality industry (Ko, 2017). This is because during the private service process, human interaction is considered an essential element making customized quality services possible (Ko, 2017). For example, consumers may expect that SST cannot properly handle complex requirements. However, we proposed that even in the private consumption context, brand positioning may work as a critical factor to moderate consumers' SST adoption. Consumers' attitudes toward SST may differ in the private consumption context depending on how the brand is positioned. In the private consumption context, an adequate personal distance should be protected. When handling private business, such as bank account balances, consumers may consider sharing with a nonhuman entity, such as an SST, to be comfortable. This kind of refusal to interact with people may be revealed in the case of humanized brands in a specific case of private consumption. For example, consumers might want to avoid humanized brands because they may feel that their private consumption is being monitored by the brand with an intention and consciousness (Epley & Waytz, 2010). Thus, when using humanized brands in the private consumption context, we anticipated that consumers would prefer the SST service delivery type to the face-to-face type, despite the inconvenience of a lack of customization.

Underdog Brands in Private Consumption

An *underdog brand* is one of humble origin, with limited resources. Underdog brand positioning is an effective way to manipulate brand personality by imbuing the product with humanized features, which increases consumer empathy toward the brand (Jun et al., 2015). This positive consumer response is called the *underdog effect* (McGinnis & Gentry, 2009), and it captures consumers' tendency to show a supportive attitude toward underdogs despite their low probability of winning competition against top dogs. The high level of identification between consumers and the underdog brand is considered the underlying mechanism to explain this positive attitude toward the underdog (Paharia et al., 2010). Compared to *top-dog brands*, which have privileged status and a range of resources, consumers tend to believe that underdogs face

external disadvantages but that they have a spirit of passion and determination, which reflects two of the core elements for underdog positioning (Y. Kim & Park, 2020). Thus, consumers perceive the underdog brand as a much closer entity than a top-dog brand. In this study we predicted that in the private consumption context where maintaining an adequate amount of psychological distance is key to relieving consumer privacy concerns, underdog positioning would adversely affect consumer perception of the brand. If consumers feel judged by a humanized brand, they may choose to avoid it (Epley & Waytz, 2010). In sum, the consumer's attitude toward private consumption of an underdog brand may be adversely affected if they assume the brand possesses highly anthropomorphized features.

However, using SSTs may decrease the adverse effects of underdog positioning in the private consumption context. Viewing SSTs in the frame of low-contact service, in the private consumption context lack of human interaction has become an advantage, especially for humanized brands, because a certain distance may be secured between the brand and the consumer (Wu et al., 2019). However, for top-dog brands, consumers may already feel an increased psychological distance toward the top dog compared with underdog brands. This is because consumers are less likely to identify with a privileged, well-resourced top dog than they are with an underdog brand of humble origin with limited resources (Paharia et al., 2010), which decreases the psychological distance from the underdog. Thus, discomfort that the consumer felt in the private consumption context, especially in the close psychological distance, such as in the case of the underdog, might not affect top dogs negatively. Finally, compared to underdog brands, for top-dog brands there may be less resistance to face-to-face services that require human interaction, even in the private consumption domain. Therefore, we hypothesized that in private consumption contexts involving underdog brands, consumers would show more favorable consumption attitudes toward self-service technologies than toward face-to-face services. For top-dog brands, however, we anticipated that there would be no significant difference between consumer attitudes toward the two service delivery types.

Study 1

Method

The aim of Study 1 was to determine a condition in which consumers may avoid face-to-face interactions with underdog brands. As consumers consider that underdog brands possess more humanlike features than top-dog brands do, for private consumption they may prefer SST rather than face-to-face interactions.

Participants

We recruited 350 participants in the US (209 women, 59.71% and 141 men, 40.29%; $M_{\text{age}} = 34.27$ years, $SD = 11.90$, range = 18–82) via the Prolific Academic online panel service, and randomly assigned them to one of four conditions in a 2 (service delivery type: face-to-face vs. SST) \times 2 (brand biography: underdog vs. top dog) between-subjects design. All procedures were conducted in accordance with the ethical standards of the Institutional Review Board of Seoul National University (1908/002-013) for research involving human participants.

Procedure

After reading one of two brand biographies, participants were presented with a face-to-face service or SST scenario. We adopted a banking service (H.-Y. Kim & McGill, 2018) in the context of private consumption (see Appendix A). For the face-to-face service, the participants read a description of being introduced to a new banking service by a bank teller. In the SST scenario, the participants read about introduction to the same banking service by an automated machine. The new fictitious banking service was called Balance Plus, and was described as tracking a checking account balance monthly and providing information on sales and promotions. After reading general information about Balance Plus, the participants read that they could be provided with a more personalized service if they allowed the new service to connect to their personal accounts and share their shopping wish list. After reading the description, the participants evaluated their willingness to use the new service (H.-Y. Kim & McGill, 2018) by answering the following two questions: 1)

“How much do you want to connect your personal bank account with this new banking service?” and 2) “To what extent are you willing to connect your personal shopping wish list with this new banking service?” Then the participants responded to the manipulation check measures on their perception of brand personality (Paharia et al., 2010): 1) “Brand A has passion and determination” and 2) “Brand A has restrictions from external disadvantage.” Additionally, consumers considered the type of service delivery: 1) “In the scenario a human employee took your order” and 2) “In the scenario you didn’t have any interaction with employees in the bank.” All questions and items were assessed using a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*).

Results

Manipulation Checks

A one-way analysis of variance (ANOVA) of the manipulation check for service delivery type indicated that the participants assigned a higher score to the item “Ordering from a human employee” for the face-to-face service ($M = 5.92$, $SD = 1.50$) than they did for SST ($M = 2.69$, $SD = 1.95$), $F(1, 348) = 299.23$, $p < .001$. They also assigned a lower score for the item “No human interaction exists in the service process” for the face-to-face service ($M = 2.30$, $SD = 1.91$) than for SST ($M = 5.08$, $SD = 2.19$), $F(1, 348) = 160.52$, $p < .001$. We performed the same ANOVA for brand personality and found that the participants perceived the scenarios as intended. Underdog brands were perceived to have greater passion and determination ($M = 5.13$, $SD = 1.42$) than top-dog brands did ($M = 3.81$, $SD = 1.71$), $F(1, 348) = 62.20$, $p < .001$, and greater external disadvantage ($M = 4.61$, $SD = 1.55$) than the top-dog brands did ($M = 3.23$, $SD = 1.58$), $F(1, 348) = 68.28$, $p < .001$.

Willingness to Use the New Service

A 2×2 ANOVA of willingness to use the new service ($\alpha = .92$) yielded a significant two-way interaction, $F(1, 346) = 5.23$, $p = .023$, for two main effects (Figure 1). For the underdog brand, the participants indicated greater willingness to use the service when human interaction was not involved ($M = 3.30$, $SD = 1.98$) than when human interaction was involved ($M = 2.79$, $SD = 1.73$), $t(346) = 1.86$, $p = .064$, whereas for the top-dog brand no significant difference was found in willingness to use the service regardless of whether human interaction was involved ($M = 2.97$, $SD = 1.78$) or not involved ($M = 2.60$, $SD = 1.69$), $t(346) = 1.38$, $p > .156$.

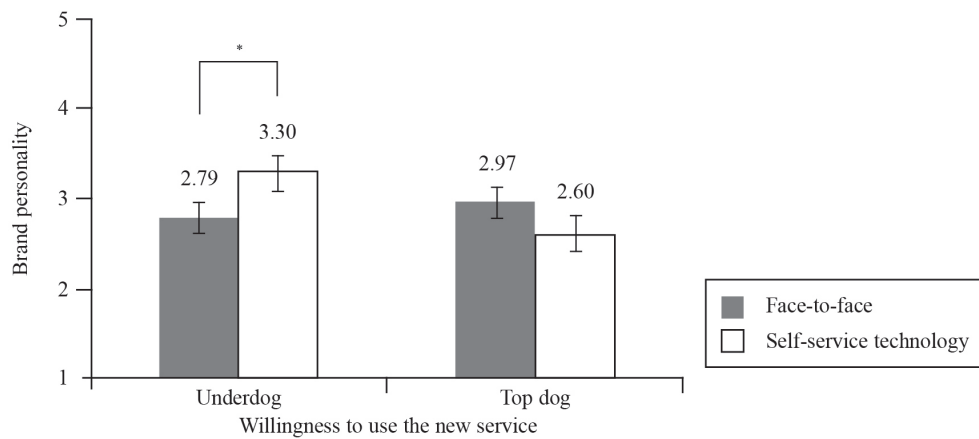


Figure 1. *Effects of Brand Personality and Service Type on Willingness to Use the New Service*

Note. Error bars show the 95% confidence intervals around the means. SST = self-service technology.

* $p < .07$.

Discussion

The results demonstrate that in the private consumption context, participants were reluctant to receive services from human employees, especially for the underdog brand. Reduced psychological distance initiated by brand positioning may affect consumers' willingness to use a new service, depending on the service delivery type. Obtaining face-to-face service from an underdog brand may cause discomfort, which negatively affects consumers' intention to use the service.

Study 2

Method

Participants

Study 2 was designed to replicate Study 1 in a different consumption context, hotel service, and to further generalize the dependent variable to evaluate consumer attitudes toward the brand. We recruited 104 participants in the US (71 women, 68.27% and 33 men, 31.73%; $M_{age} = 33.85$ years, $SD = 10.52$, range = 18–63) via the Prolific Academic online panel service and randomly allocated them to one of four conditions in a 2 (service delivery type: face-to-face service vs. SST) \times 2 (brand biography: underdog vs. top dog) between-subjects design. All procedures were conducted in accordance with the ethical standards of the Institutional Review Board of Seoul National University (1908/002-013) for research with human participants.

Procedure

In Study 2, we adopted a hotel service in a private consumption context (see Appendix B). For the face-to-face service, participants read about a check-in process in which they interacted with a hotel concierge. For the SST condition, participants read about using an automatic check-in machine. After reading the description, the participants evaluated their consumer attitude toward the hotel using questions adapted from Bidmon (2017) that were rated on a 7-point Likert scale (1 = *not at all*, 7 = *very much*): 1) "How much do you like this (Brand A) hotel?" and 2) "How much would you like to revisit this (Brand A) hotel?" Then, the same manipulation check items as in the previous study were used to confirm that the scenario was perceived as intended.

Results

Manipulation Checks

Results of a one-way ANOVA of the manipulation check for service delivery type indicate that the participants who read the face-to-face service scenario assigned a higher score ($M = 6.23$, $SD = 0.95$) for “Ordering from a human employee” than did those who read the SST scenario ($M = 1.36$, $SD = 1.01$), $F(1, 102) = 633.55$, $p < .001$. The participants assigned a lower score on the “No human interaction exists in the service process” for the face-to-face scenario ($M = 1.93$, $SD = 1.39$) than for the SST scenario ($M = 5.52$, $SD = 2.37$), $F(1, 102) = 90.05$, $p < .001$. When we performed the same ANOVA for the brand personality manipulation check, the results show that brand personality was manipulated as intended. The underdog brand received higher scores for passion and determination ($M = 5.15$, $SD = 1.48$) than did the top-dog brand ($M = 4.10$, $SD = 1.81$), $F(1, 102) = 10.09$, $p = .002$, and the underdog brand also received higher scores for external disadvantage ($M = 3.74$, $SD = 1.58$) than the top-dog brand did ($M = 2.79$, $SD = 1.59$), $F(1, 102) = 9.13$, $p = .003$.

Consumer Attitude

A 2×2 ANOVA of consumer attitude ($\alpha = .85$) revealed a significant two-way interaction, $F(1, 100) = 7.21$, $p = .008$ for the two main effects (Figure 2). For the underdog brand, participants showed a more positive consumer attitude when the service did not involve human interaction ($M = 5.76$, $SD = 0.98$) than when it did involve human interaction ($M = 5.00$, $SD = 1.36$), $t(100) = 2.06$, $p = .042$. Conversely, for the top-dog brand, there was no significant difference in consumer attitude whether human interaction was involved ($M = 4.89$, $SD = 1.22$) or not involved ($M = 4.30$, $SD = 1.38$), $t(100) = 1.73$, $p = .087$.

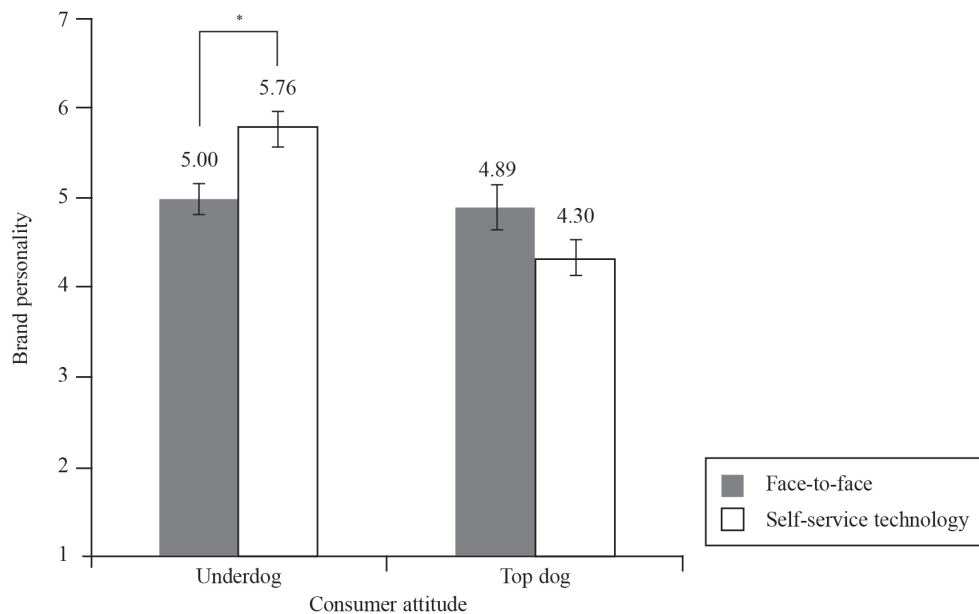


Figure 2. *Effects of Brand Personality and Service Type on Consumer Attitude*

Note. Error bars show the 95% confidence intervals around the means; SST = self-service technology.

* $p < .07$.

Discussion

The Study 2 results replicate those of Study 1, in that participants were less likely to be willing to use hotel services offered by human employees when the hotel was described as an underdog brand. However, for the top-dog brand, the type of service delivery did not affect consumer attitudes. Table 1 presents a summary of the statistical results for both studies.

Table 1. *Statistical Summary of Results in Studies 1 and 2*

Dependent variable	Underdog		Top dog	
	Face-to-face <i>M (SD)</i>	Self-service technology <i>M (SD)</i>	Face-to-face <i>M (SD)</i>	Self-service technology <i>M (SD)</i>
Study 1 Willingness to use the new service	2.79 (1.73)	3.30 (1.98)	2.97 (1.78)	2.60 (1.69)
Study 2 Consumer attitude	5.00 (1.36)	5.76 (0.98)	4.89 (1.22)	4.30 (1.38)

Note. SST = self-service technology.

General Discussion

The findings in the two studies were consistent. In the context of private consumption, for underdog brands the attitude of participants was more favorable toward SSTs than toward face-to-face services, whereas

there was no significant difference between their attitude toward the two service delivery types for top-dog brands. Our results offer several theoretical contributions and practical implications. First, the findings suggest brand biography as a new important factor in the service literature, in that in a private consumption context, the favorability of consumers' attitude toward service delivery types can differ depending on the brand biography. The results also provide practical implications for marketers, in that manipulating brand positioning may work as a critical factor affecting consumer preference for type of service delivery. Second, in this study we incorporated brand positioning and service delivery types, and investigated their effects in different private consumption contexts. When consumers' privacy is important, underdog brands may make consumers feel that their personal realm is invaded, because they perceive underdogs as relational and humanlike objects (Y. Kim et al., 2019). Ultimately, this type of underdog branding makes consumers prefer SSTs and hesitate to obtain services from human employees. Third, we manipulated brand humanized personality by using brand biography rather than the visual appearance of the product and/or brand logos. Thus, when managers in the marketing field are planning to regulate new directions for their service policy, depending on the service sector or context, they can adjust the brand position cost-effectively.

This study has several limitations. First, our scenarios were limited to banking and hotel service contexts. In the future, these results could be tested in other service domains (e.g., purchasing women's personal products in a convenience store) to generalize the findings with a larger sample size. Moreover, further research can be conducted to determine the underlying mechanism to explain the results of interaction effects between brand personality and service delivery type. In addition, we did not suggest solutions in the private consumption context for humanized brands to increase consumer satisfaction when served with human employees. Future research can be conducted to provide concrete guidance for management of underdog brands by suggesting strategies to achieve this.

We found that in the context of private consumption, the positive underdog effect did not lead to the brand benefitting from the empathy and closeness that the consumer perceives with the underdog brand. Because of the brand's humanlike features, consumers were more cautious in responding to the brand and its service. Therefore, in determining types of service delivery and in regulating new services for highly humanized brands, marketers should be more careful than they are in determining delivery of nonhumanized brands.

Acknowledgments

This research was financially supported by a grant from Seoul Women's University (2021-0429), the Center for Happiness Studies at Seoul National University (0404-20190002), the Institute of Management at Seoul National University, and the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2019S1A5A2A01050564).

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Appendix A: Scenarios for Study 1

Study 1: Banking service	
Brand biography	
Underdog	Top dog
Bank K began with the pioneer's humble beliefs in providing honest financial services to local residents. Although Bank K faced many challenges in competing with international banks, the founder and employees maintained the belief that their dedication to and passion for financial services could improve the local community.	Bank K is a well-known global bank. It is now a member of the international bank association. Its employees are aware of their brand power in the local area. Thus, they do not need to work to compete with local banks. This bank believes that it can provide adequate financial services to local residents, satisfying them without additional efforts.
Service delivery type	
Face-to-face service	Self-service technology
You visited Bank K. A bank teller who oversees your account introduced a new personalized service called Balance Plus. They checked your account balance first, stating, "If you agree to sign up for this service, it can track your account balance monthly, as well as provide sales and promotional information. Based on the amount available to spend and the priority of the items on your wish list, this service offers suggestions for where you can spend your money."	You are planning to get financial services from Bank K. You visited the bank, and a bank machine displayed a new personalized service called Balance Plus. The bank machine showed your account balance first, then a short description of the service was presented as follows: "If you agree to sign up for this service, it can track your account balance monthly, as well as provide sales and promotional information. Based on the amount available to spend and the priority of the items on your wish list, this service offers suggestions for where you can spend your money."

Appendix B: Scenarios for Study 2

Study 2: Hotel service	
Brand biography	
Underdog	Top dog
Hotel X began with the pioneer's beliefs in providing good hotel services to customers. Although the hotel faced many challenges in competing with global hotel brands, the founder and employees always believed that their dedication to hotel services could improve customer satisfaction.	Hotel X is a member of the international hotel association. Because of its brand power, the hotel does not have to compete seriously with other hotels. The hotel employees also believe that they can provide adequate hotel services to satisfy their customers. Thus, employees do not put forth extra effort to improve the hotel's services.
Service delivery type	
Face-to-face service	Self-service technology
You completed the check-in process with the hotel concierge in the lobby. The concierge asked several questions, including the number of guests and the dates of your stay, as well as some options, such as a nonsmoking room. You answered the questions. Now, you and your companion are waiting for the room to be ready.	You completed the check-in process through the service machine. You entered the number of guests and the dates of your stay and chose some options, such as a nonsmoking room, using the screen. Now, you and your companion are waiting for the room to be ready.