

# Emoji your Communication:

## The Effect of Employee's Use of Emojis in Digital Communication on Customers' Perceptions of Service Quality and Brand Attitude



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We test the effect of emojis used by service employees in digital communication with customers. We identify conditions in which these symbols positively influence perceptions of service quality and brand attitude. We consider the following conditions: neutral inquiries vs. customer complaints, and consumer preference for a friendship-like vs. consumer preference for a business-like conversation style in digital business communication. We recommend that service employees should use emojis when responding to neutral inquiries and should refrain from using emojis when handling customer complaints.

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**Keywords:** > emojis > digital communication > topic of conversation > service quality

### 1 Introduction

Digital communication has become an integral part of our private lives and business activities. However, digital communication shows a lack of interpersonal interaction and opportunities to express emotions. As a result, non-verbal cues such as emojis have become established in digital communication. There are already numerous studies that have examined the effectiveness of emojis in digital conversation. For instance, authors assessed effects of emojis in private communication among friends (Ganster, Eimler & Krämer, 2012; Derks, Bos & von Grumbkow, 2008; Erle et al., 2021), among professional teammates (Glikson, Cheshin & van Kleef, 2018; Van Kleef, Homan & Cheshin, 2012), among teachers and students (Li, Chan & Kim, 2019, Study 1), and among a company and its Twitter account followers (Daniel & Camp, 2020).

To deal with customer inquiries and complaints, many companies also rely on the use

of digital communication and extend conversations with customers to these channels to better reach the target group (Derks et al., 2008; McLean & Osei-Frimpong, 2017). Digital company services offer customers a convenient way of interaction with the company by bridging spatial and temporal barriers. Here, the usage of emojis has become an established instrument as well (Bai et al., 2019; Gelbrich, Hagel & Orsinger, 2021; Luangrath, Peck & Barger, 2017). Imagine the emails you receive every day from tourist companies, insurance companies, hotels, banks, etc. In some of them, the sender uses emojis, e.g., pictures of smiling faces. Or imagine your digital conversation with company employees – initiated by your inquiries or complaints. In some of the answers, the employees of the companies also use emojis. In this study, we focus on digital communication between customers and company employees and ask whether and why company employees should use such emojis in digital communication.

We found three studies in previous research that tested the effect of the usage of emojis by employees on customers' perceptions of service quality in experimental settings (emojis present vs. emojis absent) (Park & Sundar, 2015; Li et al., 2019, Study 3; Smith & Rose, 2020, Study 2). The authors considered neutral topics (e.g., a hairdresser is reminding her/his client of an appointment) or customer complaints (e.g., the buyer of a camera informs the company about her/his dissatisfaction). This distinction is plausible because receiving emails with smiling emojis in response to complaints could be seen as inappropriate by customers. Moreover, the researchers considered the preference of customers to communicate with company employees in a friendship-like communication style (CPF<sub>r</sub>) or in a business-like communication style (CPB<sub>u</sub>). Crosstabulation of the communication topic (neutral inquiry vs. complaint) with the preferred communication style (CPF<sub>r</sub> vs. CPB<sub>u</sub>) results in four conditions. The problem is that these researchers differ regarding the recommendations

about whether the use of emojis by the employee is advantageous or disadvantageous or has no effect regarding perceptions of service quality depending on these conditions.

Moreover, these studies examined the effect of the employee's usage of emojis on possible antecedents of perceptions of service quality: on the affective state in the customer (Smith & Rose, 2020, Study 1) and on customer's perceptions of employee warmth (meaning the degree to which the employee causes impressions of sympathy) and employee competence (Li et al., 2019, Study 2). However, the problem is that the researchers only focused on a part of the conditions that result from the combinations of the communication topic and the customer's preferred communication style. Thus, we do not know much about the mediating effects depending on these conditions.

Additionally, we see a problem in the usage of the customer's preferred communication style (CPFr vs. CPBu) as the conditions that are assumed to predict if emojis are advantageous or disadvantageous. Admittedly, the idea is plausible that customers with a preference for a friendship-like communication style in business communication might better be addressed with emojis (because emojis are frequently used in private communication) and that customers who prefer a business-like communication style should not be targeted by emojis in the digital sales communication. However, how should employees know if a customer is CPFr or CPBu? Hence, we want to know if the CPFr/CPBu distinction really matters.

Taking together, the research to date does not provide a clear picture of why and under what conditions emojis used by service employees in digital conversation improve or reduce perception of service quality and brand attitudes. We conduct an additional study to answer the following research questions:

**RQ1:** Is using emojis beneficial or harmful depending on the communication topic (neutral customer inquiry vs. complaint) and on the customer's preferred communication style (CPFr vs. CPBu?). This is, we aim to

### Abstract

*Wir untersuchen die Wirkung von Emojis, die Servicemitarbeiter in der digitalen Kommunikation mit Kunden einsetzen. Unser Ziel ist es, Bedingungen zu identifizieren, unter denen diese Symbole die Wahrnehmung der Servicequalität und die Einstellung zur Marke positiv beeinflussen (neutrale Anfragen oder Kundenbeschwerden; Präferenz der Kunden für einen freundschaftlichen vs. geschäftlichen Gesprächsstil mit dem Angestellten). Wir empfehlen, dass Servicemitarbeiter Emojis verwenden dürfen, wenn sie neutrale Anfragen beantworten, und darauf verzichten sollten, sie zu verwenden, wenn sich Kunden beschweren.*

**Schlagworte:** › Emojis › digitale Kommunikation › Kommunikationsstil  
› Servicezufriedenheit

identify if these aspects are relevant moderating variables.

**RQ2:** Why do emojis affect perceptions of service quality and brand attitude? This is, we aim to gain insights into the mental processes (i.e., the mediating variables) depending on these conditions.

**RQ3:** Can we replicate the findings of the hypotheses' tests conducted in prior research? Because the findings in previous research are heterogeneous to a large extent, we aim to see which hypotheses can be supported in additional research.

## 2 Conceptual model and hypotheses

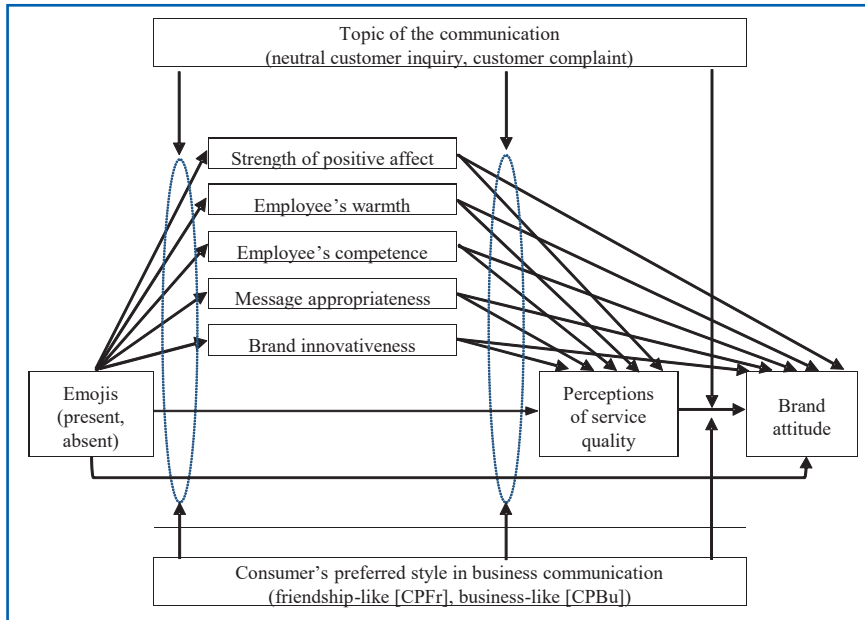
### 2.1 Conceptual model

The rationale of this model is to include the variables discussed in literature: Emojis in digital communication (present vs. absent) as independent variable; affect, perceptions of employee warmth and competence as mediating variables; perceptions of service quality as the dependent variable; and the communication topic, and CPFr/CPBu as moderating variables. Our model adds two mediating variables that have not been considered thus far (perceptions of message appropriateness and brand innovativeness). We

do this because we believe that the use of smiling emojis in response to customer complaints could be regarded as inappropriate. Moreover, emojis are a rather innovative metalanguage and thus might influence service quality and brand attitude via innovativeness perceptions. Prior literature also investigated effects on behavioral intentions (e.g., purchase intention). As we use products as test stimuli that are already bought by many test participants, we include the attitude toward the brand instead of the purchase intention into the model. Thus, we assume that the conceptual model shown in >figure 1 is highly suitable to reflect the theoretical backgrounds used in prior research on this issue.

The basic relationship: To analyze the effect of the presence vs. absence of emojis in digital business communication, we use two basic response variables: first, customers' perceptions of service quality and, second, their attitude toward the brand. We assume that viewing and/or reading digital responses of company employees – that contain or do not contain emojis – to communication initiated by customers evokes judgements about whether the company's service quality is good or bad which spills over to the evaluation of the company's brand. We therefore assume the existence of a fundamental "emoji → service quality → brand attitude" relationship.

Fig. 1: Conceptual model



Source: Own illustration.

Mediating variables: Next, we include mediating variables into the “emoji → service quality” relationship. They refer to reasons why the presence of emojis in digital business communication which is written by employees might affect perceptions of service quality. Here, we rely on prepositions suggested in previous research and include the strength of positive affect, perceptions of the employee’s warmth, and perceptions of the employee’s competence. As mentioned just above, we add two additional mediating variables: perceptions about message appropriateness and perceptions about brand innovativeness. By doing so, we assume that there is a sequence of mental processes that are operating in sequence as follows: “emoji → set of mediating variables → service quality → brand attitude.”

Moderating variables: Previous research suggests that the effect of emojis depends on whether the customer prefers a friendship-like communication style in business communication (CPFr) or a business-like communication style in business communication (CPBu). Moreover, we presume that the topic of communication (either neutral customer inquiry or customer complaint) affects the effects of emojis.

In line with the research questions, this conceptual model is the common basis for testing the relevancy of the moderating variables, gaining insights into the mediating processes, and replicating the investigations conducted in prior research.

In the following, we focus on providing arguments in favor of three hypotheses that have already been tested in prior research. The conceptual model is too complex for deriving a separate hypothesis for every relationship.

## 2.2 Effect of emojis on strength of positive affect

The “emotions as social information” (EASI) model aims to explain emotional responses in recipients. It has been developed by Van Kleef (2009) and is based on the idea that social interactions (e.g., verbal communication) can often be ambiguous. In this state, the additionally signaling of emotions helps to disambiguate the situation. If the sender of a message also expresses emotions, social interactions can be made clearer because they provide additional information about the sender’s feelings. In face-to-face interactions, people express feelings automatically and often unconsciously; their

counterparts use body language, tone of voice, and facial expressions of the interaction partner as social information. In digital communication, face emojis can take on this role, i.e., replace the sender’s body language, tone of voice, and facial expressions.

The EASI model suggests that the sender’s emotions can activate both an inferential process and an affective reaction in the receiver.

The inferential process in recipients can be illustrated by the following examples. If a person (sender) shows that she/he is happy, the interaction partner (receiver) might conclude that the expresser is satisfied with the social relation between them. This feeling, in turn, promotes the interpersonal relationship (i.e., the receiver is likely to be happy with the relationship). Similarly, when a person (sender) expresses sadness or irritation, the interaction partner (receiver) might conclude that the sender is dissatisfied with the social relationship, leading to the conclusion that the relationship or behavior should be changed. Such inferences can be drawn without cognitive control or cognitive effort of processing the sender’s signals in detail.

The affective reaction in recipients arises through the transmission of emotions from the sender to the receiver and is referred to as emotional contagion (Van Kleef, 2009). McHugo et al. (1985) found that images showing a smiling human face produced congruent changes in the viewer’s facial expression. This phenomenon was analyzed more precisely by Hatfield, Cacioppo, and Rapson (1993). According to these authors, emotional contagion is the “tendency to automatically imitate and synchronize another person’s expressions, vocalizations, postures, and movements, and consequently to converge emotionally” (e.g., if I smile to another person, he/she is likely to smile back). Basically, emotional contagion can be triggered by two mechanisms. The first mechanism is mimicry which is an automatically occurring and unconscious process, and the second mechanism is a feedback process which is a deliberately occurring and conscious process (Barsade, 2002). The term mimicry comes from biology and describes the “imitation of visual, auditory or

olfactory signals” in animals (Lunau, 2011). This phenomenon also occurs in humans and is described as the human instinct that leads the recipient to adopt the behavior of her/his interaction partner (Hatfield et al., 1993). For example, when people smile in response to a smile from someone greeting them, that response occurs automatically and unconsciously. The other mechanism explaining affective reactions is a feedback process. The emotional convergence of the interaction partners is the result of a connection between emotional experience and emotional expression. Thereby, the emotional experience is influenced by the activation of feedback from facial, voice, and movement mimicry. Thus, the emotional contagion leads to harmonious interactions between the interaction partners and promotes feelings of connectedness. In simpler words, the feedback process exists because one communication partner deliberately and consciously wants to react to the other partner’s signals of emotions to maintain or even strengthen the connectedness.

Emotional contagion can produce positive effects in many different situations, e.g., there are promising effects on numerous marketing goals such as perceived service quality or customer satisfaction (Barger & Grandey, 2006). The theory of emotional contagion is not only used to predict affect-transfer between people in face-to-face conditions but is already being used to explain effects of emojis in computer-mediated sales communication (Kelly & Watts, 2015; Lohmann, Pyka & Zanger, 2017; Smith & Rose, 2020). Since face emojis look like human faces, we suggest that they can also express human emotions such as joy, surprise, fear, or disgust. Churches et al. (2014) found that people process images of emojis in the same brain region as human facial expressions and interpret them in similar ways. In this respect, the use of emojis in digital communication can be considered as social information and therefore influence the recipient’s affective reaction as well as the inference about the sender.

Previous research: Smith and Rose (2020, Study 1) considered the condition of a neutral topic: A hairdresser sent a message to remind a customer of an appointment. For

CPFr (consumers with a preference for a friendship-like conversation style), the authors showed that using emojis produced more positive affect in the readers of the conversation than non-using emojis. A null effect of emojis was observed for CPBu (consumers with a preference for a business-like conversation style). We aim to replicate these findings of Smith and Rose (2020) and test:

**H1:** For neutral topics, the use of (friendly-looking) emojis elicits higher positive affect in consumers compared to the non-use of emojis. This effect only exists for CPFr.

### 2.3 Effect of emojis on perceptions of the employee’s warmth and competence

Forming opinions about others occurs quickly, based on minimal clues picked up from first impressions. However, due to the increasingly technological world, first encounters often take place digitally via digital communication. In this context, people can only characterize their counterparts by their manner of (written) communication. Fiske, Cuddy, and Glick (2007) presume that warmth and competence are the two basic dimensions of how people are perceived when people spontaneously interpret behavior or form images of others.

Emojis can be intended to express the sender’s emotion and are mainly used in socioemotional conversations, i.e., in conversations between friends, and less often in task-oriented conversations. Thus, emojis can enable cognitive inferences of warmth associated with friends, colleagues, and family members. Since friends, colleagues, and family members often use emojis, an employee who uses emojis in business communication is also likely to be interpreted as a friend, etc. This means that the use of emojis by a service employee can lead customers perceiving the service employee as “warmer”, i.e., being more friendly, kind, helpful, likeable, pleasant, and “nice.” According to Fiske, Cuddy, and Glick (2007), the importance of the basic qualities of employee warmth is contingent on the consumer’s preferences for a communication style. CPFr expect to communicate to a highly friendly

employee. Higher perceptions of the employee’s warmth due to the use of emojis thus should exist only in CPFr.

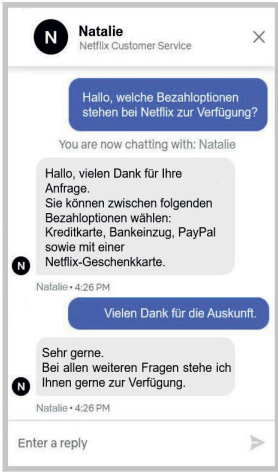


People are likely more familiar with emojis in private communication and therefore might judge the employee’s use of emojis in business communication as a violation of societal communication norms. Violating social norms might deteriorate the credibility of the message and is likely to lead to lower perceptions of the sender’s competence (Derks et al., 2008; Kaye, Wall & Malone, 2016; Glikson et al., 2018; Li et al., 2019). This means that the use of emojis by a service employee can lead customers perceiving the service employee as less competent, i.e., having less expertise and knowledge in the respective area, being less serious, professional, and credible. This effect is likely to happen in customers with a preference for a business-like communications style because CPBu expect to interact with a highly competent employee.

Previous research: Li et al. (2019, Study 2) considered a conversation about a neutral topic: a customer asked a service employee of a travelling company for more details about a trip to Hawaii. They found the following: (1) For a neutral topic and CPFr: emojis increase perceptions of employee warmth. (2) For a neutral topic and CPBu: emojis have no effect on warmth. (3) For a neutral topic and CPFr: emojis have no effect on perceptions of the employee’s competence. (4) For a neutral topic and CPBu: emojis reduce perceptions of competence. We aim to replicate these findings and test:

**H2:** For neutral topics, the use of (friendly-looking) emojis elicits higher perceptions about the employee’s warmth compared to the nonuse of emojis. This effect only exists for CPFr.

**H3:** For neutral topics, the use of (friendly-looking) emojis impairs perceptions about the employee’s competence (H3a). This effect only exists for CPBu.

Fig. 2: Examples of test stimuli

Neutral inquiry		Complaint	
Emojis absent	Emojis present	Emojis absent	Emojis present
			
<p>C: Hello, which payment options do you offer?</p> <p>E: Hello, thank you for your request. You can choose among the following payment options: credit card, direct debit, PayPal, or Netflix voucher.</p> <p>C: Thank you for the information.</p> <p>E: You are welcome. If you have any further questions, please let me know.</p>	<p>C: Hello, which payment options do you offer?</p> <p>E: Hello, thank you for your request 😊😊 You can choose among the following payment options: credit card, direct debit, PayPal, or Netflix voucher 😊</p> <p>C: Thank you for the information.</p> <p>E: You are welcome. If you have any further questions, please let me know 😊😊</p>	<p>C: Hello, I just noticed that my Netflix subscription fee has been charged to my account twice. The invoice number of the payment is: ... I kindly ask to refund the overpayment.</p> <p>E: Hello, thank you for your request. Sorry for the inconvenience. We will refund the overpayment as soon as possible.</p> <p>C: Thank you.</p> <p>E: You are welcome. If you have any further questions, please let me know.</p>	<p>C: Hello, I just noticed that my Netflix subscription fee has been charged to my account twice. The invoice number of the payment is: ... I kindly ask to refund the overpayment.</p> <p>E: Hello, thank you for your request 😊😊 Sorry for the inconvenience. We will refund the overpayment as soon as possible 😊</p> <p>C: Thank you.</p> <p>E: You are welcome. If you have any further questions, please let me know. 😊😊</p>

Note: In the original version, these conversations were written in German; translation below.  
C = customer, E = employee.

Source: Own illustration.

### 3 Experiment

#### 3.1 Experimental design

The experiment was based on a 2 (friendly-looking emojis: absent, present) × 2 (topic of communication: neutral customer inquiry, customer complaint) × 2 (communication channel: company chat, email) × 3 (brand: Sky Entertainment, Netflix streaming service, Dyson household appliances) between-subjects design. The communication-channel factor and the brand factor only served as replication factors to demonstrate the sta-

bility of our results. In addition, we assessed test participants' preference for a friendship-like or a business-like style in digital sales conversations (i.e., divided them into CPFr and CPBu) and used this variable to create two groups ex post. Thus, we have 48 conditions.

#### 3.2 Test stimuli

As other researchers (Park & Sundar, 2015; Li et al., 2019; Smith & Rose 2020), we created a digital dialog and integrated emojis or not. We created these dialogs for each

topic/communication-channel/brand condition. In >figure 2, we show the fictitious text versions for the company-chat/Netflix conditions. For the Netflix/email condition, the same text elements have been embedded. The text formulations were identical for both communication channels. In the neutral inquiry/Netflix condition, a conversation about payment options was presented. In the complaint condition, a consumer asked for correcting overpayment. Similar scenarios were created for Sky Entertainment and Dyson.

### 3.3 Sample

In total, 934 persons took part in the experiment. The mean age was 27.4 years ( $SD = 10.6$ ). 53.3 percent were female persons. The sample consisted of 68.3 percent students.

### 3.4 Procedure

The data was collected by distributing links to the questionnaire on a social network. We used Studydrive.de as the social platform. It allows to address students at different courses enrolled in different universities located in Germany. The link to the questionnaire targeted students in predefined courses of business administration (e.g., cost accounting, corporate finance) at five universities. We were assisted by 14 students who continuously replaced the link to different courses. By doing so, the test participants registered at these five universities and at the predefined courses on Studydrive.de were assigned randomly to the experimentally created conditions (CPFr/CPBu were distinguished ex post). 31.7 percent of the participants stated that they have already finished their studies but remain to be a member of the platform as alumni. The participants received no incentives for participation. The online questionnaire was based on the SoSci Survey tool. If participants did not entirely complete the questionnaire, data were not stored. Reading and viewing the test stimuli and completing the questionnaire took approximately 8.4 minutes.

Each test participant read one version of the conversations. First, they had to take part in a thoughtlisting task: (1) they were asked “to write down all the thoughts and feelings that came to mind after reading the conversation between employee and customer.” Subsequently, two dependent variables were assessed: (2) perceptions of service quality and (3) brand attitude. Then, participants provided data for five potentially mediating variables: (4) perceptions of the employee’s warmth, (5) perceptions of the employee’s competence, (6) strength of positive affect, (7) perceptions of the appropriateness of the employee’s message, and (8) perceptions of brand’s innovativeness. Then, the (9) statements to infer preference for a friendshiplike

or business-like conversation style were provided. In the next step, manipulation-check variables were assessed: (10) noticing emojis and (11) noticing the topic of the conversation. In addition, control variables were included: (12) involvement for products from the product category (general interest in the category, knowledge in the category, frequency of purchase within the category), (13) frequency of the usage of products from the product category, (14) the frequency of the use of emojis in private communication, (15) age, (16) gender, and (17) professional status. The control variables were used to check the homogeneity of the subsamples per brand. For the variables (2) to (14), a Likert-type seven-point agreement/disagreement scale was used.

We included perceptions of brand’s innovativeness as a potential mediating variable although Sky Entertainment, Netflix streaming service, and Dyson household appliances are relatively new brands in the market. Students are rather young consumers and may be already highly familiar with brands such as Netflix; brand innovativeness might therefore be contingent on communication activities in young consumer segments. We used variables such as general interest in the product category as control variables to check the success of randomization because we assume that “hierarchically higher constructs” affect “hierarchically lower constructs” – general interest in the category would affect attitude toward brands of this category.

### 3.5 Measures

We refrain from reporting the statements for the control variables. We only report statements for the dependent, the mediating, and the manipulation-check variables in >table 1.

### 3.6 Results for the manipulation check and the randomization check

The test participants in the emoji condition showed stronger agreement that symbols were used compared to the no emoji condition ( $M_{\text{no emojis}} = 2.89$ ,  $M_{\text{Emojis}} = 6.01$ ,  $F_1; 932 = 896.06$ ,  $p < 0.001$ ). In the complaint con-

ditions, the persons agreed to a higher extent that the dialog was initiated by a customer complaint compared to the neutral-inquiry condition ( $M_{\text{neutral inquiry}} = 2.29$ ,  $M_{\text{complaint}} = 6.07$ ,  $F_1; 932 = 754.76$ ,  $p < 0.001$ ). Thus, our manipulations worked as intended.

We conducted fiveway ANOVAs for each control variable and did not find more significant effects than expected per random. To provide an example, we report the  $F$ -values and significance levels of the five experimental (independent) variables for the (dependent) variable: “I am very interested in Pay TV (household appliances, streaming services)” in >table 2. The findings indicate that this control variable is not contingent on the factors; all  $p$ -values exceed the 0.05 level. As an exception, there is a main effect of the brand factor that results from the fact that the test participants who viewed a communication with Netflix indicated to be comparatively higher interested in streaming services compared to participants who viewed a communication with Dyson and indicated their interest in the category of household appliances.

### 3.7 Answer to RQ1: Do the moderating variables matter?

We want to know if the effect of the employee’s use of emojis in digital sales conversation is contingent on the communication topic (neutral inquiry, complaint) and the consumers’ preferences for a communication style (CPFr, CPBu). Thus, we classify the test participants into the four topic  $\times$  communication style conditions and examine the effect of the presence vs. absence in the digital sales conversation. Data are summarized in >table 3. For the perceptions of service quality as the dependent variable, we provide the findings on the effect of emojis also in dependence of the communication channel (chat, email) and brand (Sky, Netflix, Dyson). For the remaining response variables, we aggregated data across the channel- and brand factor.

For perceptions of service quality, we find the following.

- In the condition of a neutral inquiry and for consumers who prefer a friendship-like

Tab. 1: Measures

Concepts	Statements	Reliability
Perceptions of service quality (Li, Chan & Kim, 2019)	<ul style="list-style-type: none"> <li>The service of the company is very good.</li> <li>The service is just how I had wished.</li> <li>The service employee is very friendly.</li> <li>The employee responds to the customer individually.</li> <li>The employee is truly interested in the customer's request.</li> <li>If I had a similar request, I would be pleased when the same employee responds.</li> <li>If I had a similar request, I would be sure that my requirements will be satisfied.</li> </ul>	$\alpha = .908$
Attitude toward the brand (Spears & Singh, 2004)	<ul style="list-style-type: none"> <li>This brand is very attractive.</li> <li>This brand is very likeable.</li> <li>This brand is very good.</li> <li>This brand is very appealing.</li> </ul>	$\alpha = .961$
Employee's warmth (Fiske, Cuddy & Glick, 2002)	<ul style="list-style-type: none"> <li>The employee is very warm-hearted.</li> <li>The employee is very friendly.</li> <li>The employee is like a friend.</li> <li>The employee is very good-natured person.</li> <li>The employee is very empathetic.</li> <li>The employee is very likeable.</li> <li>The employee is very open-minded.</li> </ul>	$\alpha = .931$
Employee's competence (Fiske, Cuddy & Glick, 2002)	<ul style="list-style-type: none"> <li>The employee is very competent.</li> <li>The employee is very serious.</li> <li>The employee is very professional.</li> <li>The employee is very credible.</li> <li>The employee is very reliable.</li> <li>The employee is very honest.</li> <li>The employee is very trustworthy.</li> <li>The employee is very proficient.</li> </ul>	$\alpha = .934$
Strength of positive affect (Watson, Clark & Tellegen, 1988; Das, Wiener & Kareklas, 2019)	<ul style="list-style-type: none"> <li>Reading the conversation puts me in a positive mood.</li> <li>Reading the conversation made me very curious.</li> <li>Reading the conversation evoked pleasure.</li> <li>Reading the conversation made me feel interested.</li> <li>Reading the conversation cause positive feelings.</li> </ul>	$\alpha = .922$
Perceptions of appropriateness of the message (Li, Chan & Kim, 2019)	<ul style="list-style-type: none"> <li>The employee's answers were very appropriate.</li> <li>The employee's answers were very adequate.</li> <li>The employee's answers were very suitable.</li> </ul>	$\alpha = .951$
Perceptions of the brand's innovativeness (Hagtvedt, 2011)	<ul style="list-style-type: none"> <li>The brand is very innovative.</li> <li>The brand is very modern.</li> <li>The brand is very dynamic.</li> <li>The brand is very up to date.</li> <li>The brand is very progressive.</li> </ul>	$\alpha = .922$
Noticing emojis in the conversation	<ul style="list-style-type: none"> <li>The conversation contained symbols that I know from private communication.</li> <li>The conversation contained symbols to send a message.</li> </ul>	$R = .773$
Noticing the purpose of the communication	<ul style="list-style-type: none"> <li>The customer expressed a complaint.</li> <li>The customer contacts the company because s/he is dissatisfied with something.</li> </ul>	$R = .927$
Preference for a friendship-like or business-like conversation style (Aggarwal, 2004)	<ul style="list-style-type: none"> <li>If you were to interact with an online customer support representative, you would want the relationship with the customer support representative to be:                             <ul style="list-style-type: none"> <li>- strictly for business (B1)</li> <li>- formal (B2)</li> <li>- professional (B3)</li> <li>- purely transactional (B4)</li> <li>- bonded like family and friends (F1)</li> <li>- informal (F2)</li> <li>- friendly (F3)</li> <li>- based on friendship (F4)</li> </ul> </li> </ul>	$\alpha = .817$ for the business-related statements (Bs) $\alpha = .752$ for the friendship-related statements (Fs) Scale: $(B1+B2+B3+B4)/4 - (F1+F2+F3+F4)/4$ greater or less than 0.

Source: Own illustration.

Tab. 2: ANOVA *F*- and *p*-values with interest in the product categories as dependent variable

Source	<i>F</i> - and <i>p</i> -value	Source	<i>F</i> - and <i>p</i> -value
Cc	$F_{1; 886} = 0.888, p = 0.346$	Cc × Br × To	$F_{2; 886} = 0.716, p = 0.489$
Br	$F_{2; 886} = 45.533, p < 0.001$	Cc × Br × Cp	$F_{2; 886} = 1.085, p = 0.338$
To	$F_{1; 886} = 2.258, p = 0.133$	Cc × Br × Em	$F_{2; 886} = 0.904, p = 0.405$
Cp	$F_{1; 886} = 0.021, p = 0.886$	Cc × To × Cp	$F_{1; 886} = 1.142, p = 0.286$
Em	$F_{1; 886} = 0.001, p = 0.973$	Cc × To × Em	$F_{1; 886} = 2.288, p = 0.131$
Cc × Br	$F_{2; 886} = 0.851, p = 0.427$	Cc × Cp × Em	$F_{1; 886} = 0.512, p = 0.474$
Cc × To	$F_{1; 886} = 0.436, p = 0.509$	Br × To × Cp	$F_{2; 886} = 2.198, p = 0.112$
Cc × Cp	$F_{1; 886} = 1.342, p = 0.247$	Br × To × Em	$F_{2; 886} = 0.742, p = 0.476$
Cc × Em	$F_{1; 886} = 0.001, p = 0.970$	Br × Cp × Em	$F_{2; 886} = 0.622, p = 0.537$
Br × To	$F_{2; 886} = 1.651, p = 0.192$	To × Cp × Em	$F_{1; 886} = 0.412, p = 0.521$
Br × Cp	$F_{2; 886} = 0.869, p = 0.420$	Cc × Br × To × Cp	$F_{2; 886} = 1.038, p = 0.354$
Br × Em	$F_{2; 886} = 0.227, p = 0.797$	Cc × Br × To × Em	$F_{2; 886} = 0.348, p = 0.706$
To × Cp	$F_{1; 886} = 0.743, p = 0.389$	Cc × Br × Cp × Em	$F_{2; 886} = 1.053, p = 0.349$
To × Em	$F_{1; 886} = 1.505, p = 0.220$	Cc × To × Cp × Em	$F_{1; 886} = 0.076, p = 0.783$
Cp × Em	$F_{1; 886} = 1.195, p = 0.275$	Br × To × Cp × Em	$F_{2; 886} = 0.924, p = 0.397$
		Cc × Br × To × Cp × Em	$F_{2; 886} = 0.808, p = 0.446$

Notes: Cc: Communication channel (company chat, email)

Br: Brand (Sky, Netflix, Dyson)

To: Topic of the communication (neutral inquiry, customer complaint)

Cp: Consumer's preferred communication style in sales conversations (friendship-like, business-like)

Em: Emojis (present, absent)

Source: Own illustration.

conversation style, the use of emojis by the employee improves perceptions of service quality ( $M_{\text{emojis absent}} = 4.82, M_{\text{emojis present}} = 5.88, t_{179} = 6.111, p < .001$ , two-tailed test).

- In the condition of a neutral inquiry and for consumers who prefer a businesslike conversation style, the use of emojis by the employee also improves perceptions of service quality ( $M_{\text{emojis absent}} = 5.08, M_{\text{emojis present}} = 5.38, t_{263} = 2.159, p < .05$ ).
- In the condition of a complaint and for consumers who prefer a friendship-like conversation style, the use of emojis by the employee reduces perceptions of service quality ( $M_{\text{emojis absent}} = 5.02, M_{\text{emojis present}} = 4.56, t_{185} = 2.516, p < .05$ ).
- In the condition of a complaint and for consumers who prefer a businesslike conversation style, the use of emojis by the employee also reduces perceptions of ser-

vice quality ( $M_{\text{emojis absent}} = 4.92, M_{\text{emojis present}} = 4.32, t_{299} = 3.833, p < .001$ ).

Our results for the service-quality variable are rather simple: For neutral conversation topics, consumers' evaluations of service quality benefit from the employee's usage of emojis. In complaint conditions, consumers' evaluations of service quality are impaired when employees use emojis. The CPFr/CPBu distinction is not relevant for the effect of emojis on perceptions of service quality. Descriptively, with one exception, this relationship is stable across the communication channel and the brand. For the neutral inquiry/CPBu condition, the overall findings indicate that the use of emojis is advantageous regarding perceptions of service quality. The findings for the Netflix brand do not conform to this regularity in this condition. We explain this deviation by random effects.

For the other response variables (attitude toward the brand, strength of positive affect, perceptions of the employee's warmth, perceptions of the employee's competence, appropriateness of the employee's message, and brand innovativeness), we find the following:

- For the attitude toward the brand: The usage of emojis is advantageous in response to customers' neutral inquiries; it is disadvantageous when employees respond to customers' complaints.
- For the strength of positive affect in the consumer: Emojis are beneficial (as an exception, there is a non-significant effect in the neutral inquiry/CPBu condition).
- For the perceptions of the employee's warmth: Emojis have a positive effect independently of the topic of the conversation.



Tab. 3: Effect of emojis depending on the topic and the preferred communication style

		Neutral inquiry				Complaint			
		Friendship-like conversation style preferred (CPFr)		Business-like conversation style preferred (CPBu)		Friendship-like conversation style preferred (CPFr)		Business-like conversation style preferred (CPBu)	
		Emojis absent	Emojis present	Emojis absent	Emojis present	Emojis absent	Emojis present	Emojis absent	Emojis present
		Effects of emojis on perceptions of service quality depending on the topic, CPFr/CPBu, communication channel, and brand							
Sky Entertainment	Chat	5.19 (1.57)	5.62 (1.04)	5.05 (1.44)	5.60 (.81)	3.98 <sup>a</sup> (1.61)	3.67 (1.23)	3.96 (1.41) <sup>3</sup>	3.64 (1.27)
	Email	4.11 (1.26)	4.82 (.81)	4.60 (1.56)	5.21 (.79)	4.28 (1.41)	4.24 (1.03)	3.99 (1.43)	3.55 (1.20)
Netflix	Chat	4.92 (1.56)	6.21 (.73)	5.31 (1.06)	5.20 (1.01)	5.05 (1.15)	5.02 (.79)	5.51 (.79)	4.73 (.79)
	Email	4.68 (1.32)	5.47 (.98)	5.41 (.98)	5.20 (1.12)	5.16 (.63)	4.99 (.72)	5.64 (.821)	4.47 (1.06)
Dyson	Chat	4.92 (1.04)	6.19 (.67)	4.69 (1.52)	5.42 (.90)	5.73 (1.15)	4.77 (1.35)	5.58 (1.42)	5.14 (1.34)
	Email	4.77 (1.75)	6.34 (.69)	5.47 (1.11)	5.66 (.70)	5.87 (1.11)	5.29 (.56)	5.27 (1.33)	5.22 (.71)
Overall		4.82 (1.38)	5.88 (.93)	5.08 (1.33)	5.38 (.88)	5.02 (1.39)	4.56 (1.13)	4.92 (1.44)	4.32 (1.29)
		Effects of emojis on different response variables depending on the topic and CPFr/CPBu							
Perceptions of service quality		4.82 (1.38)	5.88 (.93)	5.08 (1.33)	5.38 (.88)	5.02 (1.386)	4.56 (1.13)	4.92 (1.44)	4.32 (1.29)
Attitude toward the brand		4.56 (1.41)	5.63 (1.21)	4.52 (1.64)	4.82 (1.38)	4.33 (1.72)	4.16 (1.47)	4.24 (1.74)	4.01 (1.74)
Strength of positive affect		3.55 (1.55)	5.15 (1.35)	3.69 (1.51)	3.89 (1.39)	3.80 (1.42)	4.51 (1.60)	3.48 (1.58)	3.81 (1.36)
Warmth of the employee		4.38 (1.52)	5.87 (1.21)	4.51 (1.40)	5.07 (1.26)	4.50 (1.36)	5.38 (1.35)	4.24 (1.43)	4.97 (1.36)
Competence of the employee		5.10 (1.06)	4.92 (1.31)	5.29 (1.23)	4.14 (1.36)	5.05 (1.28)	4.89 (1.55)	4.90 (1.48)	4.23 (1.71)
Appropriateness of the employee's message		5.43 (1.22)	5.42 (1.48)	5.64 (1.27)	4.23 (1.59)	5.15 (1.50)	4.98 (1.75)	5.18 (1.71)	4.42 (1.80)
Brand innovativeness		4.84 (1.24)	5.61 (1.09)	4.79 (1.35)	4.84 (1.31)	4.79 (1.26)	5.18 (1.32)	4.61 (1.15)	4.80 (1.34)
		Sample size							
		85	96	138	127	83	104	147	154

Notes: Scale ranges from 1 = unfavorable evaluation to 7 = favorable evaluations. Standard deviations in parentheses.

Source: Own illustration.

- For the perceptions of the employee's competence: Emojis have a negative effect in the CPBu condition.
- For the appropriateness of the employee's message: Emojis have a negative effect in the CPBu condition.
- For the perceptions of the brand's innovativeness: Emojis have a positive effect in the CPFr condition.

Tab. 4: Mediation model estimates

	Neutral inquiry		Complaint	
	Friendship-like conversation style preferred (CPFr) (n = 181)	Business-like conversation style preferred (CPBu) (n = 265)	Friendship-like conversation style preferred (CPFr) (n = 187)	Business-like conversation style preferred (CPBu) (n = 301)
	Coefficients			
$a_{\text{emoji} \rightarrow \text{positive affect}}$	1.60 ( $t_{179} = 7.42^{***}$ )	0.20 ( $t_{263} = 1.11^{\text{ns}}$ )	0.71 ( $t_{185} = 3.15^{**}$ )	0.33 ( $t_{299} = 1.96^*$ )
$a_{\text{emoji} \rightarrow \text{warmth}}$	1.49 ( $t_{179} = 7.36^{***}$ )	0.57 ( $t_{263} = 3.54^{***}$ )	0.88 ( $t_{185} = 4.39^{***}$ )	0.73 ( $t_{299} = 4.54^{***}$ )
$a_{\text{emoji} \rightarrow \text{competence}}$	-0.18 ( $t_{179} = -1.03^{\text{ns}}$ )	-1.15 ( $t_{263} = -7.25^{***}$ )	-0.16 ( $t_{185} = -0.76^{\text{ns}}$ )	-0.67 ( $t_{299} = -3.63^{***}$ )
$a_{\text{emoji} \rightarrow \text{appropriateness}}$	-0.00 ( $t_{179} = -0.02^{\text{ns}}$ )	-1.42 ( $t_{263} = -8.05^{***}$ )	-0.17 ( $t_{185} = -0.71$ )	-0.76 ( $t_{299} = -3.74^{***}$ )
$a_{\text{emoji} \rightarrow \text{innovativeness}}$	0.77 ( $t_{179} = 4.44^{***}$ )	0.06 ( $t_{263} = 0.35^{\text{ns}}$ )	0.39 ( $t_{185} = 2.05^*$ )	0.20 ( $t_{299} = 1.22^{\text{ns}}$ )
$b_{\text{positive affect} \rightarrow \text{service quality}}$	0.16 ( $t_{174} = 3.31^{**}$ )	0.14 ( $t_{258} = 3.32^{**}$ )	0.02 ( $t_{180} = 0.49^{\text{ns}}$ )	0.06 ( $t_{294} = 1.36^{\text{ns}}$ )
$b_{\text{warmth} \rightarrow \text{service quality}}$	0.47 ( $t_{174} = 7.56^{***}$ )	0.21 ( $t_{258} = 4.16^{***}$ )	0.27 ( $t_{180} = 4.12^{***}$ )	0.17 ( $t_{294} = 3.60^{***}$ )
$b_{\text{competence} \rightarrow \text{service quality}}$	0.03 ( $t_{174} = 0.51^{\text{ns}}$ )	0.27 ( $t_{258} = 4.31^{***}$ )	0.07 ( $t_{180} = 0.96^{\text{ns}}$ )	0.35 ( $t_{294} = 6.61^{***}$ )
$b_{\text{appropriateness} \rightarrow \text{service quality}}$	0.10 ( $t_{174} = 1.96^*$ )	0.14 ( $t_{258} = 2.76^{**}$ )	0.39 ( $t_{180} = 6.78^{***}$ )	0.13 ( $t_{294} = 2.80^{**}$ )
$b_{\text{innovativeness} \rightarrow \text{service quality}}$	0.02 ( $t_{174} = 0.43^{\text{ns}}$ )	0.00 ( $t_{258} = 0.09^{\text{ns}}$ )	0.03 ( $t_{180} = 0.55^{\text{ns}}$ )	0.16 ( $t_{294} = 3.92^{***}$ )
$c'_{\text{emoji} \rightarrow \text{service quality}}$	0.08 ( $t_{174} = 0.60^{\text{ns}}$ )	0.67 ( $t_{258} = 5.62^{***}$ )	-0.64 ( $t_{180} = -5.60^{***}$ )	-0.45 ( $t_{294} = -4.52^{***}$ )
$b_{\text{service quality} \rightarrow \text{attitude}}$	0.42 ( $t_{173} = 3.82^{***}$ )	0.27 ( $t_{257} = 2.52^{**}$ )	0.48 ( $t_{179} = 3.55^{***}$ )	0.25 ( $t_{293} = 2.41^{**}$ )
$b_{\text{positive affect} \rightarrow \text{attitude}}$	0.08 ( $t_{173} = 1.05^{\text{ns}}$ )	0.13 ( $t_{257} = 1.77^*$ )	0.25 ( $t_{179} = 2.90^{***}$ )	0.20 ( $t_{293} = 2.77^{**}$ )
$b_{\text{warmth} \rightarrow \text{attitude}}$	0.16 ( $t_{173} = 1.55^{\text{ns}}$ )	-0.08 ( $t_{257} = -0.87^{\text{ns}}$ )	-0.15 ( $t_{179} = -1.21^{\text{ns}}$ )	0.07 ( $t_{293} = 0.83^{\text{ns}}$ )
$b_{\text{competence} \rightarrow \text{attitude}}$	-0.01 ( $t_{173} = -0.09^{\text{ns}}$ )	0.10 ( $t_{257} = 0.89^{\text{ns}}$ )	0.08 ( $t_{179} = 0.59^{\text{ns}}$ )	0.12 ( $t_{293} = 1.16^{\text{ns}}$ )
$b_{\text{appropriateness} \rightarrow \text{attitude}}$	-0.08 ( $t_{173} = -0.97^{\text{ns}}$ )	-0.02 ( $t_{257} = -0.09^{\text{ns}}$ )	-0.05 ( $t_{179} = -0.40^{\text{ns}}$ )	-0.04 ( $t_{293} = -0.53^{\text{ns}}$ )
$b_{\text{innovativeness} \rightarrow \text{attitude}}$	0.28 ( $t_{173} = 3.52^{***}$ )	0.42 ( $t_{257} = 6.04^{***}$ )	0.30 ( $t_{179} = 3.24^{***}$ )	0.38 ( $t_{293} = 5.10^{***}$ )
$c'_{\text{emoji} \rightarrow \text{attitude}}$	0.04 ( $t_{173} = 0.24^{\text{ns}}$ )	0.30 ( $t_{257} = 1.35^{\text{ns}}$ )	-0.11 ( $t_{179} = -0.51^{\text{ns}}$ )	-0.22 ( $t_{293} = -1.22^{\text{ns}}$ )
	$a \times b$ and 95% confidence interval of $a_{\text{emoji} \rightarrow M} \times b_{M \rightarrow \text{service quality}}$ (M = mediator)			
Positive affect	0.26; (0.08; 0.56)	0.03; (-0.01; 0.10)	0.02; (-0.05; 0.08)	0.02; (-0.01; 0.07)
Warmth	0.70; (0.42; 1.05)	0.12; (0.05; 0.23)	0.23; (0.11; 0.41)	0.13; (0.06; 0.25)
Competence	-0.01; (-0.08; 0.02)	-0.31; (-0.52; -0.14)	-0.01; (-0.11; 0.02)	-0.24; (-0.43; -0.11)
Appropriateness	-0.00; (-0.05; 0.06)	-0.20; (-0.38; -0.06)	-0.07; (-0.25; 0.11)	-0.10; (-0.21; -0.01)
Innovativeness	0.02; (-0.08; .014)	0.00; (-0.02; 0.02)	0.01; (-0.03; 0.10)	0.03; (-0.01; 0.09)
	$a \times b$ and 95% confidence interval of $a_{\text{emoji} \rightarrow M} \times b_{M \rightarrow \text{brand attitude}}$ (M = mediator)			
Positive affect	0.13; (-0.08; 0.41)	0.03; (-0.01; 0.12)	0.18; (0.04; 0.43)	0.07; (0.01; 0.19)
Warmth	0.24; (-0.12; 0.70)	-0.04; (-0.17; 0.04)	-0.13; (-0.41; 0.13)	0.05; (-0.08; 0.20)
Competence	0.00; (-0.04; 0.07)	-0.12; (-0.44; 0.13)	-0.01; (-0.17; 0.03)	-0.08; (-0.25; 0.04)
Appropriateness	0.00; (-0.05; 0.05)	0.03; (-0.24; 0.33)	0.01; (-0.04; 0.15)	0.03; (-0.07; 0.18)
Innovativeness	0.21; (0.07; 0.43)	0.02; (-0.11; 0.16)	0.12; (0.01; 0.29)	0.07; (-0.03; 0.22)

Note: \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

Source: Own illustration.

In summary, for attitude toward the brand, this analysis replicates the findings found for perceptions of service quality: Emojis improve evaluations in neutral-inquiry conditions and impair evaluations in complaint conditions. For the other response variables (the mediating variables), the effects are contingent on the topic (neutral inquiry or complaint) and the type of consumers (CPFr/CPBu).

### 3.8 Answer to RQ2: What are the mediating processes between emojis, perceptions of service quality, and brand attitude?

#### 3.8.1 Model estimates

We calculate the estimates for all relationships depicted in the conceptual model. To consider the moderating variables (topic, CPr/CPBu), we estimate the relationships for all four topic  $\times$  CPr/CPBu conditions separately. The findings are summarized in >table 4.

#### 3.8.2 How to interpret the coefficients

The *a*-coefficients: In our model, the *a*-coefficients indicate the extent to which the presence of emojis influences positive affect, perceptions of the employee’s warmth, perceptions of the employee’s competence, perceptions of the appropriateness of the message, and perceptions of brand innovativeness. For instance, the first data column contains results for the neutral inquiry/CPr condition. >table 3 showed for this condition that the strength of positive affect is  $M_{\text{emojis present}} = 5.15$  when emojis are used and that the strength of positive affect equals  $M_{\text{emojis absent}} = 3.55$  when emojis are absent. The mean difference  $M_{\text{emojis present}} - M_{\text{emojis absent}} = 1.60$  is expressed by the size of the effect  $a_{\text{emoji} \rightarrow \text{pos aff}}$  of emojis (present vs. absent) on the strength of positive affect. For instance, independent of the conditions (note that we have four conditions: 1. neutral inquiry/CPr, 2. neutral inquiry/CPBu, 3. complaint/CPr, and 4. complaint/CPBu), the presence of emojis positively influences perceptions of the employee’s warmth. To provide another example: In the CPBu con-

ditions, the presence of emojis negatively influences perceptions of the employee’s competence.

The *b*-coefficients and *c*’ concerning perceptions of service quality: Here, we estimated four multiple regression models. Perceptions of service quality were the dependent variable. Positive affect, warmth, competence, appropriateness, innovativeness, and a binary variable (emojis 1 = present vs. 0 = absent) were the independent variables. The multiple regression was calculated for each of the four topic  $\times$  CPr/CPBu conditions. The *b*’s are the resulting regression coefficients (*c*’ is used to denote the regression coefficient for the binary variable emojis which characterizes the residual direct effect). For instance, in the neutral inquiry/CPr condition, the regression coefficient of the strength of positive affect on perceptions of service quality equals  $b_{\text{pos affect} \rightarrow \text{service quality}} = 0.16$  ( $t_{174} = 3.31, p < 0.01$ , onetailed test); the positive sign indicates that perceptions of service quality increase with the strength of positive affect. For instance, independent of the condition, perceptions of the employee’s warmth affect perceptions of service quality positively.

The *b*-coefficients and *c*’ concerning brand attitude: Here, we estimated four additional regression models. Brand attitude served as the dependent variable. Perceptions of service quality, positive affect, warmth, competence, appropriateness, innovativeness, and a binary variable (emojis 1 = present vs. 0 = absent) were the independent variables. The multiple regression was calculated for each of the four topic  $\times$  CPr/CPBu conditions. The *b*’s are the resulting regression coefficients for service quality, positive affect, warmth, competence, appropriateness, and innovativeness, and *c*’ denotes the regression coefficient for the binary variable emojis. For instance, in the neutral topic/CPr condition, the slope of the perceptions of service quality on brand attitude equals  $b_{\text{service quality} \rightarrow \text{attitude}} = 0.42$  ( $t_{173} = 3.82, p < 0.001$ ).

The *a*  $\times$  *b* coefficients and confidence intervals: If one generally wants to test if a coefficient differs significantly from zero, statisticians suggest calculating its *t*-value ( $t = \text{coefficient/standard error of this coefficient}$ ).

ent). However, if a product of coefficients, *a*  $\times$  *b*, is the coefficient which shall be tested against zero, there is no formula how to calculate the standard error of *a*  $\times$  *b*. Moreover, distributions of products of two random variables are non-symmetric. For this context, Hayes (2013) provides statistical procedures to estimate the limits of an asymmetric confidence interval (CI) for *a*  $\times$  *b* through a bootstrapping procedure. If the CI does not cover the value zero, a mediating effect is assumed to exist. For instance, if one wants to know if the presence (vs. absence) of emojis influences perceptions of service quality via strength of positive affect,  $a_{\text{emoji} \rightarrow \text{pos affect}}$  is multiplied by  $b_{\text{pos affect} \rightarrow \text{service quality}}$ . In the neutral inquiry/CPr condition, this term is  $1.60 \times 0.16 = 0.26$ , and the 95% CI around  $a \times b = 0.26$  equals (0.08; 0.56). This CI lies outside zero and thus suggests that the strength of positive affect is a variable in the “emoji  $\rightarrow$  service quality” relationship: emojis influence strength of positive affect and strength of positive affect influences perceptions of service quality. Analogously, the *a*  $\times$  *b* coefficients and CIs can be calculated when brand attitude is the dependent variable.

#### 3.8.3 Significant mediating effects

The results for *a*  $\times$  *b* are reported in >Table 4 indicate the cases in which significant mediating effects were found.

As mediating effects between the emojis and perceptions of service quality, we can report the following: Emojis reinforce the strength of positive affect that spills over to perceptions of service quality. This effect only happens in the neutral inquiry/CPr condition. Emojis increase perceptions of employee’s warmth, which spill over to perceptions of service quality in all topic/customer-segment conditions. Emojis reduce perceptions of competence and perceptions of message appropriateness, what negatively impacts the perceptions of service quality in complaint conditions.

As mediation effects between emojis and brand attitude, the estimates indicate the following: The  $b_{\text{service quality} \rightarrow \text{attitude}}$  effect is positive for all conditions. This means that in the condition of neutral inquiries in which

emojis positively affect perceptions of service quality, increased service quality enhances brand attitude. For complaints, where emojis negatively affect perceptions of service quality, diminished service quality also reduces brand attitude. Moreover, there are positive indirect effects of emojis on brand attitude via strength of positive affect in the complaint conditions and positive indirect effect of emojis on brand attitude via perceptions of brand innovativeness in the CPFr conditions.

In summary, the use of emojis causes a variety of positive and negative effects via the mediating variables, which in total lead to more favorable or less favorable evaluations of service quality and brand attitude. Because there is a multitude of mediation processes, focusing on a few aspects (e.g., solely concentrating on the effects on perceptions of the employee's warmth and competence, as suggested by Li et al., 2019) leads to wrong conclusions.

### 3.8.4 Discussion of weaknesses of the method

>Figure 1 showed a conceptual (i.e., theoretical) model. It presumed the existence of a sequence of mental processes when viewing and reading the test stimulus as follows: In the first step, affects are evoked and cognitions are triggered about the employee's characteristics (warmth and competence), about the message (appropriateness) and the brand (innovativeness), which, based on an aggregation process, influence in the second step the evaluation of the service quality of the company and, in the third step, the attitude toward the brand. However, the statistical analysis used to test this model goes along with serious problems.

First, our statistical mediation analysis cannot provide empirical evidence of antecedents and consequences as the classification of factors into mediating (i.e., preceding) and dependent (i.e., subsequently relevant) variables might suggest. The course of the mental processes in our study could be different: Test participants could first develop immediate evaluations of the service quality of the company in general and then derive message and employee impressions from

them. For instance, in the thought-listing task, as expected in our model, one portion of the test participants addressed employee characteristics directly, such as the following (translated):

- „First disappointment on the part of the customer. After the Sky employee showed understanding and wrote to the customer in a very polite and courteous manner, the buyer sounded reasonably satisfied.”
- „The Sky employee was very courteous and answered the question sufficiently. However, the use of the smileys makes him appear somewhat dubious. The questioner was very curt after Stefan's answers, and it was also great that Stefan didn't try to sell the entertainment plus package again.”

In contrast, other test participants spontaneously started with judging the company (service quality) which was reflected in comments such as the following:

- “Once again, a typical example of the Sky decoy offers with hidden price increases. Always annoying for customers.”
- „That is not how it works. Discount is discount. The request should be clarified within 24 hours, otherwise I would quit.”

The causality could therefore be different for the latter segment (first, evaluation of service quality, then evaluation of the employee).

Second, mediation analyses involving multiple mediating variables suffer from the shortcomings that regression analyses have. Since all response variables are affected by the same cause (here: the presence vs. absence of emojis), all mediating variables (as assumed in > figure 1) are highly correlated. In our study, correlations range from .452 (competence and innovativeness) to .797 (competence and appropriateness). The *b*-coefficients shown in > table 4 are OLS estimates of multiple linear regressions. Because of the strong intercorrelations of the regressors, these estimates are not far from random (the omission of one mediator strongly affects the *b*-coefficients of the remaining variables). There are also many statistical assumptions (e.g., no interaction effects among the mediating variables, linear relationship, OLS assumptions) that may or may not be valid.

Third, because service quality was assessed prior to other “mediating variables,” the measurement of the latter is likely to be biased by thoughts about service quality.

### 3.9 Answer to RQ3: Are the findings of the hypotheses' tests contained in previous research replicable?

Finally, we use our data set to prove if we can replicate findings that are reported in previous research.

Hypothesis H1 postulated a positive effect of emojis on positive affect in the neutral topic/CPFr condition ( $M_{\text{emojis present}} = 5.15$ ,  $M_{\text{emojis absent}} = 3.55$ ,  $t_{179} = 7.42$ ,  $p < 0.001$ ), and it suggested that this effect is absent for the neutral topic/CPBu condition ( $M_{\text{emojis present}} = 3.89$ ,  $M_{\text{emojis absent}} = 3.69$ ,  $t_{263} = .20$ , n.s.). Our data is in line with this presumption.

Hypothesis H2 predicted a positive effect of emojis on perceptions of employee warmth in the neutral topic/CPF condition ( $M_{\text{emojis present}} = 5.87$ ,  $M_{\text{emojis absent}} = 4.38$ ,  $t_{179} = 7.36$ ,  $p < 0.001$ ), and a null effect in the neutral topic/CPBu condition ( $M_{\text{emojis present}} = 5.07$ ,  $M_{\text{emojis absent}} = 4.51$ ,  $t_{263} = 3.54$ ,  $p < 0.001$ ). Our data conform to the first part and do not support the latter part of this hypothesis because, according to our data, emojis affect perceptions of employee warmth also in the neutral topic/CPBu condition. However, the effect of emojis is smaller in the neutral topic/CPBu than in the neutral topic/CPFr condition.

Hypothesis H3 stated a negative effect of emojis on perceptions of employee competence in the neutral topic/CPBu condition ( $M_{\text{emojis present}} = 4.14$ ,  $M_{\text{emojis absent}} = 5.29$ ,  $t_{263} = -7.25$ ,  $p < 0.001$ ), and it presumed the absence of this effect in the neutral topic/CPFr condition ( $M_{\text{emojis present}} = 4.92$ ,  $M_{\text{emojis absent}} = 5.10$ ,  $t_{179} = -1.03$ , n.s.). Our data provides evidence to H3.

In summary, the theories used by the authors to infer H1 (“emotions as social information” model) and to derive H2 and H3 are also broadly supported by our experiment.

## 4 Implications for practice, limitations, and suggestions for future research

We were inspired for this study by two observations. First, we recognize the widespread use of emojis by service employees in digital conversation. The reason for this could be that many companies employ young people in their service centers, and it seems normal for these people when emojis are included in the digital conversation. Second, we found that previous research did not reveal clear insights into whether and why to use emojis in digital business conversation. Based on our findings, we recommend that supervisors of service employees implement the following simple rule to support or maintain customer perceptions of service quality and brand attitude:

- Use emojis when responding to a neutral customer inquiry.
- Do not use emojis when reacting to a customer complaint.

Moreover, our findings indicate that companies must not care about the distinction between consumers who generally prefer a friendship-like communications style with company employees in digital communication (CPFr) and consumers who generally prefer a business-like communications style with company employees in digital communication (CPBu).

As a major limitation of the validity of our results, we must mention that the sample of test participants was rather young, with the majority being students. Analogously, young consumers are more accustomed to emails, WhatsApp messages, etc. that contain emojis. For many older consumers, the use of emojis by an employee might be more irritating as they do not even use these symbols in their private digital communication. However, as time passes, older consumers are likely to be more accustomed to emojis. In addition to examining older consumers' reactions to emojis in digital business conversations, we recommend investigating the impact of the number of emojis included in such dialogs. As of September 2021, emoji-pedia.org contains 3,633 different emojis in the Unicode Standard. It would therefore be

helpful to analyze which emojis should be used to achieve the intended meaning in the audience. For instance, Ma and Wang (2021) provide initial findings that the valence of the emoji in digital sales conversation has different effects; note that we only focused on emojis with a positive valence, i.e., smiling emojis. Most likely, employees should use different emojis when communicating with female or male customers.

### Management-Takeaway

The use of emojis in digital sales conversations by company employees is advantageous when young customers make neutral inquiries. However, the use of emojis in employee's replies can backfire when young customers complain. Therefore, we recommend using emojis only in the first condition.

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