Perception and Attribution of Employees’ Effort and Abilities: The Impact on Customer Encounter Satisfaction

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Keywords Service encounter, Perceived employee’s effort and abilities, Attribution theory, Customer satisfaction, Critical incident technique, Experiment

Abstract We examine if and how customers perceive effort and abilities of an employee in the service encounter and to what extend this perception influences customer satisfaction. Results from two empirical studies (one critical incident study and one experiment) show that customers do spontaneously and explicitly attribute their encounter experience to service employees’ effort and abilities; both determinants are perceived by certain behavioral cues. Results show further, that the specific and direct impact of perceived effort and abilities on customer satisfaction varies within different service types. Across service types (Study 1) results reveal a stronger impact of perceived effort on satisfaction than of perceived abilities. This impact is not eliminated even if service outcome is statistically controlled. In consideration of two specific service types (retail and financial services) under experimental conditions (Study 2), results support a strong and positive impact of both determinants on satisfaction with perceived abilities being stronger in the financial service setting. Results from Study 2 show further the independent influence of both determinants on satisfaction since this influence is not eliminated even when the perceived service outcome is statistically controlled. Conceptually and theoretically this paper builds on motivation theory, naïve psychology, and attribution theory, and service specific satisfaction research. Implications for both research and management will be discussed.
INTRODUCTION

Facing strong competition, businesses now recognize customer satisfaction as a primary goal on the path to profitability, especially as a result of research suggesting the significant influence of customer satisfaction on retention (Cronin and Taylor, 1992; Oliver, 1980) and, in turn, profitability (Reichheld and Sasser, 1990). Within this context, “moments of truth” reflect a fundamental means of quality management. Both service companies and manufacturing firms that offer customer service therefore must understand which aspects of a service encounter determine customer satisfaction. Research and management note the relevance of the employee in customer–employee interactions as a crucial determinant of satisfaction, to the point of claiming that “The offering is the employee” (Zeithaml et al., 1996).

Thus, extensive theoretical and empirical work in personal selection, human resource, and service research literature focuses on the employee, his or her service orientation, and service competence during customer interaction processes. Whereas some research concentrates primarily on the personality dimension of service orientation, and therefore on an employee’s predisposition to engage in service-oriented behavior (e.g., Brown et al., 2002; Cran, 1994; Frei and McDaniel, 1998; Hogan et al., 1984; Hollenbeck and Whitner, 1988), other studies focus more on employee behavior itself and its impact on quality and customer satisfaction (e.g., Bettencourt and Gwinner, 1996; Bitner et al., 1990, 1994; Chandon et al., 1997; Coenen, 2001; Cronin et al., 2000; Farrell et al., 2001; Grönroos, 1982; Hartline and Ferrell, 1996; Meyer and Mattmüller, 1987; Mohr and Bitner, 1995; Parasuraman et al., 1985, 1988; Winsted, 2000).

On a meta-level, two behavioral drivers provide important determinants of customer satisfaction in customer–employee interactions: the employee’s motivation, as perceived by his or her effort, and competence, as perceived by his or her abilities. The importance of these drivers appears in basic definitions of service that take customers’ point of view (Meyer, 1991, 1998): Services refer to the offered effort and abilities of employees applied directly to the customer or an object he or she possesses. This definition clearly states that the employee and his or her perceived effort and abilities represent the service from a customer’s point of view.

Despite the broad consensus about the importance of effort and abilities, no research provides empirical evidence for their simultaneous perception by customers, their relationship, or their influence on customer satisfaction. This study attempts to close this research gap by investigating, through two studies (one exploratory study and one experiment) that use three types of
data (critical incident descriptions, survey responses and experimental data), (1) whether customers perceive service providers’ effort and abilities during service encounters, (2) the behavioral cues customers use to assess effort and abilities, (3) whether perceived effort and abilities influence customer satisfaction, and (4) whether perceived effort and abilities influence customer satisfaction when service outcome is statistically controlled.

Our results thus contribute to a deeper understanding of customer satisfaction in interpersonal service encounters because they explore the nature and role of perceptions of service providers’ effort and abilities as dominant process factors, as well as their relevance in direct comparison with the perceived service outcome. Research is based on naïve psychology (Heider, 1958), attributional research developed in Bernhard Weiner’s attributional theory of motivation and emotion’ (Weiner, 1985, 1986) and motivation theory.

**CONCEPTUAL BACKGROUND AND THEORETICAL FOUNDATION**

**Service Research**

Customer satisfaction with services depends not only on the service outcome (what the customer receives during the exchange) but also on the process of service delivery, or the quality of the interaction itself (how the customer receives value) (Czepiel, 1990; Grönroos, 1990). Moreover, traditional research conceptually and empirically analyzes specific service quality and satisfaction dimensions, which relate closely to service providers’ behavior. Such research was triggered by the well-known SERVQUAL studies (Parasuraman et al., 1985, 1988), which state that in addition to tangible elements, the reliability, responsiveness, assurance, and empathy associated with service provision determine a customer’s service evaluation. Therefore, disregarding situational facilitators and inhibitors, perceived performance strongly depends on the individual employee and his or her behavior. However, the multi-item measurement applied by SERVQUAL has been subject to the criticism that it cannot capture the specific nature of service transactions as personal and individual social interaction processes (Babakus and Boller, 1992; Carman, 1990; Lee et al., 2000). Inspired by such criticism, Bitner et al. (1990) published a well-respected research study in which they apply critical incident methods to capture central dimensions of service encounter satisfaction. Compared with close-ended surveys, their approach generates inductive and detailed information about customer satisfaction with a service encounter and places employees’ behavior at the center of interest.
However, no research theoretically investigates and empirically tests both perceived effort and perceived abilities as core behavioral representatives of employees’ performance, determines their impact on customers’ encounter satisfaction, or analyzes their possible interaction effects. Therefore, to obtain a deeper understanding of effort and abilities as behavioral drivers of human performance, their relationship, and their perception and psychological anchoring in the mind of observers (i.e., customers), we move from the field of service research to draw on motivation theory, naïve psychology, and attribution theory.

**Motivation Theory**

Motivation literature offers insight into the relationships among performance, motivation, and ability and assumes outcomes are direct functions of motivation multiplied by ability (Lawler, 1966; Vroom, 1960, 1964; Lawler, 1966). According to this approach, “to achieve a high level of performance a person must have both the ability and the motivation to perform effectively” (Baldwin, 1958). Although some authors regard motivation as the predominant factor (e.g., French, 1957), others assert the equality of both attributes (e.g., Fleishman, 1958; Locke et al., 1978; Vroom, 1964). Moreover, motivation literature links these constructs to concrete descriptions of perceptions; for example, motivation perceptions rely on effort, or the displayed energy put into a behavior (Locke et al., 1978). Because ability represents a task-related, relative construct however, it is hard to specify a perceptual definition. For example, Vroom (1964) defines a person’s ability to perform a task as “the degree to which he possesses all of the psychological attributes necessary for a high level of performance excluding those of a motivational nature” but ignores to describe how abilities are perceived.

**Naïve Psychology**

With his naïve analysis of action, Heider (1958) demonstrates that the outcome of behavioral action depends on two components: a personal and an environmental force. Behavioral outcome is a function of both personal and environmental components and result from their additive relation. The personal component consists of a motivational factor, determined by a person’s intention and effort, and a multiplicative enabling power factor that reflects a person’s ability, temperament, etc. In contrast, the environmental component is characterized by the degree of task difficulty, chance, and luck. To capture common situations, Heider (1958) suggests a regrouping of these components that leads to the concepts of trying (personal motivational factor) and being enabled (personal power factor plus environmental factor). Thus, personal inputs to behavioral action comprise one motivational component represented by inten-
tion and effort, which determine the trying for the outcome, and one non-motivational component, which reflects the concept of being enabled and encompasses the ability of a person and the situational factors. In the context of our research, Heider’s research suggests effort refers to the strength of motivation, which can be perceived explicitly by observing the behavior of a person, whereas ability involves the general aptitude of a person (physically and mentally), though his work provides no guidance about perceiving abilities.

Attribution Theory

On the basis of Heider’s (1958) naïve psychology theory, attribution theory analyses the relationship between personal perceptions and interpersonal behavior (Weinert, 1998) to take into account people’s perceptions of human interactions. We focus on the attributional research developed by Bernhard Weiner (1985, 1986) in his attributional theory of motivation and emotion. Weiner finds that perceived abilities and effort represent the dominant perceptual causes of human performance (and its outcome) that determine the perceiver’s cognitive, affective, and intentional reactions. This process of attribution occurs particularly in response to negative, unexpected, or important outcomes (Weiner, 1985, 1986; see also Folkes, 1982; Weiner and Handel, 1985; Wong and Weiner, 1981).

To incorporate Weiner’s attribution theory into our research task, we must address causal attributions of achievement-related actions and outcomes. In this regard and on the basis of Heider’s work, Weiner identifies four decisive causes: perceived effort and abilities, perceived luck, and task difficulty (Weiner and Kukla, 1970). However, empirical investigations show effort and abilities dominate perception, such that “In nearly all reported investigations, how competent we are and how hard we try are the most frequently given explanations of success and failure” (Weiner, 1986). The impact of effort and abilities as the perceived causes of actions and outcomes appears in discussions of the so-called “fundamental error of attribution” (Gilbert and Malone, 1995; Jones and Davis, 1965; Kelley, 1973; Miller et al., 1981, 1990; Miller and Rorer, 1982), which argues that people tend to overestimate internal causes (e.g., effort, abilities) but underestimate external causes (e.g., fate, luck) when evaluating the behavior and behavioral consequences of others (Werth, 2004). Even when perceivers know about constraining situational circumstances, they still attribute actions and outcomes to internal determinants. Therefore, service customers likely attribute a negative outcome to an employee’s effort and abilities, even when they know that something else, such as a computer system error, bad weather, or just bad luck, was responsible for it. Jones and Nisbett (1971) show such internal attributions take place particularly when the attributor is an observer; if he
or she is an actor, the person instead tends to attribute his or her own actions to situational requirements and therefore makes external attributions. In our context, employees as actors likely therefore attribute a negative outcome not to their own effort and abilities but rather to external circumstances.

These three theories underline the central position of effort and ability as behavioral drivers of human performance and suggest their multiplicative connection. They further explain the psychological consequences (e.g., customer satisfaction) and intentions (e.g., word-of-mouth) that can result from observers’ perceptions of these drivers. In turn, these theories could make important contributions to service encounter research by suggesting perceived effort and abilities as behavioral drivers for encounter satisfaction. However, none of the theories can provide in-depth insights into perceived effort and perceived abilities, because they fail to provide concrete behavioral cues for representing these two constructs.

Therefore, the first stage of our research is explorative in nature and addresses the following research questions: (1) Do customers actually perceive service providers’ effort and abilities during service encounters? (2) What behavioral cues do customers use to determine employees’ effort and abilities? (3) Do perceived effort and abilities influence encounter satisfaction? and (4) Do perceived effort and abilities influence customer satisfaction when perceived service outcome is statistically controlled?

Whereas the first two research questions focus on exploring the existence and nature of effort and abilities in a service context from the customer’s point of view, the latter two examine their influence on encounter satisfaction and thus represent cognitive and emotional evaluations of an interaction (Stauss, 1999). They further take into consideration perceived service outcome as an additional relevant determinant of satisfaction (e.g., Czepiel et al., 1985; Grönroos, 1990; Mohr and Bitner, 1995; Parasuraman et al., 1985; Zeithaml et al., 1996).

**STUDY 1: CRITICAL INCIDENT STUDY**

To explore in depth the constructs of perceived effort and abilities and answer our four research questions in Study 1, we apply a mix of methods. Study 1 therefore combines the explorative critical incident technique (CIT) with a questionnaire approach before conducting a formal experiment in Study 2.

**Survey Instrument**

The survey instrument asks respondents to write a two-page description of a critical incident with a service provider they had experienced in the past six months. This first part of the sur-
vey instrument does not contain any information about our two constructs of interest. After writing about the incident, subjects completed a questionnaire that contains a combination of scales and open-ended questions to probe their perceptions of the described encounter, with a focus on their perceptions of employees’ effort and abilities and their satisfaction with the interaction.

We combine critical incident descriptions and survey data for several reasons. First, the CIT, developed by John Flanagan in 1954 and since then applied in different marketing contexts (e.g., Pollay, 1985; Swan and Jones Combs, 1976; Zimmer and Golden 1988), captures the individual and socially interactive nature of a service encounter experience particularly well (Bitner et al., 1990, 1994; Mohr and Bitner, 1995; Nyquist and Booms, 1987; Stauss and Weinlich, 1995). The incident reporting reflects subjects’ original thoughts, including their cognitive, affective, and intentional reactions, but does not force them into a certain pattern, which results in “‘pure’ customer data. CIT allows marketers to see how customers think” (Nyquist and Booms, 1987). Therefore, if respondents mention the employee’s effort and abilities in their reported critical incidents without being asked for it, they freely provide evidence of the relevance and perception of these constructs (research question 1). Second, open- and close-ended questions about the reported incidents capture and operationalize the nature of perceived effort and abilities (research question 2). Through a combined analysis of each critical incident and the questionnaire, we can analyze the relationship of perceived effort and abilities with satisfaction and outcome measures (research questions 3 and 4). Third, the detailed incident descriptions refresh subjects’ memory, which prompts them to answer the questionnaire accurately and thus improves the data quality.

Sample

We administered the survey to 150 people with university affiliations (e.g., students, personnel). This sample size is sufficient for the exploratory nature of this study. We required that respondents have experience with service consumption and writing skills that would enable them to express their experience.

Measures

Critical Incidents. The CIT employs the methodology recommended by several service researchers (e.g., Bitner et al., 1990, 1994; Meuter et al., 2000; Mohr and Bitner, 1995; Stauss, 1994). Respondents report the details of a service encounter incident that fulfills the following criteria: The incident (1) involved a concise employee interaction, (2) was especially satisfy-
ing or dissatisfying, (3) represented a discrete episode, (4) allowed for a detailed description, (5) was not more than six months in the past, and (6) showed unambiguous (not alternating) employee behavior. We place no restrictions on the type of service.

Perceived Effort and Abilities (open-ended). The two open-ended questions ask respondents to specify the behavioral cues they used to perceive the service provider’s effort and abilities. These questions indicate, from a customer perspective, which behavioral cues form the focal constructs.

Perceived Effort and Abilities (closed-ended). After responding to the open-end questions, respondents evaluated 25 items on a seven-point Likert scale, on which 1 represents full agreement. To measure perceived effort, we adapt 6 items from Mohr and Bitner (1995): attentiveness, energy put into behavior, endeavor, time spent, endurance, and effort itself. To measure perceived abilities, we derive 19 items from the literature to measure all facets of perceived abilities, which includes items for perceived methodical, professional, and social competence (Delhees, 1994; Goleman, 1999; Nerdinger, 1998; Schuler and Barthelme, 1995): knowledge, competence, ability to organize, self-assurance, credibility, reliability, conscientiousness, self-confidence, eye contact, communication skills, capability, tolerance, patience, put oneself into the customer’s place, understanding, friendliness, empathy, professionalism, and abilities. With this question, we develop scales for both perceived effort and perceived abilities.

Customer Satisfaction. For the context of this study, we define satisfaction as an attitude-like construct that comprises both cognitive and emotional components (Herrmann and Johnson, 1999; Johnson et al., 1995; Meyer and Ertl, 1996; Oliver, 1993, 1994; Stauss, 1999). We gather our measurement items from Mohr and Bitner (1995) and Bitner et al. (1990) and ask respondents to report (1) their overall satisfaction, (2) their satisfaction with the employee, and (3) their satisfaction with the transaction process on seven-point scales anchored by completely satisfied and dissatisfied.

Perceived Service Outcome. To measure whether customers obtained their preferred service outcome during the encounter, we include one item with a seven-point Likert scale that questions whether, by the end of the incident, respondents received the service they wanted when they approached the firm (adapted from Mohr and Bitner, 1995; a score of 1 represents full agreement). Similar to the measures of perceived effort and abilities, this outcome measure
represents a quality judgment and thus differs from satisfaction judgments, which include a stronger component of individual value in the evaluation.

Demographics. Finally, the questionnaire includes items related to information about the respondents, such as gender, age, and educational level.

Results

Sample. Of the 150 research respondents, 130 correctly completed the critical incident study and the questionnaire. In terms of demographics, 54.6% were female, and subjects’ ages ranged from 18 to 70 years with a mean of 30 years of age. One-third of all subjects were students, whereas the other two-thirds already had university degrees.

Respondents could write about any service firm, so the selected service types include retail (28 respondents), railway transportation (18), telecommunication (16), financial institutions (14), restaurants (14), hairdressers (10), airlines (4), medical institutions (3), car repair (3), and other (20).

Scales. The satisfaction measure (three items) reveals a mean of 4.23 and a standard deviation of 2.66. For our reliability check, we compute Cronbach’s coefficient alpha as a measure of internal consistency. The resulting reliability estimate is quite high for satisfaction (0.96), and our explorative factor analysis confirms the convergent validity of the scale. The perceived service outcome measure indicates a mean of 3.57 and a standard deviation of 2.45. As we expected, the measures of satisfaction and service outcome evince a strong positive correlation ($r = 0.767$).

Research question 1: Do customers perceive the service provider’s effort and abilities during service encounters? We use a deductive content analysis to examine the critical incident descriptions and determine whether respondents make spontaneous references to employees’ effort and abilities. As a starting point for analyzing the critical incidents, we use the 25 items that represent perceived effort and abilities (see Measures) as the categories for a coding scheme applied by three expert teams. We adjust this coding scheme on the basis of a pretest of 20 incidents. Furthermore, we apply a two-step approach to the content analysis. First, two well-trained, two-student expert teams coded the incidents independently. Second, a third expert team (first and second author) compared any deviant results from the preceding step and arrived at a final estimate. The percentage of agreement (PoA) (Kolbe and Burnett, 1991) and measure of interjudge reliability (index of Perreault and Leigh, 1989) are very good, with
PoA = 0.87 and Iᵣ = 0.908 (Gremler, 2004). No additional categories needed to be added to the coding scheme, which reveals the high content validity of our research (Keaveney, 1995).

The results from the content analysis expose that all 130 incidents contain spontaneous descriptions of perceived effort and abilities that refer to items found in the literature for both constructs, such as “he was very helpful,” “he was obviously overcharged,” “the employee spent a lot of time on my concern,” and “he had excellent professional competence.” Thus, the critical incidents clearly confirm that customers notice employees’ effort and abilities.

**Research question 2: What behavioral cues do customers use to determine employees’ effort and abilities?** After describing their critical incidents, respondents answered two open-ended questions about the behavioral cues they used to perceive that the service provider had shown or not shown effort and abilities. We apply the CIT coding scheme and a subsequent frequency analysis to analyze these answers.

The respondents perceive our theoretically derived items for perceived effort and abilities but do not always assign them to their respective theoretical construct. For example, they assign many items to both perceived effort and abilities, which suggests customers have difficulty discriminating between constructs. However, for some items, the assignment frequency differed enough (i.e., frequency difference of 10) that we can clearly assign them to either perceived effort or perceived abilities (see Table I).

<table>
<thead>
<tr>
<th>Behavioral Cues / Items</th>
<th>Assignment Frequency to Perceived Effort</th>
<th>Assignment Frequency to Perceived Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort / endeavor / energy put into behavior</td>
<td>90</td>
<td>41</td>
</tr>
<tr>
<td>Empathy</td>
<td>39</td>
<td>29</td>
</tr>
<tr>
<td>Friendliness</td>
<td>33</td>
<td>20</td>
</tr>
<tr>
<td>Attentiveness</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>Time spent</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Flexibility</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Technical knowledge / competence</td>
<td>22</td>
<td>66</td>
</tr>
<tr>
<td>Abilities</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Self-Confidence / self-assurance</td>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>

**Table I:** Frequency analysis of behavioral categories and their assignment to perceived effort and perceived abilities
In particular, respondents generally perceive abilities on the basis of displayed technical knowledge/competence, abilities themselves, and self-confidence/self-assurance. In contrast, they consider the displayed effort itself, endeavor, energy put into the behavior, empathy, friendliness, attentiveness, time spent, conscientiousness, and flexibility as indicators of effort. This cue assignment indicates that customer perceptions do not completely reflect the theoretical definitions of perceived abilities and effort; rather, some behavioral cues of abilities appear to represent the effort dimension for customers. In practice, customers almost always perceive abilities on the basis of cues that represent professional competence. Furthermore, professionalism, which the literature considers a clear synonym for perceived abilities, gets assigned equally to perceived effort and abilities by customers, so from customers’ perspective, professionalism reflects both constructs.

We also conduct a factor analysis (principal component analysis, Varimax rotation) to analyze the responses to the 25-item battery. After eliminating cross-loading items, we extract a two-factor result, namely, perceived effort and perceived abilities, which confirms our preceding findings. The effort factor comprises not only cues derived from effort literature but also behavioral cues from social competence literature (e.g., empathy, friendliness).

These findings offer an empirically tested scale for perceived effort and abilities that conflicts with the current view in the literature. Our final scale of perceived effort contains 11 items (effort, patience, energy put into behavior, understandability, endurance, time spent, empathy, friendliness, tolerance, credibility, and endeavor) and shows very high reliability (Cronbach’s $\alpha = 0.97$). The mean value of perceived effort is 3.98, with a standard deviation of 2.46. The final three-item scale of perceived abilities (knowledge, self-assurance, abilities) also reveals good reliability ($\alpha = 0.81$), a mean value of 2.98, and a standard deviation of 2.25.

Research question 3: Do perceived effort and abilities influence encounter satisfaction? To analyze the influence of perceived effort and abilities on customer satisfaction, we regress satisfaction on these factors. The resulting $\beta$ coefficients of both independent components indicate a positive and significant impact on satisfaction (perceived effort $\beta = 0.752$, perceived abilities $\beta = 0.186$, $p < 0.001$). However, the impact of perceived effort is significantly greater than that of perceived abilities. The adjusted $R^2$ of 0.78 indicates that 78% of the variance in satisfaction may be explained by perceived effort and abilities.

Because our theoretical foundation suggests a contingent relationship between perceived effort and abilities, we integrate the interaction effect into our regression analysis and find a
significant interaction ($\beta = -0.253, p < 0.001$) that explains 3% more of the variance ($R^2 = 0.81$). As Figure 1 reveals, the hybrid interaction suggests perceived effort moderates the impact of perceived abilities on satisfaction.

Figure 1: Profile plots indicating the interaction of perceived effort and abilities on satisfaction

Research question 4: Do perceived effort and abilities influence customer satisfaction when perceived service outcome is statistically controlled? Finally, our combined regression of the three quality dimensions of perceived effort, perceived abilities, and perceived outcome ($R^2 = 0.81$) shows that perceived outcome ($\beta = 0.236, p < 0.001$) is more important for explaining satisfaction than are perceived abilities ($\beta = 0.120, p < 0.05$) but less important than perceived effort ($\beta = 0.649, p < 0.001$). When we test for the significance of the differences in the $\beta$ values (Howell, 2004), we find no significant results for the three variables; therefore, we interpret the hierarchy with caution.

To examine the influence of perceived effort and abilities on customer satisfaction independently from perceived service outcome, we perform regression analyses on two subsamples defined by a median split: subjects who perceived a positive outcome and those who perceived a negative outcome. In both cases, we find a significant and strong impact of perceived effort on satisfaction (positive $\beta = 0.736, p < 0.001$; negative $\beta = 0.667, p < 0.001$). However, perceived abilities have a significant impact on satisfaction only for those subjects who perceive a negative service outcome (negative $\beta = 0.231, p < 0.05$; positive $\beta = 0.126, p < 0.5$).

Conclusions from Study 1

Study 1 clearly reveals that customers perceive employees’ abilities and effort and spontaneously evaluate whether and how an employee exerts effort or abilities (research question 1).
Our sample judges both perceived effort and abilities positively. However, the specific behavioral cues customers use to assign perceived employee effort and abilities differ from those provided in current literature. Therefore, we develop two reliable scales for use in further analyses (research question 2). When we apply these scales, we find that both behavioral constructs have a positive and significant impact on customer satisfaction and largely explain satisfaction, though perceived effort has more relevance than perceived abilities. We also uncover a significant interaction effect, which shows that perceived effort acts as a moderator for the impact of perceived abilities on satisfaction (research question 3). Finally, when we consider perceived service outcome, we find that perceived effort has a strong and positive impact, independent of the outcome, whereas perceived abilities are significant only in the case of negative outcome (research question 4). These results show that subjects who report a positive outcome think of employees’ abilities only accidentally. This mirrors Weiner’s (1986) attributional theory of motivation and emotion which suggests that the process of attribution and therefore the causal search for perceived effort and abilities of the employee (fundamental error of attribution) is especially instigated by a negative outcome.

STUDY 2: EXPERIMENT

Because we reveal the importance of perceived effort, abilities, and outcome for encounter satisfaction in Study 1, we conduct Study 2 to develop a deeper understanding of how customers perceive effort, abilities, and outcome vis-à-vis. Therefore, we use a discriminant manipulation of the three variables to examine the impact of perceived abilities, perceived effort, and perceived service outcome on customer satisfaction with a laboratory experiment.

Hypotheses

Our experimental study relies on five hypotheses, which are based on our conceptual and theoretical work, as well as the empirical findings from Study 1. Specifically, we argue that

H1: Perceived effort and abilities relate positively to customer satisfaction.

This hypothesis is mainly based on Weiner’s attributional theory of motivation and emotion, naïve psychology and motivation theory as well as on service research literature (e.g., Mohr and Bitner, 1995, Parasuraman et al., 1988; Meyer and Mattmüller, 1987) and the results of Study 1.

H2: The strength of the relationship between perceived abilities and customer satisfaction relates positively to perceived effort.
Naïve psychology and motivation theory discussed the multiplicative interaction of effort and ability (Heider, 1958; Vroom, 1960; Vroom, 1964; Lawler, 1966); the hypothesized strength of effort in this interaction draws back on the results from Study 1 as well as suggestions coming from motivation theory (e.g., French, 1957).

**H3: Perceived service outcome has positive influence on customer satisfaction.**

In the service marketing field it is assumed that service outcome is crucial for customer satisfaction (e.g., Parasuraman et al. 1985; Czepiel et al., 1985).

**H4: Perceived effort relates positively to customer satisfaction when the service outcome is statistically controlled.**

With this hypothesis it is suggested that effort as the dominant process variable has an independent impact on satisfaction and therefore influences satisfaction beyond its effect on service outcome. It is based on service research literature (e.g., Parasuraman et al. 1985; Czepiel et al., 1985; Grönroos, 1990) as well as results from Study 1.

**H5: The influence of perceived abilities on customer satisfaction depends on service outcome.**

Weiner’s attributional theory of motivation and emotion suggests that the attribution process and therefore causal search is particularly initiated when service outcome is negative (e.g., Weiner, 2000). Hypothesis H5 combines this insight with results from Study 1; it suggests that perceived abilities, being a less dominant process variable in comparison to perceived effort, only impact satisfaction in case of a negative outcome and therefore are outcome dependent.

**Research Design and Procedures**

To investigate these five hypotheses, we develop a factorial design, with effort (high/low) and abilities (high/low) as the independent variables and service outcome (positive/negative) and service type (retail/financial services) as the supplementary variables. Therefore, we apply a 2 × 2 × 2 × 2 design with 16 treatment cells.

**Stimuli**

We recognize that laboratory experiments are appropriate only when (1) we can create realistic service settings and (2) the simulated service settings can produce the same experience as an actual service setting (Bateson and Hui, 1992). Therefore, we develop audio-visual stimuli to account for the multisensory nature of a service encounter to ensure ecological validity. This realistic presentation of a service encounter through a video stimulus offers control over
the independent variables; it also considers any interfering variables and combines internal and external validity (Sparks et al., 1997). We create the video stimuli using a scenario technique and writing specific stage directions for the actors. Respondents watched one scenario and were to put themselves in the customer’s position. To enhance realism and minimize the influence of stereotype-related bias in the two service settings, we hired one male and one female actor and had the videos produced professionally.

To manipulate perceived effort, the employee/actor displayed two different levels of effort itself, energy put into behavior, endurance, and time spent with the customer during the interactions. The two-level manipulation of the employee’s perceived abilities is based on the displayed knowledge, self-assurance, and abilities themselves. Finally, we manipulate perceived outcome in the retail setting according to whether the customer left the shop with the pullover he or she wished to buy (positive outcome) or if the pullover was not in stock and therefore the customer had to leave without it (negative outcome). In a financial service setting, we manipulate perceived outcome by whether the customer could make a decision about a specific financial investment (positive outcome) or not (negative outcome). The critical incidents from Study 1 serve as examples that we use to transform the abstract behavioral items into concrete behavioral directions for the actors and develop realistic scenarios in the two service settings. Each video stimulus had a playing time of approximately three minutes.

Sample

In accordance with experimental research quality requirements (Calder et al., 1981, 1982, 1983; Friedrichs, 1990; Kruglanski, 1973; Webster and Kevin, 1971), we administered the survey to a homogenous student convenience sample with experience with the two service types. Our total sample size includes 420 students.

Procedures

We ran the experiment for five days, between 9:00 am and 6:00 pm, during a two-week period. We randomly assigned participants to one of the sixteen film scenarios (between-subjects design). Participants watched the film on a big screen (maximum of 15–20 people at a time) and received no information about the purpose of the study; their instructions only indicated they were to concentrate on the video stimuli, not talk with other participants, and fill out the questionnaire after watching the video. At the beginning of each film, a recorded announcer gave an introduction (service type–specific) and told participants to take over the customer’s role and concentrate on how they would think and feel in the position of the cus-
customer in this situation. After having watched the film, they received questionnaires, which they answered at their own speed.

**Measures**

We apply a seven-point Likert scale for all measures, on which 1 represents full agreement. The items measuring satisfaction come from Study 1, and we measure service outcome with three items: (1) Overall, I got the expected outcome; (2) I got the outcome I intended; and (3) The aim of my visit was achieved. We measure perceived effort in accordance with the manipulation of the four items, that is, displayed energy put into behavior, endurance, time spent, and effort itself. Our measure of perceived abilities includes three items: displayed knowledge, self-assurance, and abilities. Finally, we include additional measures of the realism of the scenario and the ease with which the respondent imagined him- or herself in the role of the customer, to determine whether the experimental procedures worked as intended.

**Results**

**Sample.** Of the 420 initial questionnaires, we retain 400 for the final analyses (25 per treatment group). Of all respondents, 45.9% are male, and their ages varied between 19 and 50 years with a mean of 24 years of age.

**Scales and Validity of the Experimental Procedure.** We conduct reliability and validity analyses for each scale in both scenarios and achieve satisfying results. Participants found the scenarios realistic (means of 2.71 for retail and 2.93 for financial service) and the role playing easy (means of 2.43 for retail and 2.38 for financial service).

**Manipulation Checks.** To test whether our manipulations of perceived effort, abilities, and outcome were perceived as intended, we ran a one-way ANOVA for each industry grouping. The findings indicate that the manipulations were successful (effort retail: $F(1, 191) = 532.27, p < 0.001$; effort financial services: $F(1,192) = 158.03, p < 0.001$; abilities retail: $F(1,192) = 429.97, p < 0.001$; abilities financial services: $F(1,191) = 470.77, p < 0.001$; outcome retail: $F(1,191) = 713.11, p < 0.001$; outcome financial services: $F(1,192) = 144.97, p < 0.001$).

**Hypotheses Testing.** We test all five hypotheses using regression analysis and present the results in Table II. The relationship between perceived effort and abilities and satisfaction is positive and significant for both the retail setting (perceived effort $\beta = 0.519, p < 0.001$; perceived abilities $\beta = 0.487, p < 0.001$) and the financial services setting (perceived effort $\beta = 0.340, p < 0.001$; perceived abilities $\beta = 0.594, p < 0.001$), in support of H1. However, the results do not support H2; in the retail setting, our analysis of the interaction effects shows a
significant but ordinal interaction, which means that the main effects of both perceived effort and abilities can be interpreted and no moderator emerges. In the financial setting, the interaction is also significant, and both main effects are interpretable. Diagrams even show the visible tendency of the employee’s perceived abilities to moderate perceived effort.

Our analysis of H3 shows that perceived service outcome significantly influences customer satisfaction in both settings (perceived outcome retail $\beta = 0.358, p < 0.001$; perceived outcome financial services $\beta = 0.706, p < 0.001$). The independent influence of perceived effort and abilities on satisfaction, compared with perceived outcome, suggests support for H4 but not H5. In these experimental conditions, both variables have a significant, positive, and strong influence on customer satisfaction, independent of perceived service outcome. For the financial service setting, we find that with statistical control of the outcome, the perceived abilities of the employee have an even stronger influence on satisfaction than does perceived effort; in the retail setting, the influence of both determinants remains nearly equal.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
<th>$\beta$</th>
<th>T</th>
<th>Significance T</th>
<th>Adjusted $R^2$</th>
<th>H</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail (n=200)</td>
<td>Perceived effort</td>
<td>Satisfaction</td>
<td>0.519</td>
<td>11.270</td>
<td>$p &lt; 0.001$</td>
<td>0.594</td>
<td>H1</td>
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<td></td>
<td>Perceived abilities</td>
<td></td>
<td>0.487</td>
<td>10.583</td>
<td>$p &lt; 0.001$</td>
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<td></td>
<td></td>
<td>Perceived effort x perceived abilities</td>
<td>Satisfaction</td>
<td>-0.206</td>
<td>-4.891</td>
<td>$p &lt; 0.001$</td>
<td>0.637</td>
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<td>Perceived outcome</td>
<td>Satisfaction</td>
<td>0.358</td>
<td>5.378</td>
<td>$p &lt; 0.001$</td>
<td>0.124</td>
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</tr>
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<td>Perceived effort</td>
<td>Satisfaction, when perceived outcome is positive*</td>
<td>0.497</td>
<td>7.850</td>
<td>$p &lt; 0.001$</td>
<td>0.621</td>
<td>H4</td>
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<td>Perceived abilities</td>
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<td>6.614</td>
<td>$p &lt; 0.001$</td>
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<td></td>
<td></td>
<td>Satisfaction, when perceived outcome is negative*</td>
<td>0.569</td>
<td>9.028</td>
<td>$p &lt; 0.001$</td>
<td>0.629</td>
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<td>Perceived abilities</td>
<td></td>
<td>0.462</td>
<td>7.327</td>
<td>$p &lt; 0.001$</td>
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<td></td>
</tr>
<tr>
<td>Financial Service (n=200)</td>
<td>Perceived effort</td>
<td>Satisfaction</td>
<td>0.340</td>
<td>7.142</td>
<td>$p &lt; 0.001$</td>
<td>0.603</td>
<td>H1</td>
</tr>
<tr>
<td></td>
<td>Perceived abilities</td>
<td></td>
<td>0.594</td>
<td>12.468</td>
<td>$p &lt; 0.001$</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perceived effort x perceived abilities</td>
<td>Satisfaction</td>
<td>-0.132</td>
<td>-3.055</td>
<td>$p &lt; 0.005$</td>
<td>0.620</td>
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<tr>
<td></td>
<td>Perceived outcome</td>
<td>Satisfaction</td>
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<td>14.010</td>
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<td>0.495</td>
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<td></td>
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<td>Satisfaction, when perceived outcome is negative*</td>
<td>0.297</td>
<td>3.588</td>
<td>$p &lt; 0.005$</td>
<td>0.384</td>
<td>H5</td>
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<tr>
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<td>Perceived abilities</td>
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<td>0.527</td>
<td>6.367</td>
<td>$p &lt; 0.001$</td>
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</tr>
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</table>

* A median-split of the sample was conducted to classify subjects in groups of positive/negative perceived service outcome.

| Table II: Summary of hypothesis test results |
Overall, the results support H1, H3, and H4 for both service types. In experimental conditions, we thus show that the impact of perceived abilities on satisfaction increases and even exceeds that of perceived effort in a financial services setting.

CONCLUSION AND IMPLICATIONS

Our research provides interesting and fundamental insights into customer–employee interactions during service encounters, which represent moments of truth for companies of almost any kind, because they are manifold in nature and not only apply to pure service companies. Our results clarify how customer satisfaction during service encounters develops across and within different service settings and thereby provide implications for human resources, service, and sales managers. In addition, the results clearly reinforce the importance of service delivery process quality for achieving customer satisfaction, as well as that of employee behavior for influencing perceptions of effort and abilities, which represent direct determinants of customer satisfaction.

With Study 1, we demonstrate that perceived employee effort is more important for customer satisfaction than are perceived abilities, suggesting that managers should focus predominantly on effort, including performance elements that represent social competence. However, Study 2 indicates that the relative importance of perceived effort and abilities depends on the service type, which implies differentiated management conclusions. Companies thus must examine customers’ perceptions of their employees’ encounter behavior in depth to evaluate and effectively and efficiently manage perceived effort and abilities as the main determinants of customer satisfaction.

In turn, practitioners should acknowledge behavioral training represents a significant satisfaction management approach. The continuous auditing of perceived effort and abilities should be a focus of regular satisfaction surveys; our operationalization and development of generic scales for perceived effort and abilities offer a valuable contribution to this. Also, human resource management should include self-evaluation tests for designated encounter employees regarding the display of effort and abilities in customer-contact situations.

In addition to the content-related implications of this study, we note the importance of our methodological approach for managers. In combining CIT with a video experiment, we suggest ways that firms can (1) analyze critical encounter interactions in depth from a customer’s point of view and (2) effectively and efficiently optimize and manage these interactions by manipulating the relevant behavioral cues. The video stimuli rated by customers (such as in
Study 2) can help firms to consequently implement our results in everyday encounter situations. First, they provide a means to evaluate hypothetical behavioral changes before the company undertakes cost-intensive employee training. Second, they serve as training videos with great didactic value, which help close the organizational and procedural gap between market research and frontline implementations.

LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Similar to any empirical study, our research suffers from several limitations. With regard to the general applicability of our findings, we note restrictions imposed by the sample characteristics. Because we mainly use university students or persons with university degrees, our sample does not represent the broad scope of German service customers. Moreover, our data were collected in Germany, which raises the question of the transferability of our findings to other cultural regions. Furthermore, we acknowledge the limitation of the methodical approaches of our two studies. The explorative study (Study 1) samples particularly satisfying and dissatisfying encounters and eliminates more typical, middle-of-the-road encounters, so the results cannot represent the impact of perceived effort and abilities in normal encounters, which might be of less strength. In addition, the isolated manipulation of the three variables in Study 2 might overestimate the influence of perceived abilities on satisfaction in the two scenarios. In the financial service scenario, the recorded introductions at the start of the movie stimulus might have overemphasised the impact of perceived outcome on customer satisfaction.

Further research should transfer this study to different cultures. Taking different dependent variables into account (e.g., customer emotions, customer loyalty and brand perceptions) might offer a valuable contribution to the fields of service or brand research. In addition, it seems advisable that further research should consider social stereotypes and their impact on perceptions of interpersonal behavior and social judgments. Attractiveness, race, age, and gender can cause stereotypic reactions (Schneider, 2004), so employee appearance might represent a separate determinant, along with employee behavior, for customers’ effort and abilities perceptions and thus affect satisfaction with a service encounter. Finally, as we noted from the start, we investigate behavioral cues that represent the constructs of perceived effort and abilities from a customer’s point of view, which means we disregard the potential influence of the employee’s personality as a behavioral predisposition. Additional research therefore might investigate if and how personality traits influence employees’ behavior and, in turn, the perceived effort and abilities of an employee.
REFERENCES


Friedrichs, J. (1990), Methoden empirischer Sozialforschung, Westdt. Verlag, Opladen.


