

Online Appendices

Appendix 1. Text of Vignettes for Pilot/Study 1/Study 2/Study3

Pilot/Study 1

You are going to attend your best friend's wedding in a small town in the Northeast which is seven hours away with a connecting flight. But due to a very busy period at work, you had to skip the rehearsal dinner and will only be arriving on the day of the wedding. You finally finish your work and head to the airport to catch your evening flight. When you arrive at the airport, you quickly go through the security and then sit at a restaurant to have dinner before your flight. You arrive at the boarding gate 30 minutes before the scheduled flight when you see a very long queue at the gate. You join the back of the queue and ask a fellow passenger if she knows what is going on. She tells you that a crew member just made the following announcement:

Intentional Failure: Unfortunately, the flight is overbooked and the passengers are requested to volunteer to travel at a later time. But when not enough people volunteer, a few people including you are denied boarding at the gate. The fellow passenger later tells you that some time ago, she watched a program on TV about the challenges in the airline industry. The program reported that flight overbooking is part of airlines strategy to deal with passenger "no shows". It helps them maximize profit by avoiding the risk of having empty seats during a flight, even if this may be at the expense of the customers' inconvenience and losses.

Unintentional Failure: Unfortunately, due to an unexpected mechanical problem, the flight is delayed until further notice and the passengers are requested to travel at a later time. The fellow passenger later tells you that some time ago, she watched a program on TV about the challenges in the airline industry. The program reported that flight delays or cancellations due to mechanical problems are inevitable, but unlike bad weather conditions which are considered Force Majeure (beyond control), according to government regulations, airlines are held accountable for delays or cancelations due to mechanical problems. However, airlines actively try to manage such incidents to minimize negative impacts.

For Study 1, the following information was added:

Irreversible Failure: Later on, you are informed that the next available flight is tomorrow afternoon. Even with alternative transportation, you will not get to your final destination in time to attend the wedding.

Reversible Failure: Later on, you are informed that the next available flight is tomorrow early morning. But you will still get to your final destination in time to attend the wedding.

Study 2

You and your wife decide to go out to celebrate your fifth wedding anniversary. You have a nice meal. The bill, including tip, is about \$48. You give the waiter, Mike, a \$100 note that is basically a brand new, unfolded note. A few minutes later, Mike gives you \$2 in change. You say that it is not the correct change and that you have given him a \$100 note. Mike insists that you have given him \$50.

Unintentional employee level:

He then checks the cash register and finds the note. He tells you that he has made a mistake, but he needs the manager's authorization to process this. Mike then says the manager is not available tonight, but he will call you the next day. Later that night at home, you search this restaurant on TripAdvisor and find out that several people have had similar incidents during busy times.

Unintentional firm level:

He then checks the cash register and finds the note. He tells you that there is a problem with the cash register system. But he needs the manager's authorization to process this. Mike then says the manager is not available tonight, but he will call you the next day. Later that night at home, you search this restaurant on TripAdvisor and find out that several people have had similar incidents related to an issue with the cash register system of the restaurant.

Intentional Failure at Employee Level: He then checks the cash register and says that it contains no brand new \$100 notes at all. Mike then says the manager is not available tonight, but he can call you

the next day if you want. Later that night at home, you search this restaurant on TripAdvisor and find out that several people have had similar complaints about being short changed by the same waiter named Mike, although this does not seem to be orchestrated systematically by the owner of the restaurant.

Intentional Failure at Firm Level: He then checks the cash register and says that it contains no brand new \$100 notes at all. Mike then says the manager is not available tonight, but he can call you the next day if you want. Later that night at home, you search this restaurant on TripAdvisor and find out that several people have had similar complaints about being short changed by different waiters and this seems to be orchestrated systematically by the owner of the restaurant.

Study 3

T1:

Intentional at employee level: You and your partner decide to go out to celebrate your wedding anniversary. You have a nice meal. The bill, including tip, is about \$48. You give the waiter, Mike, a \$100 note that is basically a brand new, unfolded note. A few minutes later, Mike gives you \$2 in change. You say that it is not the correct change and that you have given him a \$100 note. Mike insists that you have given him \$50. He then checks the cash register and says that it contains no brand new \$100 notes at all. Mike then says the manager is not available tonight, but he can call you the next day if you want. Later that night at home, you search this restaurant on TripAdvisor and find out that there are several people who have had similar complaints about being short changed by the same waiter named Mike, although this does not seem to be orchestrated systematically by the owner of the restaurant.

Intentional at firm level: You and your partner decide to go out to celebrate your wedding anniversary. You have a nice meal. The bill, including tip, is about \$48. You give the waiter, Mike, a \$100 note that is basically a brand new, unfolded note. A few minutes later, Mike gives you \$2 in change. You say that it is not the correct change and that you have given him a \$100 note. Mike insists that you have given him \$50. He then checks the cash register and says that it contains no brand new \$100 notes at

all. Mike then says the manager is not available tonight, but he can call you the next day if you want. Later that night at home, you search this restaurant on TripAdvisor and find out that there are several people who have had similar complaints about being short changed by different waiters and this seems to be orchestrated systematically by the owner of the restaurant.

T2:

Baseline: The manager calls you the next day and tells you the following: We are aware that you were unable to enjoy your meal at our restaurant because of a failure you experienced last night. We will refund your \$50... [**Promise/Apology/Compensation/Combined recovery**].

Promise: We have since modified our operational procedures to improve our customer service and as such, a camera will be placed above the cash register which records how much money is received from the customer. We promise that failures such as the one you experienced should not happen again in the future.

Apology: We wish to thank you for your decision to choose our restaurant and for your understanding. We really appreciate it. We take full responsibility for this, and we would like to express our sincere apology for the failure that you experienced.

Compensation: We would like to inform you that we are giving you a 50% discount off the bill on your next visit to our restaurant.

Combined recovery: We wish to thank you for your decision to choose our restaurant and for your understanding. We really appreciate it. We take full responsibility for this, and we would like to express our sincere apology for the failure that you experienced. We also would like to inform you that we are giving you a 50% discount off the bill on your next visit to our restaurant. We have since modified our operational procedures to improve our customer service and as such, a camera will be placed above the cash register which records how much money is received from the customer. We promise that failures such as the one you experienced should not happen again in the future.

Appendix 2. Cell means for dependent variables and mediator across studies

Study			Negative Word of Mouth	Patronage Reduction	Trust	N
Pilot	Intentional	-	5.78 (1.23)	5.86 (1.14)	2.11 (1.11)	42
	Unintentional	-	3.84 (1.74)	4.05 (1.90)	3.86 (1.22)	39
Study 1	Intentional	Reversible	4.31 (1.54)	4.81 (1.35)	3.17 (1.44)	27
	Intentional	Irreversible	5.98 (0.92)	6.25 (0.44)	1.75 (0.63)	37
	Unintentional	Reversible	3.93 (1.47)	4.70 (1.44)	3.38 (1.18)	27
	Unintentional	Irreversible	4.24 (1.46)	4.80 (1.64)	2.91 (1.30)	29
Study 2	Intentional	Firm Level	6.28 (1.05)	6.94 (0.38)	1.27 (0.56)	43
	Intentional	Employee Level	4.40 (1.99)	4.69 (2.09)	3.34 (2.04)	39
	Unintentional	Firm Level	3.99 (1.67)	4.69 (1.93)	3.42 (1.51)	41
	Unintentional	Employee Level	3.25 (1.56)	3.93 (1.93)	4.18 (1.69)	38
Study 3	Apology	Firm Level	5.03 (1.57)	5.51 (1.70)	3.41 (1.65)	52
	Apology	Employee Level	4.89 (1.35)	5.33 (1.50)	3.47 (1.46)	42
	Promise	Firm Level	4.77 (1.81)	5.52 (1.62)	3.37 (1.56)	50
	Promise	Employee Level	4.04 (1.29)	4.77 (1.43)	4.17 (1.63)	47
	Compensation	Firm Level	4.83 (1.77)	5.14 (1.66)	3.41 (1.77)	49
	Compensation	Employee Level	3.90 (1.46)	4.52 (1.62)	4.31 (1.09)	43
	Combined Recovery	Firm Level	3.95 (1.73)	4.63 (1.73)	4.34 (1.49)	44
	Combined Recovery	Employee Level	3.87 (1.59)	4.34 (1.64)	4.39 (1.38)	51

Note. Cell means are adjusted for control variables. Standard deviations are given in parentheses.

Appendix 3. Estimated Means in T2 (M2) vs. T1 (M1) in Study 3

Failure Level	Recovery Strategy	Negative Word of Mouth	Patronage Reduction	Trust
Employee Level	Apology	M2 = 5.00 < M1 = 5.47, p < .05	M2 = 5.46 < M1 = 6.14, p < .05	M2 = 3.41 > M1 = 2.40, p < .05
	Promise	M2 = 4.04 < M1 = 5.22, p < .05	M2 = 4.77 < M1 = 5.96, p < .05	M2 = 4.17 > M1 = 2.68, p < .05
	Compensation	M2 = 4.01 < M1 = 5.30, p < .05	M2 = 4.63 < M1 = 5.98; p < .05	M2 = 4.21 > M1 = 2.42, p < .05
	Combined Recovery	M2 = 3.87 < M1 = 5.22, p < .05	M2 = 4.34 < M1 = 5.86; p < .05	M2 = 4.39 > M1 = 2.40, p < .05
Firm Level	Apology	M2 = 5.03 < M1 = 6.12, p < .05	M2 = 5.51 < M1 = 6.40, p < .05	M2 = 3.41 > M1 = 1.82, p < .05
	Promise	M2 = 4.89 < M1 = 6.13, p < .05	M2 = 5.52 < M1 = 6.49, p < .05	M2 = 3.37 > M1 = 1.96, p < .05
	Compensation	M2 = 4.83 < M1 = 6.11, p < .05	M2 = 5.14 < M1 = 6.37; p < .05	M2 = 3.42 > M1 = 1.91, p < .05
	Combined Recovery	M2 = 3.95 < M1 = 6.07, p < .05	M2 = 4.63 < M1 = 6.44; p < .05	M2 = 4.34 > M1 = 1.84, p < .05

Appendix 4. Additional Mediation results for study 3

In this appendix, additional results for Study 3 is provided regarding the indirect effects of the recovery strategies on nWOM and patronage reduction. Mediation analysis by Hayes (2014) requires the independent variable to be cross-sectional (i.e., between data). Given the experimental design, the effect of each recovery strategy is assessed via a before and after measurement (i.e., within data). To run mediation analysis, the within data structure had be transformed to a between data structure. For this purpose, the data was restructured by treating both measurement points as independent observations and a dummy variable was formed that marked the presence of a recovery strategy (= 1; formerly after-recovery measurement) compared to its absence (= 0; formerly before recovery measurement).

Mediation analyses were then performed, based on Hayes and Preacher (2014), specifying the presence (vs. absence) of the recovery as independent variable, trust as mediator, and negative WOM as dependent variable. Failure level (employee, firm) and the type of recovery (apology, promise, compensation, combined recovery) were entered as moderators, using Model 12 so that the conditional indirect effects were estimated at all possible combinations of both moderators. The model also included service importance, failure severity, blame, controllability, and stability attributions as control variables. The analysis was repeated for patronage reduction. Table A1 (see below) shows the results of the mediation analyses.

The results showed in all cases significant negative indirect effects for the recovery strategies via trust on nWOM and patronage reduction, thus supporting the mediating role of trust. In terms of their effectiveness in reducing the negative responses, a similar pattern to the results from the manuscript can be seen. Pairwise contrasts showed that the indirect effects of apology for an employee level failure on nWOM (-0.764) and patronage reduction (-0.636) were significantly smaller ($p < .05$) than those of compensation (nWOM: -1.323; patronage reduction: -1.103) and a combined recovery effort (nWOM: -1.421; patronage reduction: -1.184). For the firm-level failure, the indirect effects of the combined recovery on nWOM (-1.763) and patronage reduction (-1.470) were significantly larger ($p < .05$) than those of the other recovery strategies. Taken together, the results reflected positively on the pattern found in the manuscript, thus supporting the role of trust as mediator consistent with the conceptual

framework. Regardless of the positive results, the limitations of this analysis should be mentioned. First, the results treated the within data structure as independent. Second, they presented a simplified reflection of the conceptual framework as they presented only the intentional condition.

Table A1. Results of Mediation analyses for Study 3 (Model 12)

Recovery Strategy	Failure Level	Indirect effect of the recovery strategy via trust on ...					
		... Negative Word of Mouth			... Patronage Reduction		
		b	SE	95% CI	b	SE	95% CI
Apology	Employee Level	-0.76	0.19	[-1.16, -.40]	-0.60	0.17	[-0.99, -.03]
Promise		-1.06	0.18	[-1.42, -.07]	-0.88	0.16	[-1.20, -.59]
Compensation		-1.32	0.19	[-1.70, -.97]	-1.10	0.16	[-1.43, -.80]
Combined Recovery		-1.42	0.19	[-1.79, -1.07]	-1.18	0.16	[-1.52, -.88]
Apology	Firm Level	-1.10	0.20	[-1.50, -.73]	-0.92	0.17	[-1.28, -.60]
Promise		-0.98	0.20	[-1.36, -.59]	-0.82	0.17	[-1.17, -.49]
Compensation		-1.18	0.21	[-1.62, -.78]	-0.99	0.18	[-1.35, -.65]
Combined Recovery		-1.76	0.20	[-2.16, -1.38]	-1.47	0.18	[-1.84, -1.13]

Appendix 5. Annotation rules for Study 4

Please read in detail this instruction before annotating

You will find one file attached with 168 customer reviews referencing to **intentional service failures** from a restaurant business concerning an over charge (often it is also called a cover charge, double charge, misbill, incorrect bill, hidden fees, shortchange, short change, bogus charge, gouge or gouging).

Please read each restaurant review and annotate the following columns relative to the intentional overcharge failure:

- **Failure level Scale** = Annotate from 1 to 7 whether the failure is 1 surely from an individual employee (unsystematic) or 7 surely by all employees in the entire firm (systematic).
- **Reversibility Scale** = Annotate from 1 to 7 whether the failure was 1 surely reversible or 7 surely irreversible. A reversible failure can be “undone” (e.g., incorrect meal order) whereas an irreversible failure cannot be “undone” (e.g., an unavailable meal).

Examples

Before the actual task, you will annotate a test exercise with 10 reviews. After finishing the file with examples compare your results with the ones in the solution file.

Below we provide some general examples for the different types of intentional failure.

Case 1 - irreversible failure: Efficient friendly service. Prix-fixe salad was good, dessert OK, but coq au vin very disappointing -- small amount of chicken, sauce lacked taste and richness, and served over uninspiring noodles. NOTE: for Groupon deals, gratuity (an automatic 18%), sales tax and 4% SF Mandate, is based on regular prix-fixe price (\$76 for two people), not on deal price. Your final bill will be much larger than you may expect! Also, in our case, we were overcharged \$4 on the sales tax which unfortunately I only noticed after we were home. Their computation was entirely wrong and is likely built into their system so people may be being overcharged on a regular basis.

Case 2 – reversible failure: I really appreciated the restaurant taking our reservation for 15 the day of - no other nearby restaurant would. But the waitress shortchanged me by \$0.50. I know it doesn't see

like much, but she totally told me "I shorted you two quarters - I didn't have any change. Seriously... seriously? Should have contacted a manager but was trying not hold up the rest of the group when it was time to go...

Case 3 - failure level, entire firm (systematic): STAY AWAY!!!!!! Horribly overpriced for so-so food. They tried to overcharge me, but I caught it, and they seemed really mad that I asked for the correct amount to be charged. They were really rude to me. I realize that this is a tourist place, and they probably figure they'll never see you again, but there is no excuse for such rudeness. There are many food options in the Westfield Center, so move on and do not go here!!! I cannot emphasize this enough.

Case 4 - failure level, individual employee (non-systematic): Food is good. There is a health surcharge on the bill. Upon paying the bill, I was shortchanged by \$3 upon receiving the change. I felt this is uncool to just take it away without informing the customers. I still tipped \$5 anyway which would make it 20% tip total. Pay must be atrocious to be doing such a distasteful act. Especially when the system makes it mandatory to tip for bad or good service.