New Frontiers (and New Findings) on Emotion in Customer Service

Professor Anat Rafaeli

Service Loaded with Emotions!

Emotional Labor: Jobs Require Employees to Display “Expected” Emotions

Logic:

• Employee Emotions (Smile, Apology) Essential for Sales and Service;
• Emotions are easy, do not require effort;

Rafaeli & Sutton (1985), Academy of Management Review
“Smile and Be Nice” Rule...

Formal Expectation:
Pleasantness, Empathy to ALL Customers

- Available Research:
  - Based on Self-Report
  - Limited External Validity
  - Limited Operational Connections

Rafaeli & Sutton (1987), *Research in Organizational Behavior*
A Social Context to Service Interactions

Rafaeli (1989):
A Struggle for Control

Henkle, Rafaeli et al (2016):
When Marketplace Interactions Become Social Interactions

The Service Context

- Physical Set Up
- Multiple Managers
- Multiple Causes of Stress

Pratt & Rafaeli (2001), Symbols and organizational relationships, Research in OB
What Do Queues Feel Like?

Rafaeli & Munichor (2007), *Journal of Applied Psychology*
Lots of Customer Anger in Service: What is the Influence? What are the Implications?

I work in customer service, so by all means, please use me as a verbal punching bag. It makes me much more likely to do what you want when you scream your request at me.

New Platforms
Create Great Opportunities

- Service through interactive technology and social networks;
- Extensive NON-OBTRUSIVE data.
  - New tools and paradigms!

Rafaeli & Altman (2016), *Journal of Service Research*
No News in Terms of Emotion Labor Rules!

Do customer emotion displays influence employees?
Experimental Research Paradigm

<table>
<thead>
<tr>
<th>Angry – Rude Customer</th>
<th>Polite Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>It’s such a nightmare to reach you! Your service is just horrible. <strong>Update my home phone</strong> to 03-7526654. George Ashley</td>
<td><strong>My home phone number</strong> changed. Need to <strong>update it</strong> please. My number is 03-7526654. Thank you very much, George Ashley.</td>
</tr>
<tr>
<td>I am sick and tired of your lousy service. Move me <strong>to the weekend deal</strong>. Password is &quot;Friends&quot;. Josh.</td>
<td>Hi please note my request to move me <strong>to the weekend deal</strong>. My password is &quot;Friends&quot;. Thank you, Josh.</td>
</tr>
</tbody>
</table>
Customer Anger Reduces Employee Accuracy

Rafaeli et al. (2012), Journal of Applied Psychology
Customer Anger Increases Employee Fatigue (Burnout)

![Bar Chart: Emotional Exhaustion vs Displayed Emotion of Customer]

- Neutral: Low emotional exhaustion
- Angry: High emotional exhaustion

Cumulative Effects on Accuracy of Performance

Habituation Challenges

Chat with McCafee call center started @ 13:23:07. Full transcript can be found at: https://community.mcafee.com/thread/28171

SYSTEM: Welcome to McCafee. How may I help you?
Customer (13:37:46):
Hi. I purchased a disk and it doesn’t work.
Employee (13:41:33):
Please let me know the locations you purchased the CD.
Customer (13:41:46):
I’ve been waiting for this info for 20 mins.
Employee (13:42:00):
You can contact the McAfee Sales team at +91 80 6656 9000 to renew the McAfee software.
Customer (13:42:17):
Come on.
Don't pass the bill.
Customer (13:42:46):
You’re not answering my question.
Customer (13:43:05):
Can I chat with your supervisor?
Employee (13:43:22):
I apologize for the inconvenience.
Customer (13:43:33):
Can I have a chat with your supervisor?

Rafaeli & Altman (2016), Journal of Service Research

• Large scale data sets
• Actual customer and employee behaviors
• Non-obtrusive measures
Focus: (High Arousal) Negative Emotions

Multiple Terms for Customer Negative Emotion

Anger ... Abuse ... Bullying ... Deviance ... Contempt ... Irritation ... Rudeness ...
@VanDusenEthan

@BestBuy too bad your site keeps saying my email is invalid. You just lost a $300 dishwasher sale.

@BestBuySupport

@VanDusenEthan I'm sorry you were unable to purchase. Indeed it is annoying.

Emotion in Tweet Service

Data Set 1:
N = 305 service conversations

Data Set 2:
N = 305

Customer Satisfaction

Mturk Ratings

- Emotions expressed by customers
- Emotional labor strategies of employees

Mturk 1 Workers
- Customer Emotions
- Employee Emotional Strategies

Mturk 2 Workers
- ?
- Customer Satisfaction

5 Raters per conversation;
Agreement of raters; $\text{ICC}_2 = 0.73 \text{ – } 0.94$
Results

Customer Emotions

- Anger
- Frustration
- Disappointment

- Happiness
- Gratitude

Employee Emotional Strategies

- Negative Emotions
  - Empathy
  - Apology

- Positive Emotions
  - Thanking
  - Being cheerful

CFA confirmed model superiority over 2-factor model
\[ \chi^2[21df] = 106.83, p = .001, \text{CFI} = 0.98, \text{TLI} = 0.96, \text{RMSEA} = 0.07 \]

Effects of Employee Emotion Strategies on Customer Satisfaction

Employee Expressing Positivity
1. Gratitude
2. Cheerfulness

Employee Expressing Support
1. Empathy
2. Apology

Customer Satisfaction

Role of Customer Emotion?

Only Long Enough Conversations
N = 168 conversations
Adj. R² = .52***

Customer
Negative
Emotions

Employee Apology

Customer Satisfaction

- .42*** (.13)
- .45*** (.12)

- .37*** (.12)

.09 (.08)
Visitor
4:05pm
Hi, I can't understand my bill, why was I charged for overseas calls?

Beth A
4:08pm
Could you please provide with your account number and home address?

Visitor
4:08pm
Sure. It's 23254658, 24th Hudson st.

Beth A
4:09pm
Can you please wait for a moment while I find that information for you.
Thank you for waiting. I have some information for you. 4:14pm
Up to 3 customers at a time!
Automated Emotion Detection

**Natural Language Processing**

- Dictionary of words defined as “emotional” (e.g., LIWC)
- Emoticons and CAPS
- Added rules (amplifier, negation e.g., Very, Not)

<table>
<thead>
<tr>
<th></th>
<th>Negative</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision</td>
<td>0.72</td>
<td>0.87</td>
</tr>
<tr>
<td>Recall</td>
<td>0.24</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Emotion in Chats (two weeks; airline sales and service)

- **7,147 Full Chats**
  - Positive: 41%
  - Mixed: 18%
  - Negative: 4%
  - No-Emotion: 37%

- **37,189 Customer Messages**
  - Positive: 14%
  - Mixed: 7%
  - No-Emotion: 79%
Emotion in Chats
(11 weeks; telecommunication)

677,936 Full Chats

10,035,32 Customer Messages

- Positive: 38%
- Negative: 8%
- Mixed: 14%
- No-Emotion: 78%
• One week data; 14,700 conversations. Sample 10 time points in each; (messages at 0%, 11%, 22% ...); calculate emotion at each point; Average 10 sample points across all company conversations;
Emotion patterns of satisfied and dissatisfied customers; Tele-comm company chats; Data of one month. 26703 conversations with NPS = 10, 9382 conversations with NPS = 0.
Employee Response Time (RT) vs. Service Time (ST)

Service Time C1 = RT (C1) – 1 min
Response Time C1 = 6 min

Note:
- All are from customer 1.
- All are from customer 2.
- All are from the same Employee.
- with no represent earlier sent messages.

• **7,147 chats**

• **65,536 messages**
  - 37,174 customer messages
  - 28,362 employee messages

• **Number of messages per chat (M= 12.3, SD=8.3)**

• **Removed system messages**

• **Employees simultaneously serve multiple customers**

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Results – Chat Level Analysis

• Mere presence of customer POSITIVE emotion correlated with lower employee Response Time (RT) (30 seconds less for each employee message! \( b = -29.57, SE=6.77, p<0.001 \)).

• NO correlation of presence of NEGATIVE emotion with employee Response Time \( (b = -8.89, SE=7.83, p>0.05) \).

Valence of Customer Emotion Moderates Effects on Employee Response Time

Analyses control number of words per message (customer and employee), time waiting for service, and service/sales

HLM (chats within employee):

\[ R^2 = 40.08\% \]

\[ b = -0.36 \ (SE=0.10, \ p<0.001) \]
Emotion Moderates Effect of Workload (#customer words) on Employee RT

- No Emotion
- Positive
- Negative

Analyses control number of words per message (customer and employee), time waiting for service and service/sales

HLM
(chats within employee):
n=7,147

$R^2 = 40.08\%$

$b = -0.36 \ (SE=0.10, \ p<0.001)$
Problems and issues: What causes what?

Airline data and analyses (20,355 chats from January 2016):
Time based analysis (using $T_1$ customer behavior to predict $T_2$ employee behavior.

January 2016 Airline Data
Chats with at least 6 customer messages
N= 6,013 (from total of 20,355 chats)
Random point in chat with at least 4
customer messages before and 2 employee
messages after
44 Employees

Results

• Customer T₁ positive emotion REDUCES employee T₂ service time AND response time (b= -0.78, SE=0.20 ,p<0.001).

• No effects of T₁ customer negative emotion on T₂ employee Service Time or Response Time (b= -0.29, SE= 0.26 p>0.05).
Study

Understanding Employee UNSCHEDULED Breaks (up to 15 minutes)

Likelihood (1/0)

Length

Employee Status During the Day

Average number of employees

Time (1 min. resolution)

Total
Break
Online

Two intervals:

12 minutes (length of average chat, predicting likelihood of break);
30 minutes (prior to break taken, predicting length of break)
Customer Emotion and Employee UNSCHEDULED Breaks

First customer assignment to employee

Beginning of shift

C11 Assignment to employee

Customer 11 (C11)

Employee activated a break

Start of break

C12 Assignment to employee

Customer 12 (C12)

C13 Assignment to employee

Customer 13 (C13)

# chats handled
# words employee wrote
# words employee read
Mean # concurrent chats

Workload

Cronbach’s α = 0.75/0.84
(Predicting likelihood and length)
Customer Emotion and Employee UNSCHEDULED Breaks

- First customer assignment to employee
- Customer 11 (C11)
  - Customer 11 Assignment to employee
  - Employee activated a break
- Customer 12 (C12)
  - Customer 12 Assignment to employee
- Customer 13 (C13)
  - Customer 13 Assignment to employee
- Start of break

Beginning of shift
Workload and Customer Positive Emotion Increase Likelihood Employee Takes Break

Employee workload and customer positive emotion increase likelihood employee will take a break

N = 3,084 time intervals

$b = 0.96^{**} (0.31)$

$b = 0.92^{**} (0.32)$

**$p<0.01$**
Customer Positive Emotion REDUCES Length of Breaks

With higher customer positive emotions, high workload leads to shorter breaks

\[ b = -40.71* (16.25) \]

\[ \text{Length of Break (seconds)} \]

Length of Employee Break

N = 835 breaks  \quad \star p < 0.05

Customer Negative Emotion INCREASES Length of Breaks

With higher customer negative emotions, high workload leads to longer breaks

\[ b = 38.92^* (17.88) \]

\[ N = 835 \text{ breaks} \quad *p<0.05 \]

What Have We Learned?

Summary of Findings

Customer Positive Emotion:
- **REDUCES** employee Response Time;
- Stronger effects of LOW intensity then HIGH intensity
- **REDUCES** effects of work load on length of employee breaks;

Customer Negative Emotion
- LOW Intensity - NO effects
- HIGH intensity - **INCREASES** employee Response Time;
- In General...
  - **REDUCES** effects of workload on employee Response Time
  - **INCREASES** effects of workload on length of unscheduled breaks
Many open questions

"Thank you for calling Customer Service.  
If you're calm and rational, press 1.  
If you're a whiner, press 2.  
If you're a hot head, press 3...."

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Where are we going?

- Affect based routing could increase contact centers’ efficiency
- Including emotion to employee tasks, and fair division of labor
- New opportunities for research
