



CENTER FOR RETAILING

WE WILL START IN A FEW MINUTES

CFR EARLY INSIGHT #40

AI AND CUSTOMER EXPERIENCE MANAGEMENT

Center for Retailing (CFR) at the Stockholm School of Economics has a mission to provide high-level academic education and to conduct world-class research on retailing in close collaboration with the Swedish retail industry. CFR Early Insight is a breakfast seminar series through which CFR faculty members share insights from ongoing research projects. The series provides a platform for employees at our partner companies to meet and discuss current challenges in retailing.



THE IMPORTANCE OF CUSTOMER EXPERIENCE (CX)

Does your firm consider CX as a strategic priority?



SOME STATS ABOUT THE VALUE OF CX

Companies with a customer experience mindset drive revenue 4-8% higher than the rest of their industries.

Customers are likely to spend 140% more after a positive experience than customers who report negative experiences.

Customers tell an average of nine people about a positive experience with a brand, but they tell 16 people about a negative experience.

Companies with initiatives to improve their customer experience see employee engagement increase by 20% on average.

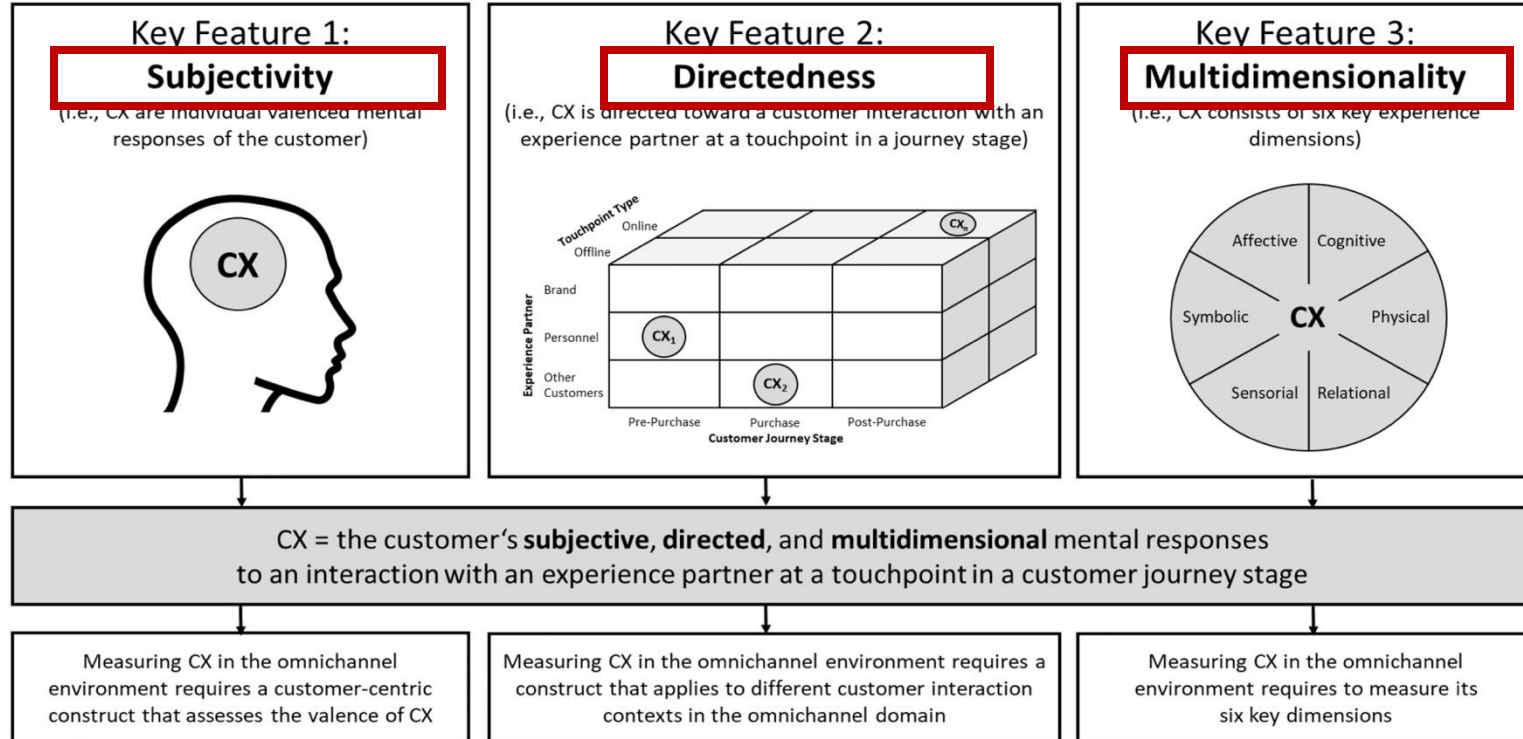
...

(Forbes, 2021)

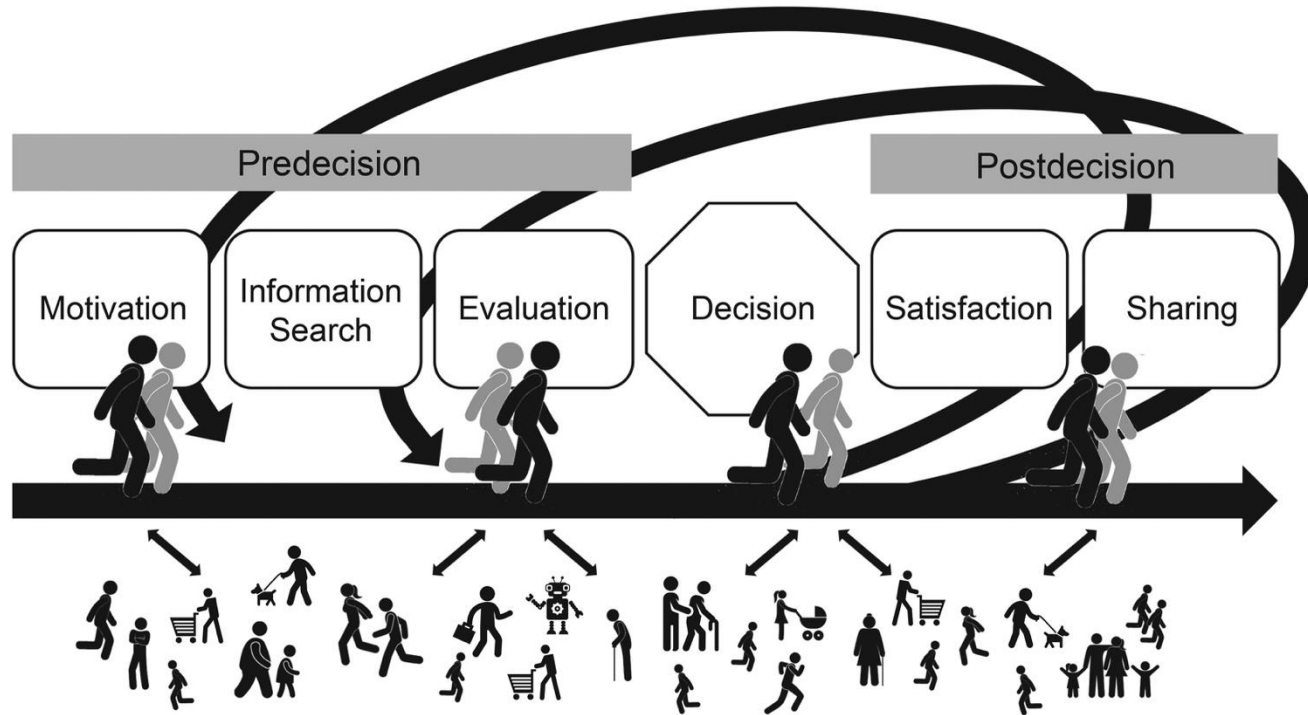
WHAT IS CUSTOMER EXPERIENCE, AND WHAT DOES IT INVOLVE?

CUSTOMER EXPERIENCE IS A COMPLEX CONCEPT

Customer Experience (CX) in the Omnichannel Environment



CUSTOMER EXPERIENCE IS A COMPLEX CONCEPT



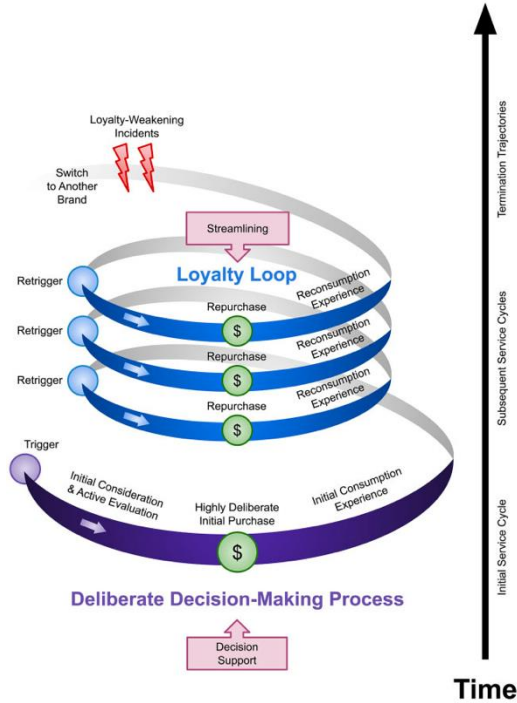
(Hamilton, Ferraro, Haws, Mukhopadhyay, 2021)

ONE SIZE DOES NOT FIT ALL...

Smooth Customer Experience

What it is: A predictable, consistent, and easy journey.

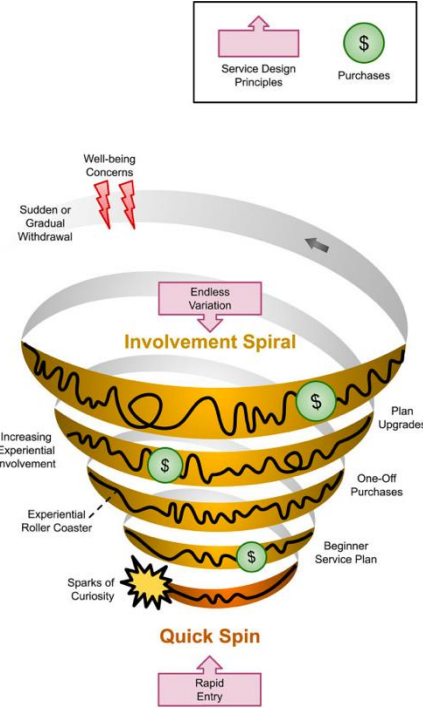
Best for: Instrumental services (banking, insurance, utilities) where customers want efficiency and convenience.



The Smooth Journey Model

*Facilitating loyalty loops
with decision support and streamlining
to make customers' lives easier*

Figure based on prior CXM research: Court et al. 2009; Court et al. 2017; Edelman and Singer 2015; see also Fleming 2016; Hyken 2018; Kuehnl, Jozic, and Homburg 2019



The Sticky Journey Model

*Facilitating involvement spirals
with rapid entry and endless variation
to make customers' lives exciting*

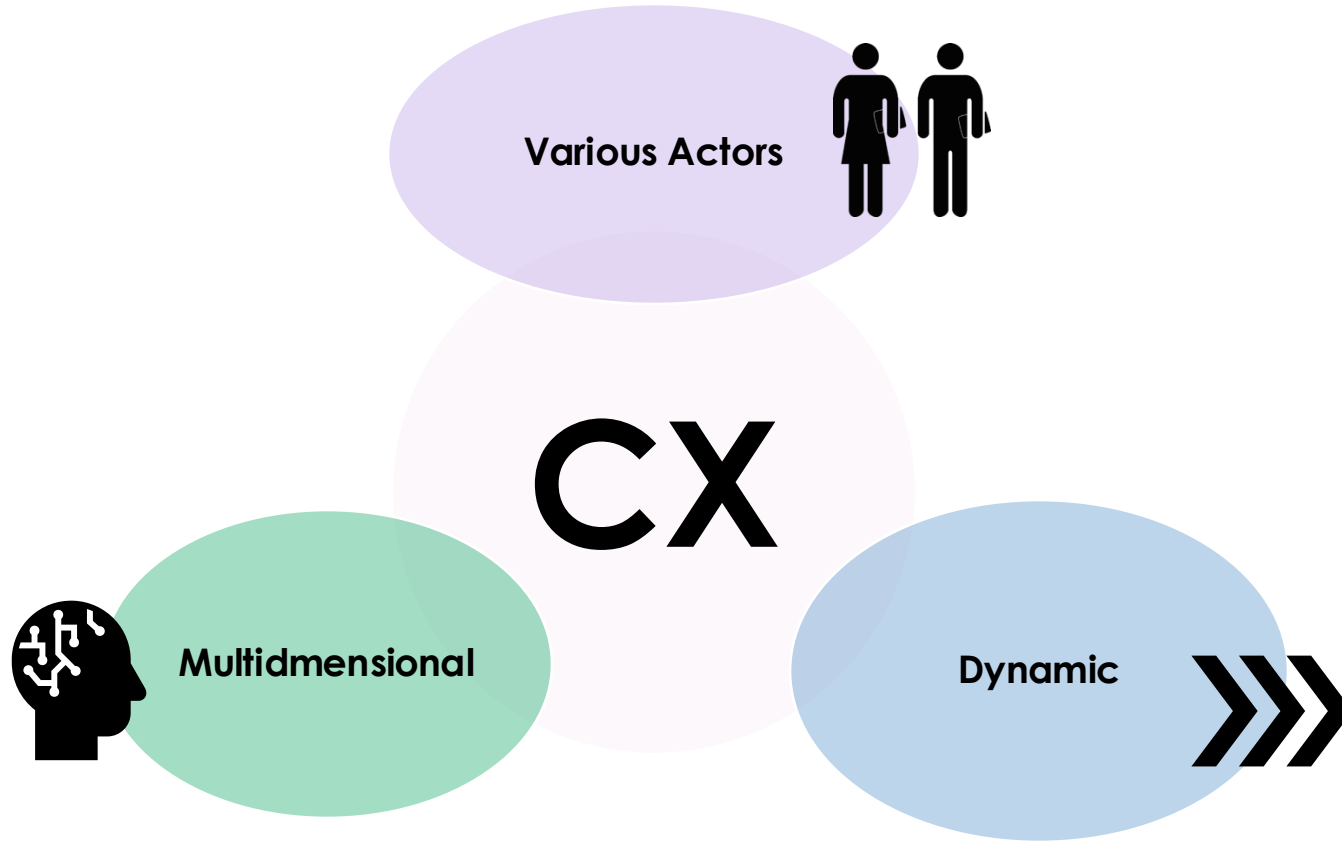
Figure based on empirical research in three contexts: a group fitness service (CrossFit); a mobile augmented reality game (Pokémon Go); a geosocial dating app (Tinder)

Sticky Customer Experience

What it is: An unpredictable, varied, and exciting journey.

Best for: Recreational services (gaming, fitness communities, dating apps, streaming) where customers seek enjoyment and stimulation.

KEY FEATURES OF CX



HOW CX HAS BEEN CAPTURED SO FAR?

Survey

Multidimensional



Dynamic



Actors



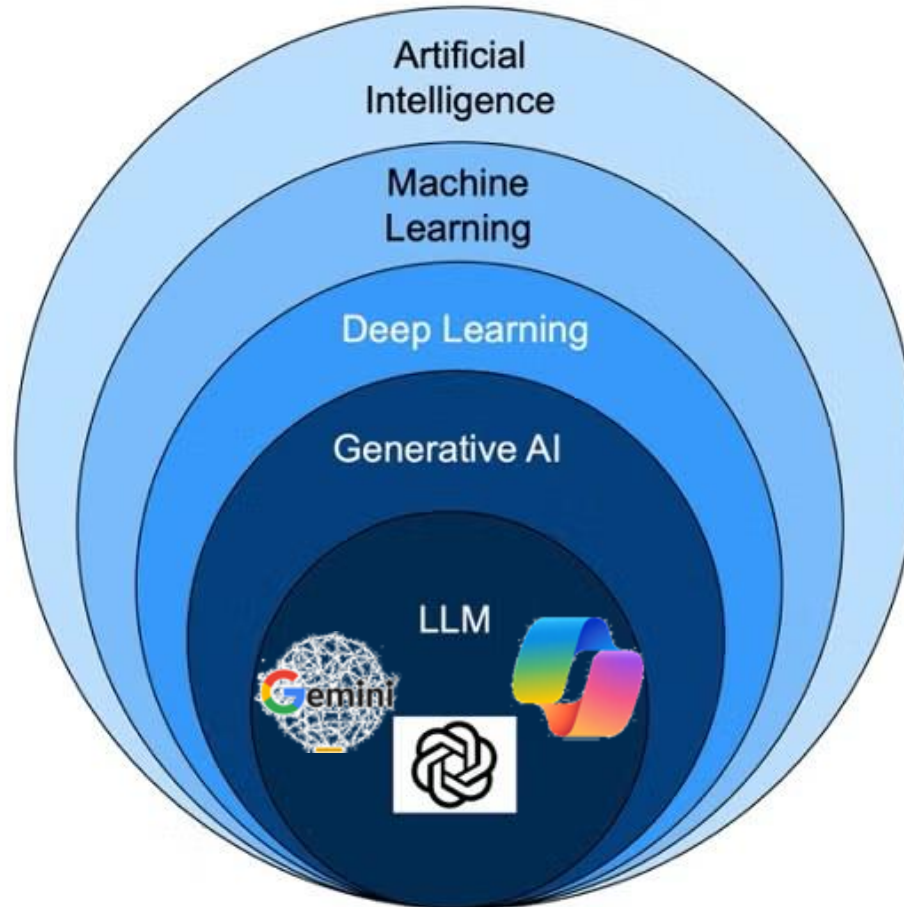
CX Dimension and Items	Factor Loadings			
	Study 4 (N = 1,348)	Study 5 (N = 224)	Study 6 (N = 601)	Study 7 (N = 364)
<i>Affective (CR)</i>	(.90)	(.96)	(.96)	(.95)
1 The contact with the <i>experience partner</i> induced good emotions.	.90	.94	.94	.95
2 I had positive feelings during the contact with the <i>experience partner</i> .	.84	.96	.94	.95
3 The contact with the <i>experience partner</i> put me in a good mood.	.85	.95	.94	.90
<i>Cognitive (CR)</i>	(.81)	(.92)	(.83)	(.89)
1 The contact with the <i>experience partner</i> piqued my curiosity.	.74	.89	.76	.88
2 I learned something beneficial during the contact with the <i>experience partner</i> .	.79	.87	.84	.83
3 I got positive insights during the contact with the <i>experience partner</i> .	.79	.93	.75	.85
<i>Physical (CR)</i>	(.85)	(.93)	(.91)	(.90)
1 My physical responses during the contact with the <i>experience partner</i> were pleasant.	.85	.88	.92	.83
2 During the contact with the <i>experience partner</i> , I actively moved in a way I liked.	.87	.90	.95	.92
3 During the contact with the <i>experience partner</i> , I was active in a way I liked.	.69	.94	.74	.83
<i>Relational (CR)</i>	(.83)	(.93)	(.84)	(.88)
1 I established a personal relationship with the <i>experience partner</i> .	.84	.86	.75	.85
2 I felt positively connected with the <i>experience partner</i> .	.83	.94	.85	.88
3 The contact with the <i>experience partner</i> made me feel like I belonged to a community.	.71	.91	.80	.80
<i>Sensorial (CR)</i>	(.89)	(.95)	(.92)	(.95)
1 The contact with the <i>experience partner</i> had a positive sensory appeal.	.81	.94	.88	.92
2 The contact with the <i>experience partner</i> had a positive impact on my senses.	.87	.95	.91	.93
3 The contact with the <i>experience partner</i> positively engaged my senses in a variety of ways.	.90	.90	.87	.95
<i>Symbolic (CR)</i>	(.81)	(.92)	(.91)	(.93)
1 The contact with the <i>experience partner</i> was in line with my personal values.	.81	.91	.92	.91
2 My personal beliefs were confirmed during the contact with the <i>experience partner</i> .	.75	.86	.81	.90
3 The contact with the <i>experience partner</i> was in line with my self-image.	.78	.91	.89	.91

(Gahler, Klein, and Paul, 2023)



AI?

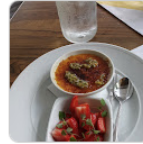
TYPES OF ARTIFICIAL INTELLIGENCE



BACKGROUND



We found this restaurant by chance and stopped for a quick break. All good things conspired to ensure we enjoyed a relaxing hour: the great sunny day, cool weather, and beautiful marina scenery. The food was tasty, fancy and the service very good with trained amiable helpful waiters. We didn't quite mind the relatively few menu choices or that they were on the pricy side, as those were secondary to the experience. As 🍷s are in season, the chef agreed to customize the desert ... that made it even better. The sun was setting and a momma duck and her baby were floating among the yellow water lilies at the edge of the water. We think you would enjoy it too.



Autumn to Winter Outfits | H&M Try On Haul & New in wardrobe Staples



SO, RICH CUSTOMER
EXPERIENCES ARE ALREADY
SHARED BY CUSTOMERS
THROUGH TEXT, IMAGE, AND
VIDEO....

Machine Learning

Deep Learning

Large Language Model

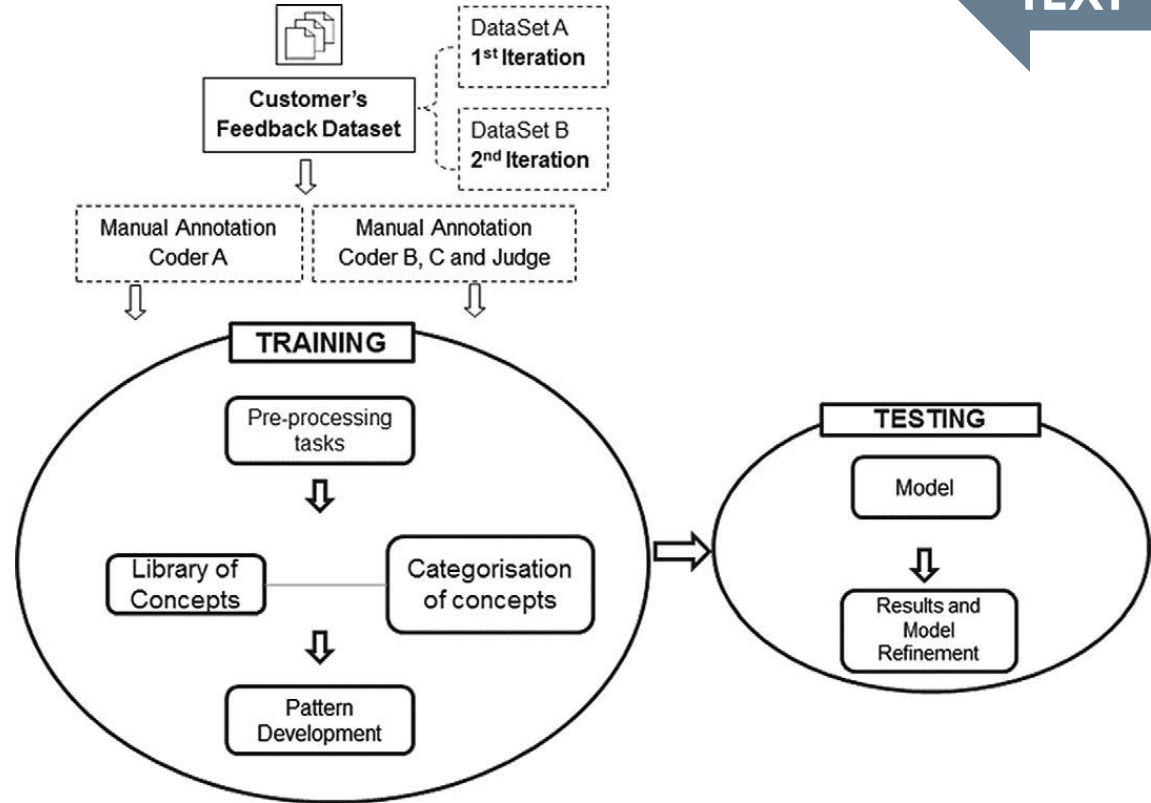
MACHINE LEARNING

From a UK airport car-park & transfer service (B2C).
Data = 1092 open-ended comments from surveys.
Example question: "What is the most important factor we can improve?"

Manually coding (100 comments)
Company activities (e.g., "bus arrived", "card didn't work")
Context (weather, disability, flight delays)

Training: Find common patterns (linguistic based)

Testing

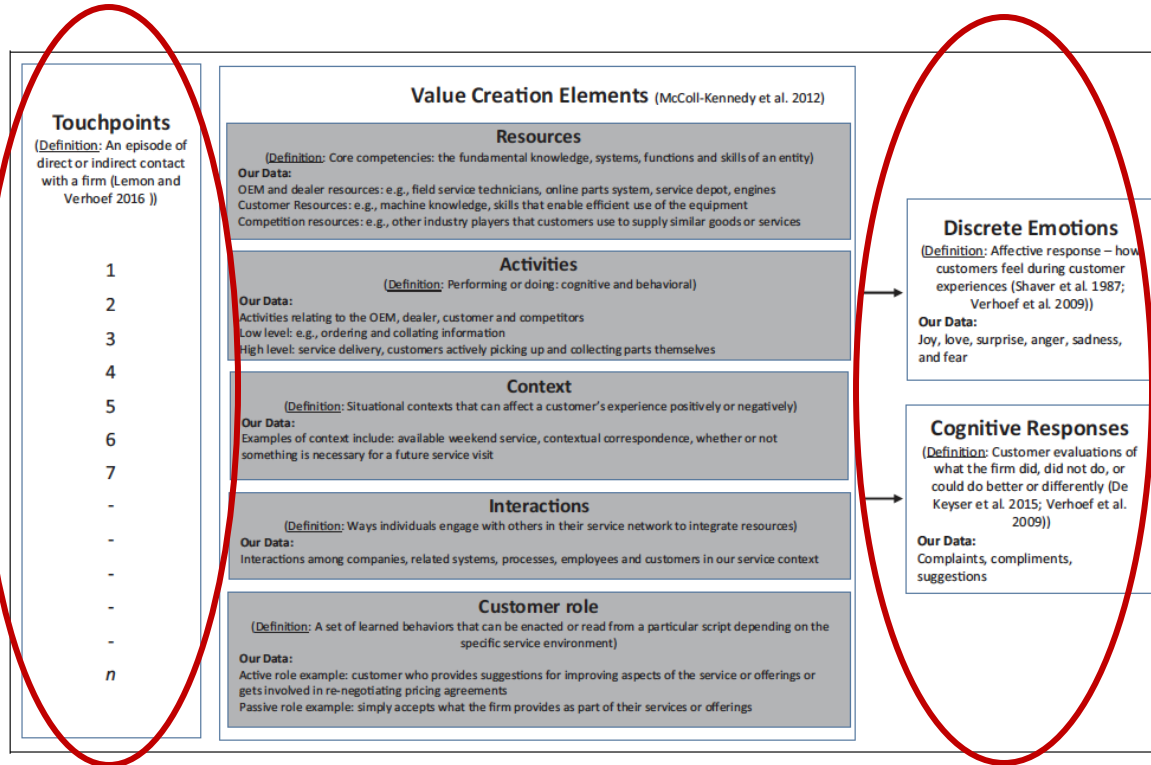


TEXT

Ordenes et al. (2014). Analyzing customer experience feedback using text mining: A linguistics-based approach. *Journal of Service Research*, 17(3), 278-295.

MACHINE LEARNING

TEXT



They received a **two-year dataset** (n = 3,116 **B2B customers**) including:

- One open-ended comment: "Do you have any other comments or suggestions?"

Manually coding (100 comments)

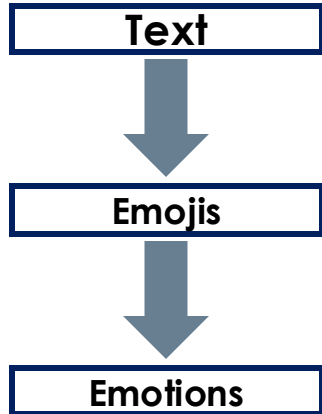
- **More CX elements** (5 vs. 3)
- **Emotions + cognitive responses**
- **Touchpoints**

Training: Find common patterns (linguistic based)

Testing

- SURVEY DATA
- MANUAL CODING





I: Text-to-Emoji

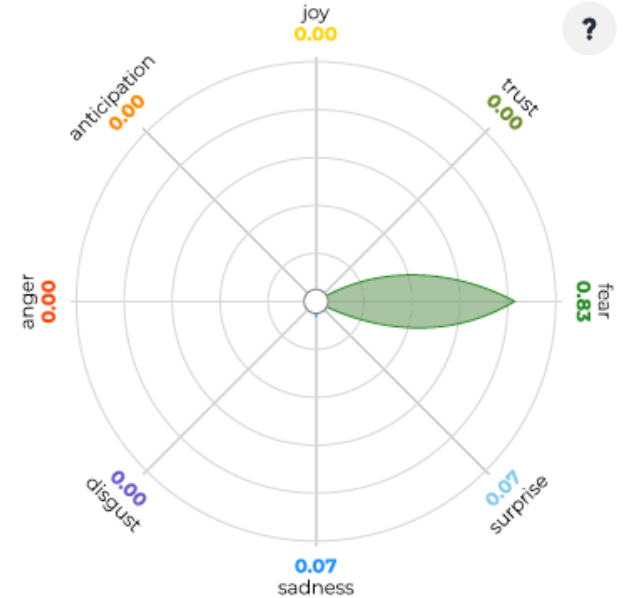
This stage "emojifies" the text by extracting its emotional information and encoding it with 151 emojis.

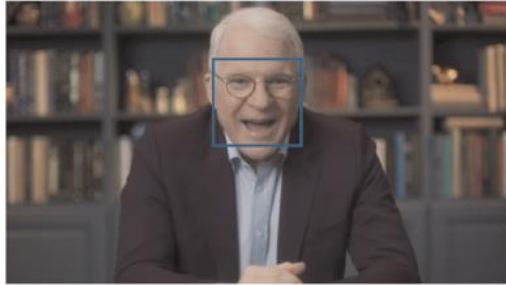
#	Emoji	Propensity
1	😂	0.36
2	😄	0.22
3	🤔	0.15
4	😏	0.12
5	😬	0.11
6	😓	0.09
7	🙄	0.08
8	🤨	0.07
9	😇	0.05
10	😞	0.04

Show all

II: Emoji-to-Emotion

This stage reduces the "emojified" text to eight basic emotional intensities based on Plutchik's Wheel of Emotions.

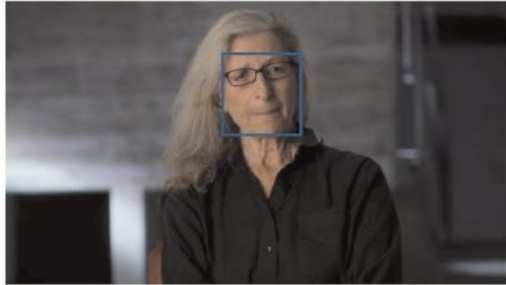




Anger: .00
Contempt: .00
Disgust: .00
Fear: .00
Happiness: 1.00
Neutral: .00
Sadness: .00
Surprise: .00



Age: 70 years
Gender: Male
Glasses: Reading glasses
Facial hair: .1
Baldness: .53
Hair color: Gray
Makeup: False
Smile: .0



Anger: .00
Contempt: .00
Disgust: .00
Fear: .00
Happiness: .00
Neutral: .45
Sadness: .55
Surprise: .00



Age: 45 years
Gender: Female
Glasses: No glasses
Facial hair: .0
Baldness: .11
Hair color: Red
Makeup: Eye, lip
Smile: .99

Zhou, M., Chen, G. H., Ferreira, P., & Smith, M. D. (2021). Consumer behavior in the online classroom: Using video analytics and machine learning to understand the consumption of video courseware. *Journal of Marketing Research*, 58(6), 1079-1100.

LARGE LANGUAGE MODEL (LLM)

TEXT

RQ1:
Develop a tool based on LLMs to effectively measure key elements of the CX at different levels (i.e., product, store, brand, firm)

Customer Experience (Online reviews)

1. Sentiment
2. Touchpoint Type
3. Experience Partner
4. CX Response
5. Customer Journey Stage

Moderators

- Service vs. Product
- B2B vs. B2C
- ...

RQ3:

How does the effect of the customer experience on brand and firm performance vary across contexts?

RQ2:

What is the customer experience's actual effect on important customer and firm performance outcomes?

Customer outcomes (YouGov, ACSI)

e.g.,
Customer satisfaction,
Word of mouth

Firm outcomes (Compustat)

e.g.,
ROA, Sales

LARGE LANGUAGE MODEL (LLM)

TEXT

PROMPTS GUIDELINES

Roles

You are an **expert in Customer Experience (CX)** trained to interpret customer language, identify relevant aspects, and assess their emotional tone and meaning.

Tasks

For each customer comment or review:

Identify the main aspect(s) mentioned.

Determine the sentiment toward each aspect — classify as *positive*, *negative*, or *neutral*.

Identify the customer journey stage the comment refers to — choose from: **Pre-purchase**, **Purchase**, **Post-purchase**.

Briefly explain the reasoning behind in one short sentence.

Format

Present the results in structured JSON format:

```
{  
  "Aspect": "",  
  "Sentiment": "",  
  "Customer Journey Stage": "",  
  "Explanation": ""  
}
```

LARGE LANGUAGE MODEL (LLM)

TEXT

EXAMPLE FROM YELP



6 sep. 2025

An affordable and delicious simple dinner that we enjoyed while sitting outside with a beautiful view of the Nobel Museum square. Mushroom soup, meatballs and mashed potatoes with lingonberries, croque monsieur, and a mozzarella and sun-dried tomatoes sandwiches. That plus two drinks was about 750 SEK. Service was kind and helpful. A wonderful find for our night in Gamla Stan!

RESULTS

TEXT

```
[
{
  "Aspect": "Food quality",
  "Sentiment": "Positive",
  "Customer Journey Stage": "Purchase",
  "Explanation": "The reviewer describes the dishes as affordable, delicious, and enjoyable."
},
{
  "Aspect": "Ambience / View",
  "Sentiment": "Positive",
  "Customer Journey Stage": "Purchase",
  "Explanation": "They highlight enjoying the meal outside with a beautiful view of the Nobel
Museum square."
},
{
  "Aspect": "Price",
  "Sentiment": "Positive",
  "Customer Journey Stage": "Purchase",
  "Explanation": "The cost is described as affordable and reasonable for the meal and
drinks."
},
{
  "Aspect": "Service",
  "Sentiment": "Positive",
  "Customer Journey Stage": "Purchase",
  "Explanation": "Service is described as kind and helpful."
},
{
  "Aspect": "Overall experience",
  "Sentiment": "Positive",
  "Customer Journey Stage": "Post-purchase",
  "Explanation": "The reviewer concludes it was a wonderful find, reflecting satisfaction after
the experience."
}
]
```

LARGE LANGUAGE MODEL (LLM)

VIDEO

Gemini's Classification: Illustrator



Speech: "Instead of having paper in my chart, and it being this thick".

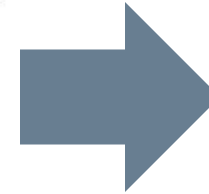
Gemini's reasoning: The speaker is using his hands to visually depict the thickness of the paper in a chart. Although he mentions "my chart" and "your chart", neither of them is physically present, making this gesture an Illustrator as it depicts a concrete object (paper's thickness) that is not physically there.

Gemini's Classification: Highlighter



Speech: "So, that pathologist is just like looking at this plastic bottle".

Gemini's reasoning: The speaker is holding up a plastic bottle while saying "this plastic bottle". Since the object being referred to is physically present and he's drawing attention to it, the gesture is classified as a Highlighter.

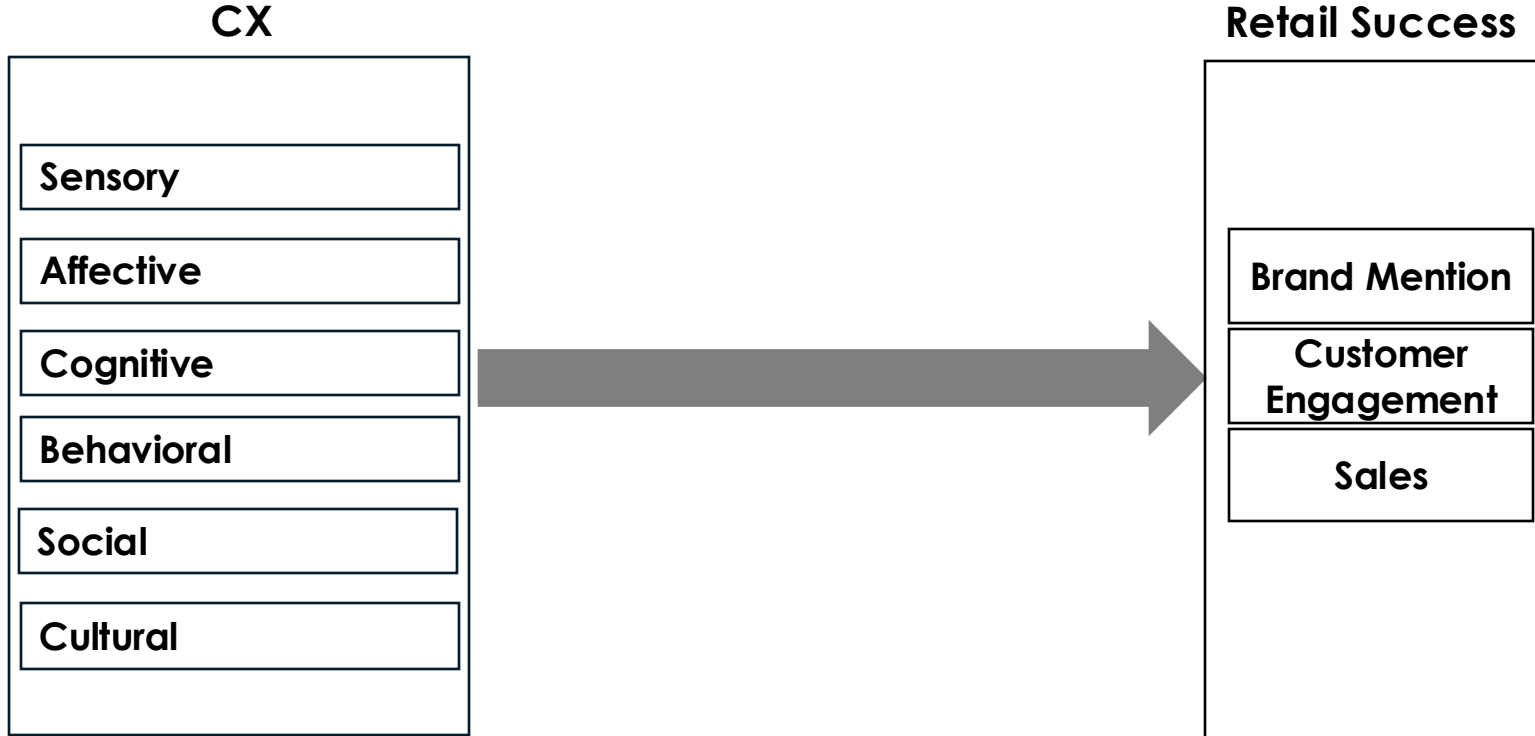


PERSUASIVE
COMMUNICATION
IMPACTS

Rizzo, G. L. C., Berger, J., & Zhou, M. (2025), Talking with Your Hands: How Hand Gestures Influence Communication. *Journal of Marketing Research*.

Our Ongoing Project with Handelsrådet

VIDEO



(Gao and Mafael, 2025)

HOW IT WORKS?





Grocery store ICA tour Sweden

113 views · 2 years ago
The Perfect Mix by Ali

4k #russia #sweden #usa #rural #pakistan #vlog #subscribe #like #food #foodie #live #love #beautiful #4k



Shopping at Swedish 🇸🇪 Grocery Store ICA #682

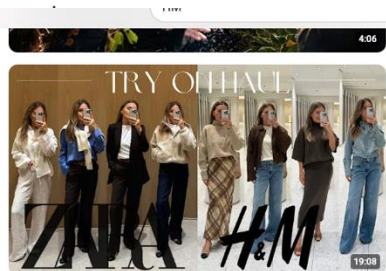
11K views · 10 months ago

Let's walk around Stockholm

Step inside ICA, one of Sweden's favorite supermarkets, to explore everything Christmas! From Swedish h

4k

4 chapters Intro | Christmas Shopping | Christmas Treats | Christmas Drinks



things to do, nail salons, plumb

City, Stockholm, Sweden



Yelp for Business

Restaurants

Home & Garden

Auto Services

Health & Beauty

Travel & Activities

ICA
4.0 (1K)
Grocery store

Website
Directions
Save
Share
Call

Open · Closes 11 pm

Dalagatan 9 N, 113 61 Stockholm

Show more details

Reviews
Reviews aren't verified

Google
4.0/5
1K reviews

Hitta.se
3.0/5
4 reviews

Brands > Uniqlo

Uniqlo

3.4 (4.0k total reviews)

based on 42 locations

uniqlo.com

Men's Clothing, Women's Clothing, Shopping, Fashion, Children's Clothing

See all nearby locations

About Uniqlo

Uniqlo has an average rating of 3.4 from 3987 reviews. The rating indicates that most customers are generally satisfied. The official website is [uniqlo.com](https://www.uniqlo.com). Uniqlo is popular for Men's Clothing, Women's Clothing, Shopping, Fashion, Children's Clothing. Uniqlo has 42 locations on Yelp across the US. Read below to see the top rated Uniqlo businesses on Yelp and their customer service rating.

MANAGERIAL IMPLICATIONS

Integrate AI with CX management empowers retail firms to...

- move from **reacting** to structured data to **proactively understanding** and shaping customer experiences

This represents a paradigm shift in how retail businesses can operate and compete.

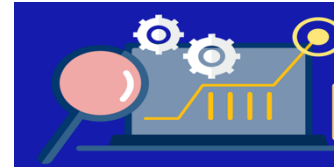
Compete

1. Data-driven competitive advantage
2. Scaling personalized customer experience
3. Strategic brand-building



Operate

1. Improved customer service and support
2. Prediction of demand flow
3. Consumer-driven product development



QUESTIONS?

NOVEMBER 19

AI and Customer Experience Management

With
Lily Gao

Thoughts, comments, ideas:
karl.strelis@hhs.se