

‘Customer satisfaction scores cover all manner of sins’

Customer satisfaction scores such as NPS hide your brand’s problems. Instead of focusing on a simplistic number, take a big data approach to analysing customer comments says University of Cambridge researcher Mohamed Zaki.

By [Mohamed Zaki](#) 12 Jun 2017 10:11 am

MW Marketing Week

Dr Mohamed Zaki

Popular CX Measurements

Customer Satisfaction (CSAT)

How would you rate the recent product experience?

★★★★★
 ★★★★☆
 ★★★☆☆
 ★★☆☆☆
 ★☆☆☆☆

★★★★★
Excellent (5)
Very satisfied

★★★★☆
Good (4)
Somewhat satisfied

★★★☆☆
Average (3)
Neither satisfied nor dissatisfied

★★☆☆☆
Poor (2)
Somewhat dissatisfied

★☆☆☆☆
Very Bad (1)
Very dissatisfied

Net Promoter Score (NPS)

How likely are you to recommend our company/
product/service to your friends & colleagues?

Detractors Passives Promoters

0 1 2 3 4 5 6 7 8 9 10

Net Promoter Score = % Promoters - % Detractors

Customer Effort Score (CES)

How easy was it to get the help you wanted today?

1 2 3 4 5 6 7

Easy Difficult



Quantitative measures alone mask sources of frictions and complaints

Loyalty Status vs. Customer Evaluation

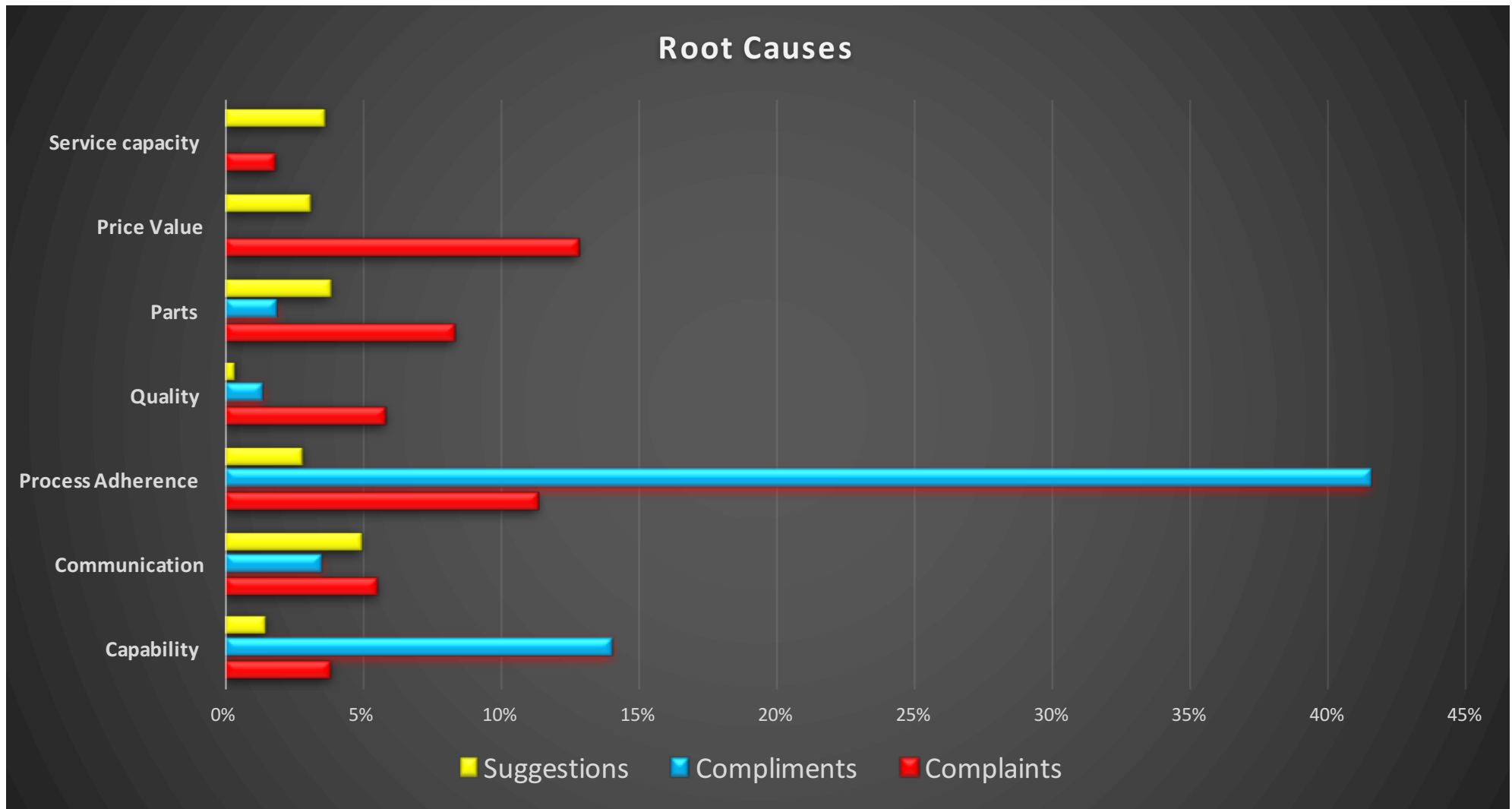


I'm due to replace them next year, the communication from the sales person is bad. I have never seen or spoken to an area manager. They only ever want to talk to you when the contract is up. Commitment to the customer is poor"

"I would like someone from XXXXXX to read the comments in this survey and come out and inspect the machine and discuss it because I'd asked for an extended warranty on the machine because it wasn't right for several months..."



Frictions are still exist with loyal customers

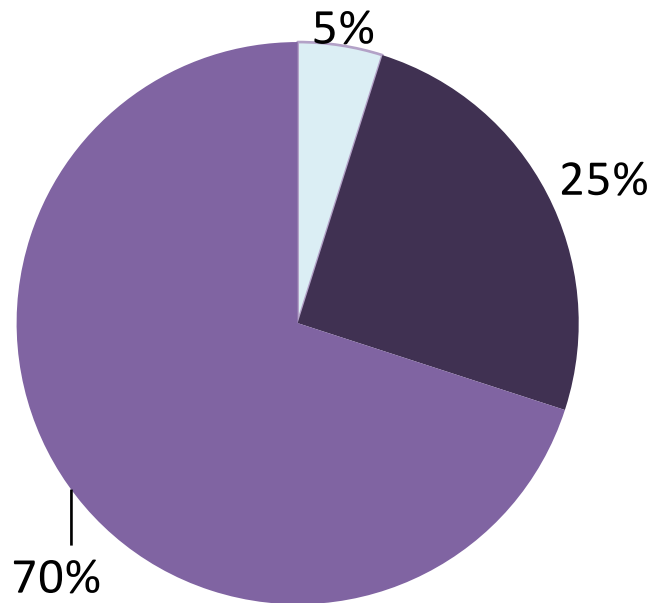


Loyal customers sources of frictions: price value (15.8%), process adherence (11.3%), parts (8.3%), quality (5.8%) and communication (5.5%)



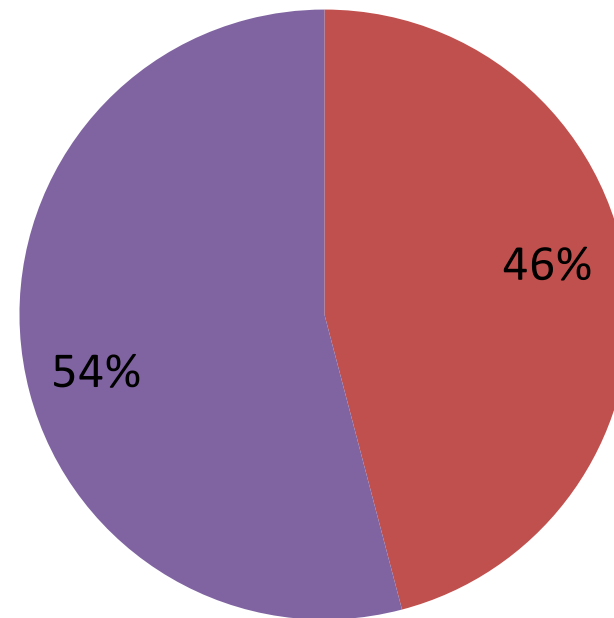
NPS do not correspond to customer actual behavior

Perceived NPS



- Detractor
- Passive
- Promoter

Actual Behavior



- Churner
- Loyal



Using one measurement leads to misclassified customers

Comparing NPS and RFM (profitability measures) Equivalent

Misclassified NPS	2012	2013	2014
Promoter → Detractor	291	522	524
Passive → Detractor	126	185	218
Promoter → Passive	135	147	104
Passive → Promoter	44	18	32
Detractor → Promoter	10	2	3
Detractor → Passive	9	8	10
% of customer misclassified	72%	85%	82%



Predicting promoters is difficult

Combined RFM Rank / NPS Targets

Rank	Class	Recall	Precision	F-measure
B	Detractor	0.78	0.80	0.79
A	Detractor	0.81	0.76	0.78
D	Detractor	0.68	0.83	0.75
E	Detractor	0.72	0.78	0.75
A	Passive	0.75	0.73	0.74
C	Passive	0.73	0.70	0.72
C	Detractor	0.71	0.72	0.71
B	Passive	0.73	0.69	0.71
A	Promoter	0.68	0.70	0.69
E	Passive	0.66	0.72	0.69
D	Passive	0.60	0.72	0.65
B	Promoter	0.77	0.50	0.61
C	Promoter	0.48	0.64	0.55
D	Promoter	0.37	0.66	0.48
E	Promoter	0.35	0.63	0.45

Good news for early-warning systems, [A] ranked detractors and passives are easy to predict

Results seem to suggest a heterogeneity problem for higher value targets

Detractors and passives are by far easier to predict (at any RFM rank)

[A] ranked promoters can be reasonably well predicted, but this is also the most valuable category!

Promoters are harder to predict



Identifying loyal customers is difficult

Combined RFM Rank / Loyalty Targets

Rank	Class	Recall	Precision	F-measure
E	At-Risk	0.84	0.86	0.85
D	At-Risk	0.81	0.80	0.80
A	At-Risk	0.75	0.79	0.77
A	Vulnerable	0.78	0.74	0.76
C	At-Risk	0.72	0.80	0.76
B	Vulnerable	0.77	0.71	0.74
B	At-Risk	0.69	0.78	0.74
C	Vulnerable	0.71	0.72	0.71
D	Vulnerable	0.62	0.77	0.69
E	Vulnerable	0.64	0.71	0.67
A	Loyal	0.66	0.67	0.67
B	Loyal	0.76	0.47	0.58
C	Loyal	0.41	0.65	0.50
D	Loyal	0.39	0.65	0.48
E	Loyal	0.36	0.65	0.47

Good news for early-warning systems, [A] ranked at-risks and vulnerables are easy to predict

Again, results seem to suggest a heterogeneity problem for higher value targets

Detractors and passives are by far easier to predict (at any RFM rank), this is the same as per the NPS results

[A] ranked loyals can be (borderline) reasonably well predicted, but this is also the most valuable category!

Loyals are harder to predict



Sentiment scores are another simple scores that mask details that matter

Document	Sum(SE...)	S Sum(SE...)
"A delivery service, it...	2	Positive
"No 1st class service....	-1	Negative
"No I am very happy ...	1	Positive
"Call cut out at name...	-1	Negative
"No I don't think so. ...	1	Positive
"No I have a good rel...	1	Positive
"No I haven't no. I g...	2	Positive
"No I mean their serv...	2	Positive
"Call from the parts d...	1	Positive
"No I think overall Fin...	2	Positive
"No I think the works...	2	Positive

Document

Overall sentiment

Binned sentiment

Where to start



Focus on customers' comments using sentence-level analysis

Comments	Sentence-Level Coding
I think the <i>service</i> is <i>very very good at the moment, only problem</i> has been in <i>last couple of months</i> that some of <i>key service technicians were missing</i> . But even if they cannot help you with the first visit, they <i>keep you informed</i> and try to <i>solve the problem</i>	I think the service is very very good at the moment
	only problem has been in last couple of months that some of key service technicians were missing
	But even if they cannot help you with the first visit, they keep you informed and try to solve the problem
<i>They need to be competitive with the pricing</i>	They need to be competitive with the pricing

Resource company	Resource Customer	Activity Customer	Activity Company	Emotion Positive	Emotion Negative	Touch Point	Interaction	Interaction Duration	Suggestion	Customer Role	Evaluation	Root Causes	
		Service		very very good		Field		at the moment		Receiver	Compliment	Process Adherence	Field Service
key service technicians					only problem / were missing	Field		In last couple of months		Receiver	Complaint	Service Capacity	Manpower
			competitive with the pricing			Overall			They need to be	Receiver	Suggestion	Price Value	Product



Train the machine learning model with RFM and attitudinal measures

Forward Feature Selection Approach

In both cases, the last three added features either do not increase, or decrease the results

Here, quality is the second most important feature

Referral will naturally contribute the most given the NPS basis

RFM and NPS			RFM and Loyalty		
#	Added feature	Accuracy Added %	#	Added feature	Accuracy Added %
13	Preparation	-0.10%	13	Suggestion_Count	0.00%
12	Suggestion_Count	0.00%	12	Preparation	0.20%
11	Responsiveness	-0.20%	11	Complaint_Count	-1.80%
10	Compliment_Count	2.90%	10	Responsiveness	3.70%
9	Complaint_Count	1.90%	9	Compliment_Count	2.30%
8	Repurchase	1.70%	8	Quality	0.20%
7	Overall Sat#	3.40%	7	Availability	5.30%
6	Duration	4.70%	6	Communication	4.40%
5	Communication	4.40%	5	Neutral_Count	4.30%
4	Quality	6.70%	4	Repurchase	4.10%
3	Availability	4.70%	3	Duration	7.60%
2	Neutral_Count	3.90%	2	Overall Sat#	5.50%
1	Referral	26.60%	1	Referral	24.40%

Contribution of sentiment features varies

Here, duration is the second most important feature



Capture customers' suggestions

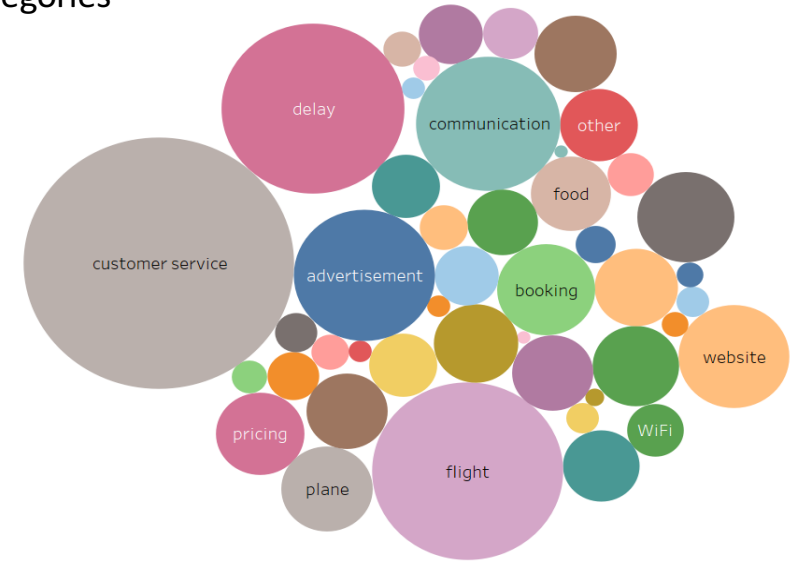
Additional Comments (11) —	
1	I think they need to get in the real world with their pricing. As a company and as a product, one of the best, but we need a little bit of tender loving care and a bit of help with the pricing. They need to be competitive with the pricing otherwise they'l
2	Not really no. To be honest with you, it is something that we would normally have sent elsewhere, however someone named Gary quoted a price and said that the job could be done. They should check the engine before doing any work to see if the engine is rep
3	They need to look at their workshop and service charges, we are very dissatisfied with them. They could at least drop prices by 20 %. The reason the machine was serviced was due to a design fault, but we had to pay for it.
4	They need to think about their prices, because they are very expensive. There are a lot of things they could cut back on so that they could improve in the quality of the work done, availability of technicians.
5	Well they used to do a free delivery which has now stopped, this was before the recession and they would drop parts free of charge but now they charge for it and its dropped down twice a week to once a week
6	They should do more deliveries on the same day instead of just one. They had morning and afternoon delivery in the past.
7	Was not accurate They should have all the information in front of them Gave them size of the pin Getting details accurate
8	They should improve the responsiveness, they should improve the information flow.

“ Focus on customer journey stages and touchpoints

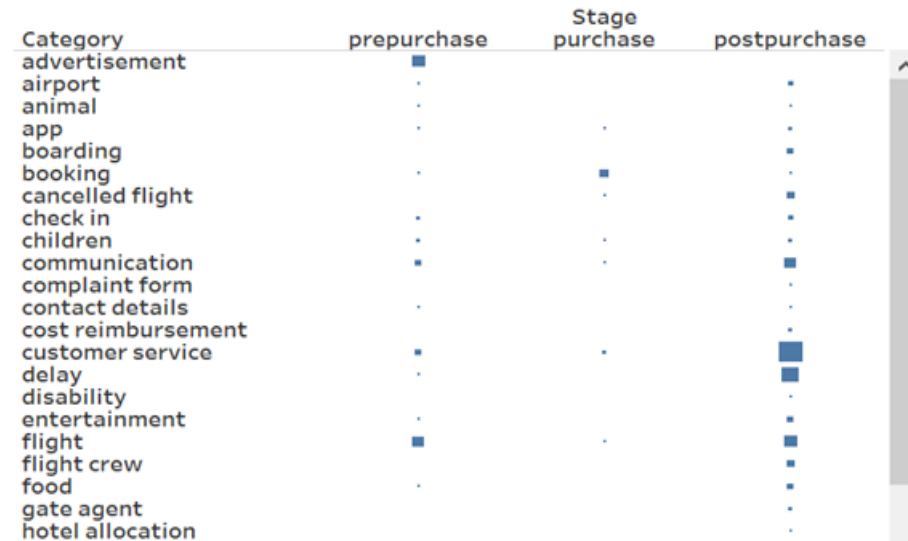
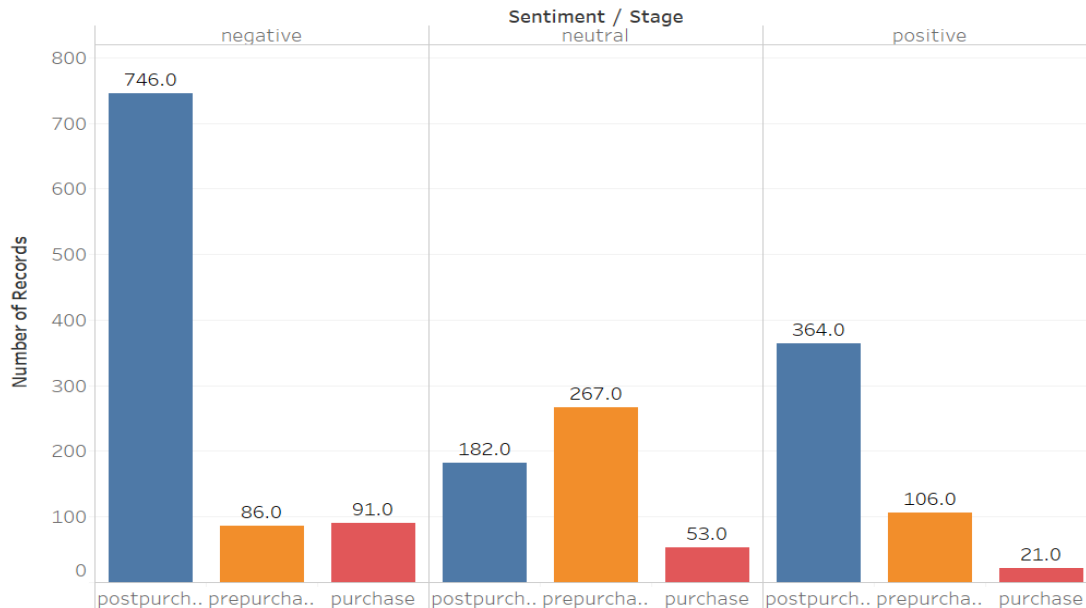
Summary

Airline	Sentiment	Touch Point	prepurchase	Stage purchase	postpurchase
JetBlue	negative	brand	16	59	544
		customer	67	28	167
		external partner	2	2	21
	neutral	brand	1	2	14
		customer	48	13	66
		customer	202	34	110
	positive	external partner	7	3	4
		brand	10	3	2
		customer	16	13	228
	customer	81	8	120	
	external partner	3		8	
	partner	6		8	

Categories

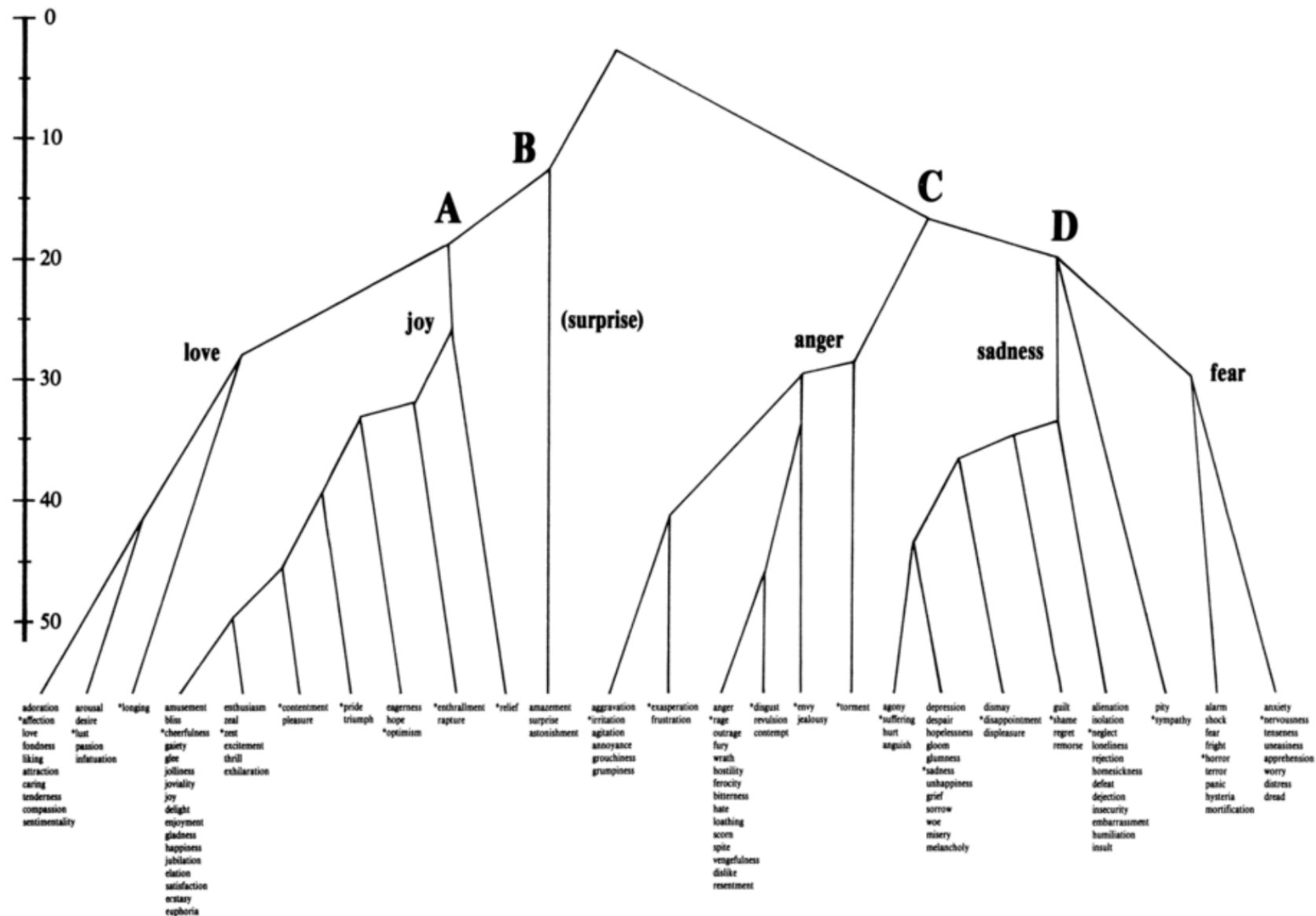


Satisfaction





Focus on customers' discrete emotions





Capture customers' rage-associated emotions (CRE)

Lower level anger	irritation, disappointment, frustration, annoyance, being upset and/or agitated	LLA
Rancorous	CONTEMPT Feeling of despising; lack of respect or reverence for something RESENTMENT Feeling of indignant displeasure or persistent ill will at something regarded as a wrong insult or injury SCORN Open dislike and disrespect or derision often mixed with indignation; extreme disdain, contempt, or derision	RAN
Retaliatory	MALICE Desire to see another experience pain, injury, or distress; deep-seated often unexplainable desire to see another suffer FURY Involves an overmastering destructive rage that can verge on madness; intense, disordered, and often destructive rage; feeling of extreme fierceness or violence WRATH Desire or intent to revenge or punish; strong vengeful anger or indignation; desire for punishment for an offense	RET



Capture comments have intention to leaving, competitors and legal actions

Tweet	CRE	HoE	SloL	MC	MLA
Hi @VodafoneUK thank you for stealing £160 from my account... Your company is a disgrace and you are full of lies and deceit	RAN	rag			
@ThreeUK @ThreeUKSupport disgusted by the way customer services didn't help me today!! Definitely won't be renewing contracts...	RET	ang	X		
@VodafoneUK sent a DM please could you help ASAP as being charged for a number that's not in use and your people in Egypt have no clue! 😞	LLA	ann			
Dear @ThreeUK After asking this several times, I'd like an answer. Why is my broadband SLOWER than dial up EVER was? @BBCWatchdog #rippedoff	RAN	ang			X
@O2 one bar only in @wembleystadium?! 😡 Get your act together because @VodafoneUK is full 4G coverage	RAN	ang		X	
This is appalling @ThreeUK	CBC	cbc			
@ThreeUK as soon as my contract with you is up / I will be looking for a new service. Majorly frustrated by #threeuk	RET	ang	X		
How can I complain to a reg body regarding my @EE contract??? And their data usage measures? Do not use EE!	RET	rag	X		X
@EE Absoluttley appalling customer service from your upgrade team a loyal customer of EE/orange of 14 years lost @ThreeUK I'm coming to you	RET	ang	X	X	
Waiting for @VodafoneUK to reply is like watching paint dry!	LLA	ann			
I have some next hatred towards Vodafone! Fucking idiots 🙄	RET	rag			
Furious with my service from @VodafoneUK. 4 calls and customer service told me I might as well hang up. Refused to help. Frustrated!!	RAN	ang			

SloL	Stated Intention of Leaving
MC	Mentioning Competitors
MLA	Mentioning Legal Action



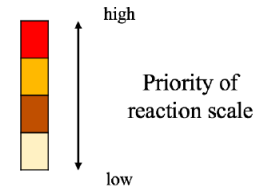
Understand your customers ' culture

Complaints from customers in the UK

Tweet	Score	SloL	MC	MLA	
...	5		X		High
...	5			X	High
...	5				High
...	5	X			High
...	5				High

Complaints from customers in Serbia

Tweet	Score	SloL	MC	MLA	
...	5		X		High
...	5			X	High
...	5				High
...	5	X			High
...	5				High



Tweet	Score	SloL	MC	MLA	
...	4		X		Medium
...	4			X	Medium
...	4				Medium
...	4	X			Medium
...	4				Medium

Tweet	Score	SloL	MC	MLA	
...	4		X		High
...	4			X	High
...	4				Medium
...	4	X			High
...	4				Medium

Tweet	Score	SloL	MC	MLA	
...	3		X		Low
...	3			X	Low
...	3				Low
...	3	X			Low
...	3				Low

Tweet	Score	SloL	MC	MLA	
...	3		X		Medium
...	3			X	Medium
...	3				Low
...	3	X			Medium
...	3				Low



Capture customers' comments in real-time and recover failure quicker

Loyalty per Service Type

Loyalty Sta..	Root Cause Catego..	Service Type		
		Field	Parts	Shop
At-Risk	Process Adherence	4.429	1.000	4.000
	Communication	4.500	4.375	4.875
	Quality	1.500	1.000	6.500
	Other	5.696	7.077	7.500
	Service Capacity	5.722	4.333	5.000
	Price/Value	8.200	7.600	7.333
	Parts	5.778	6.050	6.000
	Communication1	4.385	6.455	5.538
	Capability	4.000	6.857	3.800
	Other Departments	4.667	7.250	8.000
	Price Value	8.688	7.800	6.250
Loyal	Process Adherence			10.000
	Communication	4.150	4.692	6.000
	Quality	9.000	9.000	
	Other	8.250	8.933	9.000

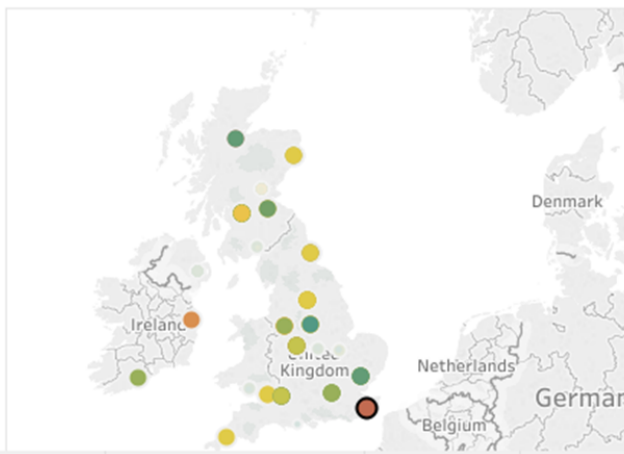
Root Cause versus satisfaction



Communication has a low score across the board, confirming the outputs from Dashboard I and Dashboard II

Areas of particular low scoring for the at-risk customers can be identified easily from the colour coded table: Field services, Process Adherence, Communication, Quality, and Service Capacity

Live Service Mapping



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Combine attitudinal and behavioral data to predict customer loyalty

