

Social media monitoring – pilot research report

September 2015



Foreword

Rail passengers are increasingly using social media to talk about their train journeys, share information when there is disruption, receive information about how trains are running, communicate with train companies, and complain about services. With many train companies operating a Twitter account and/or having a Facebook page, a vast amount of information can be collected via these channels and others such as blogs and forums.

Transport Focus is interested in using social media as a new way of understanding passengers' opinions of train operating companies (TOCs). Looking at the volume of posts with hashtags or handles of the specified TOCs and sentiment of posts, it is possible to start to measure passenger satisfaction and sentiment. These two social media research projects were pilot studies to explore social media as a research tool. In particular the second report, *Using social media to measure passenger satisfaction with their train company – February to April 2015*, has been used to develop our thinking on how best to use social media monitoring to complement more traditional research in the future.

Social media report on December 2014 train disruption, looks specifically at the disruption at King's Cross and Finsbury Park Station that took place on the 27 December 2014. The *Using social media to measure passenger satisfaction with their train company – February to April 2015* report looks at sentiment of posts across selected TOCs comparing the results with our National Rail Passenger Survey scores and also looks at the accuracy of automated coding of emotions on social media.



Precise
brand
insight

Social media report on December 2014 train disruption

Contact:
Andrew Nelson

Client Director

andrew.nelson@precise.co.uk

T: 020 7264 6370

www.precise.co.uk

Contents

3

Key findings

4

Volume of mentions over time

6

Train operating companies and stations

7

Who was talking – type of author and location of posts

8

Key topics

11

Levels of satisfaction

13

Social media channel breakdown

14

Considerations

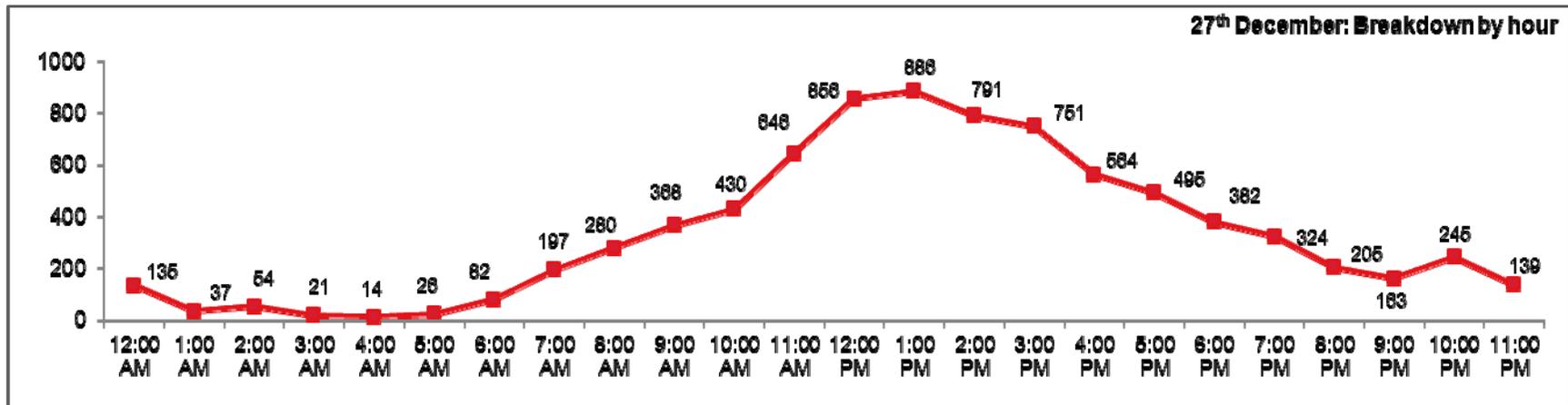
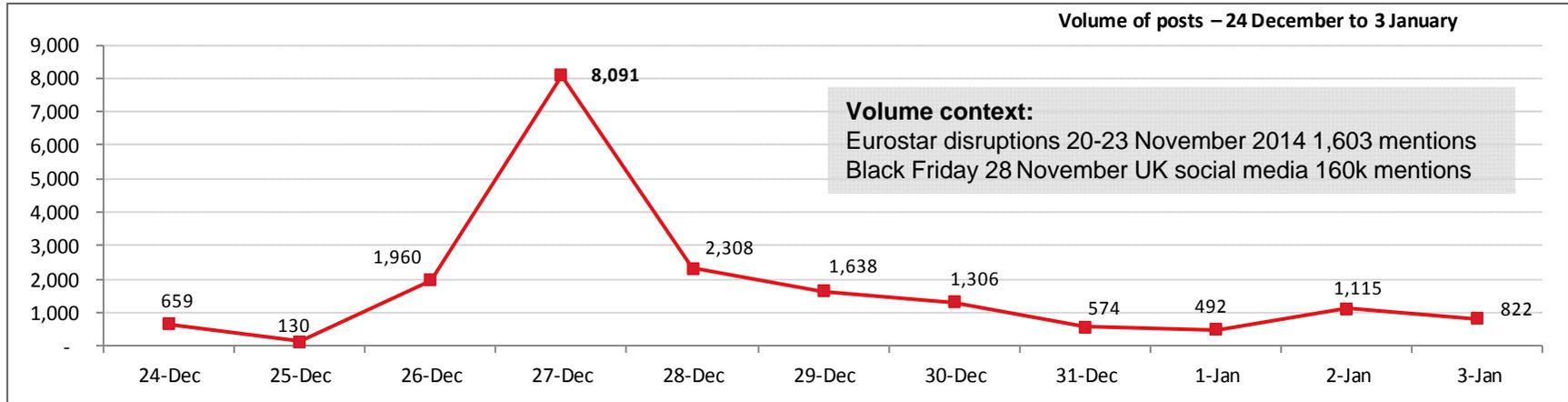
15

Methodology

Key findings

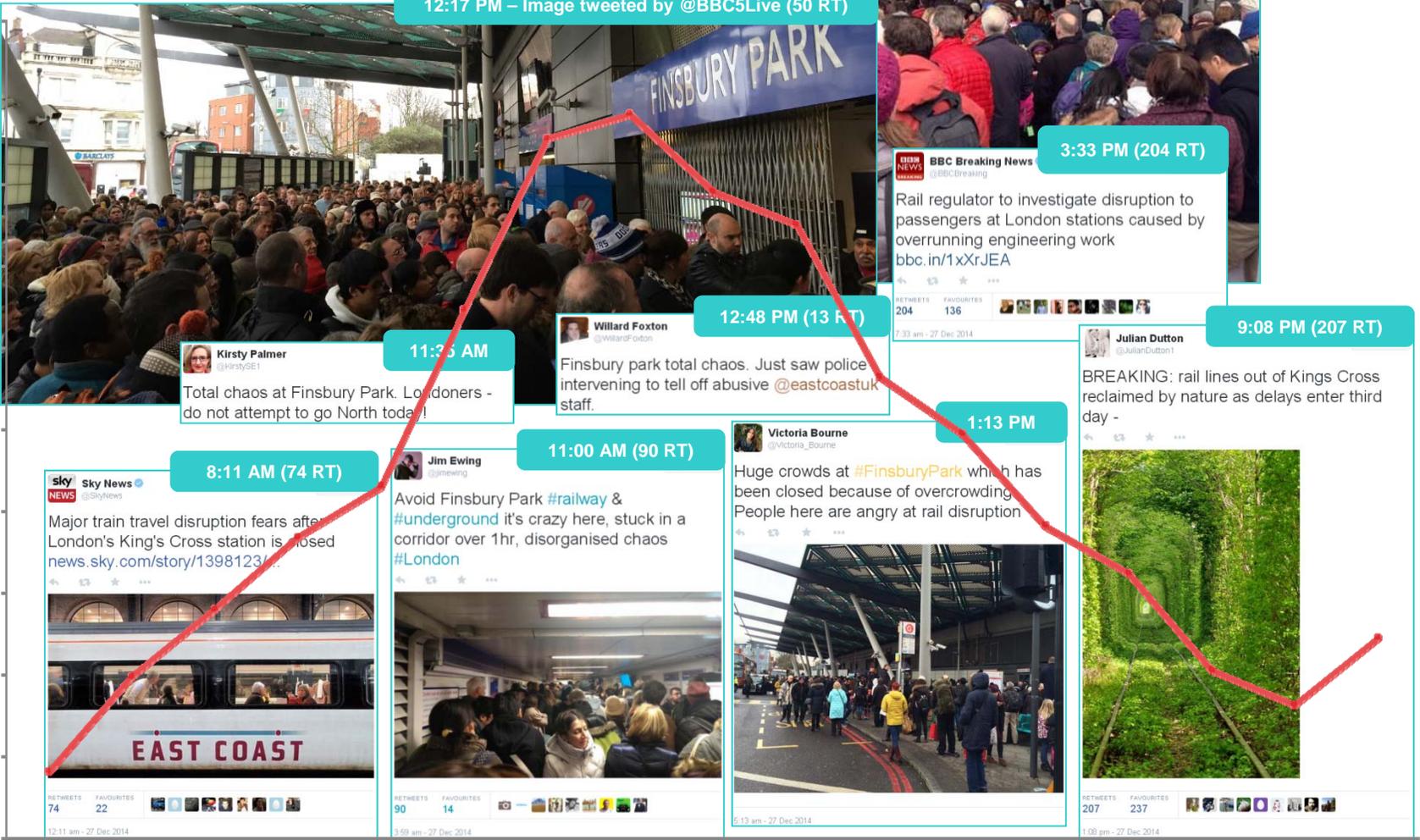
- The disruption on 27 December 2014 was first announced around 4pm on Boxing Day, with Great Northern Rail being one of the first train operating companies (TOCs) informing of the unexpected disruption. The hashtag **#KingsCrossTrains** quickly became a reference to the issue with hundreds of passengers using it. On the morning of the 27 December **news items were widely shared**.
- Overall, many passengers complained about the **lack of information** with claims about unclear or contradicting information given by TOCs and station staff, especially at Finsbury Park. Passengers who contacted TOCs on Twitter appeared to receive faster, more reliable information than from staff onsite. TOC websites were reported to be unhelpful by many users.
- **Some passengers** that could come up with an alternative travel plan decided to do so, others decided to postpone their trip. There were high volumes of criticism around overcrowded trains and passengers being trapped inside when the trains were not moving due to busy tracks. Passengers complained that they were not offered water or food during the long waiting hours.
- **Network Rail** generated high volumes of criticism and was named responsible for the situation. The company was very quiet on social media during the disruption day which had a negative impact on its reputation. Some disgruntled passengers showed indignation over reports around the salary bonus for Network Rail's chief executive. Social media users urged the Transport Minister and other government officials to give a public explanation of the disruption.
- The disruption boosted the **debate** over whether the rail service should be renationalised with some social media users blaming poor management during the crisis on the privatisation of British Rail, personified by vocal support of the #BringBackBritishRail campaign.
- **Compensation** and refunds are currently (January 2015) the main topic on Twitter using **#KingsCrossTrains** as during the disruption, passengers were more worried about resolving their journey as quickly as possible.

Volume over time



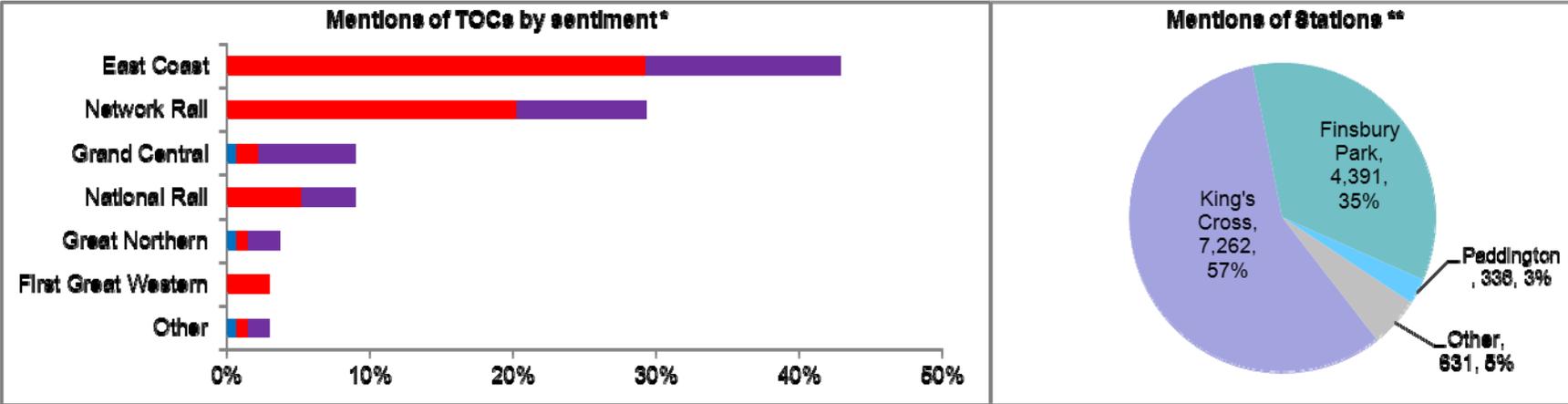
Vol. of posts

1000
900
800
700
600
500
400
300
200
100
0



8:00 AM 7:00 AM 8:00 AM 9:00 AM 10:00 AM 11:00 AM 12:00 PM 1:00 PM 2:00 PM 3:00 PM 4:00 PM 5:00 PM 6:00 PM 7:00 PM 8:00 PM 9:00 PM 10:00 PM

Mentions of TOCs and stations



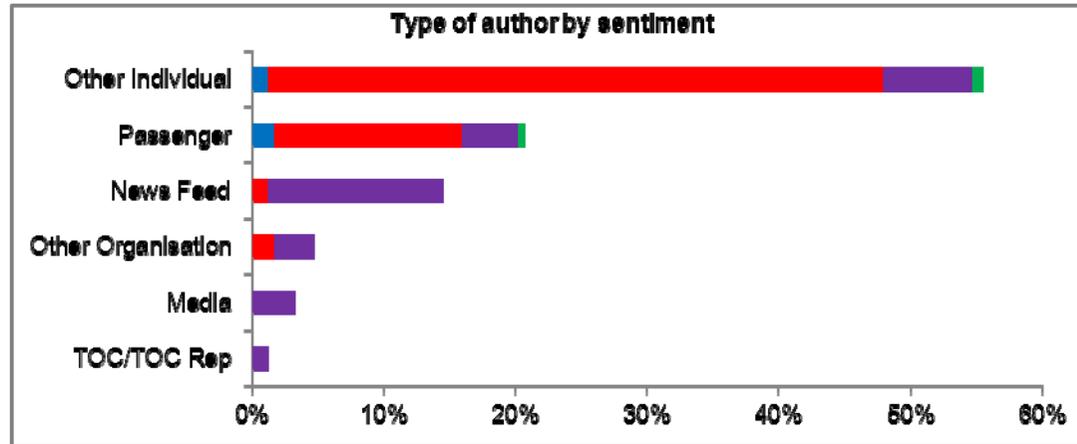
- The most mentioned TOC was **East Coast** accounting for 43 per cent share of voice amongst TOCs (including Network Rail). East Coast also garnered the largest volume of negative content during the period, with 29 per cent of posts being unfavourable. During 27 December, East Coast posted 541 items and was mentioned 2,692 times across the Twitter sphere.
- **National Rail** was also very active on Twitter, generating 583 posts and receiving 1,025 mentions during 27 December. Meanwhile, **Network Rail** only tweeted 10 times but was mentioned at least 1,236 times. Other TOCs saw their volumes increase during the disruption as they were contacted by affected passengers seeking information.



* Volumes based on our analysed sample – 26th to 28th Dec. Other includes mentions of Virgin Trains (1), Govia (1), East Midlands (1) and Hull Trains (1).

** Volumes based on text searches across the whole dataset from 26 to 28 Dec. May contain duplicate posts. Other includes mentions to Peterborough (424), Stevenage (156) and Waterloo (51). We ran separate searches on the relevant Twitter handles to track their activity during 27 Dec.

Type of author and location of passengers

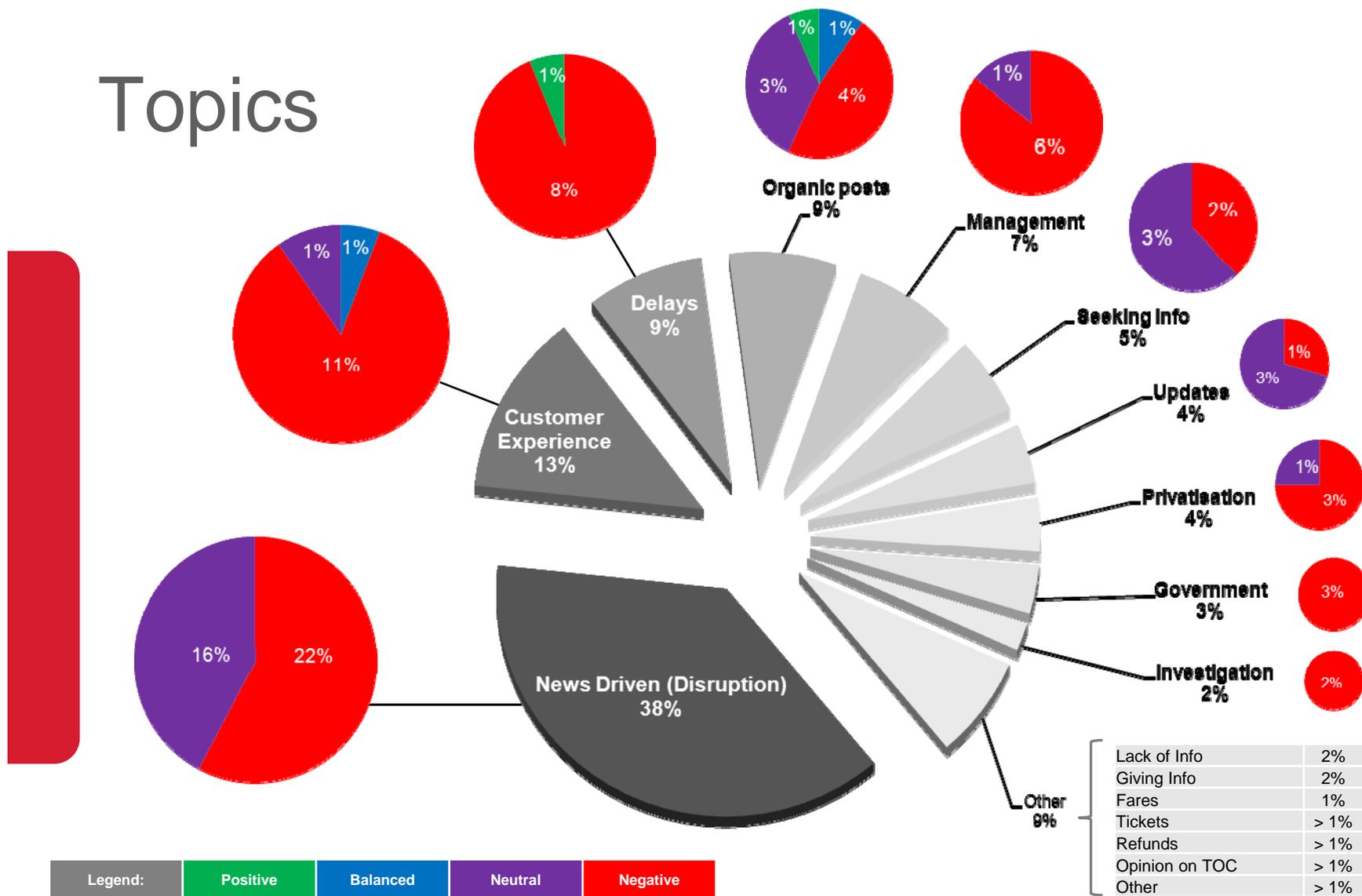


- All kinds of individuals (family, friends and the general public) including passengers were the most prolific authors of posts. The majority of social media users shared the news, engaging negatively by re-tweeting media-generated items.
- The share of actual passengers tweeting in relation to their journey was slightly lower. Those intending to travel approached the relevant TOC to find out their travel possibilities or in some cases, to plan alternative journeys/travel dates. Those passengers stuck in trains or stations broadcasted their frustration over the severe delays, lack of information or overcrowding, particularly at Finsbury Park: *"hi @ Finsbury Park can you pls advise next train to Cambridge, station staff doing their best but total lack of clear info thanks"*.



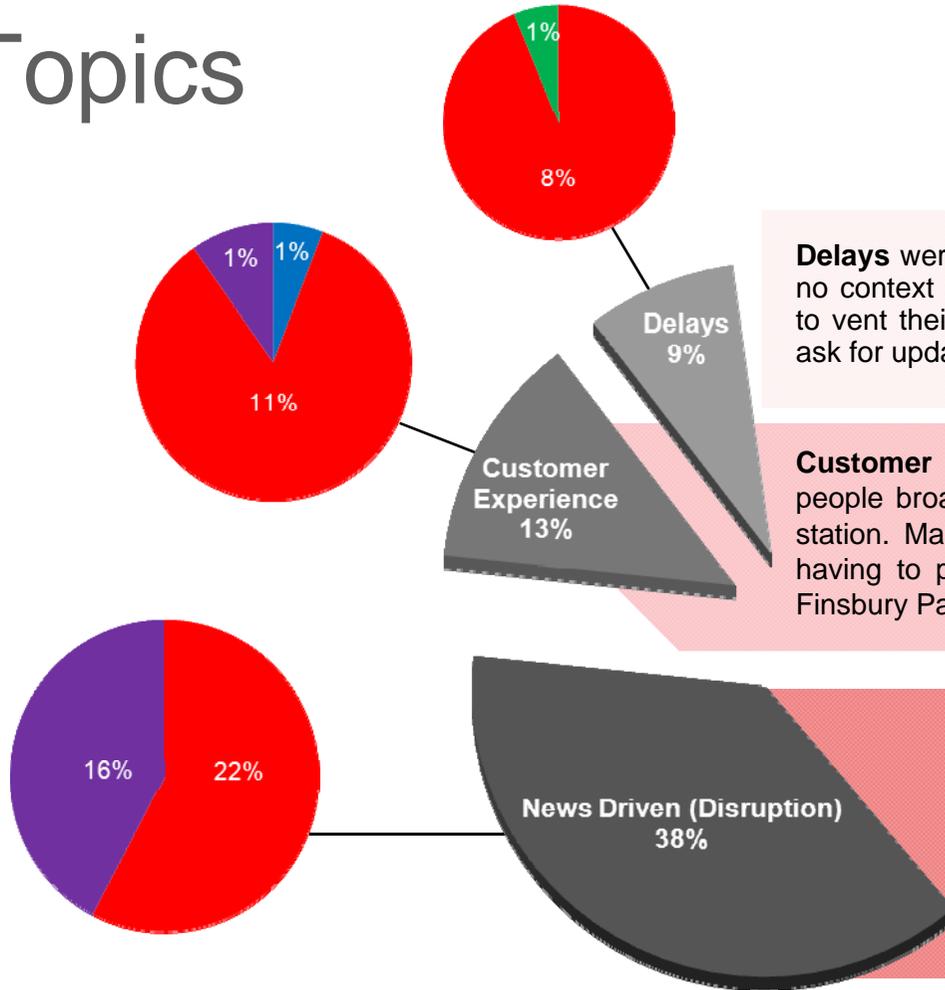
Volumes based on our analysed sample - 26th to 28th Dec.

Topics



Proportion based on our analysed sample - 26 to 28 Dec.

Topics



Delays were mentioned by many passengers adding little or no context around the situation. Many of them used Twitter to vent their frustration while others contacted their TOC to ask for updates on whether their train had been cancelled.

Customer experience was another key driver of content with people broadcasting their experience from inside a train or at a station. Many passengers complained of poor information after having to put up with long delays. The situation was worst at Finsbury Park with criticism on how the disruption was managed.

The majority of social media coverage during the disruption period consisted of **news sharing** by individuals (negative engagement), media outlets and Twitter news feeds (neutral), with most individuals re-tweeting posts by prominent media handles such as @BBCNews and @SkyNewsBreak. Posts shared by individuals often included a personal comment.



Volumes based on our analysed sample – 26 to 28 Dec.

Verbatim

Becky @MillyHubble
 Rail cancellations cause travel chaos
bbc.co.uk/news/uk-englan...
 5:49 am - 27 Dec 2014

News driven

Dan W @darnode
 Stuck on a train just outside Finsbury Park for over an hour... Come on.. Madness
 #KingsCrossTrains
 3:55 am - 27 Dec 2014

Customer experience

Paula Stebbings @psunbada
 And also thanks to all the train delays resulting in a 2 hour journey taking exactly 4 hours and 15 minutes...
 11:30 am - 27 Dec 2014

Delays

Sally @maricose1984
 Watching the news coverage of the rail chaos today. Yea that's going to convince people to use public transport more. Overpriced & unreliable!
 12:10 pm - 27 Dec 2014

Fares

Laura Marcus @MissLauraMarcus
 Transport minister demands explanation for #rail chaos. How about #privatisation?
 7:03 am - 27 Dec 2014

Privatisation

George Foulkes @GeorgeFoulkes
 Only Tory minister on BBC news is Justice Minister explaining about old Wills not rail & road disruption. Where are the transport ministers?
 Edinburgh, Scotland
 2:33 pm - 27 Dec 2014

Government

Terry Stacy MBE JP @TerryStacyLD
 Great to see Lib Dem assembly leader @CarolinePidgeon calling for investigation into chaos at Finsbury Park @networkrail @TfL
 9:36 am - 27 Dec 2014

Investigation

Anthony Baxter @antibaxter
 Finsbury Park chaos #KingsCrossTrains @eastcoastuk station just closed to travellers with no announcements for 100s
 3:08 am - 27 Dec 2014



Lack of information

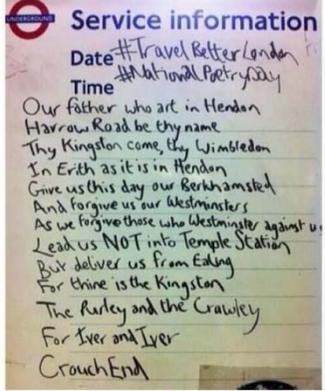
Paul Sinha @paulsinha
 Sadly this Finsbury Park hell has happened a day too late for the head of Network Rail to be named "Briton of the Year" by the Times.
 12:36 pm - 27 Dec 2014

Management

Sean O'Maolruaidh @JohnMoroney1975
 @FGW what a joke of a train company. Delays because you can't finish work on time, no announcements on the train either, we are not cattle!
 Reading, England
 7:28 am - 27 Dec 2014

Opinion on TOC

Gabriella Burnel @gabriellazourna
 Never mind the train delays... there's prayers and poetry. Aren't these what makes England great?!



Service information
 Date #Travel Better London
 Time #National Poetry Day
 Our father who art in Hendon
 Harrow Road be thy name
 Thy Kingston come thy Wimbledon
 In Erith as it is in Hendon
 Give us this day our Berkhamsted
 And forgive us our Westminster
 As we forgive those who Westminster against us
 Lead us NOT into Temple Station
 But deliver us from Ealing
 For thine is the Kingston
 The Purley and the Crawley
 For ever and ever
 Crouch End

9:41 am - 28 Dec 2014

Organic Post

Nick Jones @LemurPatrol
 Filling in a refund form for my delayed train #christmassy
 12:59 pm - 27 Dec 2014

Refund

Justin Margovan @justinmargovan
 @Hull_Trains will the 18.19 from Hull to Kings cross be running today with all this disruption?
 4:14 am - 27 Dec 2014

Seeking information

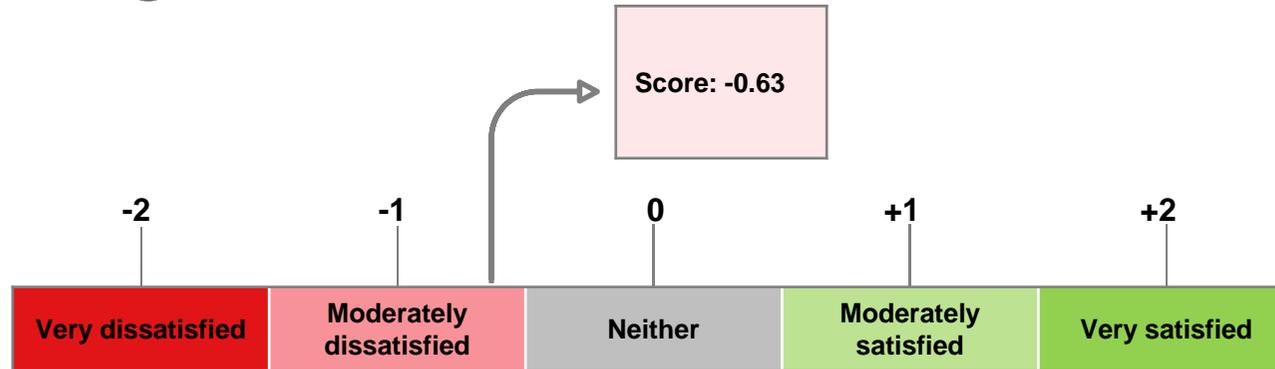
Anthony Godsell @AnthonyGB8
 @fgw are my prebooked tickets still valid even though the train is delayed? Will miss our connection, great time for engineering works btw.
 12:36 am - 27 Dec 2014

Tickets

Penalty Fare Support @penaltyfare
 13:30 Edinburgh to London Kings Cross due 17:53.
 This train will be terminated at Finsbury Park.
 @eastcoastuk #KingsCrossTrains
 3:22 pm - 26 Dec 2014

Updates

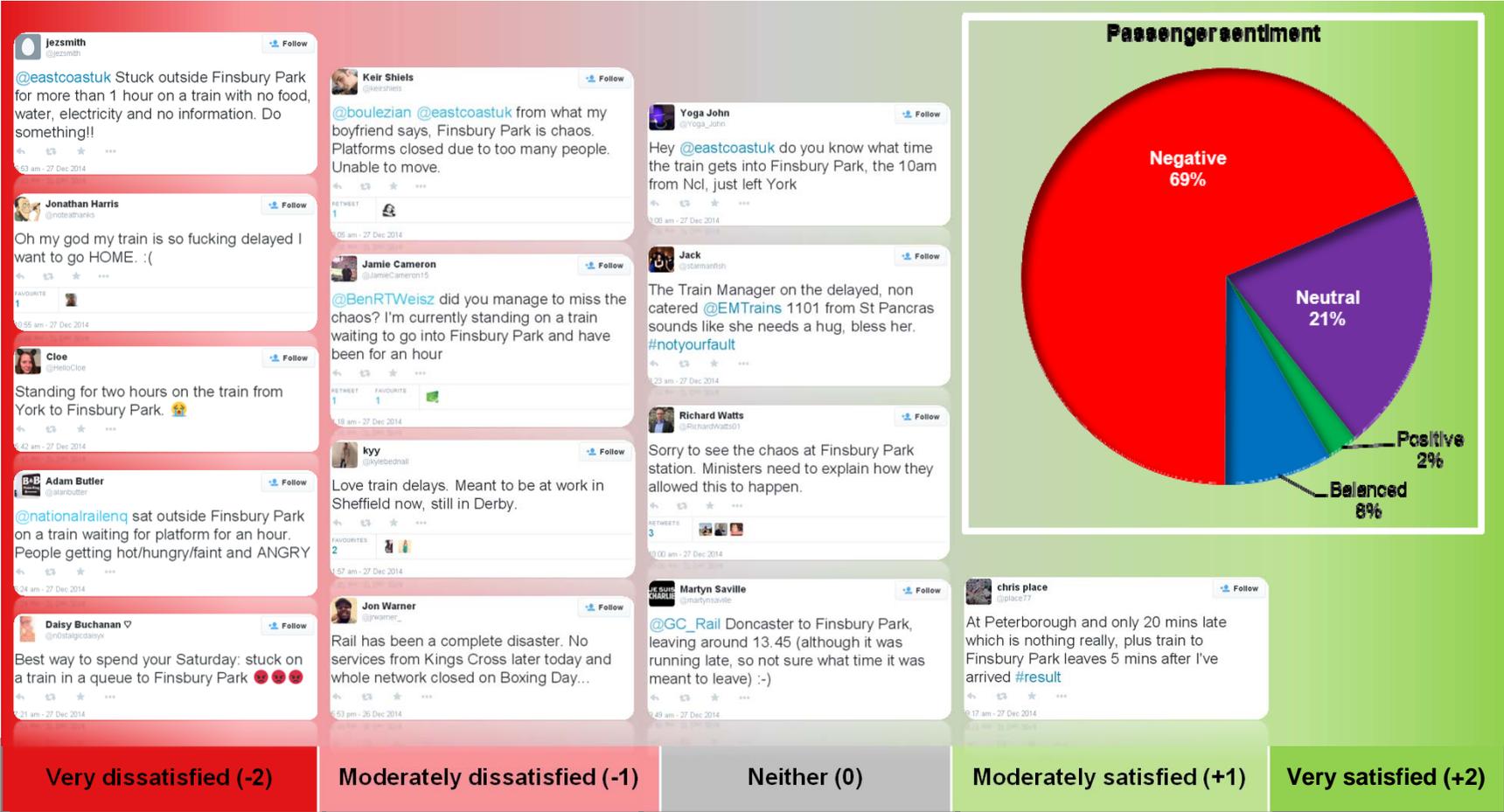
Passenger level of satisfaction



Score	-2	-1	0	+1	+2	Total
No. posts	42	113	147	3	0	305
% of total	13.77%	37.05%	48.20%	0.98%	0%	100%

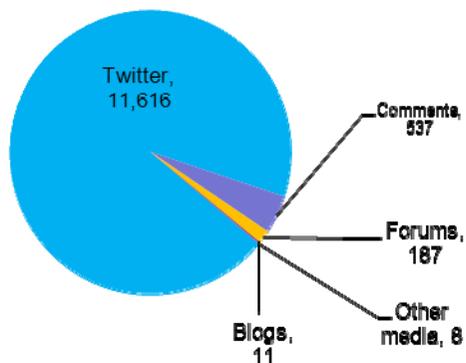
- We assigned a numerical value (score) to each post containing any indication of passenger level of satisfaction, being -2 correlated to the highest level of dissatisfaction and +2 to the highest level of satisfaction.
- The mark on top of the scale above shows the calculation of customer satisfaction (-0.63) based on 305 posts containing signs of passenger satisfaction within our sample.

Level of satisfaction: verbatim



Channel breakdown and disruption Twitter stats

Channel breakdown – 26th to 28th Dec



Top 5 prolific authors	No. of posts	Top 5 retweeted authors	Number of RT
NATIONALRAILENQ	109	@eastcoastuk	196
RAILGREEN	90	@bbcnews	140
RAILWAYINFO	90	@skynewsbreak	132
EASTCOASTUK	84	@skynews	131
THELEGALLAB	78	@bbcbreaking	64

Author	Top 5 tweets/RT by reach	Reach	Top 5 hashtags	No. used
@BBCBreaking	Rail regulator to investigate disruption to passengers at London stations caused by overrunning engineering work http://t.co/qm7UJmIGKW	12,687,082	#kingscrosstrains	1,547
@BBCNews	King's Cross trains cancelled for day http://t.co/yeuekRiqVW	8,276,324	#kingscross	186
@BBCBreaking	Rail regulator to investigate disruption to passengers at London stations caused by overrunning engineering work http://t.co/qm7UJmIGKW	3,725,861	#finsburypark	128
@BBCLondonNews	King's Cross trains cancelled on Saturday http://t.co/MqyVOp3Bsk http://t.co/5ACjuoMdHg	3,582,640	#london	116
@BBCNews	Sunday's #BBCPapers review: Queen's Guard "terror threat", rail "chaos" and honours tips http://t.co/YeFVrHG44B http://t.co/idDqvmR7Cq	3,537,450	#greateranglia	59
Count of unique authors		6,500		

Stats based on data from 26 to 28 December focussing on content around disruption only.

Considerations

- Information and misinformation was a key driver of negative sentiment. During a disruption it would be beneficial for passengers to have a single point of reliable information. Station staff also need to be kept up to date with the right information.
- As the main cause of disruption was a delay in planned engineering works the lack of activity from Network Rail had a negative impact on its reputation. The role of Network Rail, TOCs and National Rail around disseminating information during disruptions on this scale should be reviewed as information today is shared quickly, far and wide.
- Consider contingency plans for passengers stuck on trains to provide food and water during the long waiting hours..

Methodology

- Using frequently used keywords on the disruption and the main stations affected, we captured the volume of social media coverage from a period between 24 December and 3 January. The data used for the report focussed on the key days of the disruption, from 26 to 28 December.
- We coded a sample of 400 posts during this period, looking at sentiment, level of satisfaction, topic, type of post, type of author, mention of TOC, mention of station and location of passenger.
- Due to the nature of the topic, content was split into news driven posts and comments from individuals. Negative news that was shared by individuals was coded as negative, updates and news shared by media outlets were coded neutral. Posts from individuals only were coded for levels of satisfaction.

Searchstring	Search terms	Filters
Disruption	"disruption service"~5, "disruption trains"~5, "finsbury park", "king's cross", "kings cross", "kingscross", "kingscrosstrains", "overrunning", "rail chaos"~4, "rail disruption"~4, "service disruption"~4, "train chaos"~4, "train delayed"~4, "train delays"~4, "train disruption"~4, "trains delayed"~4	<ul style="list-style-type: none"> • By language (EN) • By region (UK)
East Coast	"eastcoastuk", "@eastcoastuk"	<ul style="list-style-type: none"> • By language (EN) • By region (UK)
National Rail	"nationalrailenq", "@nationalrailenq"	<ul style="list-style-type: none"> • By language (EN) • By region (UK)
Network Rail	"networkrail", "@networkrail"	<ul style="list-style-type: none"> • By language (EN) • By region (UK)



Precise
brand
insight

Using social media to measure passenger satisfaction with their train company

2 February - 13 April 2015

Contact:
Andrew Nelson
Client Director

andrew.nelson@precise.co.uk

T: 020 7264 6370

www.precise.co.uk

Outline

3

Background, objectives and methodology

5

Context

7

National Rail Passenger Survey and social media research

10

Key drivers

13

Trust and satisfaction

20

Passenger type

31

Real-time monitoring

33

Conclusion and considerations

36

Appendix: verbatim and methodology

Background and objectives

Background:

- Rail passengers are increasingly using social media to talk about their train journeys, share information when there is disruption, receive information about how trains are running, communicate with train companies and complain about services. With many train companies operating a Twitter account and/or having a Facebook page, a vast amount of information can be collected via these channels and others such as blogs and forums.
- Transport Focus carries out a lot of research each year with rail passengers, and would like to understand if social media analysis should be a part of this. Transport Focus are interested in:
 - what rail passengers are saying about their travel experiences on social media
 - how we can link this up with existing research, and
 - if/how we could use social media research in the future.
- The surveys Transport Focus are most interested in comparing with social media feedback, are the National Rail Passenger Survey (NRPS) and 'Passengers' relationship with the rail industry'.

Objectives:

- To understand the effectiveness of social media research in measuring passenger opinions and satisfaction on rail travel.
- Understand if/how feedback from social media differs from the NRPS.
- Explore who uses social media to talk about rail travel and how representative they are.
- Evaluate results to understand if there is merit in using social media research for future projects and whether Transport Focus should use it alongside a research project or on its own.

Methodology

- Using keywords frequently used by passengers for each train operating company (TOC) we captured all the relevant content from the 2nd February – 13th April 2014.
- Removing news posts and posts from TOCs we coded a sample of 350 mentions from passengers of each TOC during this period.
- Each mention was coded for level of satisfaction (-2 to +2), sentiment, key driver, type of post and passenger type. The overall satisfaction / trust scores are weighted averages:

Mentions (satisfied/not satisfied) or (Trust/ No Trust) x by score given (-2/+2)

All mentions coded for satisfaction or trust

TOC	Search terms
Chiltern Railways	@chilternrailway OR "chiltern railway" OR "chiltern railways" OR "chilternrailway" OR "chilternrailways"
First Capital Connect	"@firstcc" OR "firstcapitalconnect" OR "firstcc"
Southeastern	#southeastern OR "@se_railway"
Virgin Trains	@virgintrain OR "virgin trains" OR "virgintrain" OR "virgintrains"
Arriva Trains Wales	@arrivatw, "arriva trains wales", "arrivatrainswales"
First Great Western	@fgw, "first great western", "firstgreatwestern"
Northern	@northernrailorg, "northern rail", "northernrail"

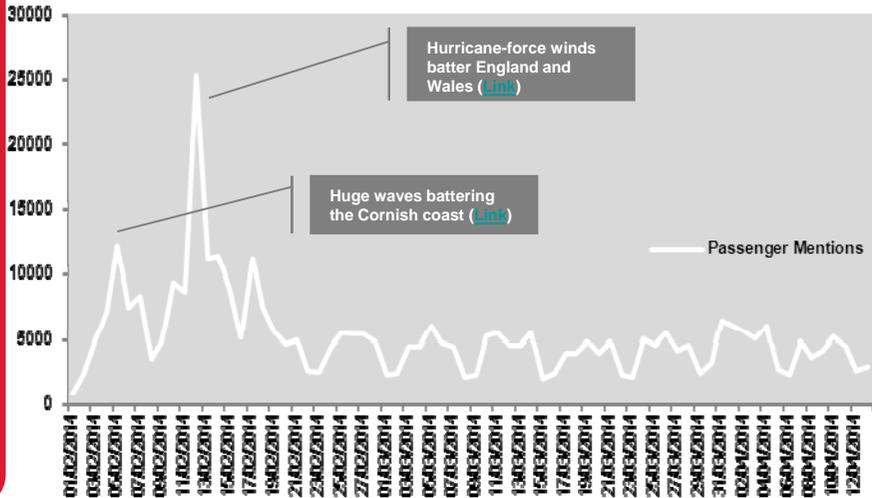


Context around the analysis

Context of the study

• Observation dates 2 February to 13 April 2014

Weather



Source: Radian 6 and BBC News UK

Twitter



Source: Precise Media



Due to weather conditions and disruption, passengers are more active on social media as they seek the information they need.



Social media users opinions vs other content.

- Between the 2 February to 13 of April, winter storms hit the UK resulting in flood damage to railways. During the period 11 – 17 February passengers used social media to seek and share information or complain more so than normal.
- Across various industries social media is mainly used to share opinions.
- Customers often take to Twitter to get quick answers and publicly share “in the moment” experiences (positive and negative). For TOCs and other essential services this data set can contain higher proportions of complaints and negative comments when compared to service providers from other sectors or other data sets.



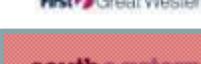
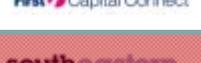


Does feedback from social media differ from the NRPS

Results: NRPS and social media scores

NRPS and Social Media Passenger Satisfaction Scores: 2 February to 13 April 2014

- An analysis of comments from passengers in social media shows similar results and some differences to the National Rail Passenger Survey (NRPS).
- Chiltern Railways and Virgin Trains** were the best performers on both the NRPS survey and social media research.
- Southeastern** was the worst performer on the NRPS and also performed poorly on social media.
- Arriva** performed well on the NRPS but performed poorly on social media. This could be explained by the higher proportion (slide 30) of younger passengers, who are more active on social media and may be more prone to using social media as a platform for complaining or reporting issues.
- The language and tone used by passengers of **Southeastern and Arriva Trains Wales (Arriva TW)** was more aggressive and vitriolic compared to other TOCs. Passengers of Southeastern and Arriva TW appear to have lost trust in the service and the brand.
- Chiltern Railway and Virgin Train passengers reported more positive experiences with passengers often thanking and praising the TOC for the service, experience and responsiveness.

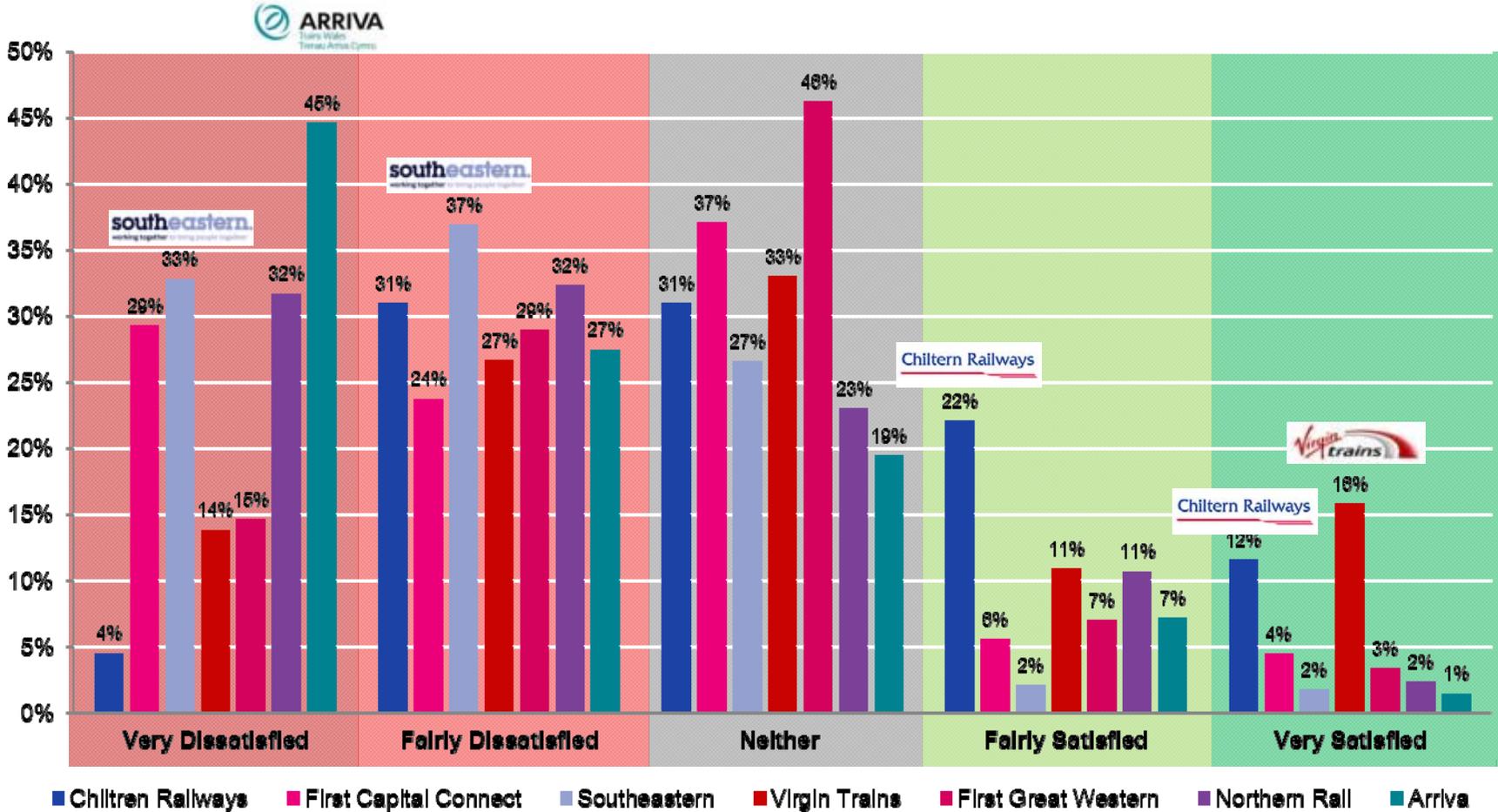
	NRPS Spring 2014 Net Satisfaction		Social Media Satisfaction		Social Media Net Sentiment
	89%		0.14		-7
	86%		-0.03		-17
	77%		-0.55		-32
	73%		-0.62		-49
	72%		-0.78		-49
	68%		-1.05		-64
	60%		-1.1		-68

Source: NRPS Spring 2014

Source: sample of 350 passenger comments manually coded for each TOC. Sample size selected based on a 95% confidence level and 5% margin of error.

Levels of satisfaction per TOC

Overall satisfaction per TOC: 2 February to 13 April 2014

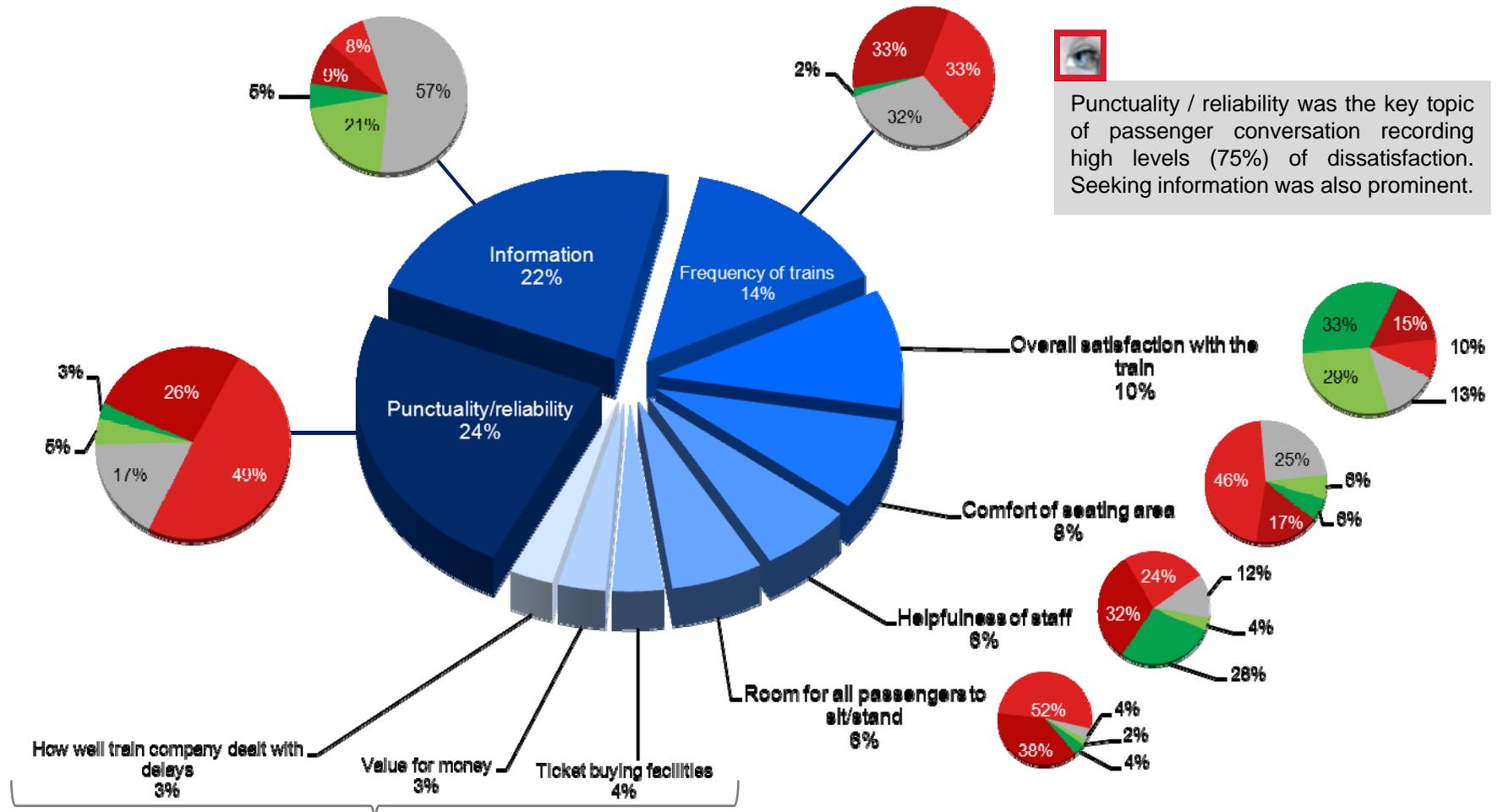




Social media research: key drivers

Key topics across all TOCs

Key topics and share of satisfaction across all TOCs: 2 February to 13 April 2014



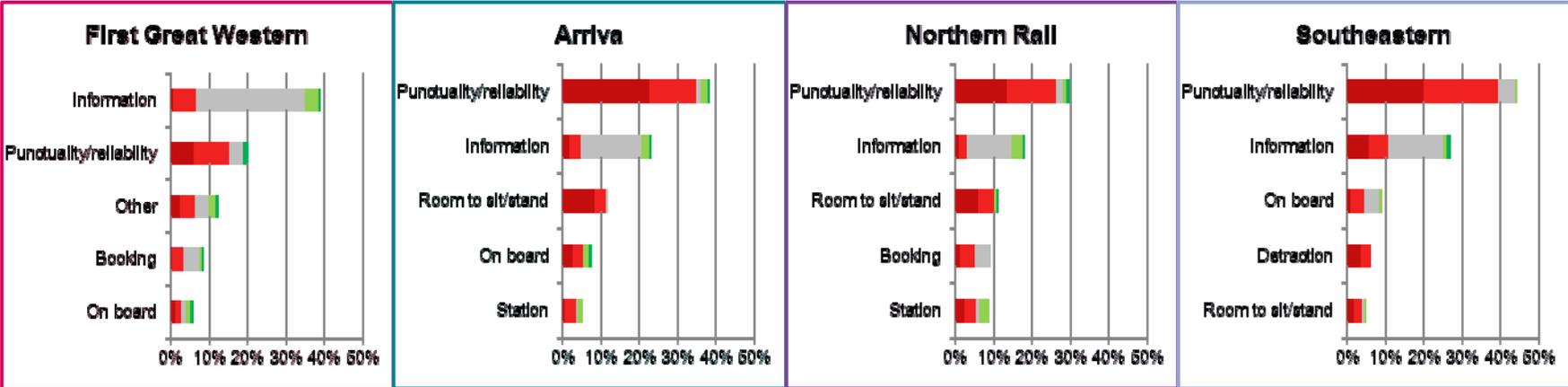
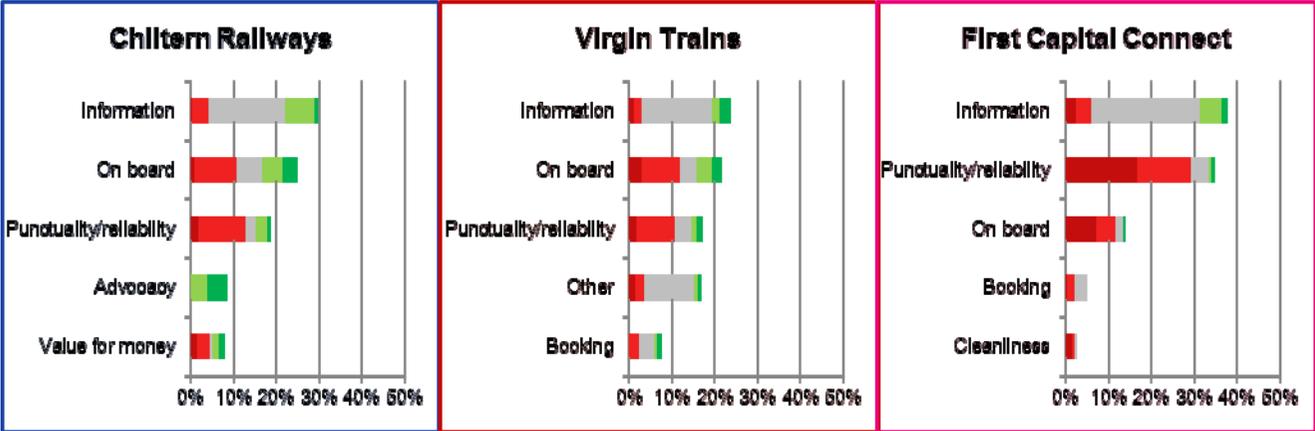
Punctuality / reliability was the key topic of passenger conversation recording high levels (75%) of dissatisfaction. Seeking information was also prominent.

Volumes too low for satisfaction breakdown

Very dissatisfied Dissatisfied Neither Satisfied Very Satisfied

Key topics per TOC

• Top 5 topics per TOC and satisfaction per driver: 2 February to 13 April 2014



■ Very dissatisfied ■ Dissatisfied ■ Neither ■ Satisfied ■ Very Satisfied



Social media research: passengers satisfaction and trust

Methodology:

Brand focussed mentions, satisfaction/trust

Service focussed mentions, satisfaction/trust

- **Brand mentions:** These are when the passenger explicitly mentions the TOC and the comment could only apply to the TOC. These comments imply the passenger trusts or does not trust the TOC. For example, *“Train for 0805 delayed for 15 minutes, then cancelled, I do not understand why we pay you @southeastern #southeasternfail”*. In this case the passenger is addressing his frustration to @southeastern.
- **Service mentions:** These mentions could apply to any TOC. They mention the TOC more in passing in connection with an experience of the service they are receiving. For example, *“The train is broke I will be late to work #unhappy @southeastern”*. This post mentioned a negative feeling of an experience.
- **Trust /no trust:** when a passenger comment implies trust or no trust in the service or the brand. When there is no mention or implication of trust / no trust from a passenger these comments were coded as no mention.

N.B. Please see page 46 of this slide pack for an example of the trust methodology.

Satisfaction and trust in service/brand

Overall Scores and results per TOC: 2 February to 13 April 2014

TOCs	Service: Satisfaction Score	TOCs	Brand: Satisfaction Score	TOCs	Social media Satisfaction Score
Chiltern Railways	-0.21	Chiltern Railways	0.47	Chiltern Railways	0.14
Virgin Trains	-0.22	Virgin Trains	-0.04	Virgin Trains	-0.03
Northern Rail	-0.40	Northern Rail	-0.44	First Capital Connect	-0.55
First Capital Connect	-0.43	First Capital Connect	-0.66	Northern Rail	-0.62
First Great Western	-0.45	First Great Western	-1.43	First Great Western	-0.78
Southeastern Railways	-0.90	Southeastern Railways	-1.44	Southeastern Railways	-1.05
Arriva Trains	-0.96	Arriva Trains	-1.59	Arriva Trains	-1.10

TOCs	Service: Trust Score	TOCs	Reputation Score
Virgin Trains	-0.06	Chiltern Railways	0.36
Chiltern Railways	-0.06	Virgin Trains	0.19
First Capital Connect	-0.24	First Great Western	-0.54
First Great Western	-0.71	Northern Rails	-0.88
Northern Rails	-0.74	First Capital Connect	-0.88
Southeastern Railways	-0.89	Arriva Trains	-0.92
Arriva Trains	-0.93	Southeastern Railways	-0.97



- Repeated problems/negative experiences are the key drivers of no trust in TOCs.
- Chiltern Railways and Virgin Trains record the highest trust and reputation scores.
- Southeastern and Arriva record the lowest trust and reputation scores.

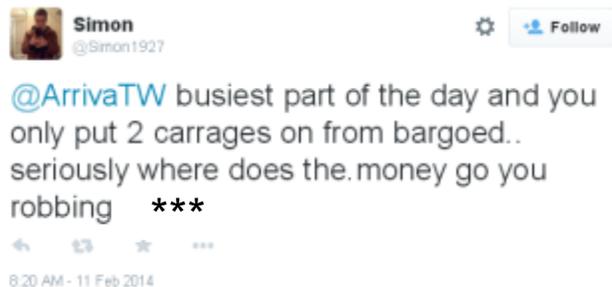
Satisfaction and brand

Satisfaction and brand reputation delivered by all 7 TOCs: 2 February to 13 April 2014



Drivers of satisfaction and trust for all TOCs

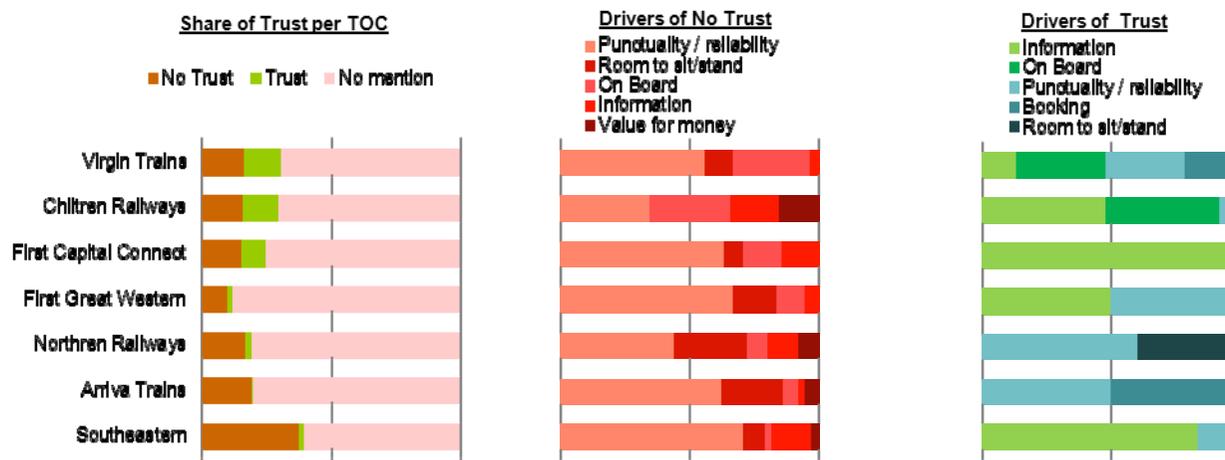
- When passengers focus their comment on a TOC levels of trust are significantly lower than when complaining about the service only.
- This was particularly apparent when passengers lost trust due to reliability and punctuality or simply reported their dissatisfaction and detraction of a TOC.
- Staff, such as drivers and station staff, are often perceived to be a representative of a TOC. When drivers did not update passengers or a station officer did not have information, the TOC's reputation was called into question.
- Crowded trains also lead passengers to believe that TOCs do not have passengers well-being in mind.
- Prices and value for money also drove high levels of no trust for TOCs.



An example of a dissatisfied passenger accusing a particular TOC of "robbery".

Trust and service

Passengers trust toward the service delivered per TOC: 2 February to 13 April 2014



Drivers of trust and no trust in service

- When commenting on a service passengers generally do not express any mention of trust.
- Repeated issues/problems around punctuality are the main drivers of no trust. For Southeastern passengers exposed to frequent delays express a lack of trust in the service.
- The second driver of no trust is room to sit and stand. Arriva, Northern Rail and Southeastern passengers are frequently forced to stand because the TOCs provide too few carriages.
- Passengers on Virgin Trains and Chiltern Railway report higher levels of trust in their on-board experience. Virgin Trains are quick to respond to passengers questions and provide up-to-date, relevant and helpful information, driving trust in the service.



Repeated issues can lead to reputational damage.



Social media research:
who uses social media to talk about
rail travel?

Twitter users

Social media analysis: top line volumes: 2 February to 13 April 2014

- Twitter was the main source of passenger comments on TOCs in social media. TOCs receive a high volume of messages from passengers, particularly during disruption as passengers seek information to plan their journey.
- FGW received the most direct messages from passengers during the period, mainly seeking information to plan their journey / booking around the disruption caused by the weather.

	@chilternrailway	@VirginTrains	@FGW	@northernrailorg	@Se_Railway	@ArrivaTW	@FirstCC
Volume of posts directed @brand	3,627	17,407	30,312	12,491	13,215	3,678	265
Unique customers contacting @brand	1,481	6,486	10,567	4,218	5,021	1,784	222
Total volume over period	12,910	65,469	65,535	26,056	42,809	17,779	1,162



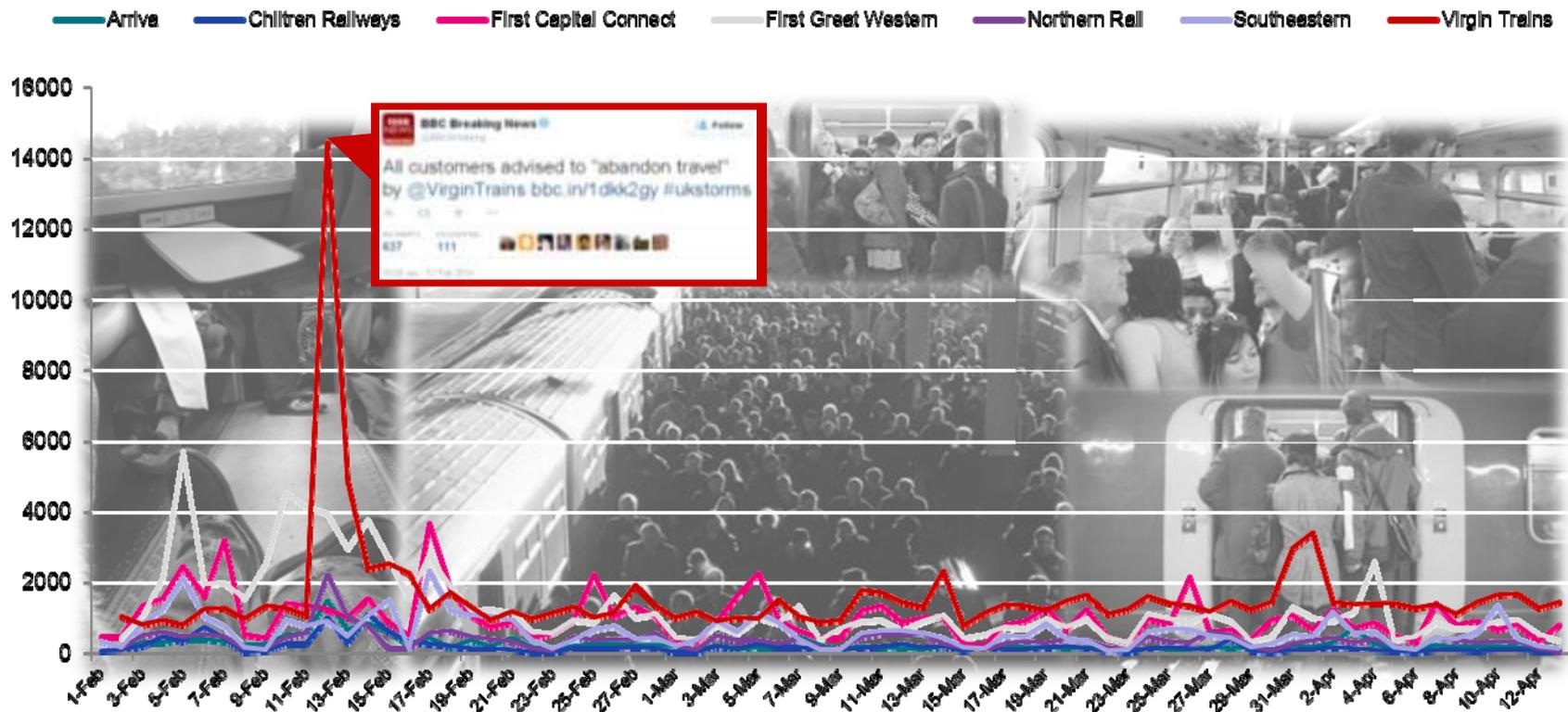
Context: Based on other research TOCs receive a high number of messages through social media compared to the main energy suppliers. British Gas receives around 3000 per month with the highest E.ON receiving 3700 a month

*Else refers to any post mentioning a TOC that is not an opinion: It includes news and their RT, TOCs handles and other

Volume of messages directed to TOCs

Social media analysis: direct mentions to handles over time 2 February to 13 April 2014

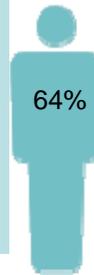
The disruption caused by the weather in February 2014 caused many passengers to take to Twitter to seek information to help them plan their journey. This caused Virgin Trains to receive a much higher volume of direct messages as the flooding and winds affected their routes.



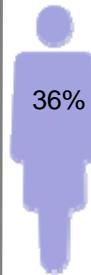
Passenger profiling

Overall passenger profile across all TOCs: 2 February to 13 April 2014

- 64% of passengers were found to be men, with 56% of them being between 18-35 years of age.
- 36% of 18-35 year old men were known to be workers travelling frequently to their job posts.
- This age group was also the most dissatisfied.



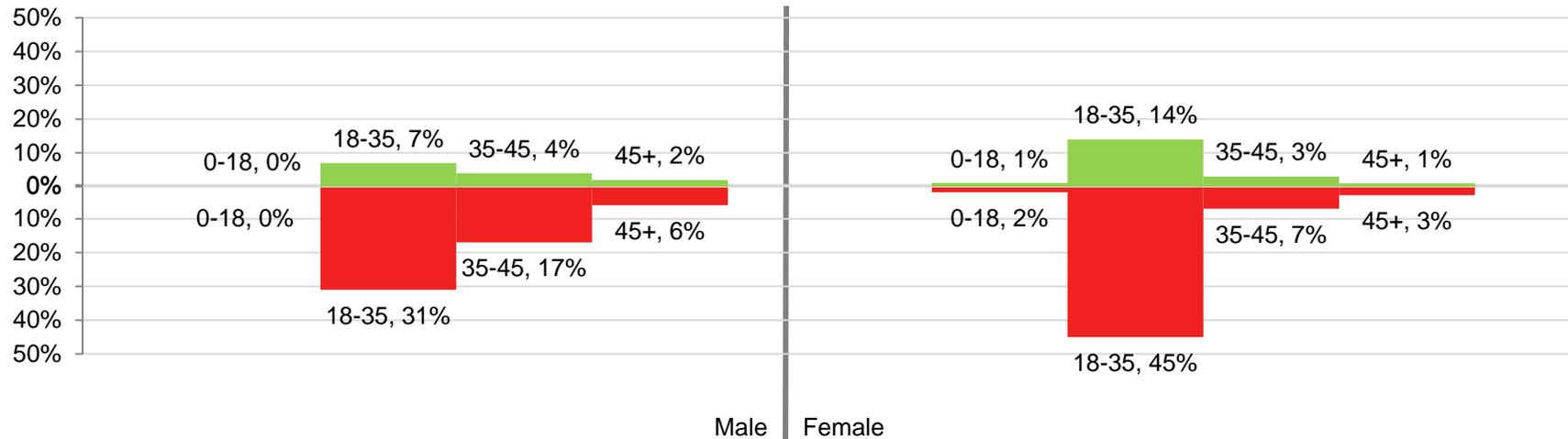
64%



36%

- 36% of passengers were found to be women, with 65% of them being in the age group between 18-35 years of age.
- 31% of 18-35 year old men were known to be workers travelling frequently to their job posts. This demographic was also found to be the most dissatisfied.
- Women were found to be more expressive on social media.

Share of satisfaction and dissatisfaction by gender and age group

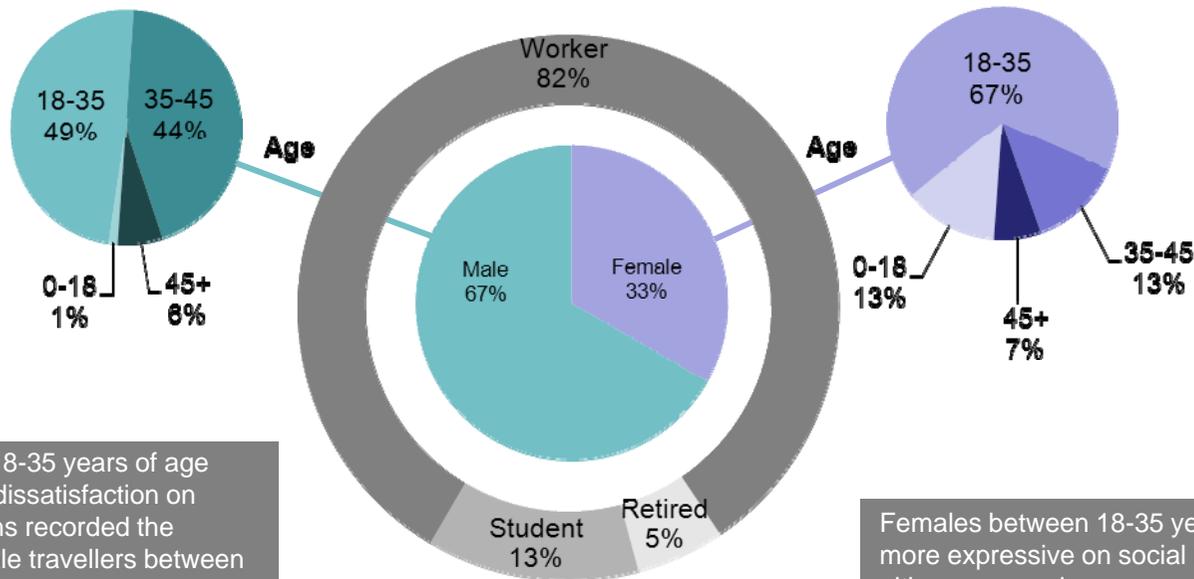


N.B. Passenger profile data is taken only from profiles which have this information available, not from the total sample, refer to page 47.

Passenger profiling



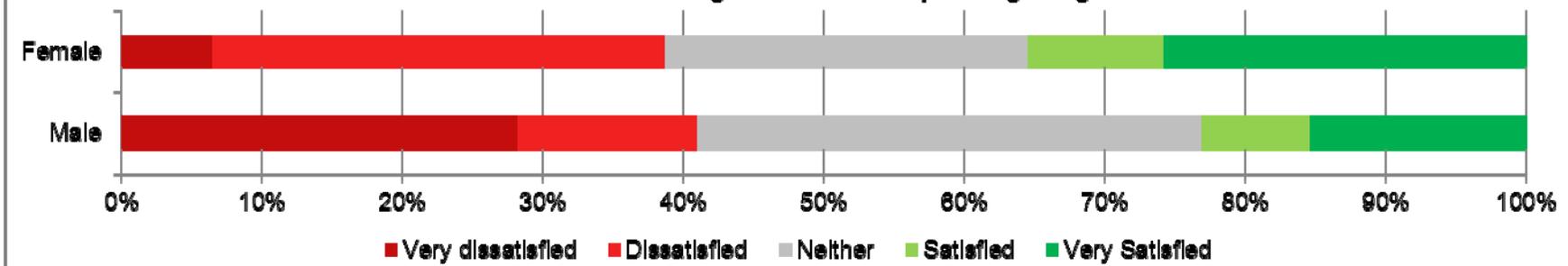
Virgin Trains passenger profile: 2 February to 13 April 2014



Male workers between 18-35 years of age were likely to vent their dissatisfaction on social media. Virgin trains recorded the highest proportion of male travellers between 35-45 years.

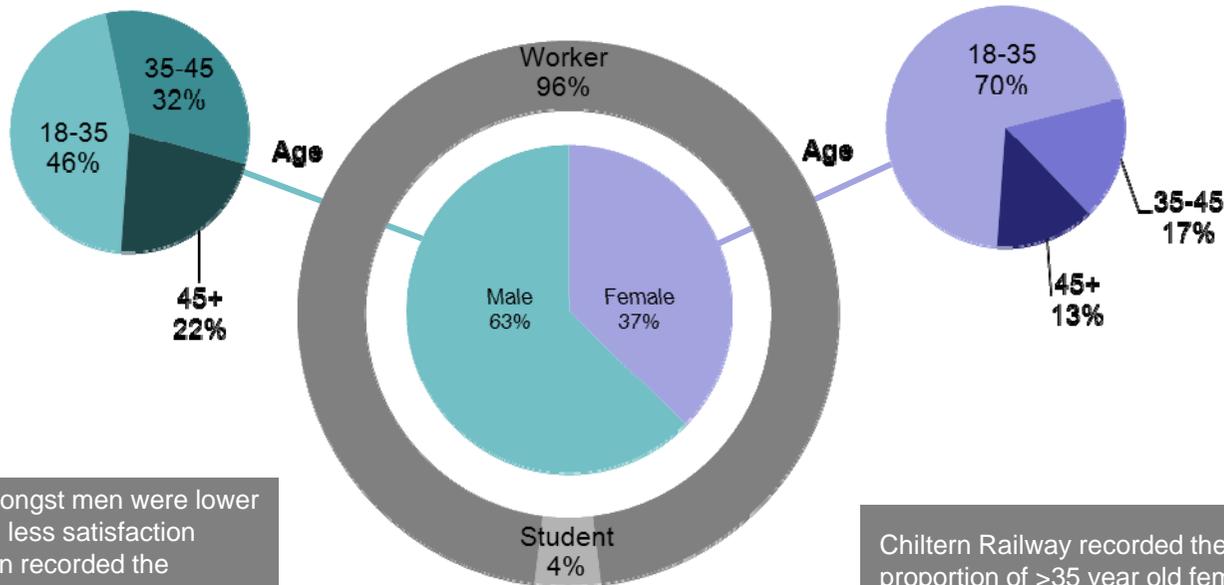
Females between 18-35 years of age were more expressive on social media, posting either more praise or more complaints.

Share of satisfaction among male and female passengers aged 18-35



Passenger profiling

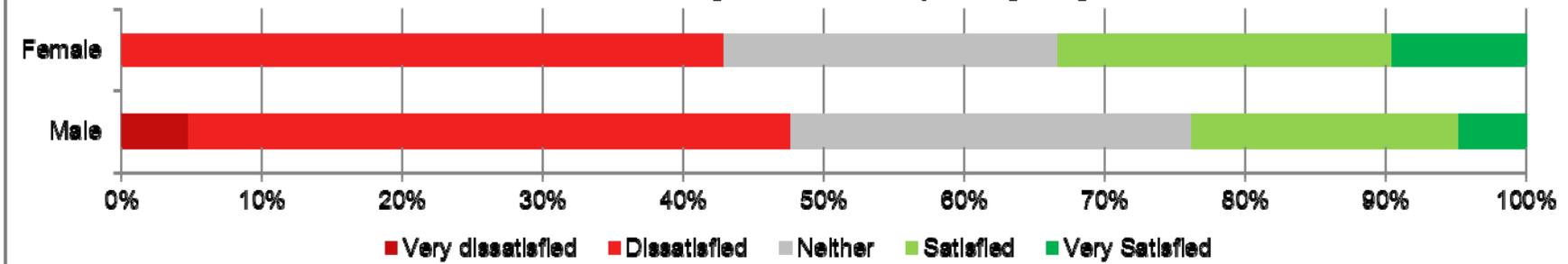
Chiltern Railways passenger profile: 2 February to 13 April 2014



Levels of satisfaction amongst men were lower with more frustration and less satisfaction across the group. Chiltern recorded the highest proportion of >35 year old males.

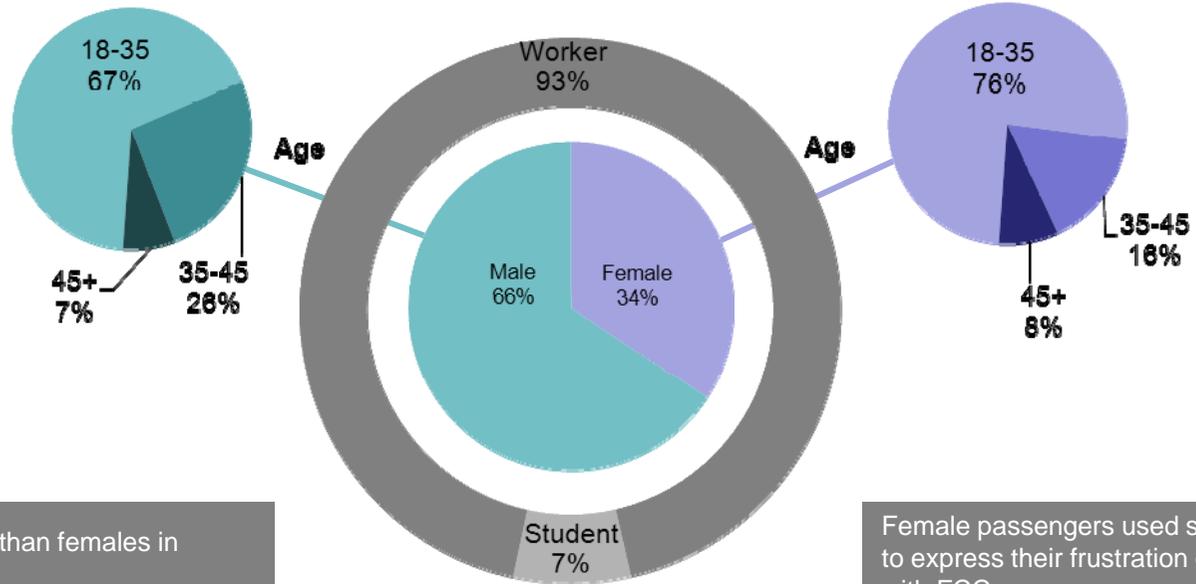
Chiltern Railway recorded the highest proportion of >35 year old females.

Share of satisfaction among male and female passengers aged 18-35



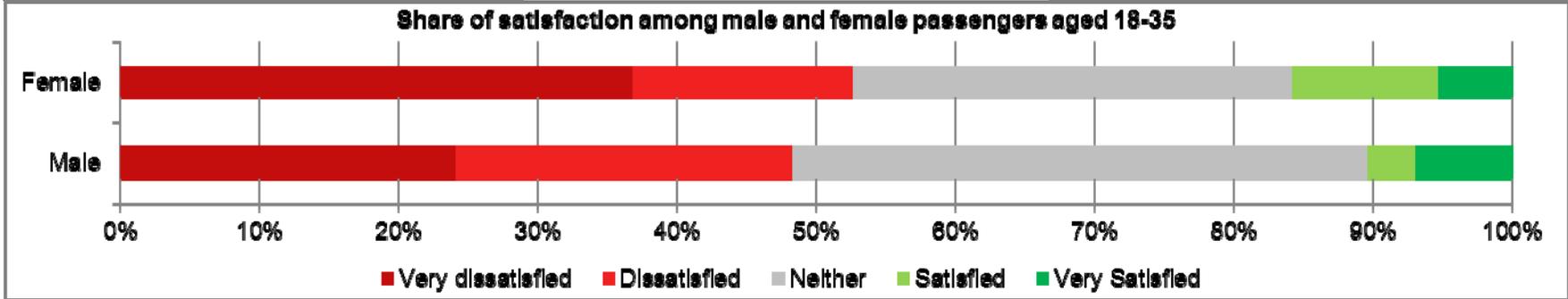
Passenger profiling

First Capital Connect passenger profile: 2 February to 13 April 2014



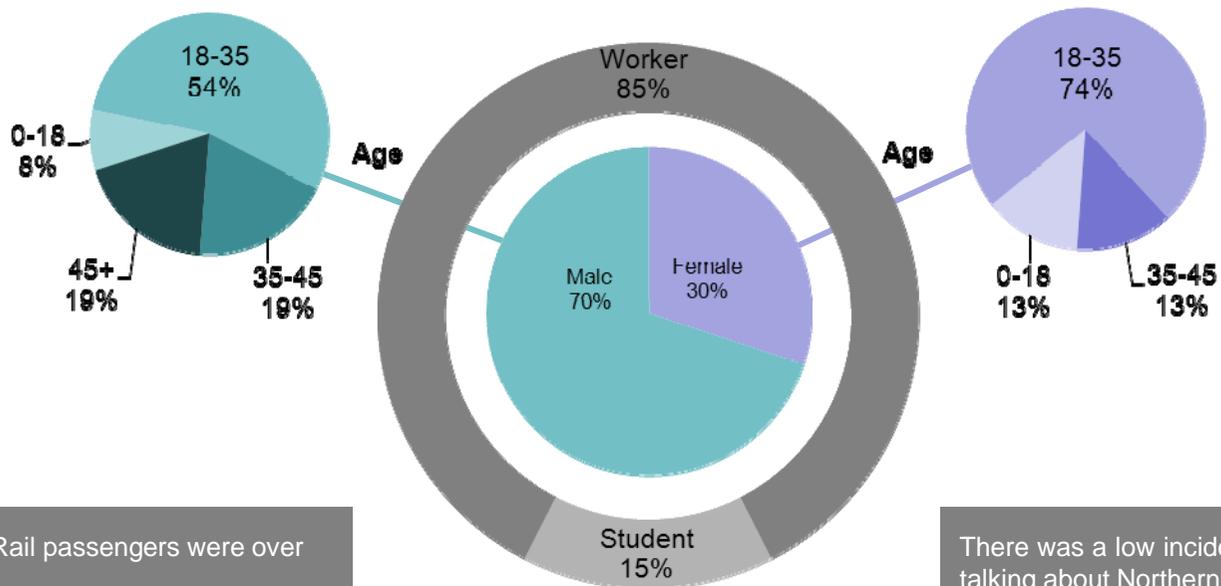
Males were more active than females in contacting FCC.

Female passengers used stronger language to express their frustration on their experience with FCC.



Passenger profiling

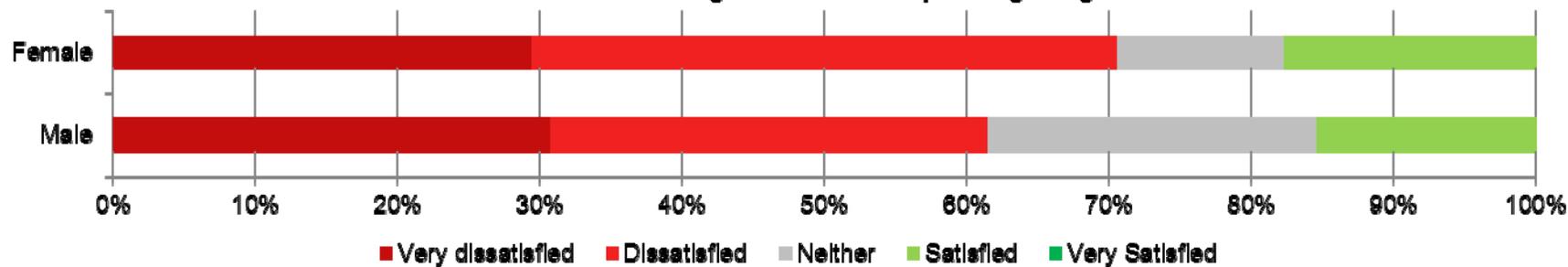
Northern Rail passenger profile: 2 February to 13 April 2014



38% of Northern Rail passengers were over 35.

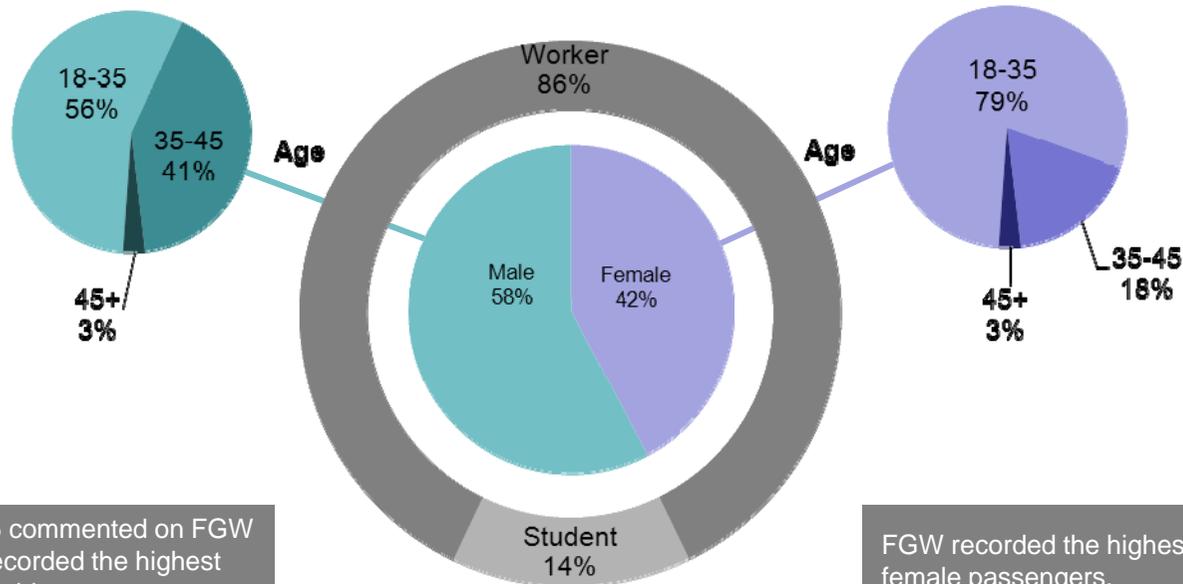
There was a low incidence of females over 35 talking about Northern Rail.

Share of satisfaction among male and female passengers aged 18-35



Passenger profiling

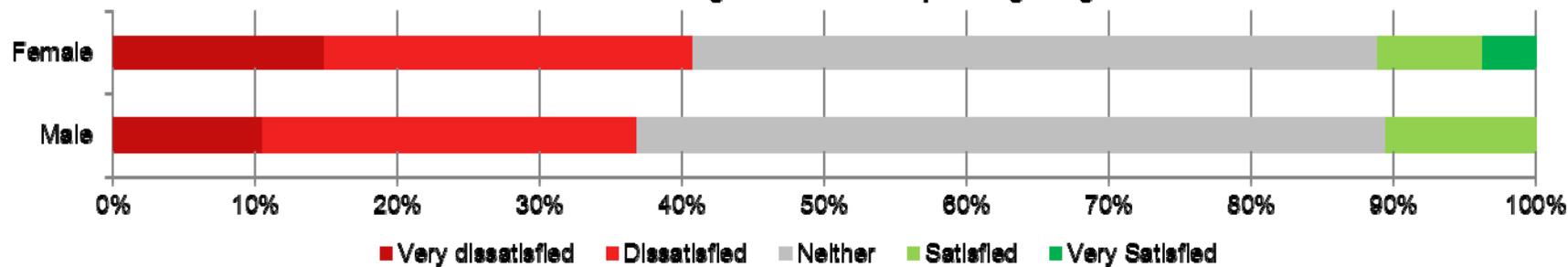
First Great Western passenger profile: 2 February to 13 April 2014



Few passengers over 45 commented on FGW on social media. FGW recorded the highest proportion of 35-45 year olds.

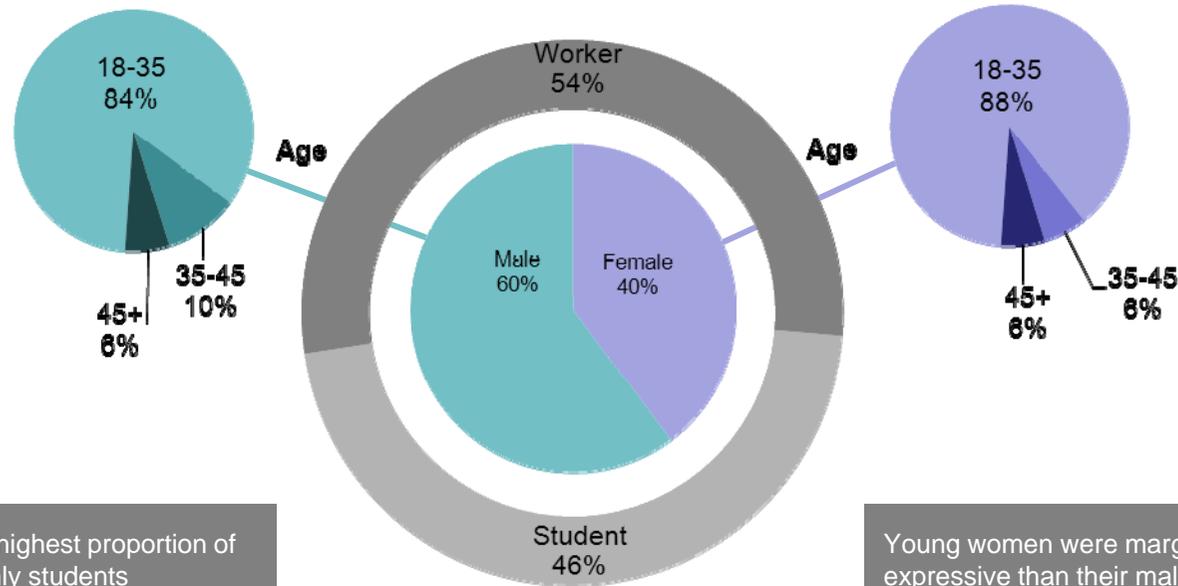
FGW recorded the highest proportion of female passengers.

Share of satisfaction among male and female passengers aged 18-35



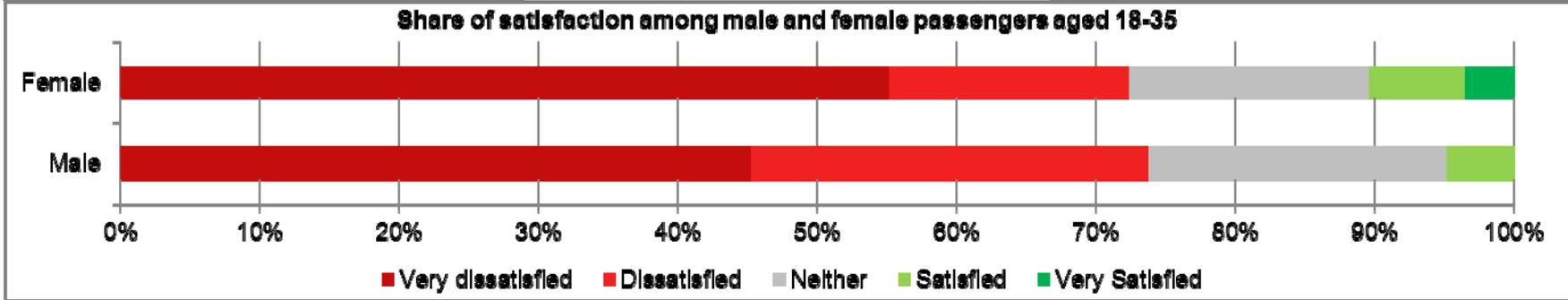
Passenger profiling

Arriva Trains passenger profile 2 February to 13 April 2014



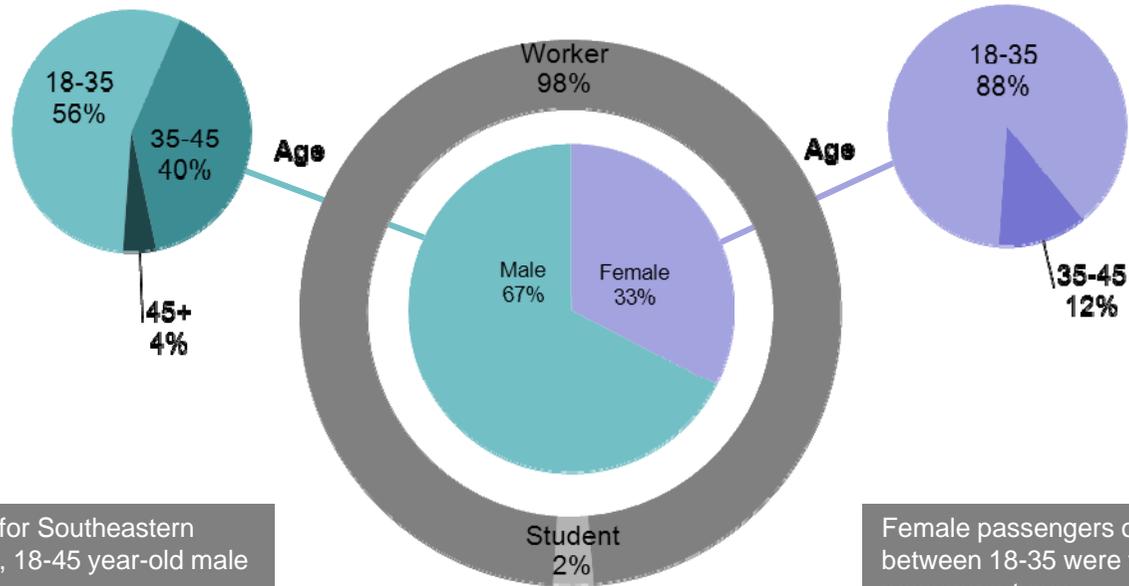
Arriva TW recorded the highest proportion of young passengers, mainly students

Young women were marginally more expressive than their male counterparts.



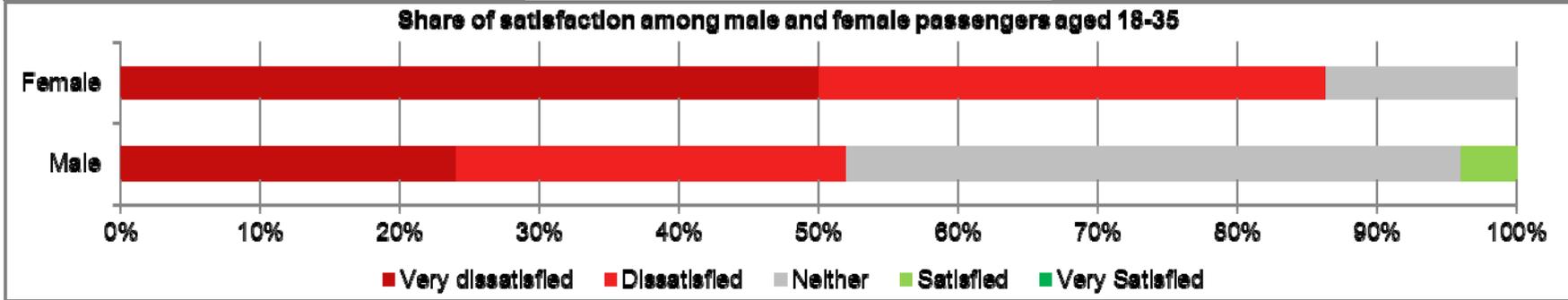
Passenger profiling

Southeastern passenger profile 2 February to 13 April 2014



Male passengers (96%) for Southeastern appear to be commuters, 18-45 year-old male workers.

Female passengers on Southeastern aged between 18-35 were the most vitriolic of all passenger types.



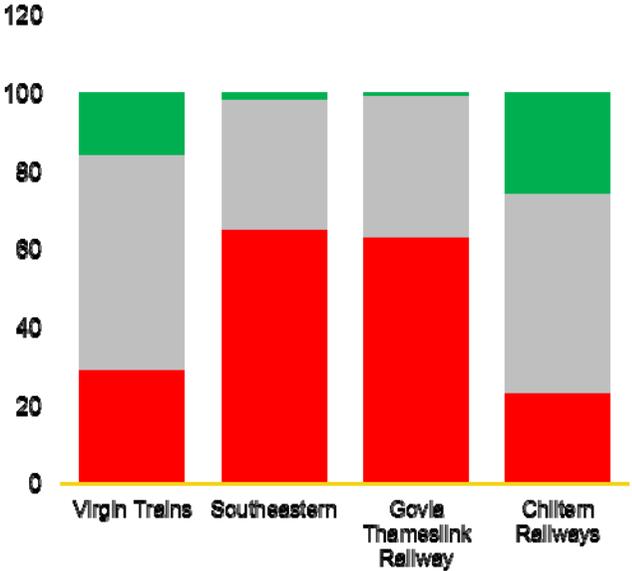


Real-time monitoring

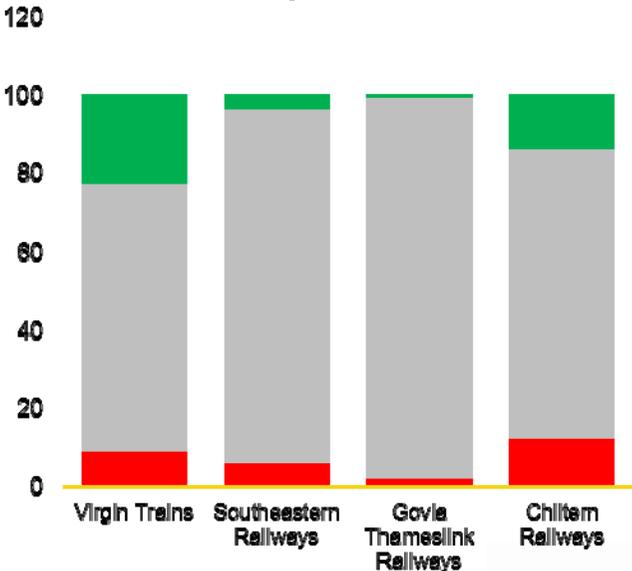
Overall volumes and sentiment analysis

- We manually validated a random sample of 100 items for each TOC to check the automated tools level of accuracy in terms of sentiment. Across all four TOCs **46 per cent** of items were found to be correct.
- **Virgin trains** recorded the highest level of similarity between automated and manual coding with 60 per cent of automated items agreeing with the manual validation
- For **Chiltern Railway** there was a **50 per cen6** similarity between the automated and manual coding.
- **Southeastern** recorded the highest level of confusion due to passengers’ sarcasm and use of “Thank you” or similar words to express negative opinions. The automated sentiment analysis failed to detect the tone of the complaint on 36 / 64 occasions.
- Automated tools require regular assistance and validation in order to return higher levels of accuracy.

Manual Sentiment Share per TOC



Automated Sentiment Share per TOC



■ Negative ■ Neutral ■ Positive



Conclusions and considerations

Conclusions and considerations

Effectiveness of social media research in measuring passenger opinions and satisfaction on rail travel:

- By following a consistent code frame for all seven TOCs, using manual analysis on unprompted comments from representative samples of passenger comments we were able to provide deep contextual insight and benchmark passenger satisfaction with rail travel.
- It is important to take into consideration any events / disruption when conducting the analysis.
- Capturing and coding passengers 'in the moment' experiences can also reveal previously unknown insights and provide the "why" behind poor / good performance. The **language and tone** differed greatly between Southeastern, Arriva TW and the other TOCs. This is something that may not be picked up in surveys.

Understand if/how feedback from social media differs from the NRPS:

- The best and worst performing companies were largely similar on both NRPS and social media. There were some differences with **Arriva Trains Wales** performing worse on social media compared to NRPS. This may be due to a **higher number of younger passengers** in our sample for Arriva Trains Wales.

Explore who uses social media to talk about rail travel and how representative they are:

- Most passengers were male, aged 18-35, were in employment and were on their way to or from work. There was a lower frequency of female passengers over 35 in our samples. Chiltern Railway recorded the highest proportion of >35 year olds and Arriva TW the lowest.
- On average (across all seven TOCs) >4,000 passengers use social media to talk about rail travel or contact their TOC each month.

Conclusions and considerations

Is there merit in using social media research for future projects? Should Transport Focus use it alongside a research project or on its own?

- There is merit in using social media as a more regular barometer to understand and benchmark passenger opinions, perhaps in-between and during the NRPS surveys.
- Social media research uses insight drawn from unprompted 'in the moment' experiences of passengers. This is a different data set to survey data, when passengers are prompted to answer specific questions.
- We recommend combining social media prior to or with other research projects. Social media can be used on its own to answer ad-hoc research questions. Social media can find previously unknown insights not captured in surveys and help to explain the 'why' behind consumer sentiment, not captured on survey verbatim.
- We found real-time monitoring of TOCs, using automated sentiment and topic coding, a less useful source of insight and accurate measurement of passenger satisfaction. Our manual validation confirmed that tools are currently not able to interpret sarcasm, accurately categorise topics or provide context and insight. Automated sentiment agreed with our manual coding 50-60 per cent of the time.
- If social media is to be used in future research we recommend manual analysis following a bespoke research framework to best answer the research questions. For tracking satisfaction, key metrics such as levels of satisfaction and net sentiment taken from samples of passenger comments, coded manually through a researcher's lens, yield more accurate results and can identify new insights.



Appendix:
Verbatim and methodology

Verbatim

The image displays a grid of 15 tweets from various users, each with a background color corresponding to a satisfaction level. The tweets contain various complaints and compliments about Southeastern Railway services.

- Geoff Barden (@GB1970)** (Very dissatisfied): "@Se_Railway made me late with cancellation and late running train. Now only 1 person collecting upgrade at gates for 50+ people #failed"
- Jonathan Hawkes (@JAHawkes)** (Moderately dissatisfied): "@Se_Railway @El_JimBob There was no announcement at Greenhithe either. Funny that. When was decision to cancel taken?"
- Hakan Enver (@HAK_enver)** (Very dissatisfied): "@se_railway are c... Tube strike and of course delays to overground network. Useless pricks can't ever get anything right."
- David Burch (@daburch)** (Moderately dissatisfied): "So the point of roasting me on the train will turn me into an angry commuter?! #southeastern"
- Teen Hudson (@teenhudson)** (Neither): "7:00am on a Wednesday morning is a great time to start moving heavy plant equipment around in Wadhurst station. #southeastern"
- stu mayhew (@stu_mayhew)** (Moderately satisfied): "@Se_Railway Tube for me then I Thanks for the warning"
- Sarah Martin (@sarahmartin2713)** (Very dissatisfied): "@Se_Railway the services you provide are fricking ridiculous!! Some of us have to get to work for a time!!!"
- DaL (@DaL)** (Moderately dissatisfied): "Due to there being lots of weather tonight #southeastern trains will be operating it's customary sh... service for a change"
- Jus 'Joanna' for now (@Layingplans)** (Neither): "@Se_Railway are trains from bexleyheath going into London delayed ??"
- Jack Williams (@jack_williams)** (Moderately satisfied): "Hey @Se_Railway just wanted to let you know that my friend @Carly_Looo absolutely loves your service. Keep up the good work! RT plz! #ontime"
- Danny Eisen (@daneisen)** (Very dissatisfied): "£35,40 I pay a DAY!! and I still can't get a seat @Se_Railway"
- Jonathan Sweet (@jswonkey1)** (Moderately dissatisfied): "@Se_Railway How does a train go from 'due in 2 mins' to 'delayed'? I suspect lies!! #train #commute #london #setrains"
- Mike Pettitt (@mikepettitt)** (Neither): "@Se_Railway info system at Dartford still broken. Showed 08:00 to Gill on P2 when 08:04 to CST in there. When will be fixed? #southeastern"
- Jason Jacob (@jacob_j)** (Moderately satisfied): "@Se_Railway result! Got the 17.55 at 18.07, and its fast to blackheath, so I'm happy #serendipitous"
- Man of Kent (@manofkent)** (Very satisfied): "@Se_Railway That's excelent. Refreshingly logical. Thanks!"

Very dissatisfied (-2)	Moderately dissatisfied (-1)	Neither (0)	Moderately satisfied (+1)	Very satisfied (+2)
------------------------	------------------------------	-------------	---------------------------	---------------------

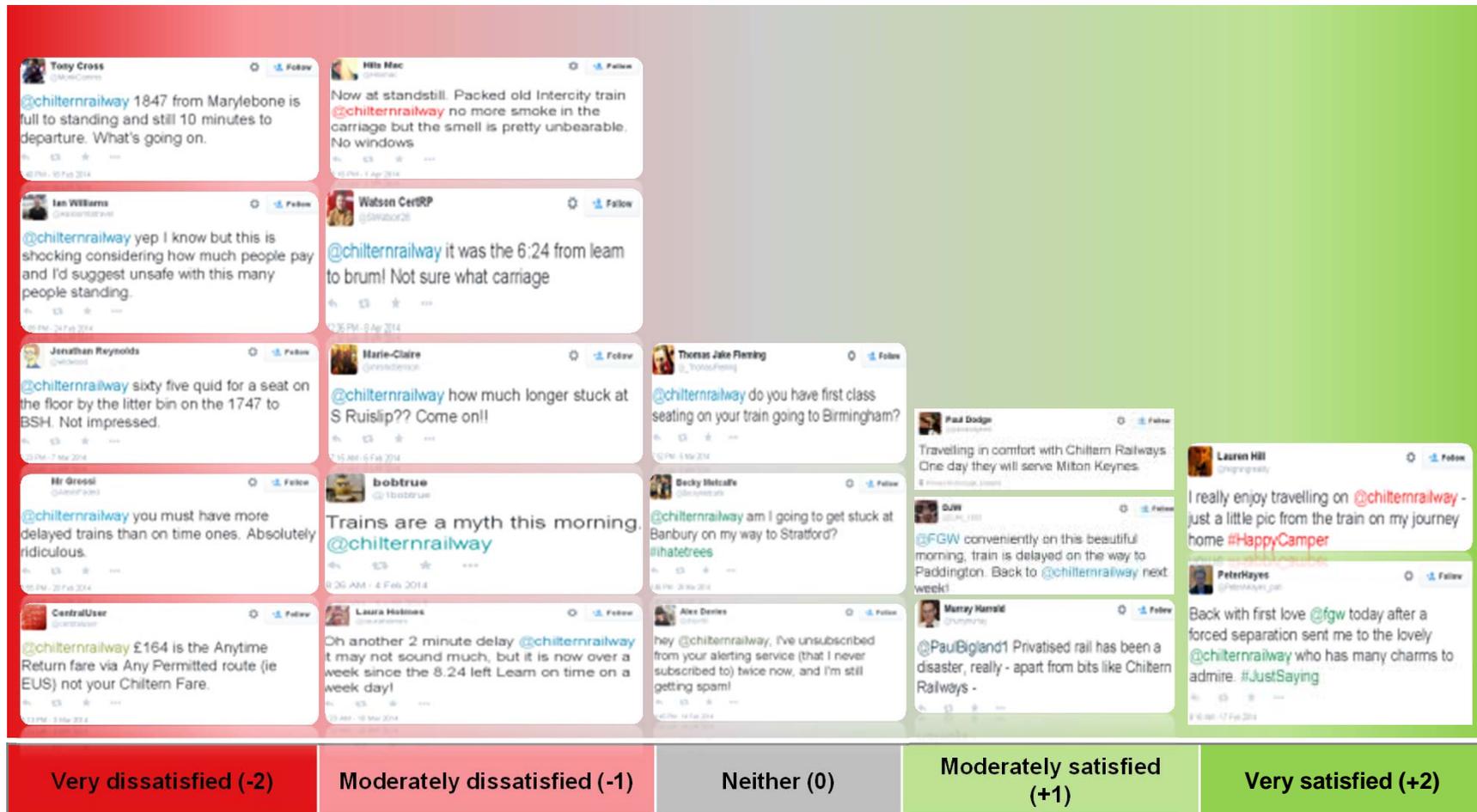
Verbatim

The grid contains the following tweets:

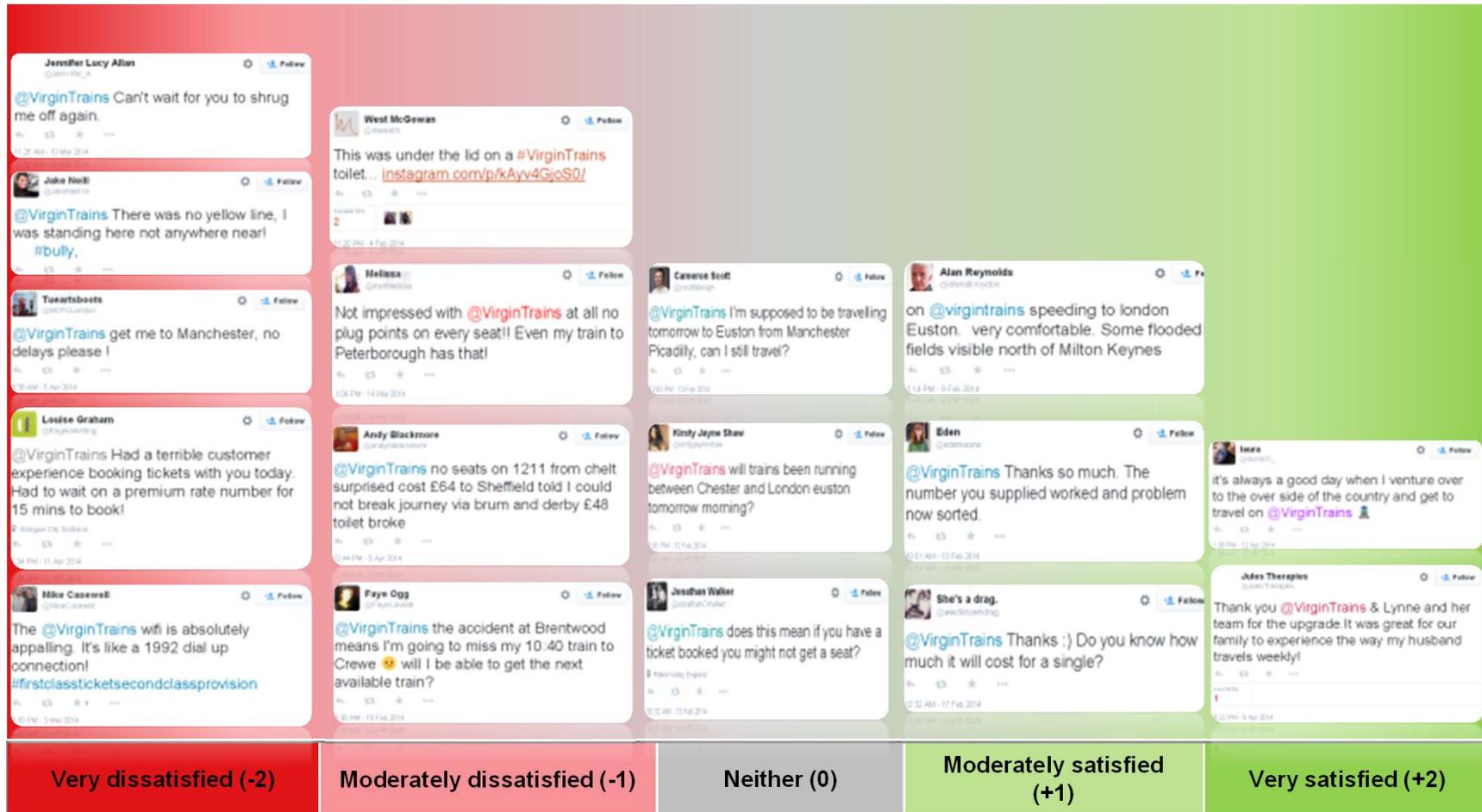
- The Sparkster** (@sparkster): @railregulation Cannot tell you how much I want @FirstCC removed from franchise. This added to YEARS of pathetic 'service' should be it.
- Kayleigh Howard** (@khoward): @FirstCC please tell me how I'm supposed to pay and display when both ticket machines are out of service and ticket office is closed!!!!
- Mark Estdale** (@mestdale): In taxi as SNAFU masters @firstcc telling porkies about trains being on time from Brighton. Clusterf wittery train service.
- George Margetroyd** (@gmarg): @FirstCC 08.01 from Hitchin to KX, penultimate carriage from back, very leaky, water dripping all over us. Seats and passengers getting wet.
- Nick Walker-Smith** (@nwalker): @FirstCC Hi, I entered a couple of Delay Repay claims but have received no confirmation emails. Can you please take a look?
- Pete Dominic** (@pdominic): No sign of the much vaunted @FirstCC 'train preparation' service. 0717 from WGC is absolutely filthy.
- Jonathan Gray** (@jgray): @FirstCC @Wickswiz kicked off? That's not on. FCC probably turning it round to prevent more delays.
- Ben Holmes** (@bholmes): @FirstCC @greateranglia yeah, 7 day season, should be wbc to cmb not cmb to wbc, still ok??
- Chris Webb** (@chriswebb): @FirstCC Thanks for the update, daughter says she's on the move. Please if possible pass on thanks to the people who have such a horrid job.
- Lisa** (@lisabrown): OMG First great western really are pants ... Delays cancellations lack of information I So glad this isn't my commuter route. @FGW @FirstCC
- NICK HARRISON** (@nharrison): @FirstCC Otford->Sevenoaks 0855 cancelled, 0923 14 mins late, 0937 24 mins late, 0947 cancelled. Ever consider actually running a service?
- Sorena** (@sorena): @FirstCC are there any trains coming through Sutton common in either direction??! Or should I go home and start again?!!
- IzaBella** (@izabell): @FirstCC Thank you Brad. Son has really important interview at 2.30pm. Breathes huge sigh of relief!!
- Sanjay Odehra** (@soodhra): @FirstCC big thanks to the cleaners and lost-found team for returning my black tie suit from last week! #superstars

Very dissatisfied (-2)	Moderately dissatisfied (-1)	Neither (0)	Moderately satisfied (+1)	Very satisfied (+2)
------------------------	------------------------------	-------------	---------------------------	---------------------

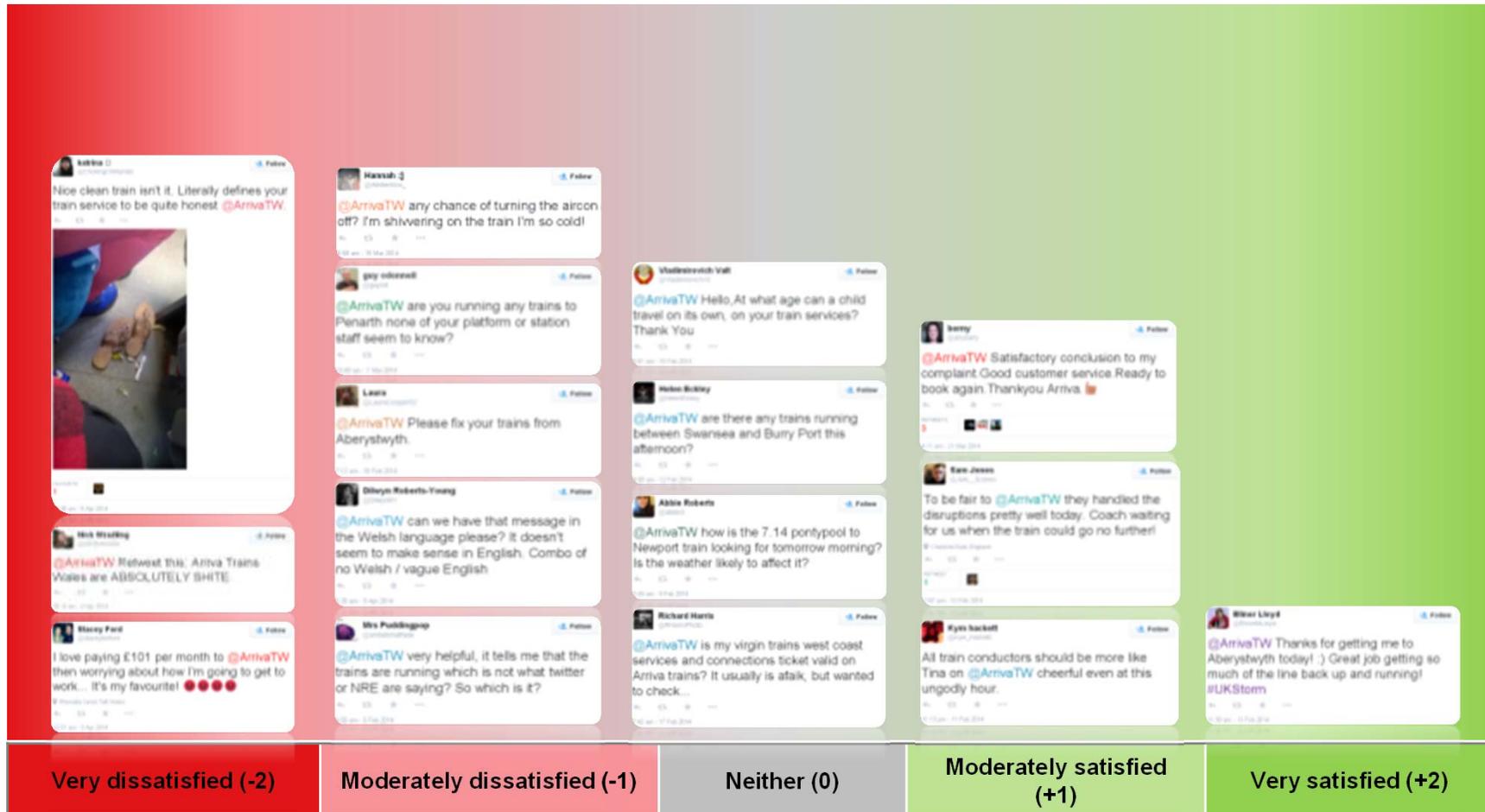
Verbatim



Verbatim



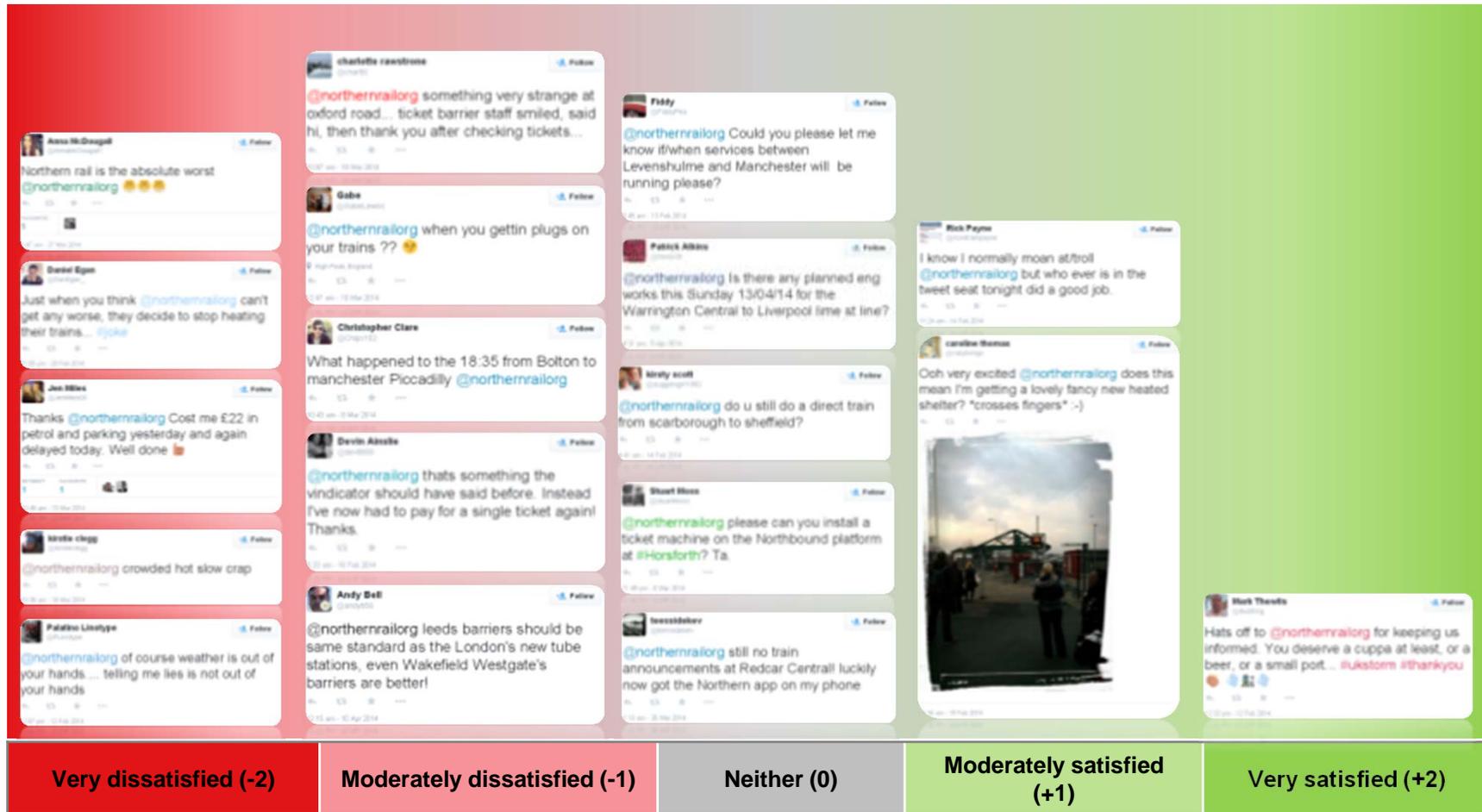
Verbatim



Verbatim

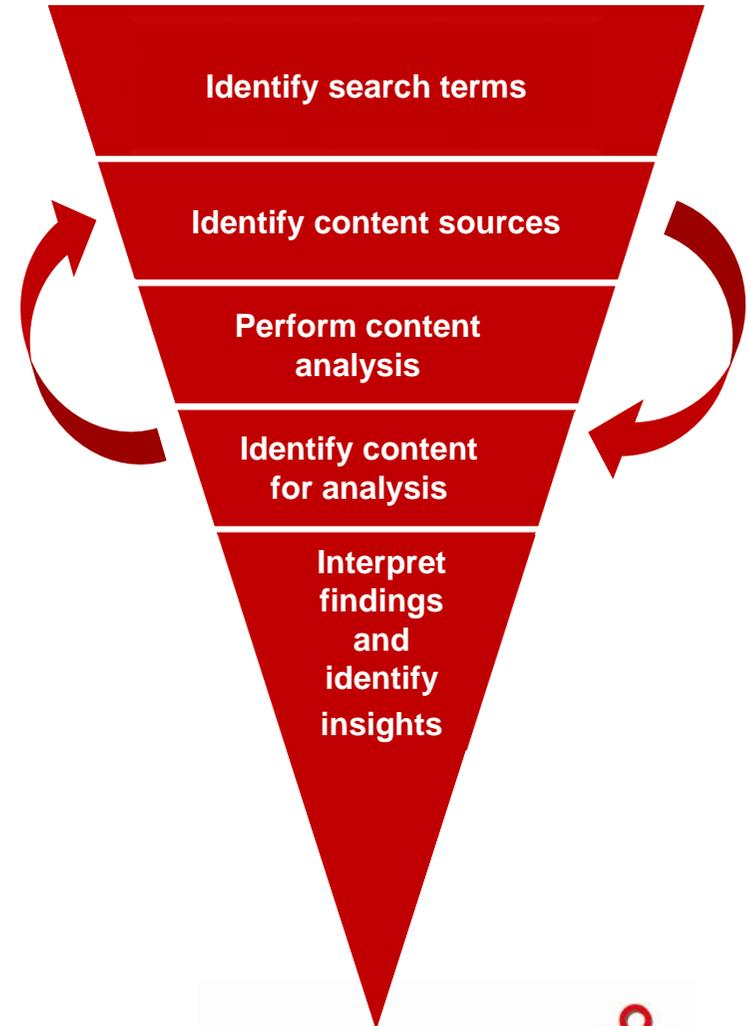


Verbatim



Methodology continued

- **First**, we make a decision as to the search terms we want to use in order to find relevant content, taking into consideration the research objectives (to identify content from customers of each TOC in connection with their travel experience).
- **Second**, we decide where to look. We can access all available public social media content (Twitter, blogs, forums, comments, public Facebook content, etc.) or specific sites such as forums. Generally we look at the full array of social sources to assess their relevance to our objective before discounting any.
- **Third**, we retrieve our final content for the time period we set out. The time period for the retrospective analysis will coincide with the fieldwork period for the Spring National Rail Passenger Survey, 2 February - 13 April are a fair representation of each TOCs' passengers.
- **Fourth**, we quantify the volumes of relevant conversations, removing items from TOCs, focussing on mentions from passengers to identify sample sizes, mixing quantitative coding with qualitative analysis ensuring a maximum five per cent margin of error.
- **Fifth**, we manually code each item following a code frame that best meets the objectives of the research.
- **Finally**, we identify the insights, interpret the findings answer the research questions and provide recommendations and considerations.



Level of satisfaction code frame

Level of satisfaction	Customer type	Definition	Example of words / language used	Example comments
-2	Frequent	Very dissatisfied	Useless, joke, very dissatisfied, expletives, expressions of anger, disgrace, awful, despicable	<p>@FGW why on earth am I on my third replacement bus service in a week. If I wanted to go on the bus I would have! #SortItOut</p> <p>Once again on overcrowded @crosscountryuk train. F***** useless company in almost every respect. Again, no space for baggage or passengers.</p>
-1	Leisure	Moderately dissatisfied	Unhappy, not very impressed, disappointed, or reporting a problem	Disappointed @TPEXpressTrains Edinburgh train 17 mins late seat reservations suspended two carriages short can't sit with daughter
0	Frequent	Neither	A statement or question "When is next train", is there a replacement service, what connections etc	@FGW What's happened to the usual direct trains from Cheltenham to Swindon and London early tomorrow morning?
+1	Leisure / Business	Moderately satisfied	Pleased, thanks	@FGW great trip to London using the train - your departure board at Paddington needs changing it's Weston super Mare (no Capital S in super)
+2	Leisure / Business	Very satisfied	Delighted, amazed, fantastic, service could not have been better, loyal, great experience advocating the TOC.	<p>How fantastic is Heathrow Express service? Not only free wifi but power points on-board too. 15mins from Paddington to Heathrow. Well done GREATBritain</p> <p>Today I went from London to Birmingham on an air conditioned @chilternrailway train with wifi in under 2 hours. Why do we need #HS2 again?</p>

Trust, key driver and passenger type

Example Comment	Overall Sentiment	Overall Trust	Focus on Service / Brand	Key Driver	Secondary driver	Score	Passenger type
<i>@Se_Railway Very poor communication from SouthEastern during delays at Charing Cross. The contempt for paying customers astounds me</i>	Negative	No Trust (Contempt for paying customers)	Brand "@SE_Railway SouthEastern"	Information (Very poor communication)	Delays (during delays)	-2	Frequent Male 35-45 Professional
<i>Well this is joyous @Se_Railway - it's 10.50pm - I'm in the arse-end of nowhere on a train thats not moving with a mute driver & no heating.</i>	Negative	No Trust	Service "on a train"	Information mute driver	Heating	-2	Unknown
<i>@chilternrailway would like to thank the driver on the 1716 Wycombe to Haddenham after a long day he makes the journey home more enjoyable</i>	Positive	No mention	Service "thank the driver"	On Board	-	+1	Frequent Female 45-55 Employed
<i>I love getting to the station just as my train gets in. It's almost like @chilternrailway knew I was coming</i>	Positive	Trust knew I was coming	Brand "@chilternrailway"	Punctuality / reliability just as my train gets in	-	+2	Frequent Male 25-35 Young Professional

Passenger type

- Data was taken from each passengers Twitter profile (where available*) to better understand the types of people who use social media as a means of expressing their satisfaction/dissatisfaction of rail travel.
 - This was done manually. The images, tone, language, context and profile of passengers were used to categorise the age, gender and employment status of passengers.
- *N.B. approximately 50 per cent of Twitter users update their profile with interests and 20 per cent with profession.



*I love getting to the station just as my train gets in.
It's almost like @chilternrailway knew I was coming*

Twitter Profile:
Sales Pro, NED, Sporadic Blogger, Globe Trotter,
Arabic Speaker, Published Writer, Junk Food
Connoisseur



Male
Young Professional
Age 25-35
Frequent
passenger

© 2015 Transport Focus



Transport Focus
Fleetbank House
2-6 Salisbury Square
London
EC4Y 8JX

0300 123 2350
www.transportfocus.org.uk
info@transportfocus.org.uk

Transport Focus is the operating name of the Passengers' Council