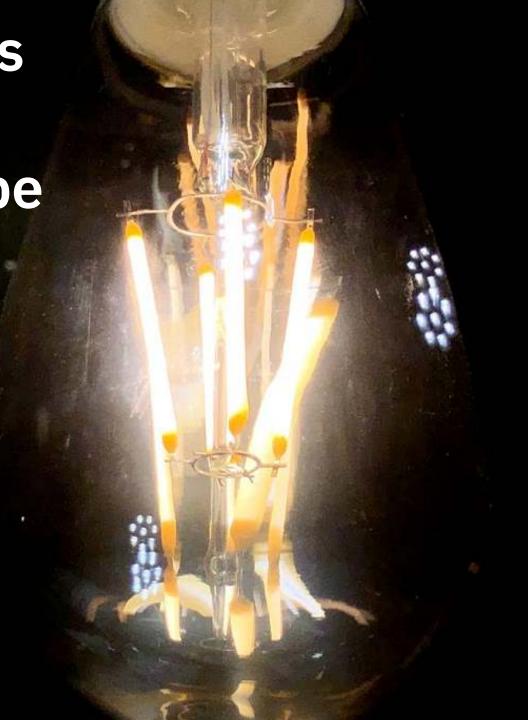
Predictive Analytics for Social Media Marketers: A Recipe for Success

Christopher S. Penn Cofounder and Chief Data Scientist TrustInsights.ai



WhereCanlGetTheSlides.com



Analytics without action Is a recipe you cook but never eat.





PEOPLE ARE PREDICTABLE





when is christmas

when is christmas

when is christmas day

when is christmas eve

when is christmas day 2017

when is christmas in july

when is christmas in australia

when is christmas 2018

when is christmas in july on qvc



December 25, every year.

































From and including: **Wednesday, November 6, 2019**To, but **not** including **Wednesday, December 25, 2019**

Excluding Weekends and public holidays

in United States - Nationwide. Change Country /

Change State

Predicting days The **Specific** ent and calculate again **Future** is r 2019 ncluded Harder 6 13 10 12 14 15 16 17 22 23

	De	cen	nber	201	19	
	1	7 day	ys inc	luded	l	
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

49 calendar days – 16 days skipped:

Excluded 7 Saturdays

Excluded 7 Sundays

Excluded 2 holidays:

- Veterans Day (Monday, November 11, 2019)
- Thanksgiving Day (Thursday, November 28, 2019)

Start Again >

= Not included in results (Skipped) = First day included (Nov 6, 2019) = Last day included (Dec 24, 2019)

24

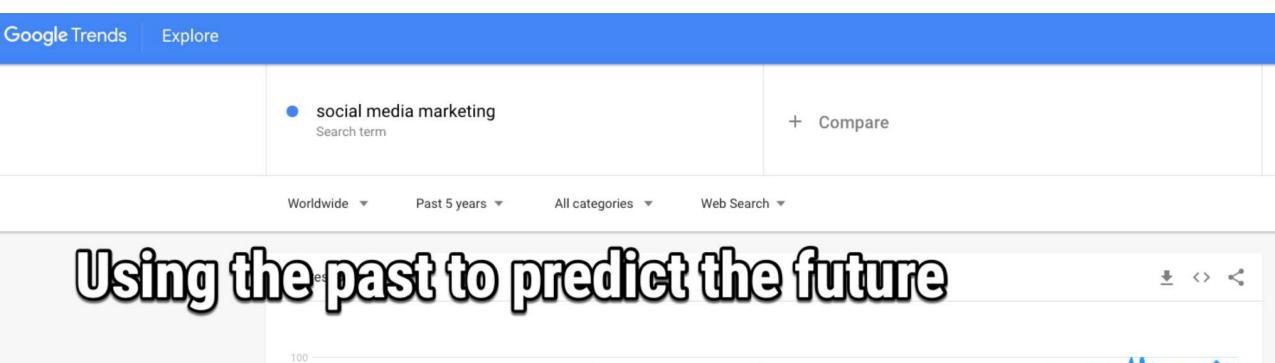
25

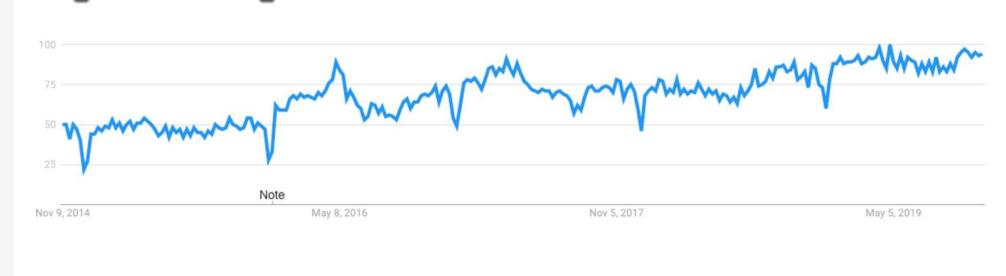
26

27

28 29

30





$$\left(1-\sum_{i=1}^p \phi_i L^i
ight)(1-L)^d X_t = \delta + \left(1+\sum_{i=1}^q heta_i L^i
ight)arepsilon_t.$$

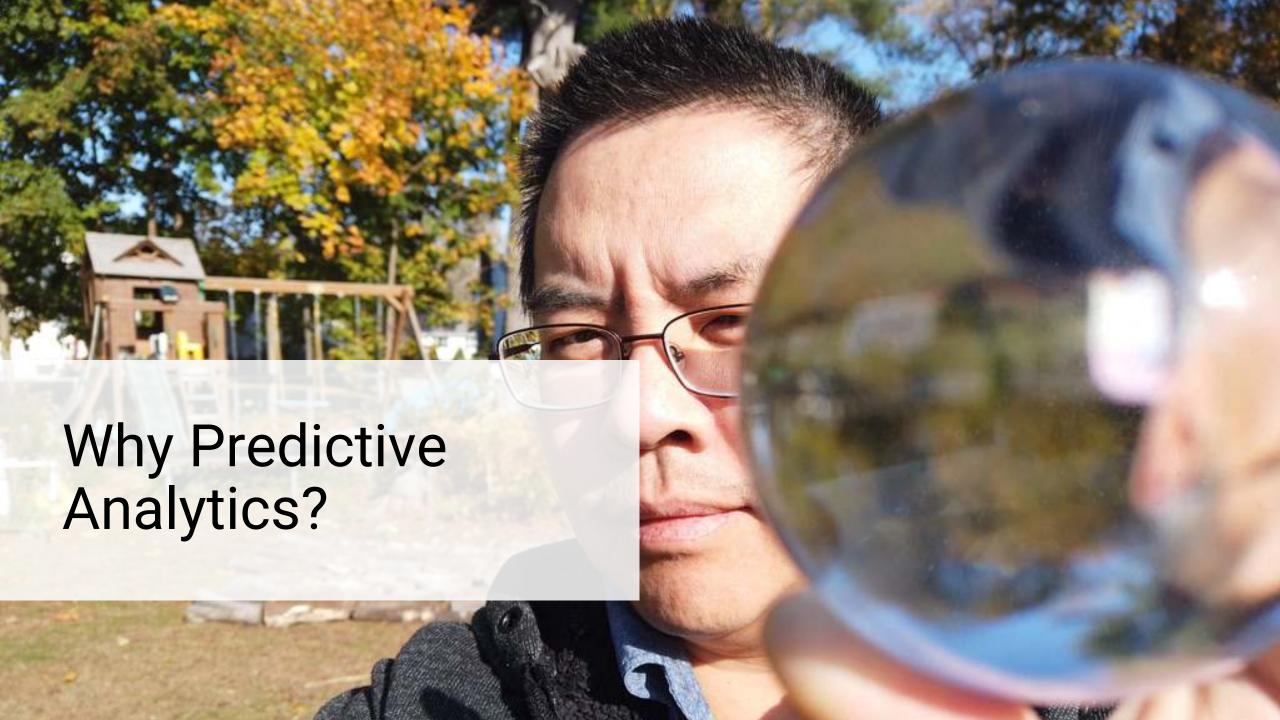
S-ARIMA Auto-Regressive Integrated Moving Averages (w/Seasonality)





PREDICTION IS PROBABILITY





QUESTION

CEOs face issues with their own capabilities, mostly in terms of data adequacy, with a huge gap that remains ten years on

Thinking about the data that you personally use to make decisions about the long-term success and durability of your business, how important are the following? (showing only 'critical/important')

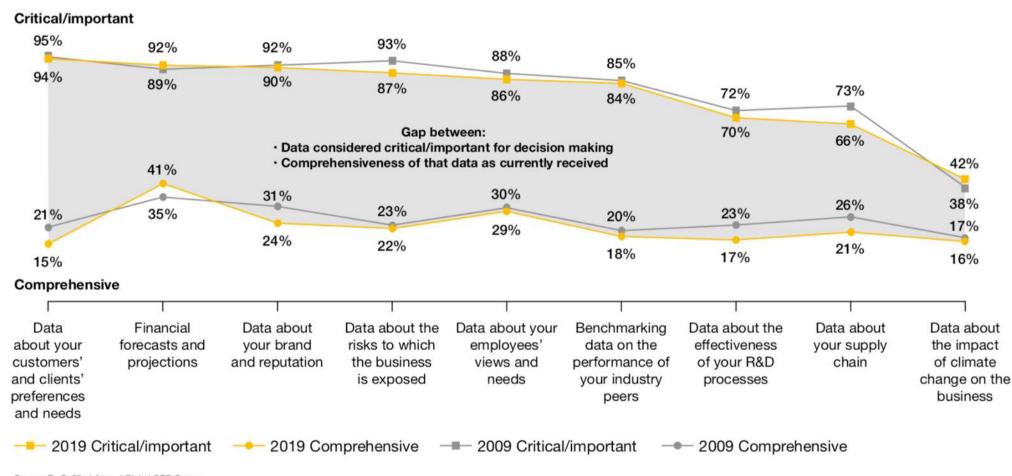


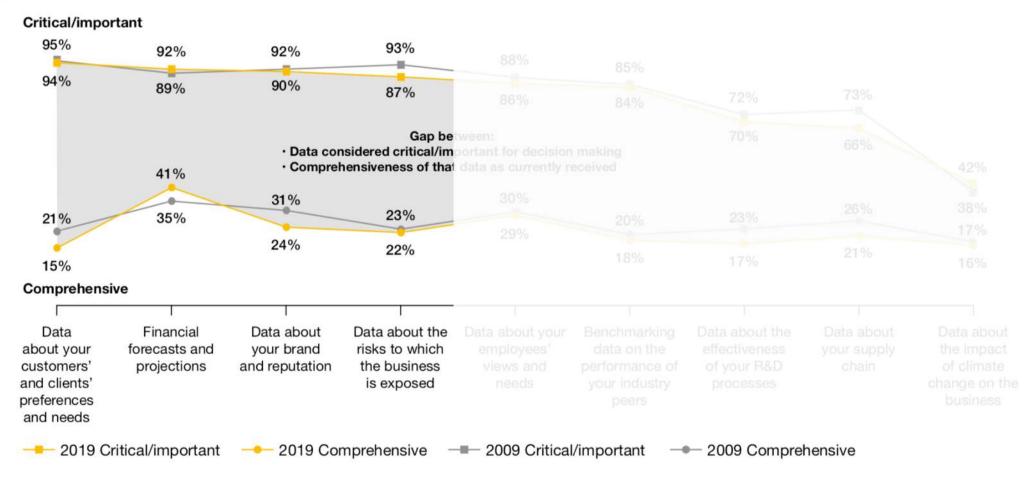


EXHIBIT 12

CEOs face issues with their own capabilities, mostly in terms of data adequacy, with a huge gap that remains ten years on

QUESTION

Thinking about the data that you personally use to make decisions about the long-term success and durability of your business, how important are the following?

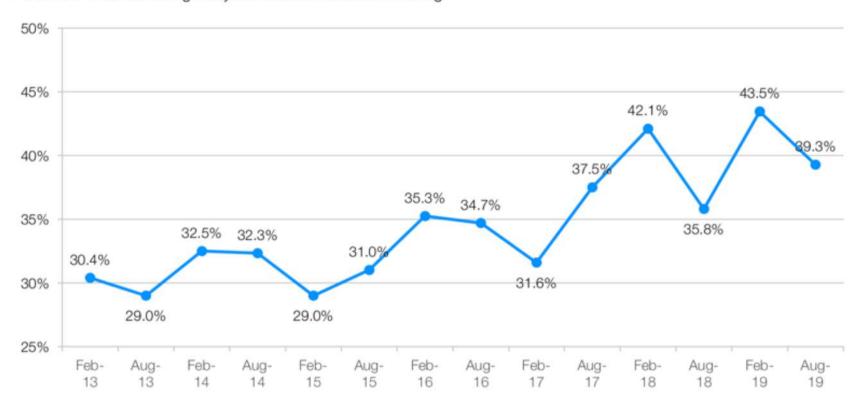






Companies use of marketing analytics seesaws

Percent of time marketing analytics is used in decision making





Economic Sector

B2B Product: 37.5% B2B Services: 35.8% B2C Product: 47.9% B2C Services: 40.7%



Insights

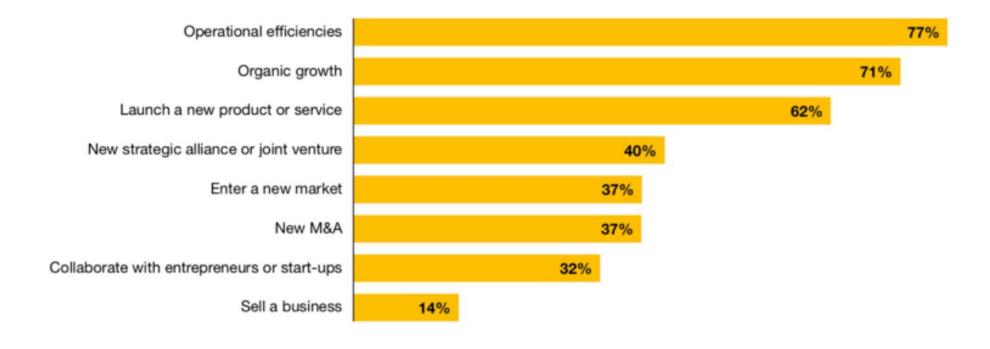
Companies use marketing analytics in decision making 39.3% of the time, on average, representing a 29.3% increase since the question was first asked in 2013! Education (57.2%) and Retail/Wholesale (47.2%) are the strongest users while Consumer Services (20%) is the lowest.

EXHIBIT 11

Faced with the new realities, organisations are turning inward to drive revenue growth

QUESTION

Which of the following activities, if any, are you planning in the next 12 months in order to drive revenue growth?





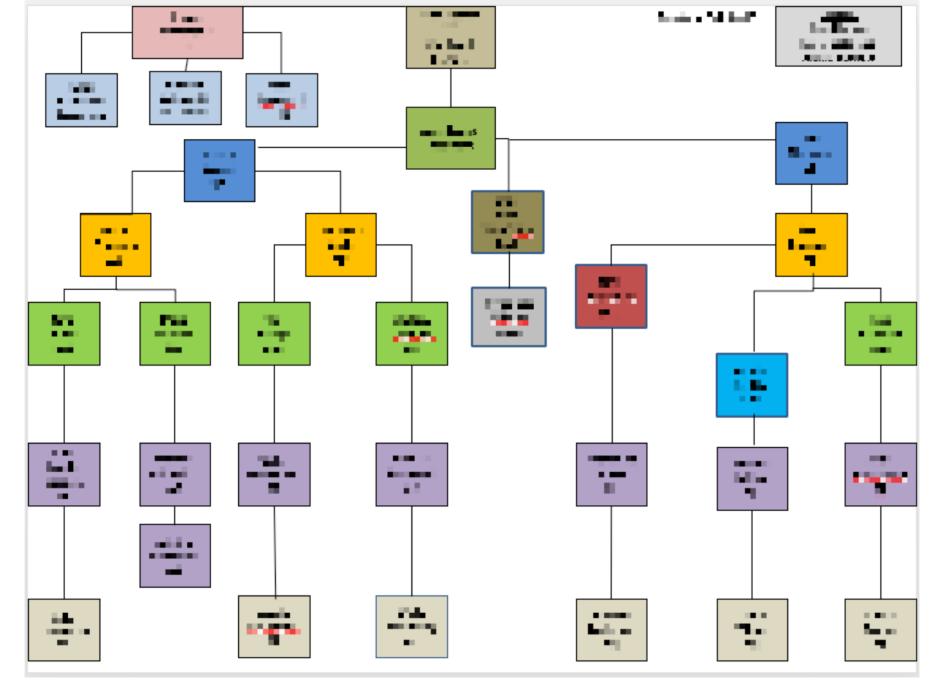
Analytics without action Is a recipe you cook but never eat.



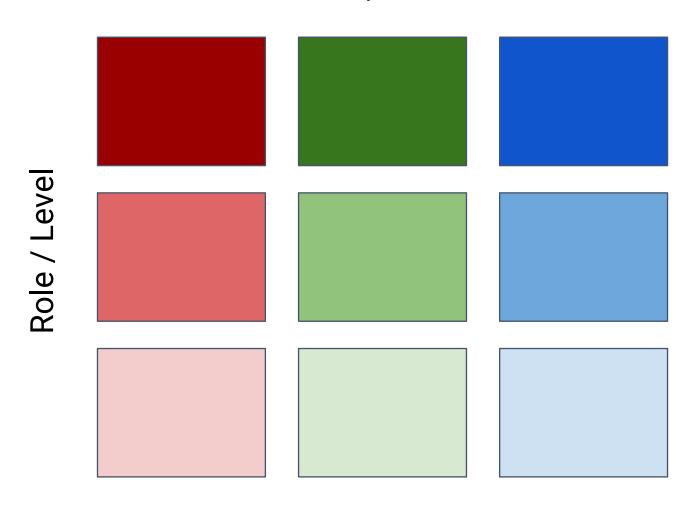








Team / Division



WHO WHAT WHY



As CMO, I can see big picture trends so that I can plan my overall marketing strategy.



As Marketing Manager, I can anticipate periods of high demand so that I can plan staff and resource appropriately.



As Marketing Specialist, I can know what topics are important weekly so that I can create timely content.





GINGER & BUTTERNUT



SERVES 4-6 PREP TIME: 15 MINUTES PRESSURE COOK: 10 MINUTES

Select [Sauté] to pre-heat the pressure cooker. W display, add the onions, sage, salt, and pepper. S Scoot onions aside and add a handful of squash Let brown for about 5 minutes stirring infrequent ginger, nutmeg, and stock.

Close and lock the lid of the Instant Pot®.

Select [Pressure Cook] or [Manual] and then use i

When time is up, open the lid using Quick Release



Golden Sweet Cornbread

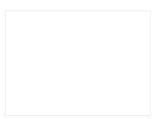




Prep 10 m Cook 25 m

Ready In 35 m







Recipe By: bluegirl

"If you like sweet cornbread, this is the recipe for you! My mom made this for me as a child, and now it's my family's favorite."

Ingredients

1 cup all-purpose flour 3 1/2 teaspoons baking powder

1 cup yellow cornmeal 1 egg

2/3 cup white sugar 1 cup milk

1 teaspoon salt 1/3 cup vegetable oil

Directions

- 1 Preheat oven to 400 degrees F (200 degrees C). Spray or lightly grease a 9 inch round cake pan.
- 2 In a large bowl, combine flour, cornmeal, sugar, salt and baking powder. Stir in egg, milk and vegetable oil until well combined. Pour batter into prepared pan.
- 3 Bake in preheated oven for 20 to 25 minutes, or until a toothpick inserted into the center of the loaf comes out clean.

ALL RIGHTS RESERVED © 2019 Allrecipes.com Printed From Allrecipes.com 11/6/2019

As Social Media Manager, I can know when people are in the office so that I can schedule my most important content at the right time.

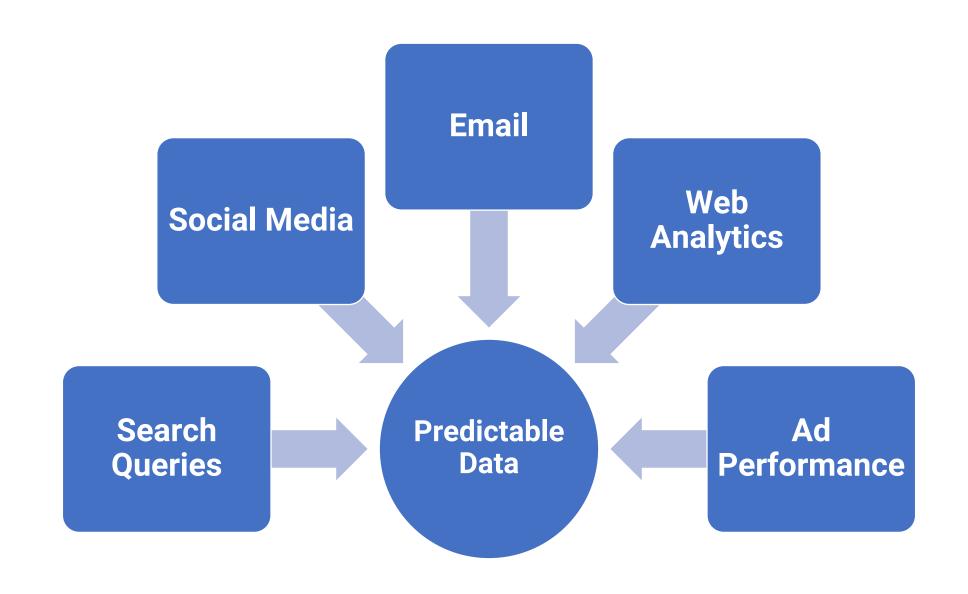


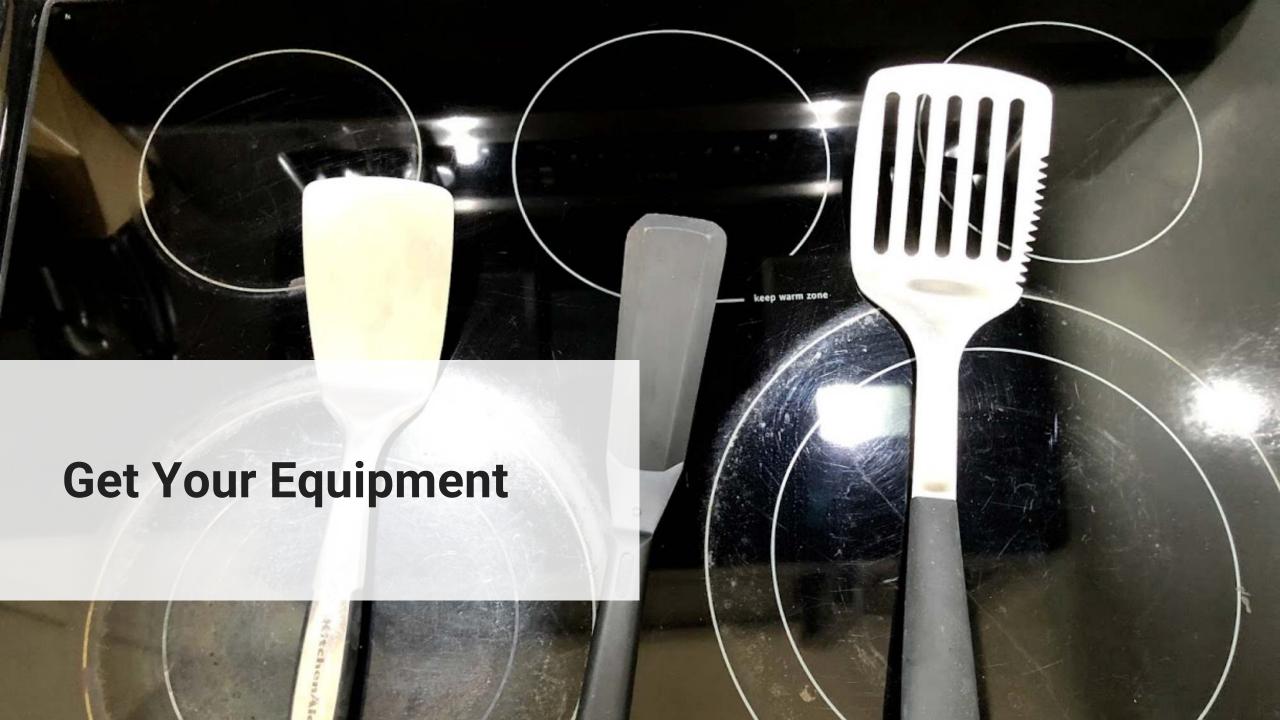




NUMBERS + DATES = PREDICTABLE DATA









Comprehensive, simplified & all-in-one environment

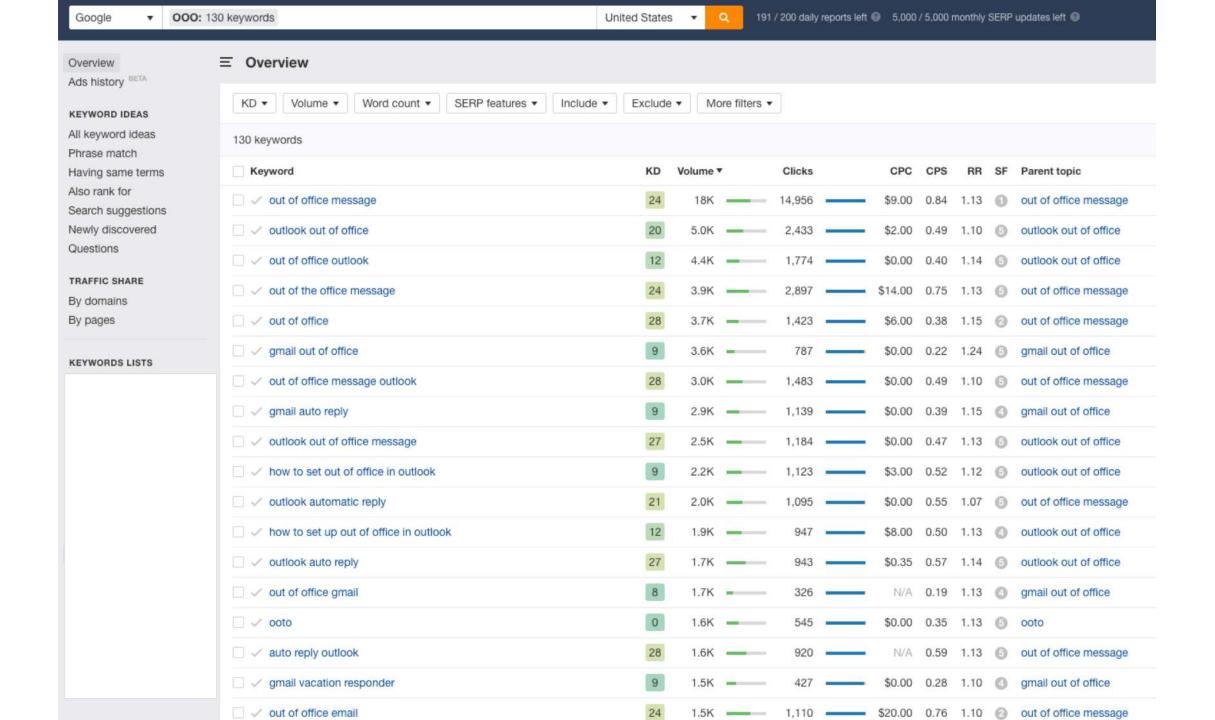


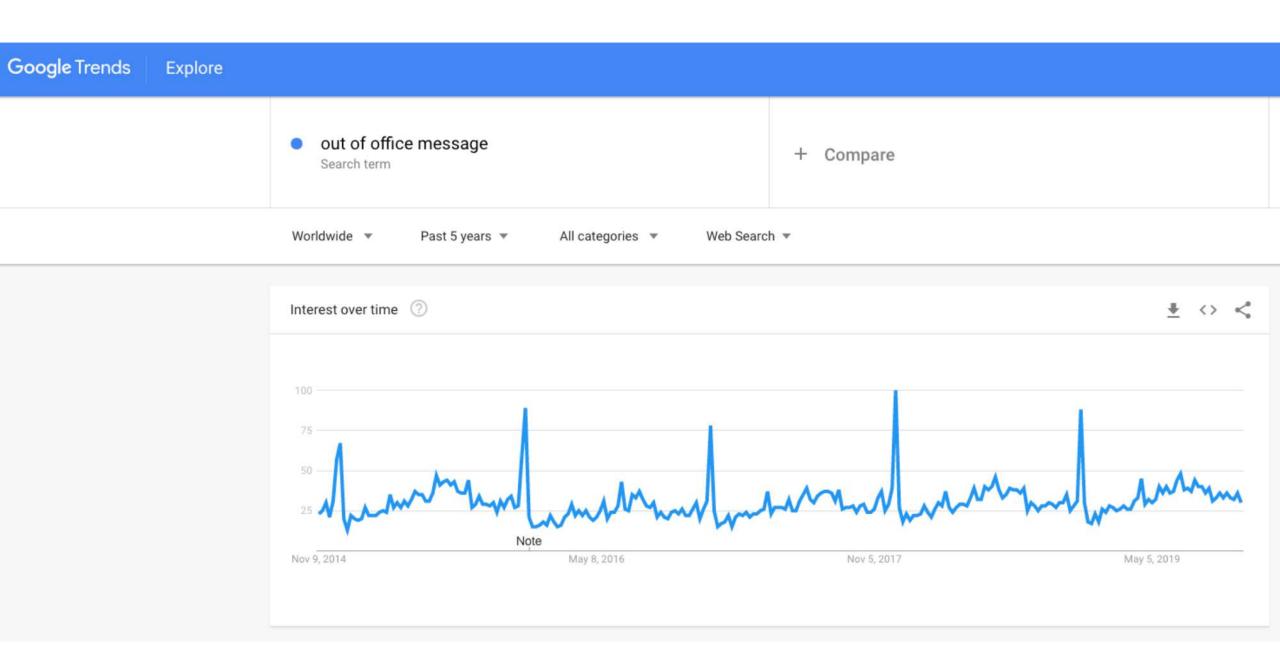
Machine Learning Languages to Start With Natively Supported in Watson Studio



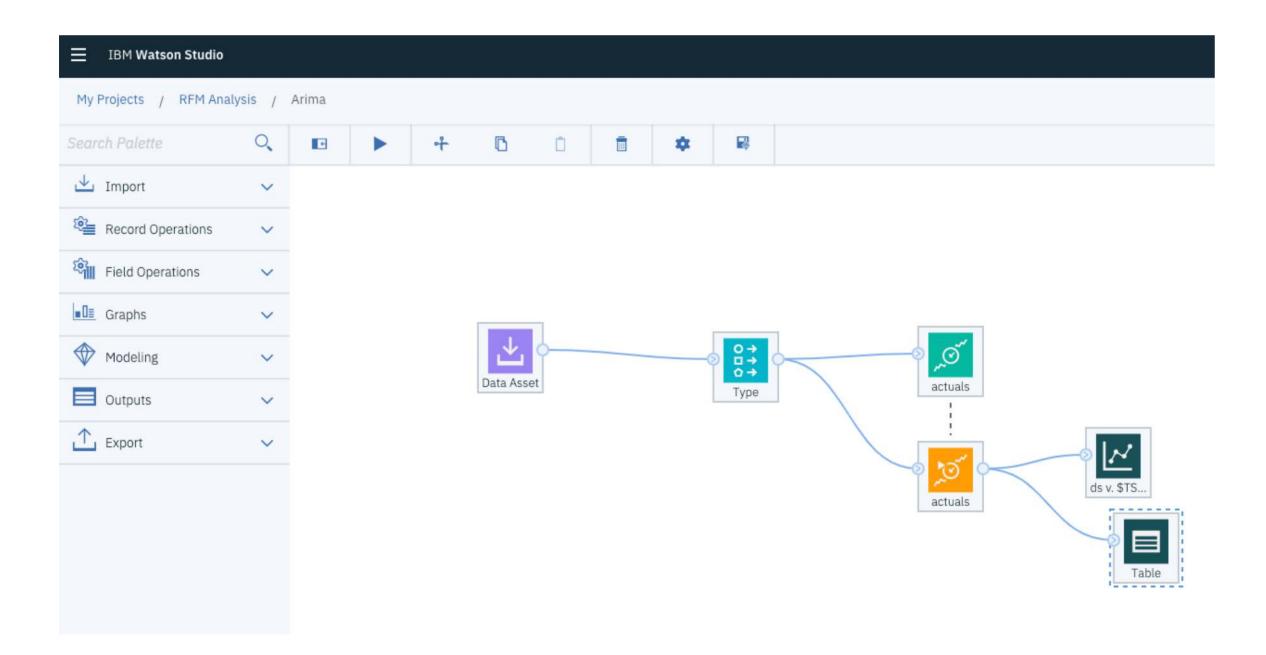


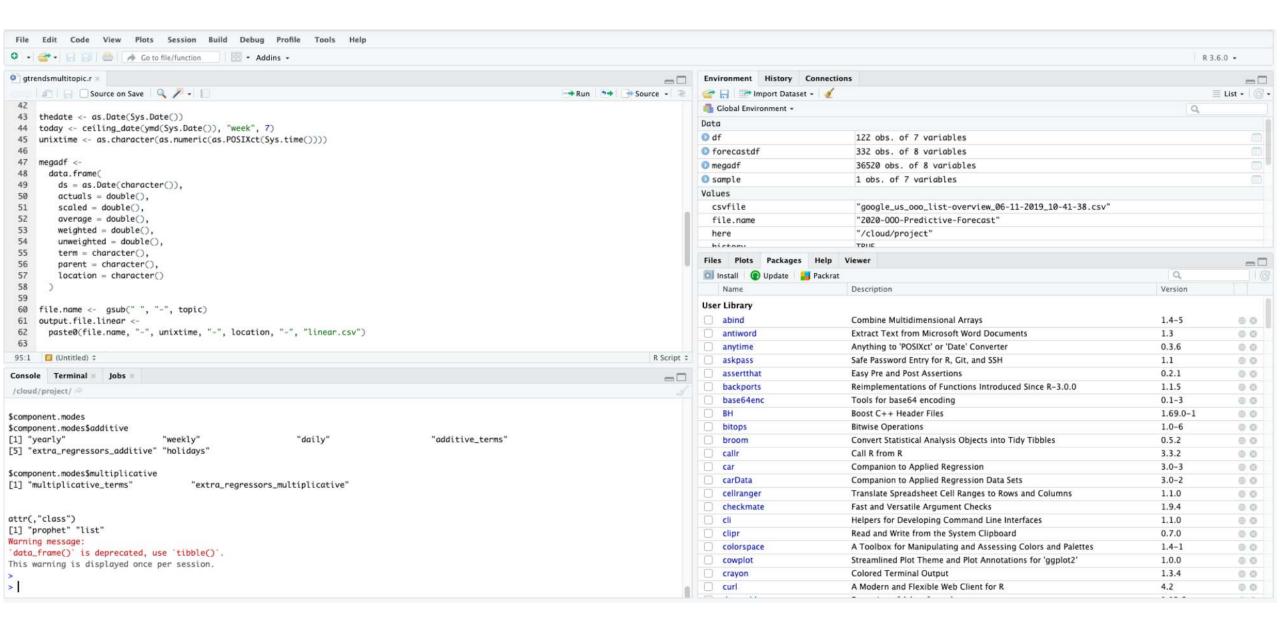






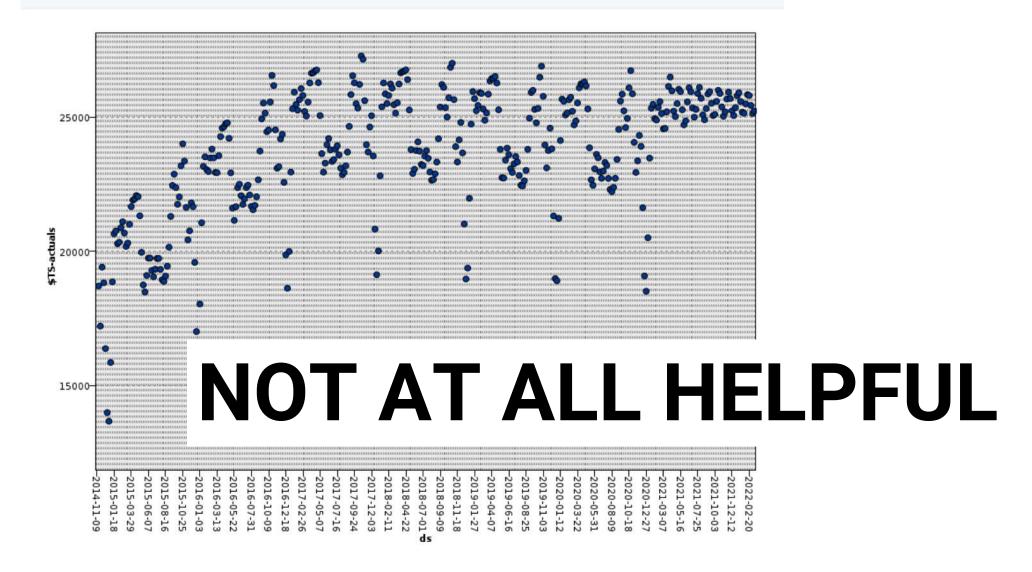


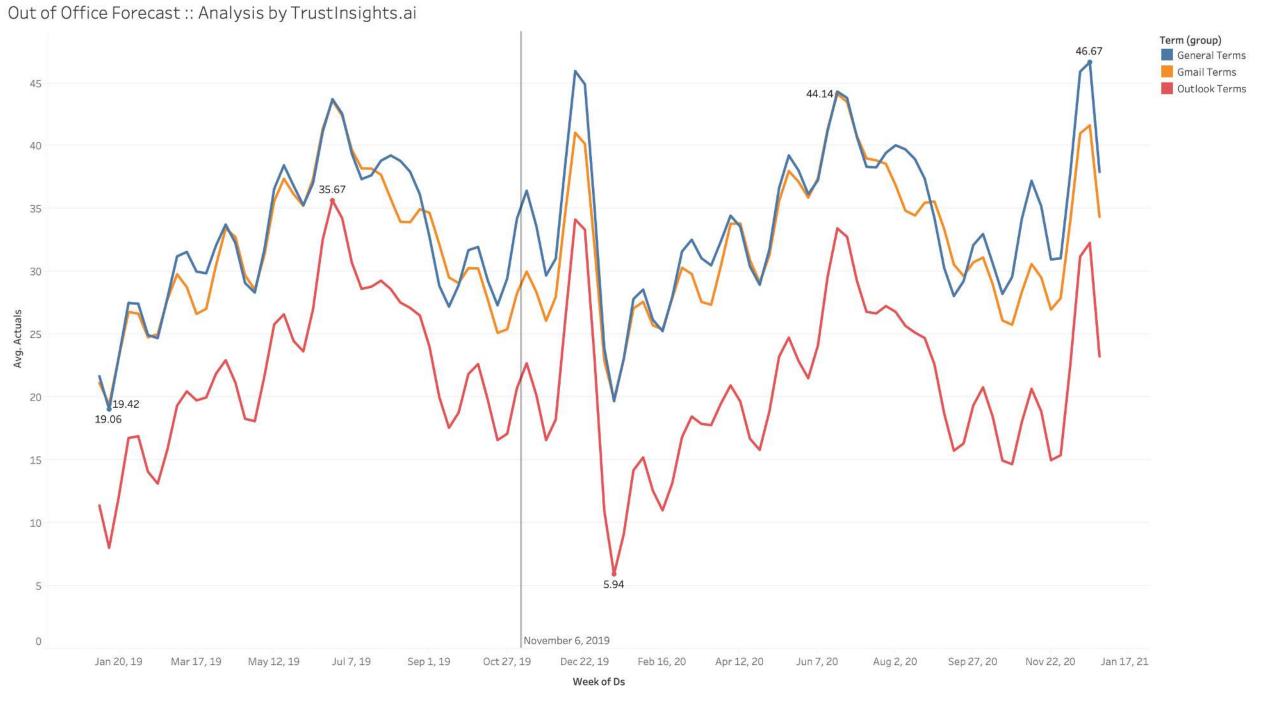






My Projects / RFM Analysis / Arima / ds v. \$TS-actuals





Out of Office Forecast :: Analysis by TrustInsights.ai (2)

				Term (group)		
	Week of Ds	General Terms	F	Gmail Terms		Outlook Terms
2019 Q4	December 15, 2019		45.96		41.05	34.15
	December 22, 2019		44.91		40.17	33.34
	December 8, 2019		38.70		34.84	26.35
	November 10, 2019		36.44		30.01	22.71
	December 29, 2019		34.99		31.92	22.99
	November 3, 2019		34.22		28.27	20.73
	November 17, 2019		33.62		28.38	20.18
	October 6, 2019		31.97		30.26	22.65
	December 1, 2019		31.04		28.00	18.25
	November 24, 2019		29.70		26.09	16.60
	October 27, 2019		29.47		25.42	17.10
	October 13, 2019		29.29		27.77	19.79
	October 20, 2019		27.33		25.13	16.60
2020 Q1	March 8, 2020		32.54		29.82	18.47
	March 29, 2020		32.41		30.44	19.50
	March 1, 2020		31.61		30.31	16.84
	March 15, 2020		31.08		27.60	17.89
	March 22, 2020		30.50		27.37	17.79
	February 2, 2020		28.57		27.60	15.22
	February 23, 2020		28.00		27.90	13.18
	January 26, 2020		27.83		27.07	14.20
	February 9, 2020		26.16		25.72	12.57
	February 16, 2020		25.27		25.41	11.01
	January 5, 2020		23.88		22.91	10.95
	January 19, 2020		23.07		23.05	9.11
	January 12, 2020		19.70		19.87	5.94
2020 Q2	June 21, 2020		44.33		44.14	33.44
	June 28, 2020		43.82		43.50	32.77
	June 14, 2020		41.22		41.36	29.62
	May 17, 2020		39.24		38.01	24.75
	May 24, 2020		38.06		37.16	22.90
	June 7, 2020		37.27		37.44	24.13
	May 10, 2020		36.66		35.62	23.24
	May 31, 2020		36.17		35.89	21.52
	April 5, 2020		34.46		33.81	20.95
	April 12, 2020		33.58		33.83	19.68
	May 3, 2020		31.76		31.31	18.89

Plan Big Campaigns These Weeks: Do NOT Plan Big Campaigns These Weeks:

• Q1 2020: January 12 Q1 2020: March 8

• Q2 2020: April 26 Q2 2020: June 21

• Q3 2020: September 13 Q3 2020: July 5

• Q4 2020: October 18 Q4 2020: December 20





Week of Ds

Term	Janua \mp	January	January	January	February	February.	. February.	. February.	. March 1,	March 8,	March 1	March 2	March 2 A	April 5, 2 A	pril 12, A	pril 19,	. April 26, .	. May 3, 2	May 10, .	. May 17,	May 24, M
how many carbs in cream cheese	74.3	76.2	71.6	66.1	64.2	66.1	68.1	67.7	65.0	62.6	62.5	64.9	68.5	71.6	72.6	70.7	66.7	62.6	60.9	62.2	65.5
how many calories in cream cheese	70.6	80.1	81.1	. 75.5	69.9	68.5	70.0	70.5	69.2	68.8	71.1	73.7	72.9	68.3	64.4	65.4	70.6	74.8	73.8	68.1	62.1
what is ricotta cheese	65.1	57.5	53.2	51.4	50.8	52.1	56.2	61.1	63.1	60.5	56.0	54.1	55.9	58.4	58.1	55.3	53.1	. 53.1	53.6	52.0	49.1
how long does parmesan last	64.7	61.7	57.1	54.5	54.9	56.0	55.2	52.9	51.8	53.6	56.4	56.5	52.5	47.2	45.1	47.8	52.5	55.2	54.9	53.8	54.1
how long does cream cheese last	64.3	56.2	50.9	51.6	55.6	57.1	52.9	45.6	41.0	42.1	45.9	47.5	45.0	41.2	40.4	43.3	46.8	47.9	46.6	45.2	45.1
how to make mozzarella	64.3	66.2	65.1	61.5	56.4	52.1	50.1	50.1	50.3	49.2	47.1	45.7	45.8	46.6		43.8	41.5	41.2	43.7	47.1	49.2
how many calories in mozzarella	63.6	75.9	77.2	69.6	61.5	59.1	61.7	64.1	62.5	58.5	56.6	59.1	63.7	66.3	64.6	60.2	56.0	53.7	53.5	54.4	55.7
what is in cream cheese	63.5	56.1	55.0	58.7	61.9	62.3	61.6	62.6	64.2	63.4	59.7	56.4	56.8	59.6	60.3	56.7	51.5	49.7	52.1	55.1	54.2
what to make with cream cheese	63.2	59.6	55.3	53.4	54.4	55.9	54.6	49.3	42.8	39.5	41.4		47.3	43.8	37.5	33.3	33.8	37.0	38.9		37.3
how to cook frozen mozzarella sticks i	63.1	61.8	57.2	52.4	49.9	50.2	51.7	53.0	53.2	52.2	50.3	48.6	48.6	50.5	52.4	51.3	46.8	42.2	42.2	47.8	54.7
how to make parmesan cheese	61.1	59.6	53.4	48.1	47.7	50.9	52.9	50.5		41.1	41.1	44.7	48.4	49.3	46.9	43.8	42.9		49.1	50.9	49.3
what is cream cheese made out of	60.4		31.1	24.0	25.0	27.3	27.1	26.7	28.7	30.8	29.3	25.0	23.9	29.8	38.9	43.5	40.2	33.1	28.5	27.7	28.0
how to cook mozzarella sticks	56.7	51.8	51.6	53.0	51.4	46.0	40.4	38.5	40.6	44.0	46.2	47.4	49.0	50.5	49.9	46.0	40.7	37.0	36.4	37.5	38.2
what is cream cheese	56.0	48.8	48.6	54.0	58.6	57.8	52.9	48.9	48.5	50.0	51.0	50.9	50.8	51.3	51.0	49.4	47.5	46.8	47.0	46.1	43.4
what is mascarpone	54.6	46.0	47.8	55.1	58.4	54.4		48.5	54.3	60.6	62.8	61.7	60.7	60.4	57.6	51.1	44.2	42.2	45.4	49.3	49.6
how to make mozzarella sticks	54.6	55.5	52.9	48.6	44.8	42.6	41.3	39.4	36.7	34.2	32.8	32.6	33.0	33.4	33.4	33.1	32.5	32.0	32.1	33.1	34.7
how to make parmesan chicken	54.1	59.4	62.5	63.6	63.9	63.5	60.9	56.0	51.4	50.4	52.7	54.4	51.8	45.7	41.1	41.2	44.3	45.1	41.1	35.3	32.8
how to make chicken parmesan	53.3	60.0	64.8	65.8	64.1	61.5	58.4	54.7	51.4	50.8	53.1	55.2	52.9	46.2	40.0	39.0	43.0	46.5	44.6		34.6
what is parmesan	51.9	55.9	56.6	54.7	52.8	52.6	52.2	49.3	44.6	42.2	45.0	50.7	53.4	49.4	41.5	36.0	36.5	41.0	44.5	44.8	43.5
what can i make with cream cheese	51.8	46.9	43.5	41.0	37.2	32.6	30.1	32.3	37.5	41.3	40.4	36.0	32.3	32.0	33.8	34.4	32.4	29.3	27.6	28.0	29.6
how much protein in cream cheese	50.9	52.7	45.1	36.0	33.8		45.7	46.8	43.0	39.2		41.7	43.4	42.5		36.5	34.1	34.1	37.7	43.9	48.0
how to cook chicken parmesan	50.9	54.4	54.3	51.2	47.4	43.7	40.0	36.2	34.0	34.9		40.6		35.1	32.2	33.1	36.1	37.0	33.9	29.7	29.1
how much is cream cheese	50.9	43.0	44.1	52.1	58.6	57.8	51.9	47.2	47.1	49.2	49.9	48.3	46.6	46.5	47.4	47.7	47.3	47.1	46.8	45.4	43.0
how long is cream cheese good for	50.4	43.4	41.9		50.7	50.7	46.9	43.4	42.4	42.2	40.8	39.2	40.7	45.7	49.9	48.8	42.9	37.9	38.5	43.6	47.7
how to make parmesan crisps	50.0	48.9	51.0	55.3	58.1	57.1	54.1	52.2	52.7	54.2	54.9	54.1	52.7	51.2	49.3	47.0	45.3	45.3	46.4	47.3	47.0
mozzarella when pregnant	49.9	43.2	40.7	44.3	50.2	52.5	48.4	41.3	37.1		46.0	52.2	54.6	53.6	51.2	48.8	46.5	44.9	45.0	47.1	49.3
how long is cream cheese good	49.7		32.8	37.0	44.2	46.2	42.0	37.5	37.3		38.4	34.9	33.8	38.6	46.0	48.9	44.5	37.4	34.5	37.0	40.7
how to make blue cheese	47.2	48.6	53.1	60.4	64.7	60.2	47.8	35.5	31.0	34.3	39.0	39.4	36.3	34.4	35.9	37.8	36.6	33.1	31.6	34.4	38.8
how many carbs in blue cheese	46.9	44.2	38.9	35.8	36.7		42.5	43.8	43.3	41.2	38.8	38.4	41.3	45.2	45.9	41.4	35.1	. 33.1	37.7	44.5	46.7
what is blue cheese	46.9	45.4	48.5	53.2	55.5	54.2	51.6	50.0	48.9	47.0	44.7	43.8	45.0	46.4	45.9	43.6	42.3	44.1	47.7	49.9	49.0
how many calories in bagel with crea	46.6	58.7	64.2	59.9	51.9	49.0	53.9	60.7	62.0	57.0	51.8	52.6	59.1	65.3	66.2	62.6	58.8	57.3	56.4	53.0	46.8
what is parmesan rind	46.3	53.4	49.7	36.7	23.3	18.1	22.1	28.7	30.2	24.9	17.8	14.8	16.5	18.3	16.3	11.1	7.1	7.3	10.6	13.3	13.1
how many calories in mozzarella chee	46.3	56.5	56.0	47.3	39.0	36.9		40.6	39.6		38.0	38.5		37.8	39.8	43.6	44.8	41.0	35.1	33.9	39.5
where to buy mascarpone	46.0	37.5	38.4	43.2	44.4	41.0	38.9	42.4	48.4	51.1	48.9	45.8	45.7	47.2	46.8	44.3	43.4	46.2	49.4	48.2	42.7
mascarpone where to buy	46.0	37.5	38.4	43.2	44.4	41.0	38.9	42.4	48.4	51.1	48.9	45.8		47.2	46.8	44.3	43.4	46.2	49.4	48.2	42.7
how to make garlic parmesan chicken	45.6	50.4		44.2	40.6	37.9	34.1	29.7	27.8	30.4	35.0	37.0	34.1	28.5	24.1	22.5	23.0	24.3	26.4	29.3	32.1
	li.																				

Predictive Forecast for Cheese Supplementary Calendar

Create content around the following topics using the what/why/how framework:

- · What is (topic) from a communications perspective?
- · Why do brand communicators need to understand (topic)?
- · How should communicators launch/promote products services for (topic)?

Topics to Create Content for Week Of 2019-11-17

term	importance
what is in cream cheese	1
what is cream cheese	2
can you eat blue cheese when pregnant	3

Topics to Create Content for Week Of 2019-11-24

term	importance
how long is ricotta cheese good for	1

Topics to Create Content for Week Of 2019-12-01

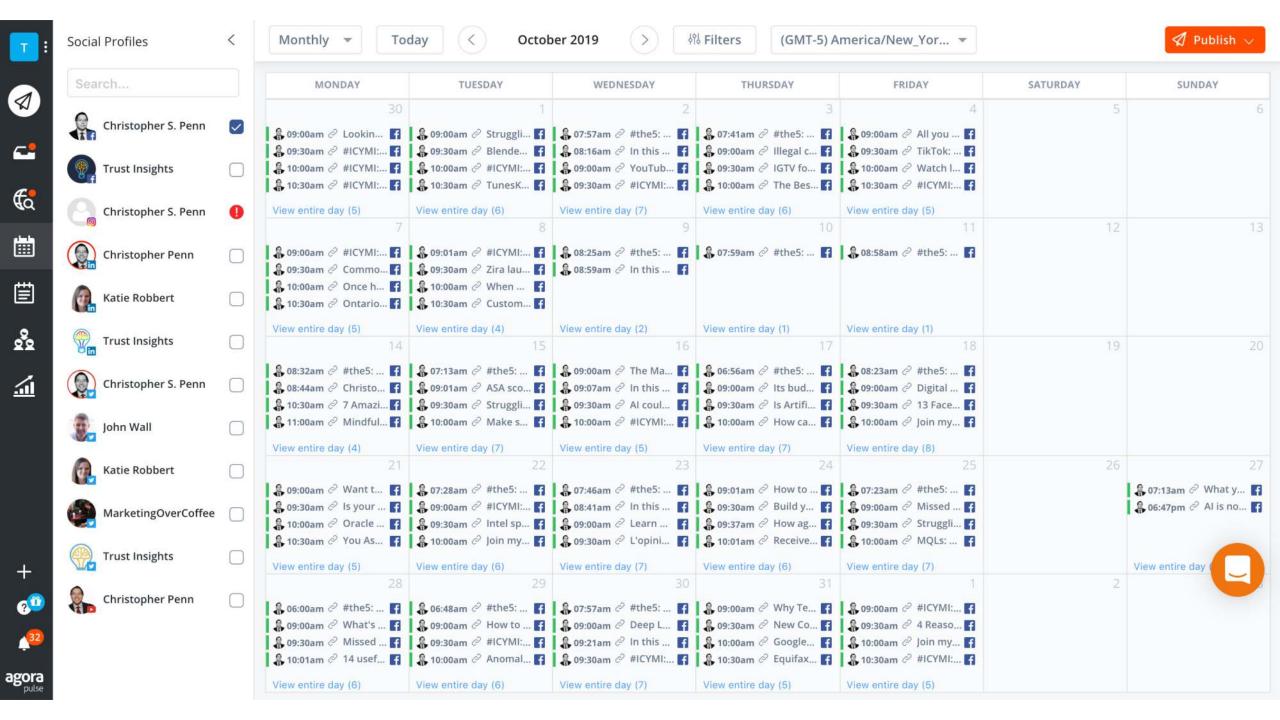
term	importance				
ricotta cheese when pregnant	1				

Topics to Create Content for Week Of 2019-12-08

term	importance
what to serve with chicken parmesan	1
how long to bake eggplant parmesan	2
where is parmesan cheese from	3

Topics to Create Content for Week Of 2019-12-15

term	importance
how many oz of cream cheese in a cup	1
what does ricotta cheese taste like	2
what does cream cheese taste like	3



Analytics without action Is a recipe you cook but never eat.



Where can you get the slides?

WhereCanlGetTheSlides.com AlforMarketersBook.com

This is my card. Take a picture, save a tree.

cspenn@TrustInsights.ai www.TrustInsights.ai

