

EMAIL MANAGEMENT & NLP

**PRESENTED BY:
KAYLEIGH LI**
























PROBLEM



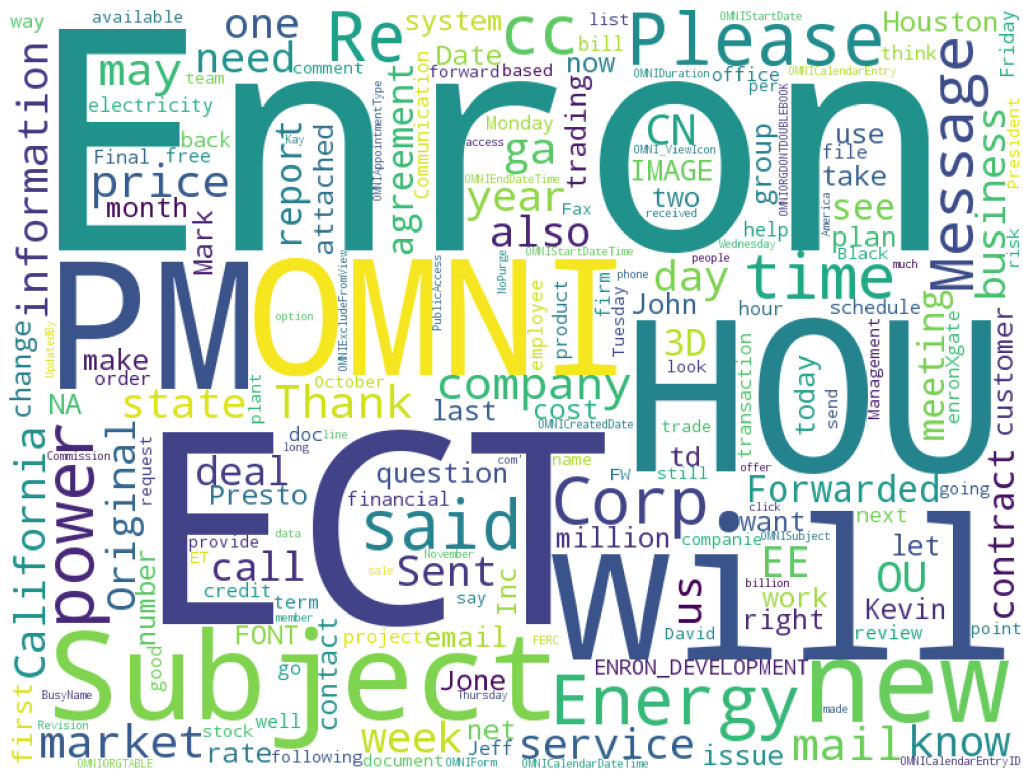
- ✖ Time wasted on other people's priorities
- ✖ Less time for real work
- ✖ Inefficient way of handling urgent tasks

OBJECTIVE

- ◆ Work Smart and Not Hard
- ◆ Personalized email management system
 - ◆ 2-5 buckets based on email content

<div><div> Primary</div><div> Social</div><div> Promot... 1 new</div><div> Updates</div><div> Forums</div><div>+</div></div>			
<input type="checkbox"/>		Liz, me, Liz (7)	Re: Alexis Bitter Holiday Campaign - combined it would be \$6 3:02 pm
<input type="checkbox"/>		Julianne, me (2)	@ItsKayKayLeigh <> @CledePeauBeauteUS - Hi there, Thar  8:27 am
<input type="checkbox"/>		Ashley Buchanan	No post, Corgi Project! - Hi Kayleigh, We're digging into Instağ Nov 8
<input type="checkbox"/>		Marina Sinnott	@itskaykayleigh x In/Spree Brands - Hi Kayleigh, I see that yc Nov 8
<input type="checkbox"/>		Healthish, me (6)	We'd love to work with you, Kayleigh! - Hi Kayleigh, Hope you  Nov 8
<input type="checkbox"/>		Gina, me (15)	Collaboration inquiries from Givi Inc - Hi Gina, I'll pass for this  Nov 7
<input type="checkbox"/>		Gabrielle Assaf	Berg+Betts Collaboration - Hi Kayleigh, My name is Gabrielle Nov 7
<input type="checkbox"/>		Tracy Nour (2)	Scheer Social // Instagram Following - Hi! Just following up he Nov 7
<input type="checkbox"/>		דריה כהן	Colleboration - Hey Kayleigh! I am the owner of a couple eCo Nov 7
<input type="checkbox"/>		Chelsea Ma	Introducing TAKEON - Hi Kayleigh! This is @chelsea.ma fro  Nov 6
<input type="checkbox"/>		Alexa, me (6)	Kayleigh Li x Tamara Mellon - Sounds good. So below are my  Nov 6
<input type="checkbox"/>		Kayla, me (4)	L'Unico Laboratory // Luxury Skincare US Launch! - It's as bel  Nov 6

DATA



✓ **0.5 million emails**

✓ **150 users**

- ✓ Mostly senior management

TEXT PREPROCESSING

10,000



TEXT PREPROCESSING

- Punctuation



>?<!{}-)@*&%\$#

- Numbers



1234567890

- Stop words



the, a, about, an, at ...

- Lower case



Million → million

- Lemmatizing
/ Stemming



buying → buy

- Tokenization



“let me know” → “let”, “me”,
“know”, “let me”, “me know”

TEXT PREPROCESSING

10000



843299

- Vectorization



sell, call, fun

1 1 0

10000

843299

5000

KEY WORDS



843299



5000

KEYWORDS

TOPIC MODELING

LDA **(Latent Dirichlet Allocation)**

LSA **(Latent Semantic Analysis)**

NMF **(Non-Negative Matrix Factorization)**

TOPIC MODELING

Internal / Corporation Related

Topic: ' Internal_Corp '
enron, enron enron, corp, corp enron, forwarded, enronxgate, enron enronxgate, america, enron_development, north, north america, enron north, man n, jeff, communication, houston, mark, america corp, enron communication, employee

Meetings / Calls / Deals

Topic: ' Meeting_Call '
please, thanks, message, original, original message, know, mail, attache d, call, question, need, agreement, email, deal, information, copy, conta ct, file, please know, review

IT-Related

Topic: ' IT_Updates '
schedule, hour, houorahead, final, date, start, start date, houorahead hou r, date houorahead, variance, detected, variance detected, file, final sch edule, message, california, scheduling, portland, scheduling final, file portland

Industry / Market / Business

Topic: ' Industry_Market_Business '
would, time, energy, power, http, market, company, price, like, year, ser vice, said, week, also, need, business, know, state, california, informat ion

TOPIC MODELING

31%

Topic: ' Meeting_Call ' **Meetings / Calls / Deals**
please, thanks, message, original, original message, know, mail, attache
d, call, question, need, agreement, email, deal, information, copy, conta
ct, file, please know, review

- ✓ Save time
- ✓ More efficient

APPLICATION

- ❖ A new dataset:
 - More personal
 - Less work-related

Calls / Meetings / Appointments

Topic 0

call, later, free, sorry, call later, sorry call, mobile, claim, prize, p
lease, urgent, phone, free call, text, stop, please call, reply, meeting,
customer, contact

Friends & Family Chatting

Topic 1

good, come, time, like, know, home, want, love, take, going, back, still,
dear, morning, well, hope, send, dont, care, give



APPENDIX

BUCKET 2: IT-RELATED

start date: 3601; hourahead hour: 5; <codesitestart date: 3601; hourahead hour: 5; no ancillary schedules awarded. variances detected.variances detected in generation schedule. log messages:parsing file o:\portland\westdesk\california scheduling\iso final schedules\2001030605.txt generation schedule \$\$\$ variance found in table tblgen_schedule. details:
hour: 5 preferred: 1.00 final: 0.97 trans_type: final sc_id: ect
stca mkt_type: 2 trans_date: 3601 unit_id: badlnd_7_pll2

schedule crawler: hourahead failurestart date: 11602; hourahead hour: 18;
hourahead schedule download failed. manual intervention required. lo

start date: 42901; hourahead hour: 15; <codesitestart date: 42901; hourahead hour: 15; no ancillary schedules awarded. no variances detected.

schedule crawler: hourahead failurestart date: 122001; hourahead hour: 8;
hourahead schedule download failed. manual intervention required.

schedule crawler: hourahead failurestart date: 11902; hourahead hour: 18;
hourahead schedule download failed. manual intervention required. lo
g messages:parsing file o:\portland\westdesk\california scheduling\iso f