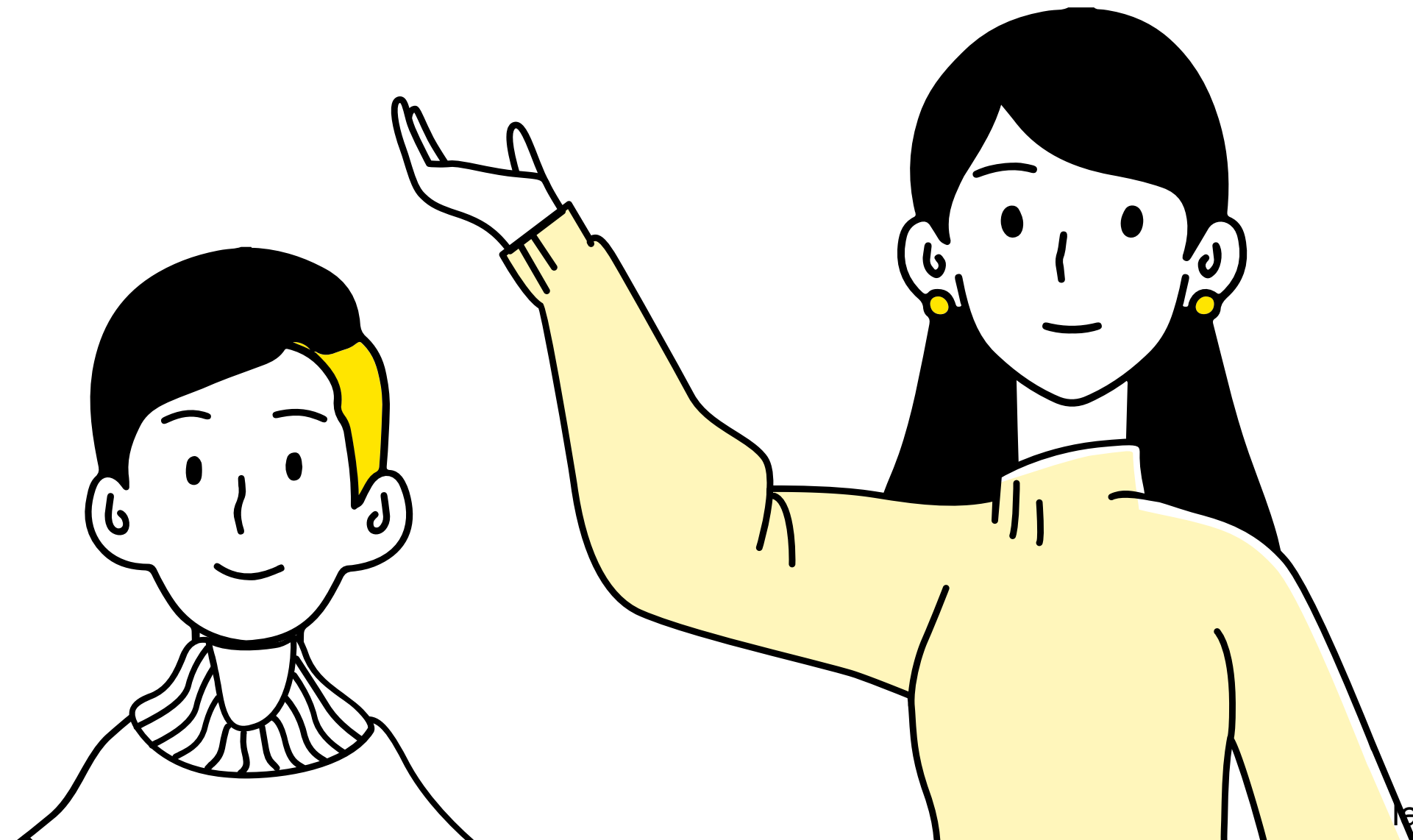# Forecasting engagement of future posts

Agenda

1 Understand background and objective

2 What data do we have

3 Insights finding

Background

- Data was collecting between July 2012 - June 2018 (72 months)
- It contains facebook posts from multiple retailer page
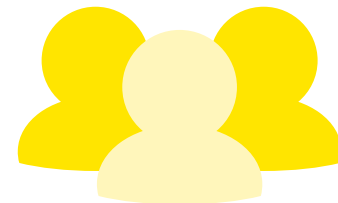- Given assumption that all retailers are in the same industry

Objective

- Is to understand how different post perform and how well it engage to the customers
- Is to forecast an engagement for future posts
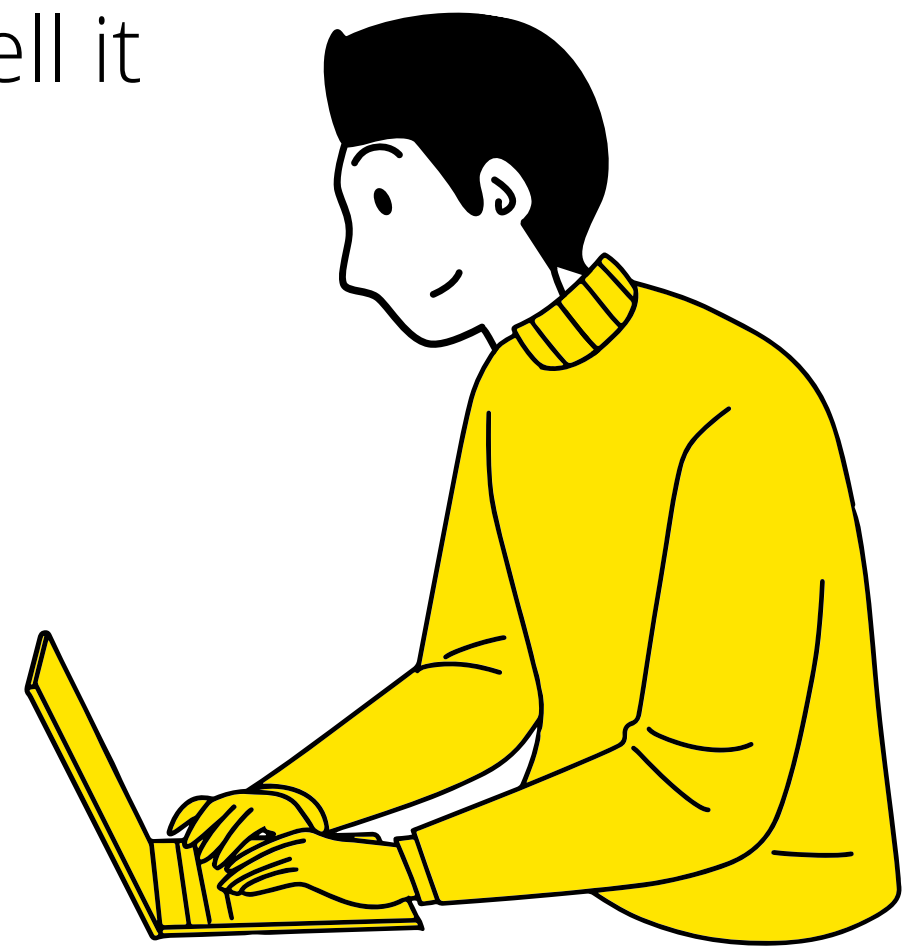
Data table

Column name	Type	Description	Sample
Status_id	String	An unique number for each post	246675545449582_1649426988507757
Status_type	String	Type of Facebook posts	video, photo, post, link
Date	DateTime	Date when a content is posted	2018-04-22
Hour	Integer	Time (by hour) when a content is posted	10
Num_reactions	Integer	Num_reactions: Total number of people who reacts towards the post (likes, loves, wows, hahas, angrys, sads)	123
Num_comments	Integer	The number of people who comment on a posts.	123
Num_shares	Integer	The number of times a people shares a post on their own page.	123
Num_likes	Integer	The number of people who click the like button on your post.	123
Num_loves	Integer	The number of people who click the love button on your post.	123
Num_wows	Integer	The number of people who click the wow button on your post.	123
Num_hahas	Integer	The number of people who click the haha button on your post.	123
Num_angrys	Integer	The number of people who click the angry button on your post.	123
Num_sads	Integer	The number of people who click the sad button on your post.	123
dayofweek	String	Day of week when the content is posted	Monday, Tuesday

Insights

Timeline for post type and reaction type first appearing

July 2012
⊕ Photo posting
⊕ Commenting
⊕ Sharing
⊕ Liking button

Jan 2013
⊕ Status posting

Sep 2013
⊕ Video posting

Mar 2014
⊕ Links posting

Feb 2016
⊕ Loves button
⊕ Wows button
⊕ Haha button

April 2016
⊕ Sads button

May 2016
⊕ Angry button

Jun 2018
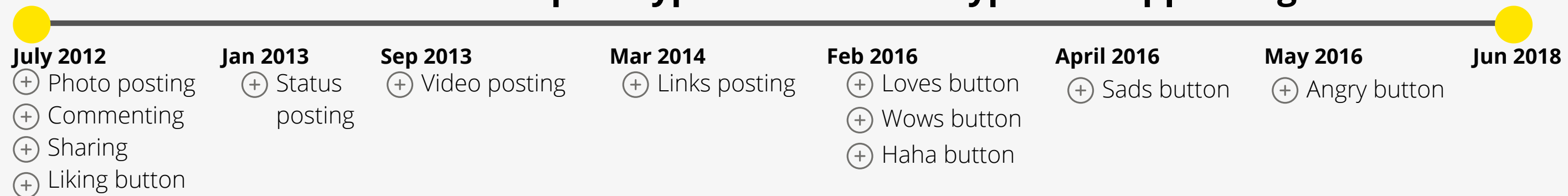
Number of post are constantly growing after 2014

Number of Facebook posts between 2012-2018

Legend: link, photo, status, video, Grand Total
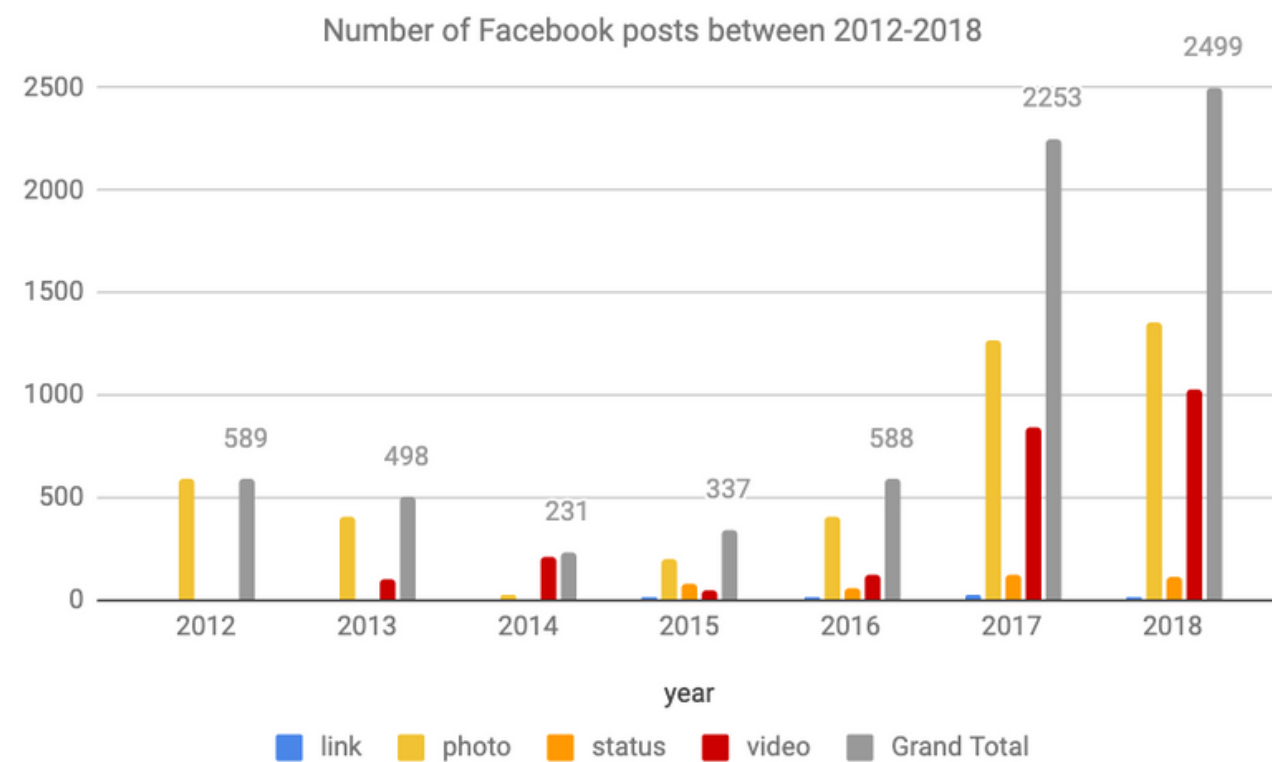
People tend to react more on visual contents

Total reaction across all type of posts

Legend: link, photo, status, video
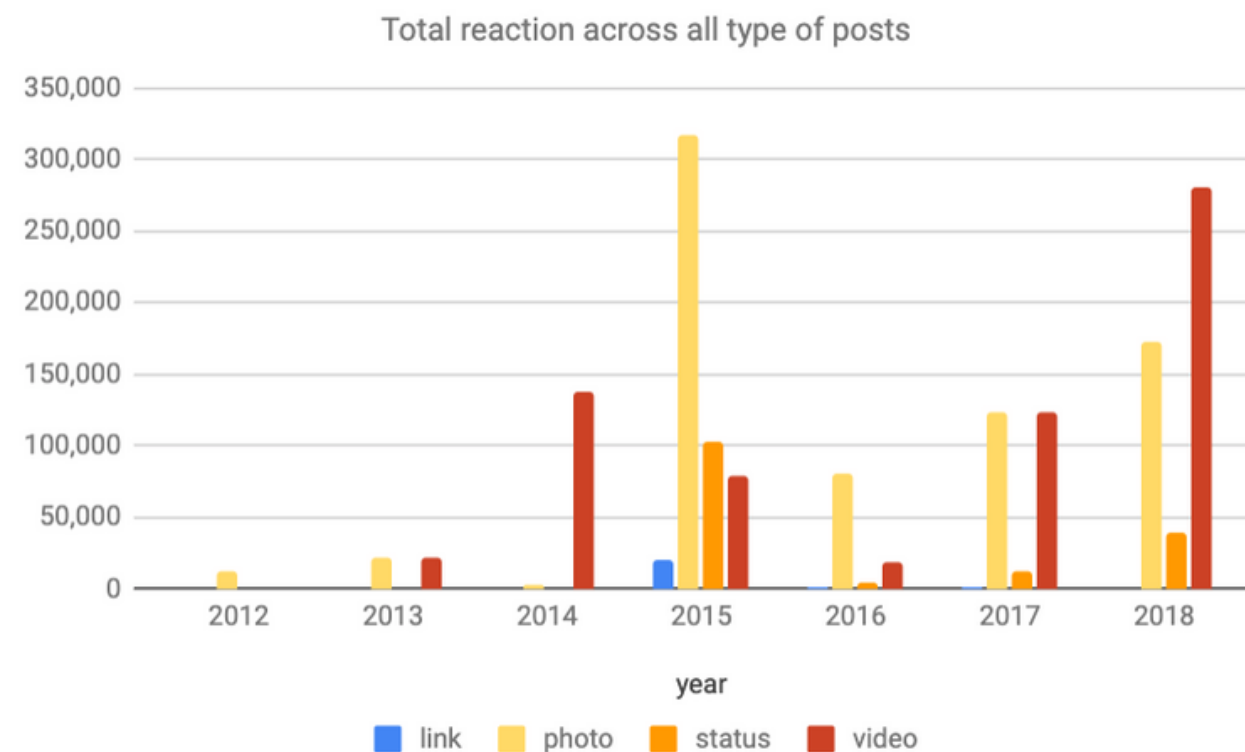
Video contents show a significant comment interaction

Number of comment across all type of posts

Legend: link, photo, status, video
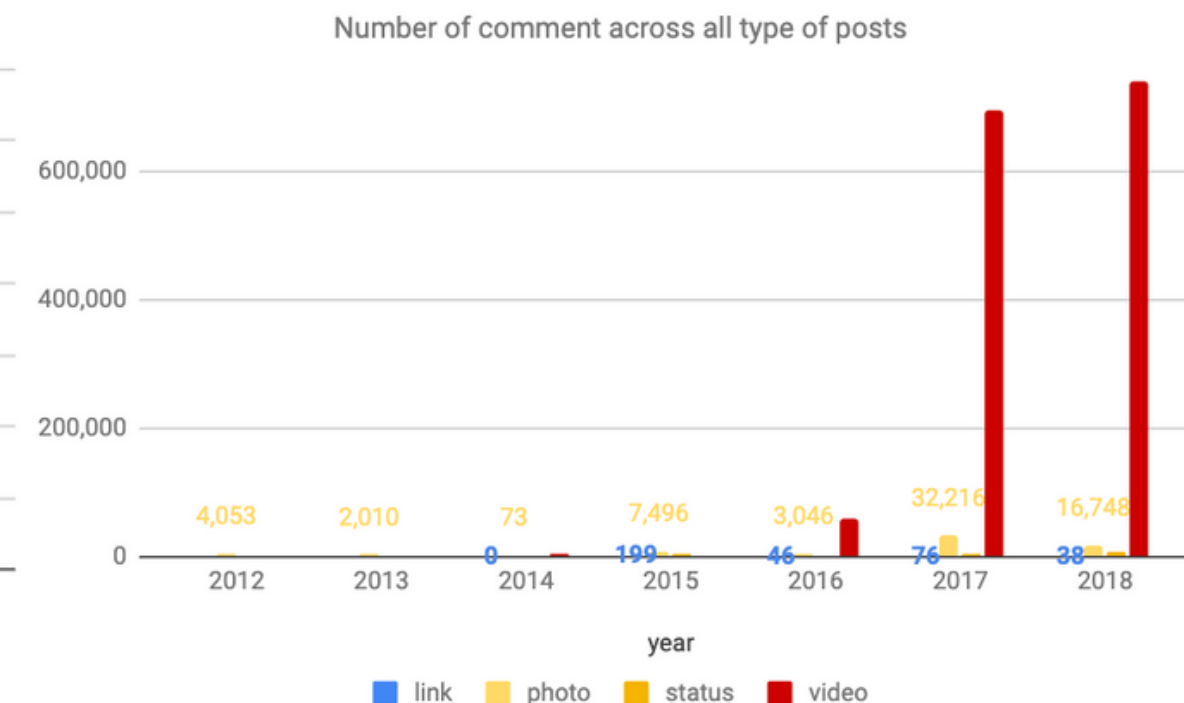
Insights

- Retailer were less likely to post their contents between 1-9 pm
- almost 40% of total engagement occuring between 6-10 am

Number of Facebook posts by hour

Legend: 2012, 2013, 2014, 2015, 2016, 2017, 2018
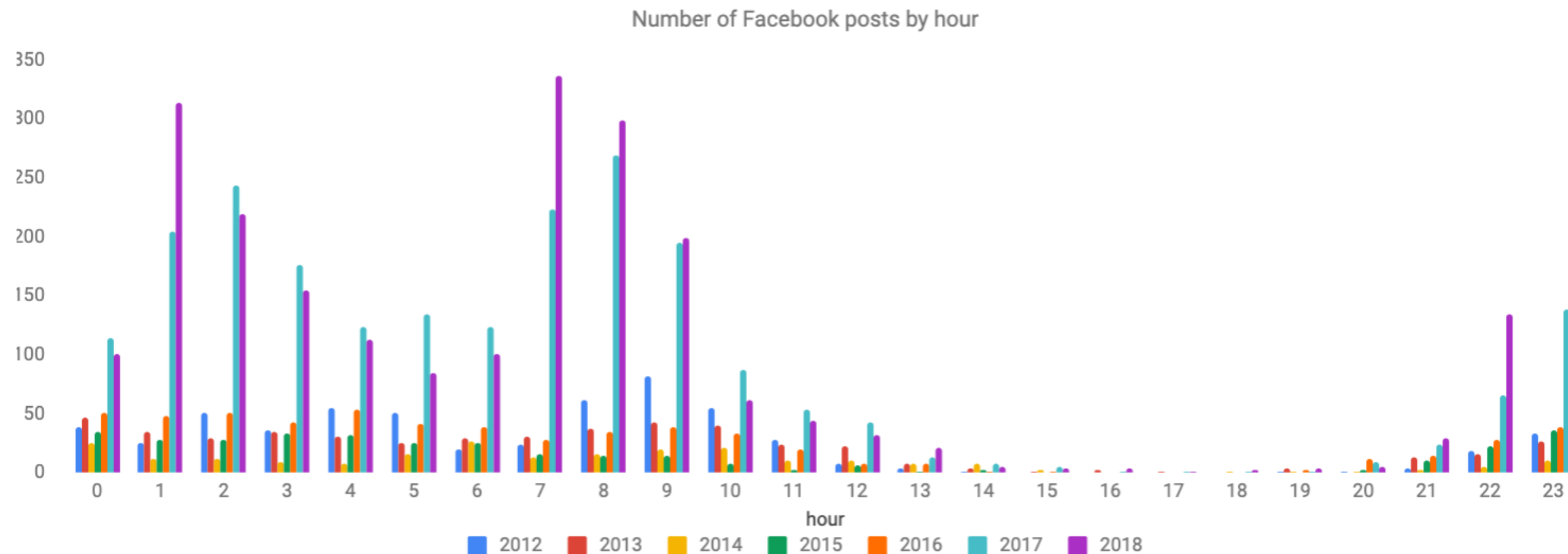
How many reactions post recieved throughout the day

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
2012	6%	4%	8%	6%	8%	8%	4%	4%	11%	15%	11%	5%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	3%	5%
2013	9%	8%	6%	6%	5%	4%	6%	5%	7%	7%	11%	4%	9%	1%	0%	0%	0%	0%	0%	0%	0%	2%	3%	5%
2014	8%	5%	8%	4%	5%	7%	17%	6%	8%	8%	6%	4%	2%	2%	2%	2%	0%	0%	1%	0%	0%	1%	0%	3%
2015	11%	9%	7%	11%	10%	7%	9%	3%	3%	3%	2%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	2%	7%	11%
2016	7%	7%	7%	9%	10%	7%	8%	5%	6%	7%	6%	3%	1%	1%	0%	0%	0%	0%	0%	2%	3%	6%	6%	
2017	7%	12%	8%	6%	4%	5%	7%	10%	9%	9%	5%	3%	2%	0%	0%	0%	0%	0%	0%	0%	1%	3%	6%	
2018	3%	10%	6%	4%	4%	3%	11%	15%	12%	15%	3%	3%	1%	0%	0%	0%	0%	0%	1%	0%	2%	3%	4%	

Key findings

- Majority of the post were posted in the early morning.
- Visual contents are increasingly getting more interaction from customers, especially videos
- Photo and video posts tend to get more reactions if it posted between Saturday - Monday
- Number of video posts are increasing over the past 3 years
- Number of engagement (reactions, comment and shares) in 2018 are significantly growing when comparing Year on Year with the first half of 2017.
- However, when comparing 2018 with first half of 2015, number of reactions are fail to compete in link posts(-97%) and photo posts (-3%). But in the other engagement dimension, in which shares and comments: number of engagement are increasing.
-

Summary

Due to the limitation of data that available for this analysis, forecasting model might not be as effective as it should've be. However, with more data to explore would be benefit for an analysis itself and also potentially yield a better accuracy for a forecasting model.

An additional data may includes but not limited this following

- Retailer_id/details
- Number of followers for each retailer page
  - To help us under stand how an engagement relative to number of followers for different retailer.
- Number of post views
  - To understand how much each post reach and impress customer
- Number of CTR, Bounce rate
- Detail of a retailer (what industry it is in, where is the location (any physical store or just online)
- Detailed contents of a post, to do sentiment analysis and to understand how follower for each retailer tend to express their feeling to the certain posts.

Appendix

1   Dataset : live.csv (as of 1 Oct 2021)

2   Presentation template : Canva