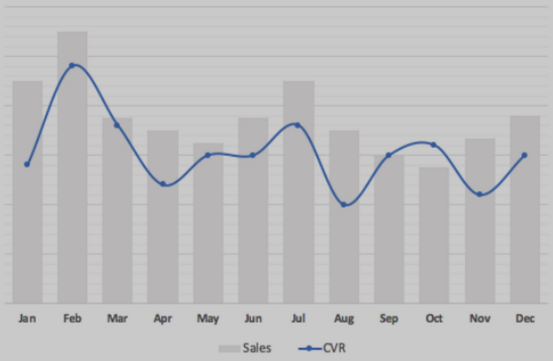
Analyzing Business Patterns & Seasonality

31 July 2023 10:46

BUSINESS CONCEPT: ANALYZING SEASONALITY & BUSINESS PATTERNS

Analyzing business patterns is about **generating insights to help you maximize efficiency and anticipate future trends**



COMMON USE CASES:

- Day-parting analysis to understand how much support staff you should have at different times of day or days of the week
- Analyzing seasonality to better prepare for upcoming spikes or slowdowns in demand

ANALYZING SEASONALITY

- To dig into business patterns and seasonality, we will be using MySQL date functions again

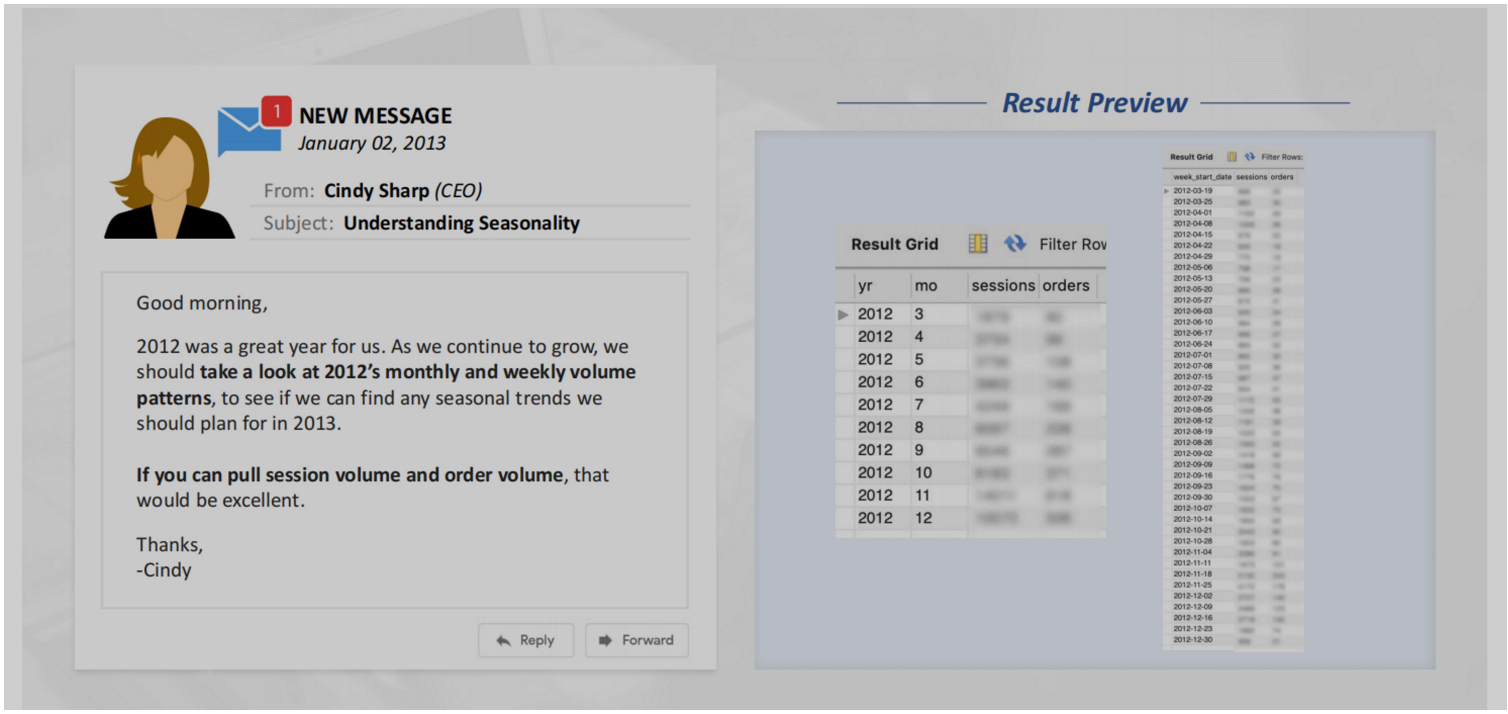
Function	How You Might Use It
QUARTER()	Return the quarter for a given date
MONTH()	Return the month for a given date
WEEK()	Return the week for a given date
DATE()	Return the date for a given datetime
WEEKDAY()	Returns 0-6, corresponding to M-Sun
HOUR()	Calculate time relative to now

MySQL QUERY IN ACTION:

```
SELECT
    WEEK(created_at) AS wk,
    DATE(created_at) AS dt,
    WEEKDAY(created_at) AS wkday,
    HOUR(created_at) AS hr,
    COUNT(DISTINCT website_session_id) AS sessions
FROM website_sessions
WHERE website_session_id BETWEEN 100000 AND 115000 -- arbitrary
GROUP BY 1,2,3,4
```

QUERY RESULTS:

wk	dt	wkday	hr	sessions
22	2013-06-05	2	20	9
22	2013-06-05	2	21	12
22	2013-06-05	2	22	17
22	2013-06-05	2	23	11
22	2013-06-06	3	0	8
22	2013-06-06	3	1	13
22	2013-06-06	3	2	6
22	2013-06-06	3	3	4
22	2013-06-06	3	4	7
22	2013-06-06	3	5	3
22	2013-06-06	3	6	5
22	2013-06-06	3	7	9
22	2013-06-06	3	8	19




```
select hr,
 avg(no_hrs),
 avg(case when wkday =0 then no_hrs end ) as monday
 from
(
 select date(created_at),weekday(created_at) as wkday,
hour(created_at) as hr,
count(distinct website_session_id) as no_hrs
  from website_sessions where created_at >'2012-09-15'
and created_at < '2012-11-15' group by 1 ,2,3
) as sessions_avg group by hr
```