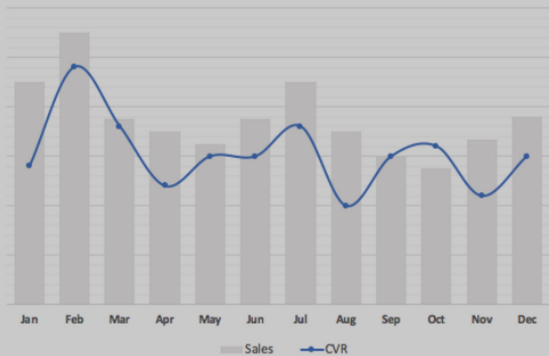


BUSINESS CONCEPT: ANALYZING SEASONALITY & BUSINESS PATTERNS



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

**NEW MESSAGE**

January 02, 2013

From: **Cindy Sharp (CEO)**Subject: **Understanding Seasonality**

Good morning,

2012 was a great year for us. As we continue to grow, we should **take a look at 2012's monthly and weekly volume patterns**, to see if we can find any seasonal trends we should plan for in 2013.

If you can pull session volume and order volume, that would be excellent.

Thanks,  
-Cindy

Reply

Forward

**Result Preview**

Result Grid Filter Rows

yr	mo	sessions	orders
2012	3	10710	85
2012	4	11716	96
2012	5	11716	106
2012	6	10602	106
2012	7	10602	106
2012	8	10602	106
2012	9	10602	106
2012	10	10602	106
2012	11	10602	106
2012	12	10602	106

week_start_date	sessions	orders
2012-03-19	10602	106
2012-03-26	10602	106
2012-04-01	10602	106
2012-04-08	10602	106
2012-04-15	10602	106
2012-04-22	10602	106
2012-04-29	10602	106
2012-05-06	10602	106
2012-05-13	10602	106
2012-05-20	10602	106
2012-05-27	10602	106
2012-06-03	10602	106
2012-06-10	10602	106
2012-06-17	10602	106
2012-06-24	10602	106
2012-07-01	10602	106
2012-07-08	10602	106
2012-07-15	10602	106
2012-07-22	10602	106
2012-07-29	10602	106
2012-08-05	10602	106
2012-08-12	10602	106
2012-08-19	10602	106
2012-08-26	10602	106
2012-09-02	10602	106
2012-09-09	10602	106
2012-09-16	10602	106
2012-09-23	10602	106
2012-09-30	10602	106
2012-10-07	10602	106
2012-10-14	10602	106
2012-10-21	10602	106
2012-10-28	10602	106
2012-11-04	10602	106
2012-11-11	10602	106
2012-11-18	10602	106
2012-11-25	10602	106
2012-12-02	10602	106
2012-12-09	10602	106
2012-12-16	10602	106
2012-12-23	10602	106
2012-12-30	10602	106

```
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
```