Case Study #2 Pizza Runner

Question 1: How many runners signed up for each 1-week period? (i.e., week starts 2021-01-01)

join_on_this_week	week_number
2	1
1	2
1	3

Two runners joined in the first week. One runner joined on the second week. One runner joined on the third week.

Question 2: What was the average time in minutes it took for each runner to arrive at the Pizza Runner HQ to pick up the order?

runner_id	average_time
1	00:14:19.75
2	00:20:00.666667
3	00:10:28

Runner 1 had an average time of 14 minutes and 19 seconds to pick up the order. Runner 2 had an average time of 20 minutes. Runner 3 had an average time of 10minutes 28 seconds to pick up their order.

Question 3: Is there any relationship between the number of pizzas and how long the order takes to prepare?

As we can see, there usually is a positive relationship between the number of pizzas and how long the order takes to prepare. If the order only has 1 pizza, it generally takes around 10 minutes to prepare and for the driver to pick it up. But as we increase the amount of pizza ordered, this time goes up with 30 minutes being the most amount of time for 3 pizzas. With a quick glance, we can see that it generally takes 10 minutes per pizza.

order_id	time	pizza_number
1	00:10:32	1
2	00:10:02	1
3	00:21:14	1
3	00:21:14	2
4	00:29:17	1
4	00:29:17	2
4	00:29:17	3
5	00:10:28	1
7	00:10:16	1
8	00:20:29	1
10	00:15:31	1
10	00:15:31	2

Q4: What was the average distance travelled for each customer?

customer_id	avg_distance_in_km
101	20
102	16.733333333333334
105	25
104	10
103	23.399999999999995

The average distance for customer 101, 102, 103, 104, and 105 is 20km, 16.73km, 23.40km, 10km, and 25km respectively.

Q5: What was the difference between the longest and shortest delivery times for all orders?

difference_in_time
30

The difference between the longest and shortest delivery times for all orders in 30mins.

Q6: What was the average speed for each runner for each delivery and do you notice any trend for these values?

order_id	runner_id	speed(km/min)
1	1	0.63
2	1	0.74
3	1	0.67
10	1	1.00
7	2	1.00
8	2	1.56
4	2	0.59
5	3	0.67

Above are the average speed for each runner for each delivery. We see that the average speed is generally lower than 1 km/min. To see more trends, we can compare other factors like number of pizzas, type of pizzas, etc.

Q7: What is the successful delivery percentage for each runner?

runner_id	successful_percentage
3	50.00
2	75.00
1	100.00

Runner 1 has a 100% successful delivery percentage. Runner 2 has a 75% while runner 3 has a 50%.