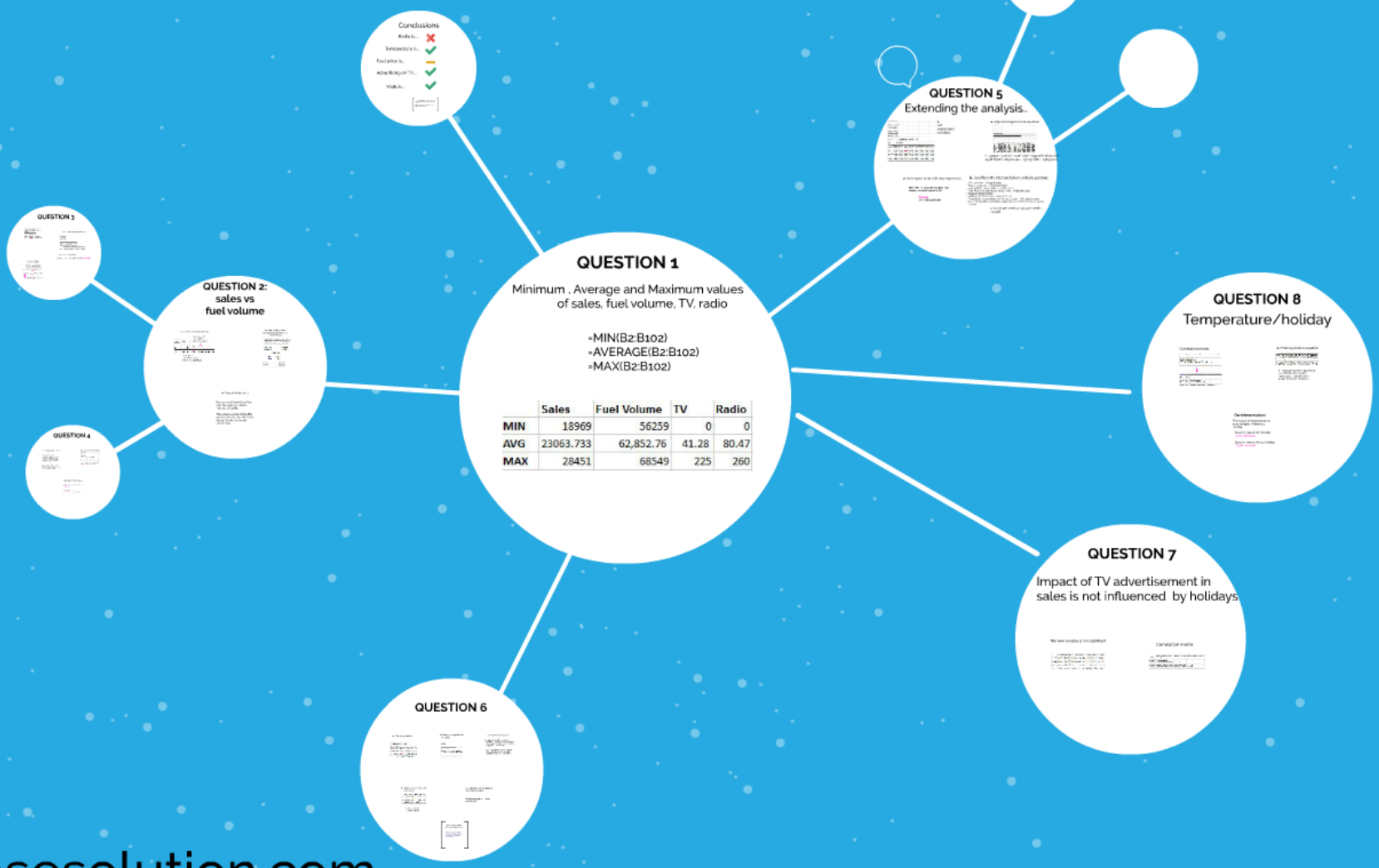
FUELING SALES AT EUROPET



QUESTION 1

Minimum , Average and Maximum values of sales, fuel volume, TV, radio

- MIN(B2:B102)
- AVERAGE(B2:B102)
- MAX(B2:B102)

	Sales	Fuel Volume	TV	Radio
MIN	18969	56259	0	0
AVG	23063.733	62,852.76	41.28	80.47
MAX	28451	68549	225	260

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LING SALES AT EUROPET

Conclusions

QUESTION 3

QUESTION 2: sales vs fuel volume

QUESTION 4

QUESTION 1

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QUESTION 5
Extending the analysis..

QUESTION 8
Temperature/holiday

QUESTION 7
Impact of TV advertisement in sales is not influenced by holidays

QUESTION 6

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QUESTION 1

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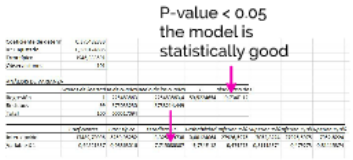
QUESTION 2: sales vs fuel volume

a. Is the relationship significant?



P-value < 0.05
the model is statistically good

T-statistic >2
the relationship is statistically **significant**

b. Avg. c-store sales estimates at different fuel volume levels

sales at min: alfa coeff.+beta coeff*min. vol
sales at avg: alfa coeff+beta coeff*avg. vol
sales at max: alfa coeff.+beta coeff*max vol

	Coeficientes
Intercepción	-17489,70996
Variable X 1	0,64521337

	Fuel Volume
MIN	56259
AVG	62,852.76
MAX	68549

Min sales	18809,34903
Avg Sales	23063,73267
Max sales	26739,02135

d. Type of relationship

For each additional liter of fuel sold, the sales at c-stores increase of **€0.65.**

This variable explains the **37%** variation in sales, but this is not enough to claim a causal relationship.

a. Is the relationship significant?

P-value < 0.05
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Coeficiente de determ	0,375482839
R^2 ajustado	0,369174585
Error típico	1946,333591
Observaciones	101

ANÁLISIS DE VARIANZA

	Grados de libertad	*a de cuadra*	*medio de los cuadra*	*F*	*alor tico de F*
Regresión	1	225483863	225483863,4	59,5224654	9,734E-12
Residuos	99	375033230	3788214,449		
Total	100	600517094			

	Coeficientes	*Error típico*	*Estadístic t*	*Probabilidad*	*Inferior 95%*	*Superior 95%*	*nferior 95,0%*	*uperior 95,0%*
Intercepción	-17489,70996	5259,95282	-3,325 9738	0,00124064	-27926,5975	-7052,8224	-27926,5975	-7052,8224
Variable X 1	0,64521337	0,08363016	7,715080387	9,734E-12	0,479273	0,81115374	0,479273	0,81115374

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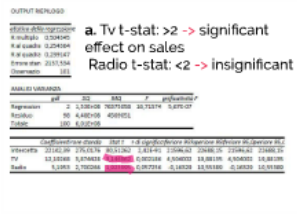
QUESTION 3



a. Tv t-stat: >2 -> significant effect on sales
Radio t-stat: <2 -> insignificant

b. c-store sales estimate

OUTPUT RIEPILOGO

ntistica della regressione	
R multiplo	0,504545
R al quadra	0,254564
R al quadra	0,239147
Errore stan	2137,534
Osservazio	101

ANALISI VARIANZA

	gdl	*SQ*	*MQ*	*F*	*gnificatività F*
Regression	2	1,53E+08	76375058	16,71574	5,67E-07
Residuo	98	4,48E+08	4569051		
Totale	100	6,01E+08			

	Coefficienti	*rore standa*	*Stat t*	*: di significa*	*fcriore 95*	*Superiore 95*	*fcriore 95,0*	*periore 95,0*
Intercetta	22142,39	175,0176	80,51262	2,42E-91	21796,62	22488,15	21796,62	22488,15
TV	12,19268	3,874428	3,146962	0,002186	4,504002	19,88135	4,504002	19,88135
Radio	5,1953	2,700266	1,923995	0,057256	-0,16329	10,55389	-0,16329	10,55389

40 TV GRPs and 80 radio GRPs

sales= 22142+12,2x40+5,2x80=**€23046**

d. Net impact of c-store ad: does it boost profit?

[(B x mf) * % ad profit margin]* tot stores-amount spent in ad

tv net impact: [(12.2x3) 0.3] 100 - 300= **€798**

Radio net impact: [(5.2x3) 0.3] 100-25= **€443**

but Radio true value=0 -> NON PROFITABLE!