

Support

Transaction ID	Product ID
11231	IA45Y
11231	DDD7M
11231	BDR5U0
11231	KLYT6
11232	TTR45H
11232	HJL9B
11232	DDD7M
11232	IA45Y
11232	BDR5U0
11232	KLYT6
11233	KLYT6
11233	IA45Y
11233	DDD7M
11234	KLYT6
11234	BDR5U0
11235	DDD7M
11235	KLYT6
11235	BDR5U0
11235	IA45Y

Probability that the two item sets occur together

KLYT6 ==> IA45Y

KLYT6 and **IA45Y** both occur together in **4/5** transactions

(KLYT6 and IA45Y)/All Transactions

Support = 0.8

Support is symmetric:
 $\text{support}(\text{KLYT6} \Rightarrow \text{IA45Y}) =$
 $\text{support}(\text{IA45Y} \Rightarrow \text{KLYT6})$

Confidence

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11233	KLYT6
11233	IA45Y
11233	DDD7M
11234	KLYT6
11234	BDR5U0
11235	DDD7M
11235	KLYT6
11235	BDR5U0
11235	IA45Y

Conditional probability of a transaction containing item set RHS given that it contains item set LHS

KLYT6 ==> IA45Y

4/5 of the transactions that contain **KLYT6** also contain **IA45Y**

(KLYT6 and IA45Y) / KLYT6

Confidence = 0.8

Expected Confidence

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11233	KLYT6
11233	IA45Y
11233	DDD7M
11234	KLYT6
11234	BDR5U0
11235	DDD7M
11235	KLYT6
11235	BDR5U0
11235	IA45Y

Assuming LHS and RHS are independent, proportion of transactions that contain the items in RHS

KLYT6 ==> IA45Y

4/5 of the transactions contain **IA45Y**

IA45Y / All transactions

Expected confidence = 0.8

Lift

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11232	HJL9B
11232	DDD7M
11232	IA45Y
11232	BDR5U0
11232	KLYT6
11233	KLYT6
11233	IA45Y
11233	DDD7M
11234	KLYT6
11234	BDR5U0
11235	DDD7M
11235	KLYT6
11235	BDR5U0
11235	IA45Y

Confidence of the rule divided by the
expected confidence

KLYT6 ==> IA45Y

$$\text{Lift} = 0.8/0.8 = 1$$

Lift can be interpreted as a measure of association between the two item sets. Values greater than 1 indicate positive correlation, values equal to 1 indicate zero correlation, and values less than 1 indicate negative correlation. Lift is symmetric.