**Association rules exploration**

We searched for minimum confidence values (*min\_conf*) between 50 and 70 with intervals of 10 and *zmin = 2*.

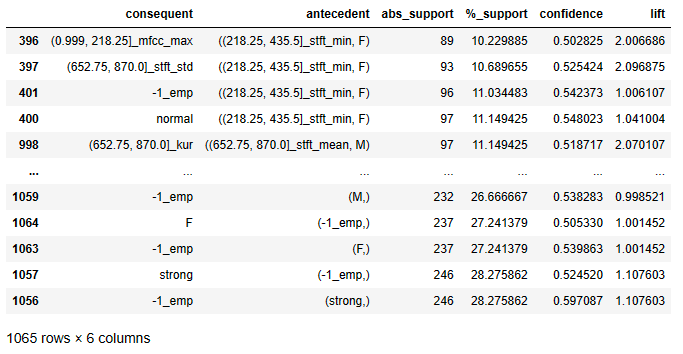


Figure 1: association rules with min\_conf = 50, zmin = 2 and min\_sup = 20.

With *min\_conf = 50* we got 1065 results, with a maximum support value of 28.28%.

Immagine che contiene tavolo

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Figure 2: association rules with min\_conf = 60, zmin = 2 and min\_sup = 20.

The number of results has obviously decreased dramatically, from 1065 to 422. The five most frequent rules also have a confidence rating of 1 and a lift of almost 4.

Immagine che contiene tavolo

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Figure 3: association rules with min\_conf = 70, zmin = 2 and min\_sup = 20.

With *min\_conf = 70* the results decreased by about 20%. The most frequent rules are probably the same as in *Figure 2* but there are more than five and therefore different rules are displayed.

We also tried changing the minimum number of items, with *zmin = 3* and *4*, bringing *min\_conf* back to 50.

Immagine che contiene tavolo

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Figure 4: association rules with min\_conf = 50, zmin = 4 and min\_sup = 20.

The result is that the number of rules has decreased significantly from *zmin = 2* with the same but similar *min\_conf* and slightly below *min\_conf = 70* with *zmin = 2*. The five most frequent rules have the same support, confidence and lift values than those shown in *Figures 2* and *3*.