**Quiz-8**

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**What are the differences between content-based and collaborative filtering?**

The difference is the content-based, is based on historical data , user profile, product information,which builds up an information about the customer which can be used as filtering methods.

The collaborative is based on premise, for similar data/information or similar rating. So its not directly based on the historical inserted data. It tries to find similar user.

**How could you explain the matrix bubble chart in this case study?**

There are strong Co-relation and concentrate on the:

vegetables} − 19 rules {sausage} − 8 rules {frozen foods, +7 items} − 35 rules {dairy produce, +2 items} − 53 rules {bags, +4 items} − 12 rules {non −alc. drinks, +4 items} − 53 rules.

Also the chart shows that there are some kind of skewness which will be more visible on scatter plots or other charts.

**Suppose your client is a dairy producer, how would you like to guide his/her by the market basket Model?**

> vegie.rules <- subset(second.rules, subset = rhs %pin% "dairy")

> inspect(vegie.rules) # 41 rules

lhs rhs support confidence lift

[1] {} => {dairy produce} 0.44300966 0.4430097 1.0000000

[2] {sweetener} => {dairy produce} 0.02572445 0.6710875 1.5148372

[3] {poultry} => {dairy produce} 0.03263854 0.6471774 1.4608653

[4] {pork} => {dairy produce} 0.03446873 0.5978836 1.3495949

[5] {staple foods} => {dairy produce} 0.03619725 0.7148594 1.6136430

[6] {coffee} => {dairy produce} 0.03324860 0.5125392 1.1569481

[7] {eggs} => {dairy produce} 0.04494154 0.7083333 1.5989117

[8] {games/books/hobby} => {dairy produce} 0.04758516 0.5373134 1.2128707

[9] {long-life bakery products} => {dairy produce} 0.05002542 0.6007326 1.3560260

[10] {perfumery} => {dairy produce} 0.04900864 0.6187420 1.3966783

[11] {beef} => {dairy produce} 0.04921200 0.6004963 1.3554925

[12] {bags} => {dairy produce} 0.04707677 0.4758479 1.0741253

[13] {vinegar/oils} => {dairy produce} 0.05866802 0.6519774 1.4717002

[14] {chocolate} => {dairy produce} 0.05378749 0.4943925 1.1159859

[15] {beer} => {dairy produce} 0.04595831 0.2954248 0.6668587

[16] {frozen foods} => {dairy produce} 0.06710727 0.5739130 1.2954865

[17] {cheese} => {dairy produce} 0.08459583 0.6677368 1.5072736

[18] {sausage} => {dairy produce} 0.10737163 0.5677419 1.2815566

[19] {fruit} => {dairy produce} 0.15638027 0.6277551 1.4170235

[20] {non-alc. drinks} => {dairy produce} 0.15190646 0.4777742 1.0784736

[21] {vegetables} => {dairy produce} 0.17041179 0.6242086 1.4090180

[22] {bread and backed goods} => {dairy produce} 0.18769700 0.5432607 1.2262955

[23] {bread and backed goods,

long-life bakery products} => {dairy produce} 0.02755465 0.7112861 1.6055769

[24] {bread and backed goods,

perfumery} => {dairy produce} 0.02582613 0.7448680 1.6813810

[25] {beef,

vegetables} => {dairy produce} 0.02989324 0.6518847 1.4714909

[26] {beef,

bread and backed goods} => {dairy produce} 0.02663955 0.7158470 1.6158722

[27] {fruit,

vinegar/oils} => {dairy produce} 0.02663955 0.7683284 1.7343379

[28] {non-alc. drinks,

vinegar/oils} => {dairy produce} 0.02541942 0.7288630 1.6452530

[29] {vegetables,

vinegar/oils} => {dairy produce} 0.03141840 0.7481840 1.6888662

[30] {bread and backed goods,

vinegar/oils} => {dairy produce} 0.03009659 0.7290640 1.6457069

[31] {bread and backed goods,

chocolate} => {dairy produce} 0.02897814 0.6462585 1.4587910

[32] {frozen foods,

fruit} => {dairy produce} 0.03070666 0.7401961 1.6708351

[33] {frozen foods,

non-alc. drinks} => {dairy produce} 0.02938485 0.6800000 1.5349552

[34] {frozen foods,

vegetables} => {dairy produce} 0.03436706 0.7253219 1.6372598

[35] {bread and backed goods,

frozen foods} => {dairy produce} 0.03080834 0.6763393 1.5266920

[36] {cheese,

sausage} => {dairy produce} 0.03111337 0.6907449 1.5592096

[37] {cheese,

fruit} => {dairy produce} 0.03965430 0.7707510 1.7398063

[38] {cheese,

non-alc. drinks} => {dairy produce} 0.03629893 0.7083333 1.5989117

[39] {cheese,

vegetables} => {dairy produce} 0.04219624 0.7628676 1.7220113

[40] {bread and backed goods,

cheese} => {dairy produce} 0.04646670 0.7300319 1.6478917

[41] {fruit,

sausage} => {dairy produce} 0.04728012 0.7299843 1.6477842

[42] {non-alc. drinks,

sausage} => {dairy produce} 0.04433147 0.6080893 1.3726321

[43] {sausage,

vegetables} => {dairy produce} 0.05266904 0.6906667 1.5590330

[44] {bread and backed goods,

sausage} => {dairy produce} 0.06395526 0.6172718 1.3933598

[45] {fruit,

non-alc. drinks} => {dairy produce} 0.06375191 0.6807818 1.5367199

[46] {fruit,

vegetables} => {dairy produce} 0.07869853 0.7350427 1.6592025

[47] {bread and backed goods,

fruit} => {dairy produce} 0.07727504 0.7183365 1.6214917

[48] {non-alc. drinks,

vegetables} => {dairy produce} 0.06446365 0.6817204 1.5388387

[49] {bread and backed goods,

non-alc. drinks} => {dairy produce} 0.07229283 0.5818331 1.3133643

[50] {bread and backed goods,

vegetables} => {dairy produce} 0.08195221 0.7051619 1.5917528

[51] {fruit,

sausage,

vegetables} => {dairy produce} 0.02714794 0.7922849 1.7884144

[52] {bread and backed goods,

fruit,

sausage} => {dairy produce} 0.03060498 0.7984085 1.8022372

[53] {bread and backed goods,

non-alc. drinks,

sausage} => {dairy produce} 0.02775801 0.6275862 1.4166423

[54] {bread and backed goods,

sausage,

vegetables} => {dairy produce} 0.03284189 0.7494200 1.6916560

[55] {fruit,

non-alc. drinks,

vegetables} => {dairy produce} 0.03304525 0.7575758 1.7100660

[56] {bread and backed goods,

fruit,

non-alc. drinks} => {dairy produce} 0.03528216 0.7430407 1.6772562

[57] {bread and backed goods,

fruit,

vegetables} => {dairy produce} 0.04077275 0.7956349 1.7959765

[58] {bread and backed goods,

non-alc. drinks,

vegetables} => {dairy produce} 0.03345196 0.7214912 1.6286129

> # sort by lift and identify the top 10 rules

> top.vegie.rules <- head(sort(vegie.rules, decreasing = TRUE, by = "lift"), 10)

> inspect(top.vegie.rules)

lhs rhs support confidence lift

[1] {bread and backed goods,

fruit,

sausage} => {dairy produce} 0.03060498 0.7984085 1.802237

[2] {bread and backed goods,

fruit,

vegetables} => {dairy produce} 0.04077275 0.7956349 1.795976

[3] {fruit,

sausage,

vegetables} => {dairy produce} 0.02714794 0.7922849 1.788414

[4] {cheese,

fruit} => {dairy produce} 0.03965430 0.7707510 1.739806

[5] {fruit,

vinegar/oils} => {dairy produce} 0.02663955 0.7683284 1.734338

[6] {cheese,

vegetables} => {dairy produce} 0.04219624 0.7628676 1.722011

[7] {fruit,

non-alc. drinks,

vegetables} => {dairy produce} 0.03304525 0.7575758 1.710066

[8] {bread and backed goods,

sausage,

vegetables} => {dairy produce} 0.03284189 0.7494200 1.691656

[9] {vegetables,

vinegar/oils} => {dairy produce} 0.03141840 0.7481840 1.688866

[10] {bread and backed goods,

perfumery} => {dairy produce} 0.02582613 0.7448680 1.681381

> pdf(file="fig\_market\_basket\_farmer\_rules.pdf", width = 11, height = 8.5)

> plot(top.vegie.rules, method="graph",

+ control=list(type="items"),

+ shading = "lift")

> dev.off()

null device

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