

# Interactive Venns – Name, Set and Match?





# Introduction

As technology has advanced, a concept dating back to the late 19th century may just be the new way for business users to gain insight from the ever-expanding mountain of corporate data.

It never ceases to amaze how excited people get when we demonstrate Venn diagrams in our Search-based Business Analytics Solution, CXAIR.

## So what is a Venn Diagram?

According to Wikipedia, Venn diagrams, aka 'set diagrams', show all hypothetically possible logical relations between finite collections of sets (aggregations of data).

Invented in 1880 Venn diagrams are not a new way of doing things. However, the production of Venns has become a more academic undertaking, manually illustrating relationships in data by drawing a set of circles/ellipses on a screen or page, then manually filling the contents.

So why is it only a handful of BI tools support Venn diagrams? And why can't these tools allow Venn diagrams to be built up and manipulated in real time?

Going back to junior school, I was introduced to the concept of Venn diagrams in Mathematics, as I am sure many of you reading this were too. They were extremely easy to understand and clearly highlighted relationships in the data in an extremely simple and easy to understand way.

One of the great things about what a Venn shows you is not just the ability to find where things exist in more than one set but also conditions where things don't exist across two sets.

In BI terms it is often harder to determine where things don't match than where they do. Strange but true!

# Introducing CXAIR

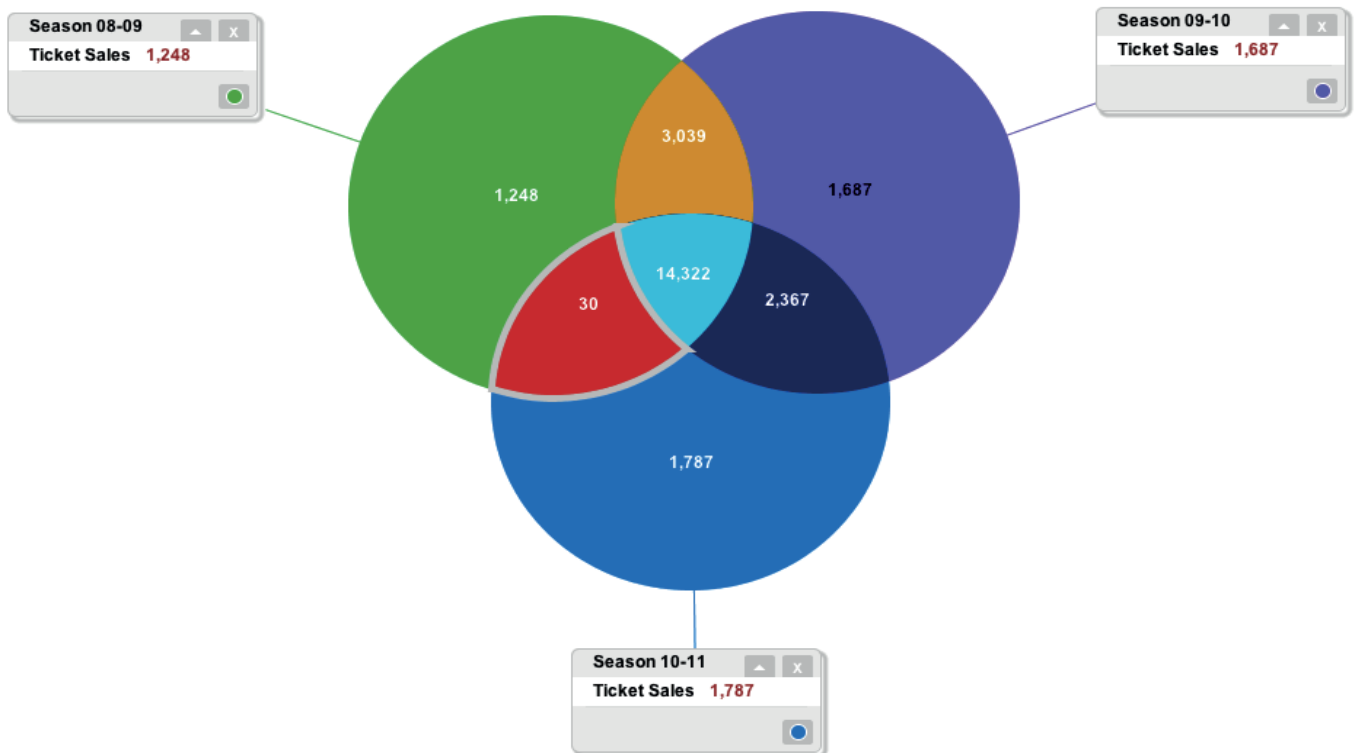
## Venn Diagrams

So what can a Venn tell you about your data? A simple three set Venn where each set overlaps one another at one point will show you 7 different relationships. Where a value exists in all of the sets, where things exist in more than one set, and where things only exist in a single set.

Applying this to some sample CRM based data looking at customers who have bought an annual pass for a season, a Venn provides you with some really useful information.

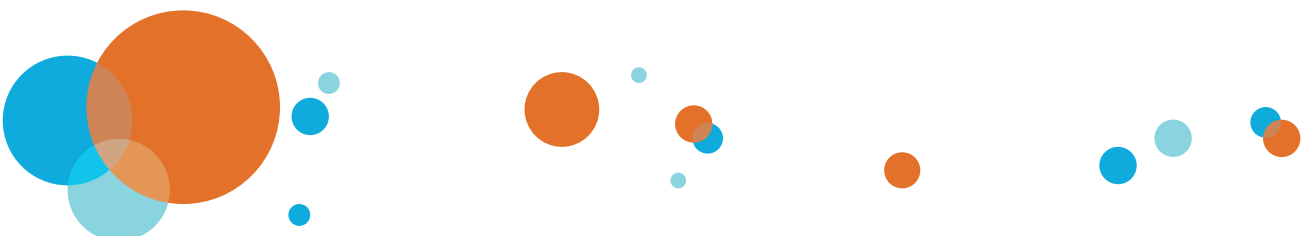
- a. Which are my most loyal customers?
- b. Which customers are new in the most recent years data?
- c. Which customers did not renew in the latest years worth of data?

Trying to find this information out by analysing your data through traditional BI would involve some fairly sophisticated SQL which would give you a headache to write (if you were experienced and skilled SQL programmer), on top of taking an age to run if working with large data volumes.



In CXAIR by Connexica, the Venn requires no SQL and takes less than a second to calculate the relationships and display them on the screen. What's more, each circle can be moved around and detached from the main Venn in the same way that additional sets can be added to the Venn to create more and more sophisticated analyses.

Each intersection can be saved away as a set and then added to another Venn to highlight relationships that would be mind-bogglingly difficult to determine in any other way.



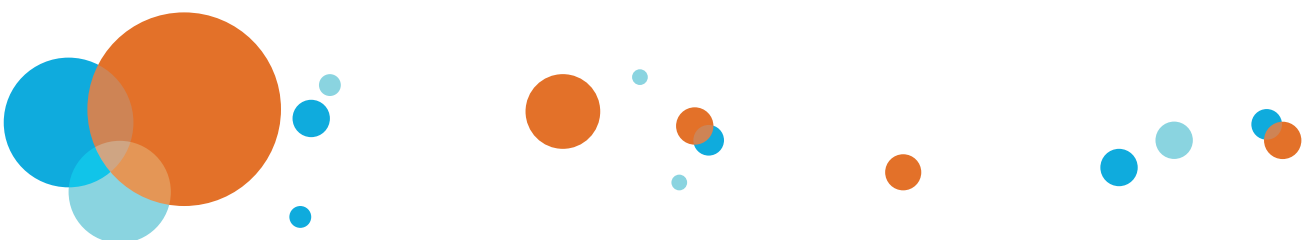
## Exploring the Power of Venn Diagrams

So what types of things can Venn diagrams be used for in the context of data analysis and reporting? What value can they offer over and above traditional reporting techniques?

- In banking, which of my customers who had a balance of over €5,000 who didn't have a savings account with the bank, but do have other products such as credit cards or loans?
- In health and social services, which children have been repeatedly admitted over a period of consecutive weeks or months?
- In retail, which people who have bought a MacBook Air and an iPod but don't own an iPhone?
- In HR, which people have a propensity to phone in sick the day after a bank holiday?
- In crime prevention, which blue-eyed, five foot ten inch, Caucasian males under the age of 20 have been charged with multiple violent offences in a particular area and time period?

These are all obvious questions that you might want to find answers to but are difficult using traditional reporting techniques and nearly always require the expertise of the IT department not just the business user.

CXAIR lets you answer these questions yourself, in minutes.





# Conclusion



Venn diagrams are such an easy and powerful way of business users gaining real insight into their data. This knowledge can be used to create improvements, identify cost reductions and generate new revenue opportunities.

Whilst Venn diagrams may have been around for over one hundred and thirty years it is only now that through search technology, the hardware and software is advanced and fast enough to provide the slicing, dicing and computational power required for an interactive Venn querying tool.

Every BI supplier allows you to do aggregations, dashboards and filtering; however they all require extensive support from IT and the solutions that do exist are too expensive and often too difficult to use for most business users.

We see Venn diagrams as a key analysis technique that finally allows users to mine and gain real insight into customer behaviour and data patterns.

If you would like more information on Venn diagrams or see them in action over the web, visit our web site at [www.connexica.com](http://www.connexica.com) and sign up for a free online demo.