**Case Study Background**

Conshy Insurance Company (CIC) is a small insurance company that buys leads from 4 providers. These leads are generated online by consumers who fill out a form seeking information about and potential prices for car insurance (e.g., a consumer filling out their information on a website like [this](https://www.quotewizard.com/router/?v=google&c=C14729&est=EXACT&KEY=PA&cat=270775638&a=20444715078&mt=e&emt=20444715078&ad=499656353926&mobile=&adpos=&kw=car%20insurance&device=c&gclid=Cj0KCQiA_8OPBhDtARIsAKQu0gayErI7vGmiSBQkYCjoJ6F_C7SlUdh1zd1x8qgYyjVGKm9qmEzb8QwaAhh6EALw_wcB)).

CIC is interested in paying for access to the data that Jornaya can provide about these leads. They believe that Jornaya’s data could be valuable to them but are unsure how they would use it to improve their business. A customer success manager has suggested that CIC send Jornaya a file of their lead data so that you can show them just how valuable Jornaya data can be.

What data can Jornaya provide and how does it obtain the data? Jornaya has a proprietary script that is placed on comparison shopping websites across the internet like the example linked above. Through that script, Jornaya records data about a consumer’s interactions with one of these websites during their web session and derives different metrics. In this example, Jornaya’s script is present on the 4 lead **provider’s** websites CIC buys from, so Jornaya can append the four additional data fields listed to all the leads CIC bought from Providers A, B, C, and D. Please note each row represents an individual lead.

**Data Description**

CIC sends over a file with 560 recent leads. It has the following fields:

|  |  |
| --- | --- |
| **Field** | **Description** |
| token | A unique value that serves as the primary key for each row and is meant to represent an individual lead |
| provider | The name of the company CIC purchased the lead from |
| lead\_cost | How much CIC paid for the lead from the provider |
| contact | A 0/1 flag indicating whether CIC was able to contact the consumer. A “1” indicates contact was made. A “0” indicates the contact was attempted but not successful. |
| purchase | A 0/1 flag indicating whether a consumer purchased insurance from CIC. A “1” indicates a purchase was made. A “0” indicates a purchase was not made. |

Jornaya appends the following fields:

|  |  |
| --- | --- |
| **Field** | **Description** |
| lead\_age | The time, in seconds, between when a consumer submitted an online form to when CIC received the lead |
| lead\_duration | The number of seconds a consumer spent completing the online form |
| field\_count | The number of fields in the online form that the consumer was asked to fill in |
| competitors | The number of other insurance companies (i.e., competitors) that were also sent the same lead |

All this data can be found in the file “client\_leads\_with\_outcomes.csv”

**Asks and Considerations**

***CIC is looking for you to make suggestions about potential “rules” that they could implement with Jornaya data to positively impact their lead-buying strategy*.** For example, these are some good questions and points to start with:

* Based on the data available, is there a certain type of lead that CIC should not bother purchasing?
* Are there consumers that CIC should prioritize purchase and trying to contact?
* What are the characteristics of the leads that CIC should not and should prioritize purchasing, and how can they implement rules using Jornaya data to distinguish these leads?
* How much of a difference does having Jornaya data available make vs. not having it available?
* *Remember we are aiming to prove Jornaya’s data can have a meaningful and valuable impact to CIC, so showing numbers for how these rules can affect CIC will increase the strength of your story.*

For the interview, please prepare the following:

**Task 1**

* Explore the data and evaluate what Jornaya data points can potentially add value to the original data set.
  + *Please note it is possible not all Jornaya’s data points may add value.*
* Perform analysis to discover what rules may prove the value of Jornaya’s data to CIC.
* You do not necessarily have to share your output, but please come prepared to talk through how you approached the problem and what you did.
  + Please keep in mind, we will ask questions about *why* you did what you did.

**Task 2**

* Create a dashboard and/or a short PowerPoint/Keynote/Google Slides presentation (<=5 slides) that can be shared with CIC highlighting at least 1 of the business rules that they could implement using Jornaya data.
  + If you find more than 1 rule, we encourage you to share those additional rules too.
  + Remember to explain what you would recommend and why.
  + Consider how you would present it to a client in a way that makes a compelling case for using Jornaya data.

Please use the tool(s) or programming language(s) you are most comfortable with to complete the analysis. However, be intentional about how you conduct the analysis.

Please send over anything you plan to present/share ahead of time to ensure we do not have any compatibility issues.

**Final Thoughts**

1. This task is indicative of the type of work the Analytics team does (although it only represents a fraction of the cool and interesting problems we need to solve!). One goal of this case study is for you to see if you would enjoy this type of work.
2. The purpose of this assignment is to learn more about how you think through a data/business problem and how you arrive at a conclusion.
3. Do not overcomplicate the analysis. For the analysis methods you choose, be intentional with how you choose them as opposed to choosing an advanced modeling technique that may show off your skill but may not be the best fit for this analysis.
   * This doesn’t mean to not show us your skill but attach a purpose to everything you do.
4. Your audience will contain Analytics team members, and can contain members of the Product, Customer Success, and Data Science teams.
5. Feel free to reach out with any questions or even to ask for guidance if you need it! In fact, we encourage you to ask questions about any key assumptions you may be making!