ADS-505 Final Project - Travel Insurance Predictions
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Business Brief

A travel agency in India has engaged our group to devise a model for predicting sales of coronavirus (COVID) related travel insurance based on a set of commonly collected personal attributes. The travel agency has seen greatly reduced sales during the pandemic and now that travel is resuming feels compelled to offer COVID related travel insurance in order to stay relevant in the post-pandemic marketplace. The agency would like to analyze the risks associated with making any financial commitments at a time when revenues are low as any additional financial burden on the agency could be devastating.

The coronavirus pandemic has had a catastrophic effect on the worlds travel industry. In 2020, global revenue from the travel industry was estimated to drop from an predicted 711.94 billion U.S. dollars to 568.6 billion U.S. dollars, representing a decrease of over 20 percent (Lock, 2021). In reality, the travel industry shrank by 42 percent and 65 percent of all U.S. jobs lost in 2020 were from the travel industry (Weissmann, 2021). To add to an already devastating financial situation, additional requirements, both official and un-official, have been placed on the travel industry to provide new measures for safety and risk mitigation. With travel beginning to resume in some parts of the world, travel agents have begun offering COVID-19 related insurance as a means to entice travelers who may be concerned about pandemic related problems when travelling. Many travel insurance offerings do not cover COVID related trip cancellation and medical coverage; However not offering pandemic travel insurance to clients could mean losing sales to another travel agencies which do. This presents a problem for travel agencies who are already seeing lost revenue from travel hesitancy. Additional cost associated with adding additional carriers to their insurance portfolio could reduce already low profit margins. Pre-pandemic profit margins for travel agencies were as low as 7.6 percent (Jainchill, 2012) and likely post-pandemic profit margins will be even narrower. It is important to stay economically viable by adding new services as the needs of customers change; However, it is essential to make sure these services can be offered with minimal impact to the agency's annual revenue.

The agency estimates a cost of ₹ 40,000 annually, including marketing material, additional training, and contracting costs, to maintain COVID related travel insurance. The agency has not sold COVID related travel insurance in the past so they cannot look back at historical sales to make estimates. Additionally, it will be difficult to calculate the potential risk to sales which not carrying the insurance could pose, although it is widely believed it would have a definite

impact. It has been decided that attempting to predict the likelihood of potential travelers buying the insurance would be an effective way of gauging sales for the following year in order to estimate financial risk. The agency has decided that if it can safely cover the annual cost associated with carrying the new insurance, plus a 10 percent margin for error, it would sign on with additional insurance carriers.

A random sample of sales including 2000 individuals was taken to create a model utilizing commonly available variables, including employment type, education, annual income, family size, health, and travel tendencies, such as travel frequency and international travel. Information on whether the individuals in the sample purchased COVID travel insurance was used to create a model for predicting the probability of an individual, based on the previously mentioned factors, to purchase COVID insurance. The agencies sales pipeline for the upcoming year was run through the model to predict the probability for each sale that it would include COVID insurance. The estimated sale amounts for each of these purchases was then totaled to get an estimated annual revenue for COVID insurance sales. Only sales with a predicted probability greater than 50% were selected. The total revenue predicted by the model was ₹ 46,542.00. The estimated annual cost to offer the insurance was ₹ 40,000.00, plus a ₹ 4,000.00 safety margin. The total profit from offering the new insurance is ₹ 2,542.00. Remember, the goal was simply to make sure the agency could offer the insurance without affecting revenue. The determination is that offering the new insurance will not affect the upcoming years annual revenue. The final recommendation is that the company move forward with contracting to offer the new insurance in order to offer COVID travel coverage to their customers.

References:

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