To determine the best locations for TISA stores in Guatemala, five main factors were examined: Human Development Index (HDI) per department, which is determined with health, education, and quality of life data; primary schools for children; roads; hospitals; and population. The data was acquired from the Guatemala National Statistics Institute and Segeplan, the Ministry of Planning and Programming of the Presidency.

The data for each factor considered was converted into map layers and each was turned into raster data to reclassify into a gradient range of 1-5. This scale represents the level of suitability for locating a TISA store based on specific proximity criteria displayed in the table below.

Finally, all five factors were calculated into one map by using the raster calculator tool. This final map shows the areas most suitable to open a TISA store.

The accessibility analysis determined areas most suitable to locate TISA stores. The darkest areas on the map (situated in the Huehuetenango and San Marcos Departments) indicate suitable locations for new stores. Additional opportunities can be found in the departments of Alta Verapaz, Chiquimula, Santa Rosa, and Retalhuleu.

According to the suitability criteria denoted earlier, the darkest areas represent optimal locations for future stores. They are conveniently located near primary schools, in communities with high population density, and where HDI is relatively low. TISA stores must also be near roads in order for customers to access them, as well as far enough away from hospitals to address the needs of the most vulnerable communities. To ensure their effectiveness, TISA stores must be closer than the local hospital, where customers could purchase similar goods. However, TISA stores should not be too far away from partnering with local hospitals, which could direct pharmaceutical referrals toward TISA services.

Proximity to primary schools serves a dual purpose. First, store owners with children prefer working near where their children go to school. Second, it is assumed that most families with young children live near schools. Since children are more vulnerable to disease than adults, siting TISA stores within a short distance of schools would both increase convenience for parents and the likelihood of their use.

While some areas have very low HDI, the success of TISA stores depends upon their continued usage. Thus, selecting high population locations for TISA stores allows them to reach a greater number of clients and ensures their sustainability.

This analysis offers very basic variables. Other spatial indicators like elevation of the terrain could add value to the results to determine time for distance traveled. Unfortunately, this data was difficult to find. Furthermore, in light of time constraints some assumptions had to be made regarding consumer and store-owner preferences.