|CATEGORIZATION OF VENDORS OF AN ECOMMERCE COMPANY|

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Problem:

EasyShop is an online market place where vendors across the country meet buyers across the country online. Recently EasyShop got a set back on its goodwill due to some complains on the vendors. Complains are primarily on areas like high price quote, low quality product delivery, no or delayed product delivery, etc.

After that EasyShop has given a tremendous methodical approach to identify the good vendors and give an "EasyShop Certified Vendor" tag to give assurance to the buyers about them.

Once it has been done, but EasyShop realises that with more that 50K vendors and growing day by dat it is not possible to manually decide to certify a vendor or not. Hence, there needs to be a statistical or analytical technique for certification or categorization of vendors at a monthly level.

Data:

EasyShop has collected feedback from different shoppers (i.e. buyers) on the vendors on different parameters like "Speed of Delivery", "Quality of Product", "Competitive Pricing", "Product Line" "Complain Resolutions", etc. Also they have looked at the number of complains about the vendors in last 12 months.

The data contains data on close to 60K vendors on the above mentioned fields and the current certification status

The details of the fields are as below:

Variable Name	Description	Valid Values
ID	ID of the Vendor	Unique Value
Product Quality	Average rating of the vendor for "Product Quality"	Normalised value. Hence lie between 0 to 1
Speed of Delivery	Average rating of the vendor for "Speed of Delivery"	Normalised value. Hence lie between 0 to 1
Competitive Pricing	Average rating of the vendor for "Competitive Pricing"	Normalised value. Hence lie between 0 to 1
Complain Resolution	Average rating of the vendor for "Complain Resolution"	Normalised value. Hence lie between 0 to 1
Product Line	Average rating of the vendor for "Product Line"	Normalised value. Hence lie between 0 to 1
Number of Complains	Number of complains about the vendor in last 12 months	Normalised value. Hence lie between 0 to 1
Response	Certification Status (Target variable)	Certified/ Not Certified

What You Have to Do:

Based on the data, build a classification rule engine to classify a vendor into either of "Certified" or "Not-Certified" status. Use different classification techniques and compare the results.

Extension of the Problem:

As an extension of the previous effort, EasyShop wants to suspend some fraud vendors from listing their products. Hence they want to classify their vendors in three categories, instead of two, viz. "Certified" "Not Certified" and "Restricted".

Revised Data:

The revised data contains same set of fields, only the "Response" variable has three levels, viz. "Certified", "Not Certified", and "Restricted"

What You Have to Do:

Based on the data, build a classification rule engine to classify a vendor into either of "Certified" or "Not-Certified" or "Restricted" status. Use different classification techniques and compare the results.