In digital signal processing, spectrum analysis of noisy composite signals is of utmost importance. Most of the real life signals are of this kind and are found in many crucial fields, such as medical, forensics, and speech-text applications. The components of the signal are represented by impulse responses of various frequencies and bandwidth. For vocal speech, these components are also known as formants. If the formant characteristics can be estimated properly, the signal can be reconstructed with minimum error and noise. Formant estimation can also be essential to diagnose any abnormalities in vocal tract such as polyps, which result in additional numbers of formants. Using Singular Value Decomposition, the composite signal can be separated according to their significance indicated by corresponding singular values. This paper proposes a method to determine the relation between the distribution of the singular values and the component characteristics, such as frequency and bandwidth.