In yarn production, twist is given to textile fibres to bring and hold the fibres closer together and hence cohesion is created among the fibres. Many mechanical parts or an air vortex have been used to get the twist. Swirling airflow is obtained with an air nozzle having a certain design and also feeding of compressed air. The structure and properties of airflow have a significant influence on yarn character and quality. In addition, the form and properties of swirling airflow changes depending on structural parameters of the air nozzle, air pressure level and the parameters regarding with the yarn. Prior to this study, other our studies indicated that different airflow forms were observed along the air nozzle according to the factor concerning with the nozzle, air pressure and yarn and hence yarn properties changes with the airflow form. In this study, it was aimed to define the parameters affecting the potential of yarn formation and to develop a preliminary mathematical model including the parameters and their effects. Particularly, in present study, it was focused on classification of constant and changeable parameters.