This paper investigates the use and contribution of Operations Research (OR) techniques to the wine industry. The research starts with a brief overview of the global wine industry. Then, issues in the wine industry are analysed and OR techniques that are used to solve these issues are reviewed. A multi-methodology was developed to analyse these issues on three levels: industry, business and strategic vs. operational levels. At the industry level, Porter’s five forces and Soft System Methodologies techniques were applied. At the business level, TOWS matrix and Value Chain Analysis were utilised. The key concepts of strategic management and operations research permitted to classify the issues found at the precedent levels as strategic or operational. To combine the different techniques, Habermas’ three world framework (Mingers, 2001) was employed. This framework was used as an appraisal of the combination in order to verify that they covered three worlds: the material, social and personal world; and four phases of an OR project: appreciation, analysis, assessment and action (Mingers, 2001). The application of the multi-methodology allowed developing an issue map of the wine industry at the three level of analysis. This issue map was then refined by reviewing OR articles that apply different techniques to the wine industry issues. Overall, the research concludes that many hard OR techniques are already applied to wine industry issues. However, soft OR tools such as Soft System Methodologies are still under used. Recommendations are proposed.