Abstract: Production theory in advanced microeconomics comprises two intricate optimization problems: cost minimization and profit maximization. The cost minimization problem essentially involves deriving conditional factor demand functions and the cost function. The profit maximization problem involves deriving the output supply function, the profit function, and unconditional factor demand functions. Additionally, there are numerous mathematical equations in the setting of production theory which aid us in deriving each of the mentioned functions from another. These include Shephard’s lemma, Hotelling’s lemmas, direct and indirect mathematical relations, and other mathematical elements. All of these elements contribute to forming a neat wheel of relationships in production theory. However, these complexities and unseen, underlying linkages can bring about difficulties for both instructors to teach as well as students to learn the material. Much of this complexity has its root in the intricacies inherent in the mathematical theory of duality. The primary purpose of this poster is to illustrate these theoretical complexities through a holistic visual wheel of relationships in production theory in order to ease the teaching and learning of advanced production theory. More specifically, this poster introduces two instructional visuals which can be used as complementary teaching tools to demonstrate the connections between the profit-maximization and cost-minimization problems as well as other components of production theory in modern microeconomics. This visualization also allows for easier elaboration of three notions of optimality which must exist in any economic production system, i.e. technical optimality, allocative optimality, and scale optimality. The focus of the present poster is on the two extreme market structures: perfect competition and monopoly.