

The thesis deals with market models with random inputs represented by the newsvendor problem for which the randomness is given through a random number of customers. Presented work is divided into three chapters. In the first chapter we present the elementar newsvendor problem as stochastic programming problem with a fixed recourse. In the second chapter we present the multiplayer game theory adapted to the newsvendors problem. Moreover, in the second chapter we extend the problem by the second newsvendor on the market and in the third chapter we generalize the problem for n newsvendors on the market. We deal with the situations that arise in the chapters two and three from the game theory point of view and we study characteristics of a Nash equilibrium. Presented theory is demonstrated on illustrative examples in the ends of the two last chapters.