Introduction

Game theory has ~~excisted~~ existed for millennia and has been ~~in~~ applied to ~~many~~ several ~~forms~~situations~~;~~, ~~ranging from~~for example, historical events (~~such as Spains'~~ Spain's rebellion ~~on~~against Rome in 75 BCE ~~(~~[McCain 2010~~),~~]), biological models (such as natural selection), market environments (~~such as oligopoly~~oligopolies)~~-~~, politics (such as election bidding), and computer science ~~to name few~~. This field of applied mathematics captures ~~behaviour~~ behavior in strategic situations (called ~~ ~~games~~-~~), wherein the success (payoff) of the choice made by an individual (the ~~(~~player~~-~~) is dependent on the ~~choiceesmade~~ choices made by others~~'~~ (other players) (Myerson, 1991)~~-~~.

The three main mathematical models of games are the *extensive* ~~form~~, ~~the~~ *strategic* ~~form~~, and ~~the~~ *coalition* ~~form~~s~~.~~ ~~The bases of difference in one of these models is~~ which differ in terms of the amount of detail provided~~.~~: e.g., the players, their preferences, their information, the strategic actions available to them, and how these influence the outcome~~?~~.

~~In this paper~~Herein, we describe the *strategic* form and study ~~its~~ the underlying phenomena in a business management case ~~of management~~ ~~ labor negotiation at an automobile factory.

The *strategic* form~~, also called the normal of a game~~ ~~has much little~~ comprises fewer details ~~compared compared with~~ with the *extensive* form, in which~~.~~ ~~For *extensive* form,~~ the ~~*position*~~ *positions* and ~~*move moves*~~ of the game are closely followed~~,~~ and the rules define the probable outcomes in planned or random moves ~~-~~(as applies to gambling~~-~~). ~~By contrast~~Conversely, in the *strategic* form, the ~~players~~ players' ~~choice~~choices, i.~~e~~., a *strategy* selected from a set of possible strategies, determines the outcome, ~~iee~~ or, *payoff*. All players choose a *strategy*, and ~~once~~after the choices are revealed, the game ends with each player ~~getting~~ receiving some *payoff*. Each player's payoff is influenced by ~~by each~~the ~~player's~~ players' ~~choice~~ choices. Payoffs can be quiet complex ~~entity~~entities. For our model, we represent payoffs by numerical values. Hence, we assume that the numerical payoffs depend on the choices of all the players.

3 Three objects define the *strategic* form of a game: 1) the set of players: $N=\{1,2,\ldots,n\}$; 2) the sequence of the players' strategy sets: $X_1,\ldots,X_n$; and 3) the sequence of player's pay-off functions: $f(a_1,\ldots,a_n),\ldots,f_n(a_1,\cdots,a_n)$.