

Introduction

Game theory has ~~existed~~ 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 ~~oligopolyoligopolies~~), 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 ~~choicessmade~~ choices made by others² (other players) (Myerson, 1991)–.

Comment [A1]: Using 'and has' here makes the two verb phrases equivalent.

Comment [A2]: This phrase is not needed, it is more conversational.

Comment [A3]: We have followed American English spellings throughout the document.

The three main mathematical models of games are the ~~extensive-form~~, ~~the strategic-form~~, and ~~the-coalition~~ forms. ~~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?~~

Comment [A4]: A substantive edit ensures that the sentence structure is made concise and formal while maintaining the author's meaning.

~~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' ~~choicess~~ 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'~~ ~~choicess~~ 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.

Comment [A5]: Academic writing should not contain lengthy and wordy sentences as they can hamper clarity.

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

Comment [A6]: Sentences should not begin with numerals. In academic writing, spell out the number when it begins a sentence.

SAMPLE