APPLICATION OF GAME THEORY IN FINANCIAL MANAGEMENT
(A CASE STUDY OF OAK FINANCIAL SERVICES)

BY

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DECLARATION

I hereby declare that the submission of this compilation is the true findings of my own researched work presented towards an award of a second degree in the Industrial Mathematics and that, to the best of my knowledge, it contains no material previously published by another person nor submitted to any other University or institution for the award of degree except where due acknowledgement has been made in text .However, references from the work of others have been clearly stated.

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Dedication

I dedicate to my parent, Wife and my darling boy kwame Nimo Asiedu

Acknowledgement

It has become a tradition in academic circles to acknowledge the assistance one received from people in the writing of an academic document.

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Any limitations in this book, however are exclusively mine, but the good comments must be shared among those named above.

Abstract

A computational study of Game Theory applied to investment decisions in optimal portfolio selection Problem is considered. Emphasis will be placed on investment decision problem, which is modeled as Game Theory Problem. Data from Oak financial Service for 2012 is examined.

The decision – maker has to select at least one option from all possible options in which he can invest. The problem here is to decide what action or a combination of actions to take among the various possible options with the given rates of return.

The solution to game theory application in financial investment planning is effective in giving optimal solution as compared with personal discretion means of investment by an investor. From the concept of investment using game theory, the solution to this problem consists of many feasible options investment opportunities where an investor can invest where the limit of the investment amount is not violated.

According to the developed model, the value of the game from the various investment options was 5.3 percent growth rate in mutual fund and bonds. The solution shown gave remarkably better results than the independent model normally used by the institution. We therefore recommend that our model should be adopted by the institution for its investment planning.

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