

BICM Research Seminar 26

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Paper details	
Title	Value Relevance of Key Accounting Information in predicting market performance: A Machine Learning Approach
Authors	Imran Mahmud Lecturer Bangladesh Institute of Capital Market
	Faima Akter Lecturer Bangladesh Institute of Capital Market
	Mostafiz Ahammed Lecturer Notre Dame University Bangladesh
Presentation details	
Presenter researcher	Imran Mahmud
Date	September 12, 2023 (Tuesday)
Time	11:00 AM - 12:30 PM
Venue	BICM Multipurpose Hall
Expected Participants	Faculty Members of BICM & Invited Guests
Discussants	Dr. Shaheena Sultana Professor & Chair, Department of Computer Science & Engineering Notre Dame University Bangladesh
	Dr. Aditi Shams Associate Professor, Department of International Business University of Dhaka

About the Presenter

Mr. Imran Mahmud serves as a Lecturer at the Bangladesh Institute of Capital Market (BICM). He holds an MBA and BBA in Finance from the Department of Finance at the University of Dhaka, where he excelled academically and was awarded the Dean's Merit Award in recognition of his outstanding achievements. Additionally, Mr. Mahmud has successfully passed CFA Level 1 and is actively pursuing further levels of this prestigious professional certification. Having embarked on his professional journey as a Lecturer of Finance in the Department of Business Administration at Notre Dame University Bangladesh, Mr. Mahmud later assumed a pivotal role as a Lecturer at BICM, further honing his expertise in the field of finance. His contributions to the field are evident through the publication of six research papers, focusing on various aspects of the country's capital market, both in domestic and international journals. Mr. Mahmud's engagement with the CFA program and his extensive research endeavors have equipped him with in-depth knowledge of diverse facets of capital markets, including equity and debt markets, IPOs, bonds, derivatives, and investment banking.

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The paper abstract is given below. If you have any questions regarding the seminar or you wish to present a paper or invite a guest researcher, please do not hesitate to communicate S. M. Kalbin Salema, Lecturer, BICM at kalbin@bicm.ac.bd.

Value Relevance of Key Accounting Information in predicting market performance: A Machine Learning Approach

Imran Mahmud¹

Faima Akter¹

Mostafiz Ahammed²

Abstract

This study aims to examine the value relevance of key accounting information and to explore which accounting information has the most value relevance in predicting market performance. The dataset is comprised of total 1402 observations from 117 companies over a period of 2010 to 2021. To conduct the study, total 12 independent variables were taken from financial statements to represent the major accounting information (AI) and year-end market price and Tobin's Q were taken as a proxy for market performance. Under the principal component analysis (PCA), it was found that only 3 AIs namely Earnings per share (EPS), book value per share (BVPS) and cash flow per share (CFPS) can contribute to the whole explained variance ratio of market performance. The study employs several machine learning approaches: Random forest regression (RFR) was chosen as the base line model and the result was compared with decision tree regression (DTR), long short term memory (LSTM), neuron model and multivariate regression model. After splitting the total observation into a 70:30 training-testing dataset and controlling for noise reduction, it was found that over any other models, LSTM and RFR models can predict the market performance with higher R-square value of 62% and 65% respectively along with the lowest MSE of all other models. It was found that EPS has the highest value relevance (factor importance) in predicting market profitability whereas BVPS and CFPS was found to have less than 10% factor importance in predicting market profitability.

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