

Chapter 13


Impact of Business Analytics Tools in Statistical Arbitrage Models in Trading

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ABSTRACT

There could be huge effects from incorporating data analytic techniques into economics teaching. Students can get the practical skills necessary in today's data-driven economy and improve their comprehension of economic theory by integrating these tools into the curriculum. The use of data analysis tools can help increase student interest in the subject and motivation. Students with data analysis skills have chances outside of the classroom in a variety of industries, encouraging the use of evidence in decision-making and promoting economic growth. Overall, incorporating data analytic techniques into economics education helps to advance the economy and society while preparing students for success in the modern workplace.

1. INTRODUCTION

Businesses are realizing more and more the value of using their data to inform decisions and gain insightful knowledge in today's data-driven world. Business analytics has become a vital tool in this effort, contributing significantly to the extraction of useful information from enormous amounts of data. Powerful

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analytics systems that can handle and analyze enormous volumes of data in real time are urgently needed given the exponential growth in the amount of data being generated by businesses. This is especially true in the financial industry, where there is a greater need for advanced analytical tools to improve financial planning and investment decision-making processes due to the significant increase in data availability.

Financial management and investment strategies could be revolutionized by the use of business analytics technologies. Financial managers and investors can significantly increase their understanding of current financial planning procedures and financial theory with the advent of cutting-edge techniques like machine learning and other advanced analytics methods. These tools give users the ability to derive useful insights, spot emerging trends, and spot patterns that might otherwise go unnoticed. Financial professionals can improve portfolio design, optimize risk management tactics, and make wiser investment decisions by leveraging the power of business analytics.

The main goal of this chapter is to give financial managers and investors the knowledge and abilities they need to use business analytics technologies effectively in the context of modern financial planning. Reading about the potential of these tools will help readers develop a better understanding of how analytics can improve their ability to make decisions, allowing them to move more confidently and precisely through the complex and dynamic financial landscape. This chapter aims to equip financial professionals with useful insights and advice so they can effectively use business analytics tools and get the most out of their data-driven projects. It does this by using real-world examples and case studies.

2. RELATED WORK

2.1. Define the Problem

Many organizations find it challenging to use business analytics tools to improve financial performance, despite the fact that data is becoming more widely available and there is a growing need for advanced analytics solutions (Adams & Morey, 2017). Numerous things contribute to this, including a lack of understanding of the capabilities and restrictions of these tools, inadequate infrastructure and data integration, and insufficient training and experience with analytics software (Sambell & McDowell, 2018). As a result, many organizations either fail to gain useful insights from their data or choose poorly as a result of having inaccurate or insufficient data.

To address this problem, detailed information and guidelines on how to put business analytics solutions to use and improve financial performance are needed (Reich, 2019). This chapter will contribute to providing a practical and approachable overview of the most recent developments (Suresh Babu, 2023). Organizations may identify the issue and learn more about the financial performance analytics tools from this chapter.

2.2 Literature Searching

In recent years, there has been an increase in interest in using data analytics tools in education (Adams & Morey, 2017). Studies have shown that using data analytics tools in a variety of fields, including economics, has many advantages.

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