Undergraduate Thesis Prospectus

Applications of Web Development in Portfolio Research

(Technical research project in Computer Science)

The Rise of Socially Responsible Investing

(Sociotechnical research project)

by

Anish Mandalika

October 27, 2022

On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

Anish Mandalika

Technical advisor: Briana Morrison, Department of Computer Science

STS advisor: Peter Norton, Department of Engineering and Society

General research problem

How is the investment sector adapting to 21st century methods and ideals?

The concept of investing can be traced to the Code of Hammurabi written around 1700 BCE in Mesopotamia, which laid out a way to pledge collateral in exchange for investment in a project. Stock markets emerged in medieval Europe. The process of choosing an investment is simple in theory: based on information available to them, investors choose a venture that best suits their goal (in the modern connotation of "investment," this goal is usually to make money). Since 2000, vast datasets and prodigious computational capacities have transformed investment (Herasymova, 2021). But for many investors, financial return is not the only or even the primary interest. A class of investors considers companies' environmental and social responsibility, and the investment sector has been adapting to these investors' influence.

Applications of Web Development in Portfolio Research

How can Portfolio Researchers use new Web technologies to improve their work?

Technical Advisor: Briana Morrison, Computer Science

This is a solo independent project. It is a CS 4991 Technical Report, meaning that it is based on past real-world experience rather than a current area of work.

The new era of investing brought on by the availability of vast amounts of high quality, easily accessible data has caused a shift in the way some Portfolio Researchers operate. Because of this, a New York City-based investment management firm saw the need for a new system to aid in portfolio research that took advantage of advances in web technologies and data-driven analysis. This project aims to document the use of Web-based programming to aid in Portfolio Research based on an internship experience.

I worked with a team that is developing tools to address the company's needs, including tools to aid in data visualization and tools that can be interacted with programmatically. The tools involved creating large-scale data processing routines in R, compiling and exposing relevant data endpoints using Java and Spring Boot, and providing a GUI front-end for these endpoints. The suite covers a range of areas — from tools to better visualize existing portfolios, to tools to keep track of stocks worth watching — all designed to neatly integrate with the firm's existing systems. The suite has already gained users from within the firm, and new features are being added regularly based on user feedback. While the suite of tools is already quite robust, there are several additional tools and features now in development that have the potential to further aid the process of portfolio research.

The Rise of Socially Responsible Investing

In the U.S., How do investors, investment firms, advocacies and others seek to influence SRI standards and practices?

Is there such a thing as "ethical investing"? In early biblical times, Jewish law laid down principles for ethical management of public funds (Meir, 2012). Milton Friedman famously argued that the primary responsibility of any business was to return value to its shareholders and that social responsibilities should by fulfilled by individuals (Friedman, 1970), yet recent interest in SRI and Environment, Social justice and Governance (ESG) has been extremely high. Results from polls conducted by Gallup revealed that nearly half of surveyed investors were interested in ESG-related investing, and that 70% of employed respondents would include sustainable investing funds in their 401(k) if given the option (Saad, 2022). How has the investment sector shaped the standards for ESG and SRI to suit its needs and ideals?

There has been extensive research into ESG, SRI and ethical investing. For example, Monahan (2002) concluded that SRI represents a contrast in a field dominated by the avoidance of ethics in pursuit of profit. According to Monahan, prudent investors are principled egoists who are governed by self interest but who recognize that their interests are not isolated from others' interests. Wallace (2019) contends that companies have responsibilities apart from profit maximization, and that socially responsible funds repay investors and society. He traces SRI to the "moral capitalism" of the 19th century and considers the ESG landscape from political, economic, and other social points of view. Waddock and Graves (1997) found that ESG initiatives cause companies no harm, and argued that a company's social performance and its financial performance reinforce each other. They admit that companies can benefit from a mere appearance of commitment to social values, with little or no actual commitments. Kitzmueller and Shimshack (2012) contend that economic costs and benefits of Corporate Social Responsibility (CSR) remain largely unknown.

Participants include proponents and critics of SRI among corporate management and investors. For example, the Insured Retirement Institute (IRI), which represents the retirement income industry, commended the non-enforcement of a 2020 rule that would have greatly limited ESG-focused investing by portraying firms that include ESG factors in financial evaluations as "at risk" (IRI, 2021). According to McKinsey, a global management consulting firm, a sound ESG proposition is remunerative, yielding returns in equity and risk reduction (Henisz et al., 2019). It argues that disregard of non-investor stakeholders is "the essence of short-termism, and measurably and overwhelmingly harmful to most shareholders' economic interests." However, companies and groups dealing with unsustainable goods have faulted ESG. Americans for Prosperity, an advocacy group with connections to chemical industries, wrote a letter to the SEC opposing mandatory ESG declarations because they would “inundate investors with information irrelevant to making economically sound investment decisions, and would therefore not be in the public interest” (Haglund, 2022). The letter also argues that such declarations are unlawful and that the SEC does not have the power to enforce such a rule. The Heritage Foundation, a conservative think tank, dismisses ESG as “woke virtue-signaling” (Tyrrell, 2021). It argues that ESG standards compromise individuals’ right to support or oppose social causes as they prefer. The U.S. Securities and Exchange Commission (SEC) has begun to develop ESG standards, proposing regulation of disclosures and ensuring transparency (SEC, 2022). If implemented, the standards would require funds claiming to achieve an ESG impact to specify their goals and to evaluate the results.

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