Arabesque:
Outperforming through ESG quant

Making Business Mutual Case

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The Mutuality in Business Research Team

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About the Making Business Mutual Case Studies

This series of case studies explores how mutual approaches to business can help companies and their partners tackle some of the most pressing global challenges. The businesses featured in this series share a commitment to objectives beyond purely financial performance, as well as a serious intent to implement mutual practices through new forms of ownership, governance, leadership, measurement and management.

In particular, these cases address the measurement of multiple forms of capital, ecosystem shaping approaches, leadership development, business education, and policy formulation through laws and regulation that promote mutual conduct. The authors appreciate the collaboration of participating companies in creating these cases.

These cases were first developed for the annual *Responsible Business Forum*, the convening event of the Mutuality in Business Project, a joint research programme between Saïd Business School, University of Oxford, and the Catalyst think tank at Mars, Incorporated. The *Responsible Business Forum* brings together global companies, MBA candidates, scholars and activists to share their experience in confronting key challenges in their ecosystems to generate financial, social and environmental value.

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Author's Note: This is a descriptive case study, based on publicly available materials as well as on the information shared by the company described. This case study is not meant to provide critical analysis of the literature or information used to develop it. All errors and omissions are the authors' own.

Case Name	Arabesque Partners: Outperforming through ESG Quant
Arabesque Partners	Launched in 2013 with a mission to make sustainability more accessible and attractive to mainstream investors by demonstrating its material relevance, Arabesque is the world's first ESG Quant asset manager. At the heart of Arabesque's approach is the comprehensive integration of nonfinancial information into the investment process.
Ecosystem Pain Point	Recent years have witnessed an increasing call for ethical investments. ESG investing—which aims to incorporate environment, social, and governance factors into its model—has grown out of this apparent demand. Despite the momentum behind the need to source investments in socially-responsible ways, challenges remain. How, for example, will asset management companies make information that is difficult to measure both understandable and comparable? How, moreover, will companies gather and assess such information systematically? In response to these difficulties, Arabesque Partners has begun developing an investment strategy designed to address some of the attendant challenges of ESG investing.
Business Strategy	The firm follows a modular and quantitative investment approach. Material ESG information is integrated into Arabesque's Sustainability Process, which defines the eligible investment universe for the Smart Beta strategy (Arabesque Prime) and for the Long-Only Alpha strategy (Arabesque Systematic), both of which invest in listed equities (Global, All Countries).
Performance	Arabesque's two UCITS funds based on the Prime and Systematic technologies have both consistently outperformed their benchmark since inception on 1 August 2014, with Prime outperforming the MSCI ACWI by 2.31% and Systematic outperforming the same benchmark by 7.92%. On average, the application of Arabesque's sustainability process increases returns by 1.31% per annum for the Prime Strategy and 2.23% for the Systematic Strategy. Sharpe Ratios on average increase by 0.12 for the Prime Strategy and 0.06 for the Systematic Strategy when the Arabesque Sustainability Process is applied.
Prognosis	Employing an ESG analysis as part of an investment process shows promise and Arabesque's performance suggests that ESG analysis helps deliver the best possible results to investors. As the quality of available ESG data increases, it is predicted that funds employing such investment strategies will see an improvement in their investment returns and risk reduction.

Making Business Mutual Case Study: Arabesque Partners
Outperforming through ESG Quant

About the Company

As understanding grows of the financial impact of environmental, social and governance (ESG) factors,[1] and as the availability of ESG information increases,[2] the market for sustainable investment products is expanding rapidly across the globe.[3]

Launched in 2013 with a mission to make sustainability more accessible and attractive to mainstream investors by demonstrating its material relevance, Arabesque is the world's first ESG Quant asset manager.[4] At the heart of Arabesque's approach is the comprehensive integration of nonfinancial information into the investment process. This approach aims not only to reduce risk, but also to actively generate performance.

The word "Arabesque" describes geometric art built with mathematical equations. At Arabesque, patterns are used to organise an investment universe of 1,000 global stocks into a combination that delivers a superior risk-return profile. This approach uses fundamental, quantitative, forensic, financial and nonfinancial data.

Based in London and Frankfurt, Arabesque was developed institutionally at Barclays Bank between 2011 and 2013. In additional to private industry, academia also played a role in the company's launch. In its initial stages, Arabesque benefitted from insights of leading professors from the universities of Stanford, Oxford, Cambridge, Maastricht, and Fraunhofer Society. The company was established as a partnership in 2013 through a management buyout of all rights and intellectual property, and is regulated in the United Kingdom by the Financial Conduct Authority (FCA).

The firm's two UCITS funds – Arabesque Prime and Systematic – have outperformed both ESG and conventional benchmarks since inception, ranking in the top 15% and top 20% respectively of their peer group.[5]

ESG Quant

ESG Quant investing aims to enhance the investment process and to drive performance. This investing strategy uses recent advances in quantitative investing to combine financial with sustainability information.

The concept derives from research that helped demonstrate the financial relevance of ESG information. In collaboration with the University of Oxford, Arabesque published one of the most significant meta-studies of its kind on sustainability and financial performance. The research took into account more than two hundred academic studies, industry reports and books.

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[1] For more information, see: Mozaffar Khan, George Serafeim and Aroon S. Yoon, "Corporate Sustainability: First Evidence on Materiality," *The Accounting Review*, Vol. 91, No. 26, November 2016.
[2] "Sustainability Disclosure Database," *Global Reporting Initiative (GRI),* 2015, http://goo.gl/MAhrnk
[3] "Global Sustainable Investment Review," *Global Sustainable Investment Alliance (GSIA)*, 2015, http://goo.gl/mnaSmL
[4] "About," *Arabesque Asset Management*, https://arabesque.com/about/
[5] Numbers as of 29 February 2016.

The report, entitled "From the Stockholder to the Stakeholder,"[6] found that 80% of all research identified a positive relationship between material sustainability practices and investment performance. ESG factors were found to lower the cost of capital for corporations in 90% of studies. At the same time, taking into account ESG factors also resulted in better operational performance in 88% of studies.

Arabesque's Modular Investment Process

The firm follows a modular and quantitative investment approach (See Figure 1). Material ESG information is integrated into Arabesque's Sustainability Process, which defines the eligible investment universe for the Smart Beta strategy (Arabesque Prime) and for the Long-Only Alpha strategy (Arabesque Systematic), both of which invest in listed equities (Global, All Countries). The rules-based and quantitative process includes fundamental analysis, along with portfolio optimisation and risk management.

The modularity of Arabesque's investment approach allows the structuring of bespoke solutions for investors who have a specific focus on certain regions. Examples include investors interested in Global Developed Markets, Europe Developed Markets, United States or Emerging Markets, or capitalisation requirements (i.e., large cap, mid cap or small cap). Based on investor requests, Arabesque can additionally accommodate different compliance requirements of sectors, industries and stocks. In partnership with Deutsche Bank, Arabesque also offers capital protected solutions on its investment strategies.

Figure 1. Arabesque's modular investment process

Arabesque's Sustainability Process

Arabesque's Sustainability Process is a multi-step one, which identifies the eligible investment universe for Arabesque's investment strategies (Arabesque Prime, Arabesque Systematic). It includes the following steps:

- **Forensic Accounting** – which identifies companies with aggressive accounting and governance practices.

[6] Gordon Clark, Andreas Feiner and Michael Viehs, "From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance," *Arabesque Partners*, March 2015, https://arabesque.com/research/From_the_stockholder_to_the_stakeholder_web.pdf

- **United Nations Global Compact Compliance** – which identifies companies that are in violation of any of the principles around human rights, labour rights, environment and anti-corruption set out by the United Nations.

- **Proprietary ESG Scores** – which integrate material ESG factors based on Arabesque's ESG Weighting Matrix.

For the final identification of the Arabesque Investment Universe, filters on the liquidity of stocks along with compliance restrictions based on individual investor preference are applied. Arabesque's UCITS funds exclude companies that generate significant revenue from products such as alcohol, tobacco and weapons. The funds also avoid companies with excessive leverage on their balance sheets.

Arabesque's Proprietary ESG Scores

Arabesque analyses around two hundred ESG criteria from more than 100 billion fundamental, quantitative, forensic, financial and sustainability data points in over a quarter of a million lines of source code. Raw data is delivered by Sustainalytics, MSCI (GMI) and Bloomberg among others. This ESG information is then mapped into twelve sub-categories: five sub-categories for environmental issues, four for social issues and three for governance issues. To calculate best-in-class scores for companies, Arabesque identifies the most material issues per sector and applies a proprietary weighting to each one.

The resulting proprietary ESG score combines qualitative research with quantitative and statistical analysis to avoid spurious correlations. The score also helps with implementation and constant quality checks. As an example, the Arabesque Investment Universe did not include investment in Toshiba, Valiant and Volkswagen, a few of the companies involved in the recent corporate crisis.

Integrating ESG into Traditional Investment Technologies

Research indicates that the current quality of ESG data "will improve by a factor of 10" within the next decade.[7] A great deal of sustainability data today is self-reported, unaudited, and is usually published annually by companies. Arabesque's investment process, when combined with traditional investment approaches, suggests that material ESG factors' have the potential to impact significantly on investment returns and risk reduction. Given the improving data quality – which is driven by regulators, investors, stock exchanges and corporations[8] – this effect is likely to grow stronger over time.

Arabesque's smart-beta investment technology, Arabesque Prime, implements a rules-based analysis of financial company data and selects approximately 300 stocks from the ESG-compliant investment universe. This involves investment technology acquired by Arabesque from Lightstone Capital Management, which has a track record of over 10 years managing in excess of USD 1.5 billion in assets under management for Morgan Stanley/Van Kampen. The Prime portfolio is 100% invested in equities at all times and is rebalanced quarterly. Stocks in the portfolio have a target-holding period of at least one year.

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[7] Sophia Grene, "Quants are the New Ethical Investors," Financial Times, 24 January 2016, https://www.ft.com/content/35798046-a33c-11e5-8d70-42b68cfae6e4
[8] Alex Davidson, "'Sustainable Investing' Goes Mainstream," *Wall Street Journal*, 13 January 2016, https://www.wsj.com/articles/sustainable-investing-goes-mainstream-1452482737

Arabesque's long-only Alpha investment technology, Arabesque Systematic, implements a sophisticated asset allocation and stock selection model – investment technology which was purchased from Barclays Capital during Arabesque's management buy-out in 2013. The Systematic portfolio can allocate up to 100% of its assets into cash to safeguard the assets of the investors and to reduce downside risks.

Arabesque's two UCITS funds based on the Prime and Systematic technologies have both consistently outperformed their benchmark since inception on 1 August 2014, with Prime outperforming the MSCI ACWI by 2.31% and Systematic outperforming the same benchmark by 7.92%.[9] No leverage, shorting, derivatives or stock lending was applied to produce this outperformance.

Performance Impact of ESG Integration

A rules-based and quantitative approach helps demonstrate clearly the effect of each stage of the investment process. It is therefore possible to calculate the pro-forma performance of each of Arabesque's investment strategies (Prime and Systematic) based on an investment universe which, (a) considers the Arabesque Sustainability Process and (b), which does not (see Figure 2).

To ensure a robust set of results, Arabesque has calculated the impact of its Sustainability Process on fourteen different regional portfolios. On average, the application of the sustainability process increases returns by 1.31% per annum for the Prime Strategy and 2.23% for the Systematic Strategy. Sharpe Ratios on average increase by 0.12 for the Prime Strategy and 0.06 for the Systematic Strategy when the Arabesque Sustainability Process is applied.

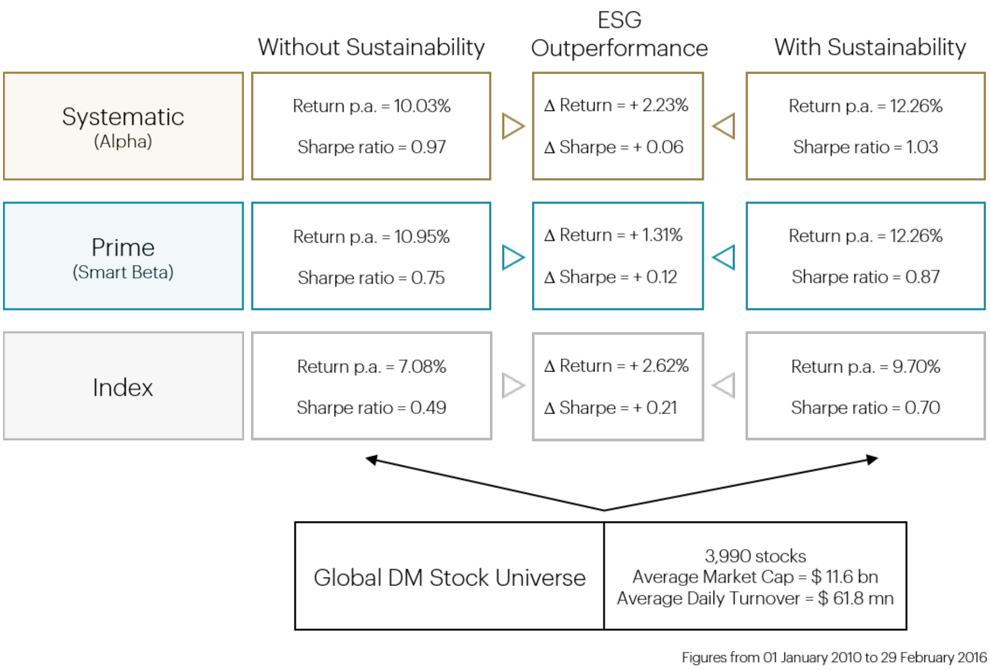

Figure 2. Example of ESG performance attribution for a Global Developed Markets universe

Prognosis

9 Figures as of February 29, 2016

Based on this analysis, Arabesque considers sophisticated forms of ESG analysis part its fiduciary duty. The ESG analysis forms an integral part of the investment process and helps deliver the best possible results to investors. A recent United Nations PRI study, which concluded that the failure to consider long-term investment value drivers - including ESG issues - is a failure of fiduciary duty, helps build the case for Arabesque's innovative approach.[10] As Arabesque's example demonstrates, taking into account ESG factors may prove beneficial for advancing sustainable investment strategies in the years ahead.

[10] "Fiduciary Duty in the 21st Century," *United Nations Environment Programme – Finance Initiative (UNEP FI)*, 2015, http://www.unepfi.org/fileadmin/documents/fiduciary_duty_21st_century.pdf

Saïd Business School

Saïd Business School at the University of Oxford blends the best of new and old. We are a vibrant and innovative business school, yet deeply embedded in an 800-year-old university. We create programmes and ideas that have global impact. We educate people for successful business careers, and as a community seek to tackle world-scale problems. We deliver cutting-edge education programmes and ground-breaking research that transform individuals, organisations, business practice, and society. We seek to be a world-class business school community, embedded in a world-class university, tackling world-scale problems.

Mars Incorporated

Mars' approach to business has long since been guided by five principles – quality, responsibility, efficiency, freedom and mutuality. Together they inform and guide the actions of all Mars associates every day as they do their jobs and interface with the outside world. The Mars' leadership has tasked its economic research unit, Catalyst, to start new work into unexplored territory for business; to identify critical drivers of mutuality and, using business pilots, to develop and test new metrics and management practices that can help boost mutuality in business situations. This work is called the Economics of Mutuality.

The Oxford-Mars Mutuality in Business Partnership

On the back of these promising findings, a multiyear partnership with Oxford University's Saïd Business School was established in 2014 to focus on the development of a business management theory for the Economics of Mutuality with corresponding teaching curriculum, new management practices, and case study research. The research programme has combined the pursuit of normative questions – what is mutuality and how should it be enacted? – with grounded, ethnographic research on current thinking and practices. This has led to the development of field experiments and case studies examining how large corporate actors conceive of and pursue responsible business practices, and how these relate to their financial and social performance.

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