How Socially Responsible Investment affect Performance of Mutual Funds in Kenya

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Abstract

This study aimed at establishing the effect of Socially Responsible Investments (SRI) on performance of mutual funds in Kenya. A hypothesis was formulated and tested on a population of one hundred and fourteen (114) mutual funds in Kenya that were either licensed by Capital Market Authority or were members of Aspen Network of Development Entrepreneurs. A positivistic research philosophy and correlational descriptive research designs were adopted in the study. Preliminary statistical tests were undertaken. These included Cronbatch alpha; descriptive statistics such as the mean, standard deviation, coefficient of variation, kurtosis and skewness; Sharpe ratio, ethical coefficient and DEA technical efficiency coefficient; and correlation analysis. Hierarchical multiple regression analysis was then used to test the hypothesis. The response rate was 60.5%. The findings are that there is a statistically significant relationship between SRI and performance (Adjusted $R^2 = 0.694$, F = 52.528, p < 0.05). Since the findings of this study indicate that there is a positive relationship between SRI and performance, fund managers can justify including SRI in their portfolio. This study helps corporate managers to understand the impact of their corporate social responsibility on the value of the firm which is important because many companies spend part of the shareholders' wealth on social responsibility with the hope of creating social value and attracting socially responsible investors to the firm.

Keywords: Socially Responsible Investment, Portfolio Performance, Mutual Funds

1.1 Socially Responsible Investment

Investment, in its broad sense, refers to the sacrifice of current cash flow for future cash flow. It involves time, risk and returns since the sacrifice takes place in the present, and is certain, while the rewards come later, and is uncertain (Sharpe *et al.*, 2005). Reilly and Brown (2000) define investments as a tradeoff of present consumption for higher levels of future consumption. According to the above definitions, future higher returns is a key determinant of the amount investors want to commit today. The future returns could be quantifiable in the form of monetary gains or qualitative in the form of social benefits. Rudd (1981) posits that when the returns are mainly social, then the process can be referred to as socially responsible investment (SRI).

Socially Responsible Investment (SRI) has been defined as an investment which combines investors' financial objectives with their concerns about Social, Environmental and Ethical (SEE) issues where investor's practices align those concerns with their investment strategies (Lozano, 2006). However, Statman (2000) definition, which is more encompassing is that SRI is any investment which meets certain baseline standards of social and environmental responsibility (social screening), actively engages those companies to become better, more responsible corporate citizens (shareholders activism), and dedicates a portion of assets to community economic development (community development).

A key theme that underpins most SRI funds is that they market themselves as having ethical values of a higher standard than their conventional counter parts. Investors may be attracted to SRI funds because they possess personal values that are consistent with the underlying philosophy of these funds (Chandler, 2001). In such cases, the investors are making a deliberate choice to concentrate on a sub-set of investment assets. According to modern portfolio theory of Markowitz (1952), such a strategy can result in a sub-optimal portfolio due to restrictions on diversification. This may therefore result in SRI funds underperforming conventional funds or even the market benchmark.

Investment companies continually introduce new types of funds in an effort to attract investor capital and maximize assets under management. The decision to introduce a new type of fund is affected by a number of variables, including investor demand for the fund's attributes. As argued by Khorana and Servaes (1999), new fund types in high demand generate capital inflows and incremental revenue for the mutual fund. For this reason, mutual funds are more likely than individual investors to have introduced socially responsible investments constraints in their portfolio.

Socially responsible investment can be looked at by considering the philosophy of investment, SRI exclusion or inclusion criteria and the SRI strategies. The investment philosophy helps in categorizing investors on a spectrum of expected financial returns including philanthropic focus, social investors and mainstream investors as shown in Table 1 below. The extent to which an investor is concerned with social values as opposed to financial returns helps in fitting the investor within the spectrum (Allavida, 2011).

PROFIT FOCUS **PHILANTHROPIC FOCUS** SOCIAL INVESTORS Market Only interested in social Possible Market Below At Least Market Mainstream returns with no interest Return (PMR) Return (BMR) Returns (ALMR) solely interested in any type of financial Social investors Social investors Social investors financial returns with returns predominantly interested in social interested in social no interest in social interested in social returns and below returns and at least returns returns but also market rate market rate of interested financial returns financial returns in potential of profit making by the investee

Table 1 Spectrums of Social Investors

Source: Allavida (2011, 21)

The inclusion or exclusion criteria depend on the factors considered by socially responsible investors. Kempf and Osthoff (2007) identify three of these categories to include social, environmental and ethical factors. Schwartz (2003) adds two other categories of moral and governance principles. Individuals wanting to invest in a socially responsible way have mainly three SRI strategies they can pursue including social screening, shareholders' activism and community investing (See figure 1 below). Social screening involves either positive or negative screening. Haigh and Hazelton (2004) describe positive screens as those identifying, and including in the portfolio, companies with superior social or environmental performance while negative screens are those identifying, and excluding from the portfolio, companies engaged in targeted undesirable activities. O'Brien (2002) defines shareholder activism as the process by which shareholders of a listed company, under the provision of securities legislation in various jurisdictions, can requisition its members to meet and vote on specified resolutions while community investing describes the practice of providing capital to people in low-income or atrisk communities who have difficulty accessing it through conventional channels.

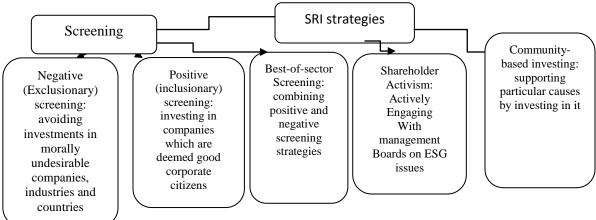


Figure 1 Prominent SRI Strategies

Adapted from Geczyet al. (2005), O'Brien (2002) and Schueth (2003)

Mutual Fund Performance

The main idea in most of the classical measures of investment performance is essentially to compare the return of a managed portfolio over some evaluation period to the return of a benchmark portfolio. The benchmark portfolio should represent a feasible investment alternative to the managed portfolio being evaluated. The main composite performance measures include the Sharpe ratio (Sharpe, 1966), Treynor index (Treynor, 1965) and Jensen ratio (Jensen, 1968). The Treynor index and the Jensen ratio both use the beta as the measure of risk with the assumption that the portfolio is fully diversified while the Sharpe ratio makes no assumption on portfolio diversification and therefore uses standard deviation to measure risk.

Financial portfolio theory and the classical theory of the firm suggest that including non-financial restrictions will not benefit performance. Portfolio theory implies that the criteria that constrain an investor's investment possibilities result in lower diversification and greater risk exposure or additional costs. The classical theory of the firm implies that SRI will be less financially efficient than non-restricted investments, since the firms that responsible investors do invest in may incur higher costs. This would make these firms less profitable (Schwartz, 2003).

Several methods can be used to measure performance of socially responsible mutual funds with explicit consideration of their social and financial costs and benefits. The main methods includeCost-Effectiveness Analysis (CEA) which involves the calculation of a ratio of cost to a non-monetary benefit or outcome, Costbenefit analysis (CBA) which monetizes the benefits and costs associated with an intervention and then compares them to see which one is greater, Social Return on Investment (SROI) which compares the social, enterprise, and blended value accrued to society with the total investments for each mutual fund or the Data Envelopment Analysis (DEA) methodology, which is more robust than the other methods, and can be used to define mutual fund performance measures that allow to take into consideration several input and output variables (Murthi et al., 1997).

DEA considers several input variables such as different risk measures and the initial and exit fees of the investment, as well as several output variables, such as a financial return indicator and also indicators related to other objectives of the investors (Murthi et al., 1997). Basso and Funari (2003) presents some DEA models specifically designed to evaluate the performance of SRI funds, which explicitly consider the ethical level of the mutual funds among the outputs.

1.2 Mutual Funds in Kenya

Boasson *et al.* (2006) define a mutual fund as an investment company whose objective is to achieve a satisfactory level of return for its clients at a predefined level of risk. Mutual fund managers have the fiduciary responsibility to serve its clients by managing the money contributed by the fund holders with prudence and market wisdom. Saraoglu and Detzler (2002) note that mutual funds provide diversification, divisibility, low transaction costs, record keeping, and professional management for the individual investor.

Mutual funds are also referred to as unit trusts and they offer each contributor a certain yield or rate of return in percentage form that is often variable. To invest, one either buys units in the fund and thus becomes a unit holder or places their cash directly with the fund manager; depending on the type of fund invested in. Returns are periodically distributed to investors, for example monthly or every six months, and some funds allow investors to redeem their funds at any time within a few days' notice. The terms of investing and the rates of return vary based on the type of mutual fund and the company offering them (Abacus, 2012).

Mutual Funds in Kenya fall into various categories including money market fund, fixed income fund, balanced fund, equity fund and managed fund. Money market funds are made up of short-term treasury bills & bonds, cash deposits and call accounts; Fixed income funds invest in securities that give specific returns on specific dates such as treasury bills, bonds and cash deposits; Balanced funds invest in a diversified portfolio of shares, bonds and the money markets; Equity funds invest in company shares through the stock market; Managed funds pool the collective investments of the employees in a company with returns made available upon their retirement (CMA, 2014).

Mutual funds in Kenya can also be categorized into those licensed by the Capital Market Authority (CMA) and those operating outside the CMA framework. As of 31st December 2013, there were 58 mutual funds licensed by the CMA (CMA, 2014).

The unlicensed mutual funds operate only under the companies Act (CAP 486 of the laws of Kenya). Some of the unlicensed mutual funds are members of ASPEN Network of Development Entrepreneurs (ANDE) which had56 Kenyan members as at 31st December 2013(Aspen, 2014).

1.3 Research Problem

From a financial point of view, investing in SRI funds raises the question as to whether the social aim has to be pursued at the expense of the financial performance of the investment. In theory, it would be generally expected that the SRI funds underperform non SRI funds, since they select their portfolio of assets with social restrictions. In such cases, the investors are making a deliberate choice to concentrate on a sub-set of investment assets. In a mean-variance theoretical framework, such a strategy can result in a sub-optimal portfolio. Rudd (1981) argues that a constrained portfolio such as one constructed through a socially responsible strategy will suffer poor performance as a result. Nevertheless, such a portfolio may be a rational outcome if the investor derives sufficient compensatory utility from holding SRI assets.

Interest for social, environmental and ethical issues is increasing in Kenya on a daily basis among different stakeholders, including general public, society, media, government, corporations and financial community. This has made it difficult for mutual funds in Kenya to attract investors unless they address those social, environmental and ethical issues (Ponnu & Okoth, 2009). The desire to attract additional funding has pushed mainstream mutual funds in Kenya to consider introducing socially responsible investment compliant products such as the licensing by CMA of First Ethical Opportunity Fund and Gencap Iman Fund. These two funds offer purely sharia compliant products.

The empirical analysis of the relationship between SRI and performance of mutual funds has yet to provide a convincing causal link between the two variables. Most of the studies have mainly focused on whether there is a difference between the performance of socially screened portfolios and that of conventional funds. Results of these studies are conflicting, for example Jones (1996), Diltz (1995), Kempf and Osthoff (2007) and Brzeszczynski and McIntosh (2011)concluded that SRI investors earn higher abnormal returns than conventional investors due to the fact that investing in SRI funds promote normatively desirable activities while discouraging relatively detrimental activities. These studies found that fund managers claim SRI affect corporate change by reducing the cost of capital for 'good' companies relative to 'bad' ones. Hamilton et al. (1993), Stone et al. (1997), Statman (2000), and Cortez et al. (2012) found no significant difference between the performance of SRI and conventional mutual funds. While Mallin et al. (1995) found a negative relationship between SRI and riskadjusted performance of mutual funds mainly due to incremental cost incurred by mutual funds in complying with SRI requirements. Such costs include research cost to identify SRI compliant investments and the cost incurred to continuously monitor these firms.

One explanation into the conflicting results is that there are methodological differences in the empirical studies for example Kempf and Osthoff (2007) used the Carhart model to analyze portfolio returns while Hamilton et al. (1993) used Jensen alpha for the same analysis. Studies such as Hamilton et al. (1993), Brzerszczynski and Mcintosh (2011), and Mill (2006) used CAPM based models which assume that the portfolio being analyzed is efficient. SRI mutual funds may not be efficient due to the screening process adopted. These studies also did not incorporate non-financial measures of the benefit of SRI which is limiting since socially responsible investors are mainly attracted to a fund largely due to its social benefits. Although several studies on socially responsible investments have been undertaken internationally, social investment in Kenya is at its early stages of development and remains understudied. However a survey on social investment in Kenya was undertaken by Allavida (2011) to support the development of the Kenya Social Investment Exchange. The study was based on a survey of 40 investors: 21 from Kenya, 10 from South Africa and nine from the UK. Of the 21 Kenyan investors studied 17 were categorized as social investors. Iraya and Musyoki (2013) found that a virtual portfolio of socially screened stocks at the Nairobi Securities Exchange underperforms the NSE 20 share index and attributed the result to the additional costs socially responsible companies incur such as pollution control, environment, labor relation and governance expenditures. These studies however did not consider the effect of SRI on portfolio performance. It is upon this problem that this study aimed at answering the research question: What is the effect of socially responsible investment on performance of mutual funds in Kenya?

1.4 Research Objectives

The specific objective of this study was to determine how socially responsible investment affect performance of mutual funds in Kenya.

2.1 Theoretical Foundation

There are several theories that can explain the relationship between SRI and performance of mutual funds including the modern portfolio theory of Markowitz (1952), the stakeholder theory of Freeman (1984) and the institutional theory of DiMaggio and Powell (1983).

Modern Portfolio Theory (MPT) proposes that investors expect to be compensated for taking additional risk, and that an infinite number of "efficient" portfolios exist along a curve defined by three variables: standard deviation, correlation coefficient, and return. The efficient-frontier curve consists of portfolios with the maximum return for a given level of risk or the minimum risk for a given level of return. The algorithm used to generate the curve is known as mean variance optimization (MVO), since what is being optimized is return versus standard deviation (Markowitz, 1952). Based on this theory SRI funds should experience decreased risk-adjusted returns since they exclude certain firms, industries, and sectors, and thus bearing a substantial degree of specific risk (Barnett & Salomon, 2006; Kurtz, 2002). SRI portfolios are not randomly chosen but rather are intentionally selected based on a set of screening criteria. Thus, one can expect SRI funds, even those with large and relatively diverse holdings, to bear specific risk. Temper (1991) estimated that funds that chose their portfolios based on social criteria bore a one percent loss in returns relative to diversified funds while Rudd (1981) found a four percent loss in returns for portfolios that screened out firms with holdings in South Africa.

Stakeholder theory posits that firms possess both explicit and implicit contracts with various constituents, and are responsible for honoring all contracts (Freeman, 1984). As a result of honoring contracts, a company develops a reputation that helps determine the terms of trade it can negotiate with various stakeholders. While explicit contracts legally define the relationship between a firm and its stakeholders, implicit contracts have no legal standing and are referred to in the economic literature as self-enforcing relational contracts. Since implicit contracts can be breached at any time, Telser (1980) argues that they become self-enforcing when the present value of a firm's gains from maintaining its reputation (and, therefore, future terms of trade) is greater than the loss if the firm reneges on its implied contracts. Even though SRI funds must draw from a limited pool of firms, they draw from a richer pool—one that is more likely to contain well-run, stable firms that outperform the broader market over the long run (Barnett & Salomon, 2006). According to this theory therefore, SRI results in superior portfolio performance by reducing costs incurred in portfolio management such as monitoring costs, bonding costs or search costs.

Institutional theory adopts a sociological perspective to explain organizational structures and behavior. It draws attention to the social and cultural factors that influence organizational decision-making, and in particular how rationalized meanings or myths are adopted by organizations (DiMaggio & Powell, 1991). These myths may be taken for granted and so are followed in a rule-like fashion when making decisions. They become the institutionalized logic that guides organizational behavior (Meyer & Rowan, 1977). Part of the embedded logic of socially responsible mutual funds is that they will screen potential investments based on environmental, social and governance variables. Furthermore, socially responsible mutual funds advocate that their investees strengthen their corporate governance by increasing their transparency. O'Neill and Cook (2009) found that mutual funds tend to vote in a management-friendly manner, with the exception of socially responsible funds that show strong support for shareholder resolutions requiring more disclosure concerning executive compensation, board of director voting, and firm behavior, especially with respect to human rights. These additional disclosure requirements reduce the research costs incurred by SRI mutual funds in monitoring the activities of the investee companies and thereby affecting the portfolio management process. Based on this theory, SRI results in superior risk adjusted returns than conventional mutual funds since the firm is perceived as legitimate by all its stakeholders.

3.1 Research Philosophy

Among the various research approaches that exist, two extreme research philosophies may be distinguished, namely a phenomenological and a positivistic paradigm. The phenomenological paradigm is also known as the qualitative, subjectivist, humanistic or interpretive research paradigm, whereas the positivistic paradigm is alternatively known as the quantitative, objective, scientific, experimentalist or traditionalist research paradigm (Blumberg et al., 2005). A positivistic paradigm consists of several beliefs about how a researcher can make sense to others, and it is based on the assumption that all researchers are fallible.

As such, it is posited that human behavioural studies should be conducted in the same manner as studies in the natural sciences (Blumberg et al., 2005). It can be stated that positivism is based on realism in that it searches for the truths 'out there'.

As this research aimed at testing a number of quantitative hypotheses a positivistic research philosophy was adapted. This is because positivists place a strong emphasis on the quantification of constructs and believe that the best, or the only, way of measuring the properties of phenomena is through quantitative measurement. The overriding features of a positivistic philosophy are therefore the production of quantitative data based on large samples as well as on theory and hypothesis testing.

3.2 Research Design

There are three basic types of research design: exploratory, causal and descriptive. This study used a correlational descriptive research design. Correlational descriptive research design is used to describe relationships, as they exist, between specific variables. Sekaran (1992) indicate that a wide spectrum of descriptive studies exists such as undertaking in-depth descriptions of specific individuals, social events, groups, companies or social artefacts. Alternatively researchers may also focus on the frequency with which a specific characteristic or variable occurs in a sample. Furthermore, Collis and Hussey (2003) notes that the description of phenomena may range from a narrative type of description (as in historic and discourse analyses) to a highly structured statistical analysis (as is the case in correlation studies). A description of the relationship among SRI, portfolio management, institutional characteristics and portfolio performance is the outcome of the correlational descriptive research.

3.3 Population and Sample

The unit of analysis in this study is the mutual fund and the target population was 114 mutual funds which were licensed by the Capital Market Authority (CMA) or were members of ASPEN Network of Development Entrepreneurs (ANDE) as at 31st December 2013 (see Appendix 1). Due to the small size of the population of study a census survey was conducted. The Aspen Network of Development Entrepreneurs (ANDE) is a global network of organizations that support small and growing businesses in emerging markets by dramatically increasing the amount and effectiveness of capital and capacity development services for entrepreneurs. ANDE's membership includes investment funds, non-governmental organizations, research institutions, and private philanthropic foundations that invest money and expertise to help entrepreneurs develop and grow small businesses in emerging markets. Members operate in over 130 countries. The network had56 Kenyan members listed as investors, foundations or capacity development providers as at 31st December 2013 (Aspen, 2014).

Mutual funds licensed by CMA are considered good representatives of formal investment companies in Kenya and are expected to be involved in SRI issues especially shareholder's advocacy and social screening so as to meet the demands of their diverse investors. ANDE members, on the other hand, are mainly philanthropic firms or development entrepreneurs who were expected to be involved in SRI through investments in community development projects.

3.4 Data Collection

The research objectives pertain to the positivistic dimension of this study and imply that appropriate procedures for the sourcing of primary quantitative data needed to be planned and executed. Blumberg et al. (2005) point out that the reliability and validity of a study can be seriously jeopardised if incorrect data collection methods are employed. Consequently, great care was taken to utilise acceptable methods. Quantitative data was collected for this study both from primary and secondary sources. Primary sources used a semi-structured questionnaire and contained Likert-type statements, closed and open ended questions. The questionnaire was developed from pertinent literature in line with the objectives of the study and required responses on the study variables of SRI, institutional characteristics and portfolio management. The researcher dropped the questionnaires personally to the respondent and explained the study concepts where required. This was necessary because socially responsible investment is a new concept in Kenya and it was expected that some respondents may not understand the concept. The respondents were expected to be the mutual fund's investment/asset manager or the Chief Executive Officer. These respondents were deemed appropriate because of their involvement in policy on the mutual funds investment decisions. Therefore, they were considered to be knowledgeable about SRI practices within their respective mutual funds. The questionnaire was administered through drop and pick up later method. Secondary data was mainly a five year (2009-2013) monthly historical data on the mutual funds portfolio performance.

This resulted in sixty data points for each mutual fund and was considered adequate for the computation of the Sharpe ratio. Mueller (1991) and Shank et al. (2005) used a similar period. The secondary data was sourced from mutual funds monthly reports, annual reports, pamphlets, Capital Market Authority, Central Bank of Kenya and Central Bureau of Statistics.

3.5 Reliability and Validity of the Measurement Instruments

In order to establish the goodness of fit of the data collected on the study variables, reliability and validity tests were conducted. According to Tull and Hawkins (1993) a research is reliable only if different researchers get the same results when the study is replicated at a later stage or when a different sample is used. Cooper and Schindler (2003) likewise point out that a study is reliable only to the degree to which it generates consistent results (assuming that there are no real changes in what is measured or the circumstances surrounding the measurement).

A number of measures were taken to ensure the reliability of this research including interpreting published and unpublished (in-house) secondary sources correctly; selecting appropriate methods for drawing qualitative and quantitative samples; sourcing primary qualitative data from experts in the mutual funds; analysing quantitative data according to appropriate statistical conventions and risk-adjusted performance measures. Cronbach Alpha coefficient was also computed for all Likert-type questions. The Alpha can take any value from zero (no internal consistency) to one (complete internal consistency) where 0.7 was the acceptable limit (Cronbach & Shavelson, 2004). The regression models were also subjected to specification tests of multicollinearity to determine how well the regression assumptions held.

Validity shows the extent to which the findings of a study accurately reflect what really happened in a specific situation (Collis & Hussey, 2003). Validity can also be defined in terms of the absence of self-contradiction and is closely linked to the research instrument used (Lancaster, 2005). The validity of a research instrument more specifically refers to the extent to which it measures what it is supposed to measure (Leedy & Ormrod, 2005). For the purpose of this research the questionnaire was pre-tested with ten respondents from the sample of the study who were asked to respond to the questions in the research instrument. The purpose of pre-testing exercise was to improve the data collection instrument (Sekaran, 1992).

3.6 Operationalization of Socially Responsible Investment

Socially responsible investment concept was divided into three sub-variables: the exclusion or inclusion criteria, the investment philosophy and the SRI strategies used by the Mutual funds as shown in Table 2 below. Investment philosophy was operationalized in accordance with Allavida (2011) categorization of philanthropic investors, social investors predominantly interested in social returns (PMR), social investors interested in social returns and below market rate of financial returns (BMR), social investors interested in social returns and at least market rate of financial return (ALMR) and mainstream investors solely interested in financial returns.

The exclusion or inclusion criteria were operationalized in accordance with Kempf and Osthoff (2007) and Schwartz (2003), who jointly identify five criteria considered by SRI: social, environmental, ethical, governance and moral factors while the SRI strategies were operationalized in accordance with Geczyet al. (2005) and Schueth (2003) studies that identified five SRI strategies including negative screening, positive screening, best-of-sector screening, shareholders' advocacy and community based investing.

| Variable | Indicator | Operational Definitions | Scale |
|----------------|----------------|--|----------|
| SRI Investment | Philanthropic | Funding of charities and social change groups that rely on gifts | Interval |
| Philosophy | focus | | |
| (PH) | PMR Social | social investors predominantly interested in social returns | |
| | BMR Social | social investors interested in social returns and below market rate of | |
| | | financial returns | |
| | ALMR Social | social investors interested in social returns and at least market rate of | |
| | | financial return | |
| | Mainstream | investors solely interested in financial returns | |
| SRI exclusion | Environmental | Urban and industrial pollution, global warming, depletion of some natural | Interval |
| or inclusion | Factors | resources (such as oil) and restricted access to others (such as clean water), | |
| criteria (CL) | | the reduction of the world's flora and fauna populations | |
| | Social Factors | Human capital (training and education, working conditions, and health), | |
| | | community development and labour rights (such as the right to | |

Table 2: Operationalization of Socially Responsible Investment

| | | unionisation) | |
|----------------|-----------------|---|----------|
| | Governance | The rights and responsibilities of the management of a company – its | |
| | Factors | board, shareholders and the various stakeholders in that company i.e. | |
| | | management structure, employee relations and executive | |
| | compensation | | |
| | Moral Factors | Avoidance of 'sin' stocks, such as companies in the gambling, | |
| | | alcohol, tobacco, pornography and firearms industries, from the | |
| | | investment portfolio. | |
| | Ethical Factors | Violations of human rights, use of child labour, manufacture or distribution of weapons, inhumane testing of products on animals, implicit support of | |
| | | oppressive political regimes, slavery, forced prostitution. | |
| SRI Strategies | Negative | Avoiding investments in alcohol production & retailing; animal testing, | Interval |
| (ST) | Screening | farming & processing; armaments; environmental damage; gambling; genetic modification; nuclear processing; oppressive regime; pornography; | |
| | | tobacco | |
| | Positive | investing in companies which are deemed good e.g. dealing with alternative | |
| | Screening | energy, environmental protection, ethical employment practices, healthcare, pollution control& recycling | |
| | Shareholder's | Actively engaging with management boards on ESG issues including | |
| | Advocacy | proxy voting, corporate engagement, shareholder resolution and | |
| | | divestment. | |
| | Community- | Providing opportunities for community investors to place their | |
| | based Investing | money in investment vehicles and savings accounts that create jobs | |
| | | and affordable housing, develop local enterprise, provide community | |
| | | services such as child care, improve the environment, empower | |
| | | workers or consumers and reduce overall world poverty | |

Source: Author, 2014

3.7 Operationalization of Performance

Performance was operationalized, to include the mutual fund efficiency which is a ratio of outputs to inputs. The categorical DEA model of Basso and Funari (2003) was used to compute the efficiency ratio with composite performance measures of Sharpe ratio and ethical coefficient as outputs. The inputs were transaction fees charged by the mutual fund, age of the fund, total asset under management and standard deviation of returns generated by the fund. The Sharpe ratio was used because it does not assume that the portfolio is fully diversified (See Table 3 below).

Table 3: Operationalization of Performance

| Variable | Indicator | Operational Definitions | |
|------------|------------------------|---|----------|
| Efficiency | Transaction fees | Charges that may be incurred by investors in mutual funds including | Interval |
| Ratio (ER) | charged (input) | purchase fees, redemption fees, exchange fees, management fees, | |
| | | account fees, front-end load and back-end load | |
| | Fund's age (input) | Number of years the mutual fund has been in operation | Ratio |
| | Total asset under | Value of asset under management | Ratio |
| | management (input) | | |
| | Portfolio risk (input) | Standard deviation of returns | Ratio |
| | Sharpe ratio (output) | A composite measure of financial performance | Ratio |
| | Ethical coefficient | A measure of social performance | Interval |
| | (output) | | |

Source: Author, 2014

3.8 Data Analysis

This study adopted Sekaran (1992) four steps model of data analysis including getting data ready for analysis, getting a feel for the data, testing the goodness of fit of the data and hypothesis testing. In getting the data ready for analysis, data editing, standardization, coding and categorization was undertaken. Descriptive statistics including measures of central tendency for Likert scale variables in the questionnaire were calculated.

The standard deviation was equally used in order to explore the dispersion in the underlying data. In addition coefficient of variation, kurtosis and skewness were also computed. Descriptive statistics covered all response variables as well as the demographic characteristics of respondents. Descriptive statistics provide the basic features of the data collected on the variables and provide the impetus for conducting further analyses on the data (Mugenda & Mugenda, 2003).

Correlation analysis was used to measure the strength of the relationship between SRI and performance. This helped in establishing the suitability of the data for regression analysis by ensuring that the dependent and independent variables have a statistically significant relationship while at the same time controlling for multicollinearity problem which occurs if any two independent variables are highly correlated (Cooper & Schindler, 2003). Since the scale of most of the data collected was interval or ratio, Pearson's Product Moment correlation coefficient was used.

The categorical Data Envelopment Analysis (DEA) model proposed by Basso and Funari (2003) was used to determine the mutual fund efficiency. This model focuses on the analysis of the relative efficiency of a set of decision-making units (the mutual funds) that require some inputs and in return supply some outputs. The original DEA model was proposed by Charnes et al. (1979) but has subsequently been revised for specific applications. Basso and Funari (2003) suggests three DEA models for measurement of the efficiency of socially responsible mutual funds including a generalized basic DEA model, an exogenously fixed DEA model and a categorical DEA model. The categorical DEA model has been chosen because, unlike the exogenous DEA model, it does not require an indicator that measures the ethical levels achieved by each mutual fund.

Hierarchical multiple linear regression model was used to assess the nature of the relationship between various variables as hypothesised in the study at 5% level of significance. In this method each variable was entered in sequence and its value assessed. If adding the variable contributes value to the model, then it is retained, but all other variables in the model are then re-tested to see if they are still contributing to the success of the model. If they no longer contribute significantly, they are removed. The method ensures that only the minimum possible set of predictor variables are included in the model (Sekaran, 1992). Statman (2000) and Kempf and Osthoff (2007) used similar analysis in their study. Reliability tests on the regression models were then computed to determine the strength of the relationship among the variables. These tests included multicollinearity tests, adjusted coefficient of determination (adjusted R²), F-tests and t tests.

3.8.1 Preliminary Data Analysis Methods

Secondary sources make a distinction between the approaches used to calculate historic (*ex post*) and expected (*ex ante*) returns and risk measures. As the objective of this study is to analyse the historic returns of mutual funds, the focus of the study was only on *ex post* returns and risk measures. An investment's realised rate of return, also called its holding period rate of return (HPR), was calculated for single period (one month). As indicated in Equation 1, a single-period HPR signifies a change in wealth over the time period during which the investment is held (Reilly & Brown, 2000).

$$HPR = \frac{(NAV \operatorname{Pr}ice_{1} - NAV \operatorname{Pr}ice_{0}) + income}{NAV \operatorname{Pr}ice_{0}}$$
 (1)

Where:

HPR is the holding period return (yield)

NAVPrice₁isprice of the fund at the end of the holding period,

NAVPrice₀ is price of the fund at the beginning of the holdingperiod, while

Income is any cash distributions received during the holding period (such as interest, dividendsor rental income). The NAV Price of a unit at any point in time wasdetermined according to equation 2.

$$NAV \operatorname{Pr}ice_{t} = \frac{NAV_{t}}{No._of_units_outs \tan ding}$$
 (2)

The arithmetic mean was then computed for each fund as shown in equation 3

$$\overline{HPR} = \sum_{t=1}^{n} \frac{HPR}{n} \tag{3}$$

Where:

 $\overline{HPR_i}$ is the arithmetic mean of fund i, and n is the number of periods over which the investment is held.

A fund's risk profile was determined by calculating its realised or ex poststandard deviation (σ_i). As shown in Equation 4, this measure indicates byhow much fund i's returns have deviated from the mean return overtime. The greater the standard deviation, the greater the dispersion aroundthe mean return and the higher the risk associated with the investment (Reilly and Brown, 2000).

$$\sigma_i = \sqrt{\frac{\sum_{t=1}^{n} (HPR_t - \overline{HPR})^2}{n}}$$
 (4)

Where:

 $\sigma_{\rm I}$ is fund i's historic standard deviation,

HPR_t isfund i's holding period returns during period t,

HPR is fund;'s arithmetic mean of HPR, and

n is number of periods over which the investment is held

The portfolio beta coefficient (β_n) was then computed as shown in equation 5 below:

$$\beta_p = \frac{Cov_{pm}}{\sigma_m^2} \tag{5}$$

Where:

Cov_{pm} is the covariance of portfoliop's returns against market returns, and

 σ_m^2 is the variance of market returns (Approximated by returns on the NSE 20 share index).

The Sharperatio, for each fund was then computed as shown in equation 6:

$$S_{t} = \frac{R_{p} - R_{f}}{\sigma_{p}} \tag{6}$$

Where:

 S_t is the Sharpe Index, R_p is the average return on portfolio $p = \overline{HPR}$, R_f is the risk free rate of return, and σ_n is the standard deviation of the return of portfolio p

The Sharpe ratio makes no assumption on portfolio diversification and therefore uses standard deviation to measure risk. The Sharpe ratio was used mainly because socially responsible portfolios may not be fully efficient due to screening out of some sectors such as tobacco or alcoholic industries.

The mutual fund's efficiency was computed as a ratio of inputs to output using the categorical DEA model developed by Basso and Funari (2003) as follows:

Where:

j is the mutual funds,

i are the inputs (Transaction fees charged, age of the fund, total assets under management and standard deviation),

S_iis the Sharpe ratio for mutual fund j,

 X_{ij} is amount of input i for mutual fund j,

U_r is the weight assigned to output r,

V_i is the weight assigned to input i, and

 e_i is the ethical coefficient of mutual fund j. ε is a non-Archimedean infinitesimal

The main advantages of DEA are that it can readily incorporate multiple inputs and outputs and, to calculate technical efficiency, only requires information on output and input quantities (not prices) (Banker, 1993). This makes it particularly suitable for analysing the efficiency of SRI mutual funds since it may not be possible to assign prices to social returns. The second advantage is that possible sources of inefficiency can be determined as well as efficiency levels. DEA provides a means of 'decomposing' economic inefficiency into technical and allocative inefficiency (Basso & Funari, 2003).

The main weaknesses of DEA include: Since DEA is an extreme point technique, noise (even symmetrical noise with zero mean) such as measurement error can cause significant problems. DEA is good at estimating "relative" efficiency of a DMU but it converges very slowly to "absolute" efficiency. In other words, it can tell you how well you are doing compared to your peers but not compared to a theoretical maximum; since a standard formulation of DEA creates a separate linear program for each DMU, large problems can be computationally intensive (Ali et al., 1991). The study controlled for these weaknesses by ensuring that extreme care was taken in measurements of all inputs and output variables. The DEA technical efficiency scores were used for relative comparison only as inputs in the regression models. The ethical coefficient for each mutual fund was computed as shown by equation 11 below:

$$e_{j} = W^{N}N_{j} + W^{P}P_{j} + W^{C}C_{j} + W^{A}A_{j}$$
....(11)
Where:

N_iis the proportion of negative screening features for fund j,

P_i is the proportion of positive screening features for fund j,

 C_{j} is a binomial coefficient measuring the existence of community development in fund j

Ais a binomial coefficient measuring the existence of shareholders advocacy in fund j,

W^N, W^P, W^C and W^A are equal weights assigned to negative screening, positive screening, community development and shareholders' advocacy respectively. The Open Source Data Envelopment Analysis (OSDEA) software 2014 version was used in computing the efficiency ratio.

3.8.2 Regression Analysis

Hierarchical multiple regression model was used to determine the relationship between SRI and portfolio performance of mutual funds in Kenya. This model tested hypothesis one and was as follows:

$$\mathbf{ER} = \beta_0 + \beta_1 \mathbf{PH} + \beta_2 \mathbf{CL} + \beta_3 \mathbf{ST} + \varepsilon_{\mathbf{i}}....$$
 (12)

Where:

ER is the efficiency ratio during the period;

 β_0 is the regression constant or intercept,

 β_1 are the regression coefficients,

PHis the investment philosophies score,

CLis the exclusion or inclusion criteria score,

STis the SRI strategy score, and

 ε_i is a random error term that accounts for the unexplained variations.

4.1 Results and Discussions

A pilot study was conducted to ensure that the questionnaire was effective in collecting the relevant information. A preliminary version of the questionnaire was first discussed with the supervisors before piloting. The aim was to improve the validity of the data collection instrument. The questionnaire was then pretested with 10 mutual funds' asset managers. To establish the content and face validity of the data collection instrument, the respondents were requested to help evaluate the clarity of the questions and to make the content more comprehensive. Based on their input, several items of the initial draft of the questionnaire were restructured to improve comprehension while some other items considered inappropriate were dropped from the questionnaire. To measure the reliability of the data collection instrument (internal consistency), Cronbach's alpha was calculated for all likert scale questions of the questionnaire. The rule of the thumb for Cronbach's alpha is that the closer the alpha is to 1, the higher the reliability (Kothari, 2004). Table 4 below indicates the reliability statistics for SRI strategies scale, SRI exclusion and inclusion criteria scale, investment style scale and the transaction fees scales. The two scales were quite reliable with a Cronbach's alpha reliability coefficient greater than 0.7. The SRI strategies scale had good internal consistency with a Cronbach alpha coefficient reported of 0.764 while SRI exclusion or inclusion criteria scale reported a Cronbach alpha coefficient of 0.972, both indicating good internal consistency.

Table4: Pilot Test Reliability Analysis

| Scale | Number of Items | Cronbach's Alpha (α) |
|--------------------------------------|-----------------|----------------------|
| SRI Strategies | 6 | 0.764 |
| SRI Exclusion and Inclusion Criteria | 38 | 0.972 |

Source: Author, 2014

4.5 Correlation Analysis

The strength of the relationship between mutual fund performance (measured by the efficiency ratio) and SRI strategies, SRI investment philosophy and SRI exclusion and inclusion criteriawas determined using Pearson product moment correlation. As shown in Table 5 below, there is a positive correlation between mutual fund's efficiency ratio and SRI strategies which was statistically significant (r = .824, p<0.01). Similarly, there is a positive correlation between efficiency ratio and SRI investment philosophywhich is statistically significant (r =.284, p<0.05). The research findings also indicate that there is a positive relationship between mutual fund's efficiency ratio and SRI exclusion or inclusion criteria which is statistically significant(r = .522, p<0.01).

Table5: Correlations between SRI and Performance

| Scale | 1 | 2 | 3 | 4 |
|-------------------------------------|---|--------|--------|--------|
| Efficiency Ratio | 1 | .824** | .284* | .522** |
| SRI Strategies | | 1 | .396** | .739** |
| SRI Investment Philosophy | | | 1 | .529** |
| SRI Exclusion or inclusion Criteria | | | | 1 |

** P< 0.01 (2-tailed), * p< 0.05 level

Source: Author, 2014

The results in Table 5 above imply that SRI strategies, SRI investment philosophy and SRI exclusion and inclusion criteria are all positively related to performance. To test for multicollinearity, the correlation between the independent variables was considered. According to Cooper and Schindler (2003) multicollinearity problem occurs if the correlation coefficient between any two independent variables is greater than 0.8. As is evident from Table 5 above, the correlation between SRI strategies and SRI investment Philosophy is 0.396 (p<0.01). Similarly the correlation between SRI strategies and SRI exclusion or inclusion criteria is 0.739(p<0.01) whilethe correlation between SRI investment philosophy and SRI exclusion or inclusion criteria is 0.529(p<0.01). Although the correlation coefficients are significant at one percent level, the problem of multicollinearity does not exist since none of these coefficients is greater 0.8.

4.6 Hypothesis Testing

The objective of the study was to assess the relationship between SRI and performance. The study predicted that the relationship between socially responsible investment and performance of mutual funds in Kenyawas not significant. Socially responsible investment comprised of SRI investment philosophy, SRI exclusion or inclusion criteria and SRI strategies. Performance was measured through the efficiency ratio for each mutual fund. Hierarchical multiple regression analysis was therefore used to assess if SRI investment philosophy, SRI exclusion or inclusion criteria and SRI strategies significantly predicted efficiency ratio of mutual funds in Kenya. This was the test of the first null hypothesis as shown below:

Hypothesis H_{OI} : The effect of socially responsible investment onperformance of mutual funds in Kenyais not significant

The prediction equation as shown in chapter three was $ER = \beta_0 + \beta_1 PH + \beta_2 CL + \beta_3 ST + \epsilon_i$,

Three steps were used in carrying out thehierarchical multiple regressions with the first step involving regressing efficiency ratio against SRI strategies, the second involving regressing efficiency ratio against SRI strategies and SRIexclusion or inclusion criteria while the third step involved regressing efficiency ratio against SRI strategies, SRI exclusion or inclusion criteria, and SRI investment philosophy. The results of these regressions are reported in Table 6below.

| | Model 1 ^a | Model 2 ^b | Model 3 ^c |
|-----------------------------------|----------------------|----------------------|----------------------|
| Constant | 0.098(.050) | 0.117(.020) | 0.115(.067) |
| SRI strategies | 0.192(.000) | 0.225(.000) | 0.225(.000) |
| SRI Exclusion /Inclusion criteria | | -0.043(.033) | 043(.044) |
| SRI investment philosophy | | | 0.002(.956) |
| Adjusted R ² | 0.674 | 0.686 | 0.694 |
| F | 141.291(.000) | 75.152(.000) | 52.528(.000) |

Table 6: Regression Results of SRI and Performance

p – values in parenthesis

a. Predictors: (Constant), SRI strategies

b. Predictors: (Constant), SRI strategies, SRI exclusion or inclusion Criteria

c. Predictors: (Constant), SRI strategies, SRI Exclusion or inclusion criteria, SRI investment

philosophy

Source: Author, 2014

From the hierarchical regression results in Table 6 above, three models were generated. All the three models reported a significant F value (p < .05). However, model one with SRI strategies as independent variable had the highest value of F (F=141.291, p < .05) followed by model two with SRI strategies and SRI exclusion or inclusion criteria as independent variables (F=75.152, p < .05) while model three had the lowest computed F statistic (F=52.528, p < .05). Since all the three models are good predictors of portfolio performance, any could be used subject to the other goodness of fit tests discussed below.

The adjusted coefficient of determination (\bar{R}^2), which indicates the amount of variation in the dependent variable that is explained by all the independent variable taken together, was highest in model three (\bar{R}^2 =.694) and lowest in model one (\bar{R}^2 =.674). Since all the models are statistically significant, then all are acceptable subject to tests

of the slope. Tests of the slope, which aimed at determining the strength of the relationship between the dependent variable and each independent variable, was then performed and also reported in Table 6above. The research findings indicate that SRI investment philosophy was not a significant predicator of efficiency ratio (β = .002, p>.05). The beta coefficient was not different from zero since p>0.05 and therefore this variable was removed from the model. Model three comprised of the three independent variables was therefore dropped at that point. Model two shows that both SRIexclusion/inclusion criteria(β =-.043, p< .05) and SRI strategies(β = .225, p<.05) weregood predictors of efficiency ratio. Although model one with only SRI strategies as independent variable was also good in predicting performance, model two is better since it has two independent variables.

Results of this study show that there is a positive significant relationship (p<0.05) between efficiency ratio and SRI strategies. Similarly there is a significant negative relationship (p<0.05) between efficiency ratio and SRI exclusion or inclusion criteria. In general it can therefore be concluded that there is a significant relationship between SRI and performance of mutual funds in Kenya resulting in the rejection of hypothesisone (H_1).

4.7 Discussion of Findings

This study hypothesized that the relationship between SRI and performance was not significant. As shown by Table 6, the best predicting hierarchical multiple regression equation was ER = 0.117 – 0.043CL + 0.225ST+ ϵ (CL was SRI exclusion or inclusion criteria while ST was SRI strategies) with p < 0.05. The first hypothesis was therefore rejected implying that a statistically significant positive relationship exist between SRI strategies and portfolio performance of mutual funds in Kenya while a statistically significant negative relationship exist between SRI exclusion or inclusion criteria and performance of mutual funds in Kenya. Mutual fund managers in Kenya should therefore be involved inmore SRI strategies while at the same time reducing the number of SRI inclusion and exclusion criteria if they have to increase performance. These results are consistent with other studies such as Diltz (1995) who looked at the effect of social screening on portfolio performance for the US stock market and concluded that employing environmental and military screens lead to positive performance, Kempf and Osthoff(2007) who studied the effect of socially responsible investment on portfolio performance and concluded that SRI results in high abnormal returns, andBrzeszczynski and McIntosh(2011) who explored the performance of portfolios composed of British SRI stocks and indentified superior risk adjusted performance of SRI stocks.

However, these findings contradict Bauer et al. (2005) and Gregory et al. (1997) who found that SRI has a negative relationship with performance of mutual funds.

5.0 Conclusion

The rejection of the hypothesis (H₀) implies there is a significant relationship between socially responsible investment and performance of mutual funds in Kenya. Since the relationship between SRI strategies and performance is positive, the more SRI strategies adopted, the higher the performance of mutual funds. However, since there is a negative relationship between SRI exclusion/inclusion criteria and performance, then the more stringent the SRI screening process is, the less the performance of Kenyan mutual funds. Mutual fund managers in Kenya should therefore pursue socially responsible investment to increase performance. However, they should reduce to a minimum the number of constraining inclusion or exclusion criteria.

The results of this study add to existing knowledge in the area of SRI, portfolio management, institutional characteristics and performance of mutual funds in five main ways: The first major contribution is the determination of the relevant factors that are important in defining SRI in Kenya. Although three indicators (SRI philosophy, SRI inclusion and exclusion criteria and SRI strategies) were used to measure SRI, results of hierarchical multiple regression show that SRI strategies of social screening, shareholder's advocacy and community based developments are the key indicators of SRI in Kenya. None of the literature reviewed in the area of SRI had attempted to determine the appropriate indicators of SRI.

The second contribution of this study is the use of DEAmethodology for evaluating and comparing performance of mutual funds based on their financial and social costs and benefits. This method is an application ofthe categorical Data Envelopment Analysis (DEA) model proposed by Basso and Funari (2003), which allows for multiple inputs and outputs. The main benefit of this method is an empirically based estimate of the efficiency of mutual funds. Furthermore, the method is computationally tractable and easy to usesoftware is readily available. Once the efficiency frontiers of mutual fund performance have been determined, the DEA methodologyused in this study then provides another benefit, the comparison of competingmutual funds. Many of the researches carried out (see Kempf and Osthoff, 2007; Schwartz, 2003; Geczyet al., 2005; Schueth, 2003) had used financial performance measures such as Sharpe ratio, CAPM, Jensen alpha or the Carhart model, all which ignore social benefits and costs.

Although this study had some limitations, every effort was made to ensure that these limitations did not significantly affect the findings of the study. This study used a cross-sectional design where data was collected from asset managers once to get their views concerning the variables and constructs under study. Even though cross-sectional design is effective in getting insight about the dynamics of the industry at a point in time, practices change over time such that longitudinal studies may result in better insights. Given the time and cost limitations, it was not possible to design this study that way.

Although the research exercise involved some contact with the respondents, there was little opportunity for direct observations of the events studied. Reliance on the reporting of the participants was thus inevitable. However, this is prone to the threat that the events reported are subject to systematic bias mainly from expost rationalisation by the respondents influenced by their wish to appear as belonging to a well-run organization. This risk was however minimised by careful wording of the questions in the research instrument.

There are a number of future research possibilities based on the findings of this study. As this was a crosssectional research that studied SRI and portfolio management features at a particular point in time, other studies could use longitudinal research design to track changes over time. This study used mutual funds as its context. Further studies could concentrate on individual investors' SRI attributes. This may be important especially because investors' utility functions are different such that decision making may differ between individual investors and mutual funds managers. Further studies could also be done on other institutional investors such as pension schemes to determine the extent to which they practice socially responsible investment and how their returns are affected by such investment strategies.

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Appendix I: Mutual Funds in Kenyaas at 31stDecember 2013

| S.NO | CMA LICENSED MUTUAL FUND | S.NO | ANDE MEMBERS |
|------|---|------|-----------------------------------|
| 1 | African Alliance Kenya Equity Fund | 1 | ACCION International |
| 2 | African Alliance Kenya Fixed Income Fund | 2 | Acumen Fund |
| 3 | African Alliance Kenya Managed Fund | 3 | Africa Enterprise Challenge Fund |
| 4 | African Alliance Kenya Shilling Fund | 4 | Aga Khan Foundation |
| 5 | Amana Balanced Fund | 5 | APPFRICA |
| 6 | Amana Growth Fund | 6 | ATMS Foundation/AMSCO |
| 7 | Amana Money Market Fund | 7 | Bamboo Finance |
| 8 | British-American Balanced Fund | 8 | BDS Africa (an EWB Venture) |
| 9 | British-American Equity Fund | 9 | Calvert Foundation |
| 10 | British-American Income Fund | 10 | CapitalPlus Exchange |
| 11 | British-American Managed Retirement Fund | 11 | CARE |
| 12 | British-American Money Market Fund | 12 | Cherie Blair Foundation for Women |
| 13 | CIC Balanced Fund | 13 | Citi Foundation |
| 14 | CIC Equity Fund | 14 | Edge |
| 15 | CIC Fixed Income Fund | 15 | Emcor Securities |
| 16 | CIC Money Market Fund | 16 | Emerging Stars |
| 17 | Commercial Bank of Africa Equity Fund | 17 | Enablis |
| 18 | Commercial Bank of Africa Money Market Fund | 18 | Equity Group Foundation |
| 19 | Diaspora Bond Fund | 19 | Exclude |
| 20 | Diaspora Equity Fund | 20 | Fair Trade USA |
| 21 | Diaspora Money Market Fund | 21 | Feleman |
| 22 | Dyer and Blair Bond Fund | 22 | Grameen Foundation |
| 23 | Dyer and Blair Diversified Fund | 23 | Grassroots Business Fund |

| Dyer and Blair Money Market Fund 25 Growth Africa | 24 | Dyer and Blair Equity Fund | 24 | Gray Ghost Ventures |
|--|----|--|----|---|
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