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Differential's edge combines AI with fundamental investing

The Differential team will use machine learning, cutting-edge analytics and data science to enhance the traditional model of fundamental investing

Johannesburg-based Differential Capital has launched with the backing of Standard Bank. The company is headed by founding partners ex-Visio Capital fund manager Naeem Badat and rated analysts Vincent Anthonyrajah and Musa Malwandla.

The company has its licensing in place from South Africa's Financial Sector Conduct Authority and is preparing to go live with its first QIHF hedge fund and long-only general equity fund later this year.

Differential believes its edge is in combining artificial intelligence with fundamental investment processes to deliver alpha, based on the team's beliefs that the future of asset management is disruptive and pioneering.

As anchor shareholder, Standard Bank is providing working capital as well as seed capital into its funds, with the commitment making it the most significant hedge fund launch in the South African market for some years.

Differential is starting with a team of 11, nine of whom are on the investment side, bringing a wide range of skills that span traditional investments and data science.

Anthonyrajah was previously chief analytics officer of the MMI Holdings Group, where he headed a team consisting of data engineers, data scientists, data management professionals, research psychologists and behavioural economists.

Prior to that he was head of the financials research team at SBG Securities (part of Standard Bank Global Markets), and was ranked top three as an equity analyst in the *Financial Mail* rankings for research in banks, real estate and general financials sectors. He has a BSc (Actuarial Science) and BSc Hons (Statistics).

Badat has 10 years' investment experience, the previous six with established hedge and long-only fund manager Visio Capital. Prior to that, he spent four years on the sell side, ending at Deutsche Bank as a financials analyst in 2012. He has a strong academic record, with a BSc Financial Mathematics and BCom Hons (*cum laude*), holding both the CFA and the CAIA designations.

Malwandla has eight years' experience, and was most recently an equity research analyst at SBG Securities, where he ranked in the top three in the *Financial Mail* rankings for insurance. He has also worked previously at Barclays Africa Group, Absa and FNB. He has a

Naeem Badat, Musa Malwandla and Vincent Anthonyrajah

Masters in Mathematical Statistics and is busy submitting theses for both a PhD in Mathematics and another PhD in Economics.

Differential uses Standard Bank as its prime broker, and benefits from the bank's infrastructure.

The team's strong transformation credentials and ESG focus also position it well for potential institutional inflows.

"The support of Standard Bank gives us gravitas from the start," says Badat. "It means we can take a big bang approach at the outset, with a unique set of skills in place from day one, without having to scale the team over time."

The team will use machine learning, cutting-edge analytics and data science to enhance traditional fundamental investing. "We will still build models and meet management, we are not taking a black box approach," says Badat. "We will be mathematical about building portfolios, using data science to enhance traditional investment metrics and supplement our bottom-up approach."

For example, scraping the websites of retailers, wholesalers and manufacturers daily before analysing the data can provide better insights into inflation, retail and food-producing stocks. Similarly, intelligent data mining by scouring second-hand car sales can give an edge in the motor sector, while geospatial analytics into crops, farmers and food can grant deeper insights into food inflation.

Differential's AI ability allows it to screen 7,000 stocks globally, generating investment ideas on a pure statistical process, with the team also able to inform its algorithms in granular detail to generate ideas.

The QIHF hedge fund will be a South African multi-strategy fund, which makes use of offshore exposure limits.

In time, the team will also launch a global dollar-based hedge fund, which is currently going through the regulatory process.

Plans are for the team to develop an entire product suite, which will include other long-only South African-centric funds (such as *Shari'ah*) and flexible funds.

"Your ability to generate alpha is a function of skill and the information available to you," says Badat. "We have an information advantage and with regards to the skills, we believe we can punch with the best."

Differential will run fairly concentrated portfolios, with the QIHF comprising 20-30 high-conviction multi-asset and derivatives positions encompassing a globally unconstrained and diversified view of high-quality ideas with positively asymmetric risk profiles.

"In investing, your best idea will be diluted by your second best idea. So we will only include a new idea if it adds to the portfolio utility based on our simulations."

The fund will target returns of CPI plus a spread of 4-6% in any given year, looking to deliver a cash-like return even when the markets are down.

Badat notes that the US has been an

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early adopter in using data science to understand which sectors generate alpha, and integrating big data into investment processes is becoming a core focus in developed markets. Yet there was inertia in the domestic market.

"There is a shift happening," he says. "We believe that a black box model without the hand of human beings is not viable, yet established ways of investing are facing an existential crisis. There is a structural shift happening in the markets with a new breed of younger people bringing new approaches and changing processes that don't necessarily marry with the incumbent view."

"Human beings tend to focus on a point, but we look at a range of outcomes and what that means," he says. "It is an intensive process that requires a powerful data engine and computing power."

For example, he notes that South Africa's 3.2% GDP contraction in the first quarter surprised the consensus, which had been for a decline of 1.3%. Yet Differential's models had factored this in as a possibility amongst a range of outcomes, allowing for protection to be built into the portfolio.

Badat adds that it has not been a good market for South African hedge funds, many of which rely on leveraged beta and have thus battled to manifest downside protection during the difficult markets of recent years.

"Many hedge funds have not done what's on the tin," he says. "We understand why some clients are frustrated, but passive investing is not the answer. We look to optimise portfolios to levels of risk tolerance and structure our trades for maximum returns, looking at expected shortfall and downside probability rather than volatility."

Core to the team's investment process is a mathematical ability to generate a risk-return curve, allowing it to identify marginal risks.

"Ours is a dispassionate process, there are no egos and no star managers," says Badat. "We don't like titles. We have built a process we all agree with and buy into. Noisy markets can cause all sorts of distortions and as fund managers we need to understand our own shortcomings and be aware of behavioural and cognitive biases."

When it comes to the global markets, Badat notes that the economies of China and the US are in a difficult space, and there is an increased probability of a recessionary environment in South Africa amid a lack of clarity on business policy.

"Things are happening in the markets that are beyond the realm of traditional analysis," he said.

In a constrained environment both locally and globally, the team is looking for more idiosyncratic opportunities to generate value and high-quality ideas that have a long runway for growth.

Differential believes its AI edge will also further its environment, social and governance (ESG) ideals.

"Fund managers have traditionally taken guidance from management," says Badat. "Our processes give us an added analytical edge into various sectors and disciplines, allowing us to examine issues ranging from climate change to community impact and health and safety of the workforce. In the governance arena, by leveraging big data, we will also examine company management and independent directors to evaluate issues such as conflicts of interest, which can have a negative impact."

Badat notes that recent corporate scandals have damaged South Africa's reputation among emerging markets, and fund managers need to do their part in holding corporates to higher account.

"The South African market was always considered to be well regulated with ethical management, but the recent spate of scandals and mismanagement has caused South Africa to lose some of the luster. Furthermore, there are clear differences in what management teams are earning and what share prices are doing," he said. "We expect to be vocal on the ESG side. Our machine models mean we are not as reliant on management for data as some might be, and that frees us up to ask difficult questions."