

Behavioural biases in sell-side equity analysts' decision-making: a South African emerging market perspective

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Abstract

Purpose – Sell-side equity analysts are key information intermediaries, although prior literature has found that they exhibit behavioural biases. The aim of this study is to describe the process followed by analysts in formulating recommendations and to identify the behavioural biases that are likely to influence the process.

Design/methodology/approach – Semi-structured interviews were conducted with 20 sell-side equity analysts in an emerging market. This direct interaction allowed the researchers to gain insights into analysts' use of information, related challenges and proclivity for biases.

Findings – The authors find evidence of intentional and spurious herding, availability, overconfidence and the disposition effect. In spite of the volume of information in corporate reports, a key source of new information is direct interaction with management, where analysts use their intuition or "gut feel". Weary of the possibility of financial misstatement, they use these direct interactions to assess management's trustworthiness. The authors find reputational motivations for the safety of herding around the broker consensus. Declining coverage of JSE-listed companies is therefore concerning for the analysts.

Originality/value – The study contributes to the limited qualitative research on analyst bias in the emerging South African economy. In addition, the focus on the information context of analysts juxtaposes corporate reporting and behavioural finance research to provide insights on the use of various sources of information for decision-making.

Keywords Behavioural biases, Emerging market, Information environment, Sell-side equity analysts, Semi-structured interviews

Paper type Research paper



1. Introduction

This study, set in the South African equity market, aims to describe the processes followed by analysts as they gather and process information and to understand the behavioural biases that are likely to influence them as they do so.

Since the work of [Ramnath et al. \(2008\)](#), several studies have contributed to understanding the “black box” of sell-side analysts’ decision processes through varied theoretical lenses. For example, Bourdieu’s work was used in [Imam and Spence’s \(2016\)](#) exploratory study, which highlighted the contextual information that sell-side analysts provide to their clients. Baudrillard’s notions of hyperreality and theories of surveillance ([Bamber and Abraham, 2020](#)) were used to understand information gathering in sessions with management. Field theory ([Millo et al., 2023](#)) and social learning ([Kumar et al., 2022](#)) have been used to understand analysts’ informational advantages. Although the theoretical lenses may be diverse, the studies pivot largely on the connection between analysts and their information environment. This is unsurprising, given the analysts’ role as information intermediaries ([Asquith et al., 2005](#); [Mola et al., 2013](#)).

Considering the information environment and market efficiency, [Barker \(1998\)](#) explains that relevant information may exist in the market that is not reflected in share prices, either because it has not been made available or because it has not been processed correctly. The present study explores each of these two possibilities.

In relation to the availability of information, we situate the study in the emerging market context of South Africa. [Chaudhury et al. \(2022\)](#) explain that emerging economies differ from their counterparts in terms of country governance factors that could affect earnings efficiency and in terms of the efficiency of information flows. However, the JSE, South Africa’s main stock exchange, is an intriguing setting for a study that involves information in the capital markets. In spite of serving an emerging economy, the JSE was one of the first of a few exchanges to effectively mandate integrated reporting. Therefore, while the South African economy is classified as emerging, the information that JSE-listed companies are required to produce has been lauded as pioneering ([Eccles et al., 2019](#)). Yet, the usefulness of this information is the subject of continuing debate amongst researchers, many of whom have found no link between integrated report quality and a reduction in information asymmetry ([Willows and Rockey, 2018](#); [Abhayawansa et al., 2019](#)). Instead, integrated reports have been found to be complex and difficult to read ([Du Toit, 2017](#); [Stone and Lodhia, 2019](#)).

We also consider the possibility that information is not processed correctly ([Barker, 1998](#)). In spite of their key role as information intermediaries, analysts have been shown to be prone to behavioural biases. A fundamental tenet of behavioural finance is the notion of judgement that occurs amidst uncertainty ([Tversky and Kahneman, 1974](#)). Uncertainty can arise in spite of the availability of information, possibly as a result of the complexity of the information or scepticism regarding its accuracy. These issues are likely to contribute to cognitive load in a profession in which complexity and lack of time are general features ([Brown et al., 2015](#); [Andersson et al., 2020](#)). In situations of cognitive overload or decision fatigue, analysts are more inclined to the use of heuristics and behavioural biases ([Tversky and Kahneman, 1974](#); [Hirshleifer et al., 2019](#)). We therefore predicate our study on the behavioural finance theoretical framework.

[Abhayawansa et al. \(2018\)](#) find that the various outputs required from analysts contribute to their cognitive load and result in the adoption of heuristics. Whilst we similarly focus on the implications of analysts’ cognitive load, our perspective is of the implications of the analysts’ information environment.

The study responds to [Millo et al. \(2023\)](#), who call for practice-driven research on analysts in other economies. Our response is notable, given the strong focus on developed economies in prior research ([Mittal, 2022](#)). While there are indeed studies on investor biases in emerging economies, these tend to use quantitative data (for example, [Shah et al., 2018](#)).

[Durand et al. \(2013, p. 104\)](#) observe that the “caricature of the ‘typical’ behavioural finance research paper” is to infer underlying psychology motivating the behaviour of investors from empirical analysis of historical trading data. In this study we present insights directly from semi-structured interviews with analysts, thereby contributing to filling the gap in qualitative research on analyst biases.

2. Literature review

This study is based on prior corporate reporting research and theories of behavioural finance. These strands of research respectively describe the information environment of the capital market and how that information is used to develop forecasts.

Analysts play a key role in the information environment by providing new information and interpreting previously released information, resulting in firm-specific returns being driven less by noise trading and more by new, relevant information ([Imam and Spence, 2016](#); [Bochkay and Joos, 2021](#)). Analysts use a “mosaic” of inputs as they formulate recommendations ([Brown et al., 2015](#)). This information can be quantitative or qualitative ([Bochkay and Joos, 2021](#)) and is obtained from various sources, including corporate reports ([Bradshaw, 2009](#); [Abhayawansa et al., 2019](#)) and meetings with management ([Chen et al., 2018](#)).

Analysts’ proximity to management and their opportunities for dialogic engagement in earnings conference calls afford them certain informational advantages. The importance that analysts place on direct engagement with management was identified by [Drachter et al. \(2007\)](#), with [Brown et al. \(2015\)](#) also finding that most analysts have direct contact with management at least five times a year. Analysts are increasingly seen as “speaking partners” for their clients who prefer “unwashed” information instead of recommendations ([Graaf, 2023, p. 161](#)). These findings highlight the information gathering and processing potential of the analyst.

In spite of the apparent availability of such an abundance of information ([Barker, 1998](#); [Barker and Imam, 2008](#)), or perhaps *because* of it ([Abhayawansa et al., 2018](#); [Abhayawansa et al., 2019](#); [Hirshleifer et al., 2019](#)), analysts are prone to behavioural biases and heuristics (see, for example, [De Bondt and Thaler, 1990](#)). Theories of bounded rationality have formed the basis of studies on the complexities involved in analysts’ processing of information. [Abhayawansa et al. \(2018\)](#) show that analysts work in a complex environment, having to complete numerous tasks simultaneously. [Limkriangkrai et al. \(2024\)](#) consider the effects of multitasking on the cognitive load. The authors explain that as a result of decision fatigue associated with multitasking, individuals are unable to incorporate necessary information into their decisions in a timely manner. [Abhayawansa et al. \(2018\)](#) describe the analyst as, amongst others, having limited cognitive and computational capacity. They therefore trade off cognitive effort with decision heuristics. Given these characteristics, [Abhayawansa et al. \(2018\)](#) contend that the analysts’ context, including their information environment, is likely to be a key determinant of their decisions.

Decision fatigue, which results from cognitive overload, has negative implications for analysts’ processing of information. [Jiao \(2024\)](#) considers analysts who have a portfolio of companies to cover and a finite level of cognitive resources ([Simon, 1997](#)). The analysts manage the effects of their fatigue by prioritising research of larger companies and devoting sub-optimal mental resources to their research of smaller companies. Another way of

managing decision fatigue is to resort to heuristics and biases such as herding (Limkriangkrai *et al.*, 2024).

With regards to the gathering and processing of information, there appear to be biases that are commonly studied in relation to analysts (Mittal, 2022). These biases are herding (for example, Clement and Tse, 2005; Brown *et al.*, 2014; Chiang and Lin, 2019), overconfidence (for example, Hilary and Menzly, 2006; Mokoaleli-Mokoteli *et al.*, 2009; Dong *et al.*, 2022; Limkriangkrai *et al.*, 2024), and the disposition effect (for example, Asquith *et al.*, 2005). These biases have been linked to contextual and analyst-specific factors.

Herding is often linked to reputational concerns (Clement and Tse, 2005) or career-related incentives (Hong *et al.*, 2000). Bayesian models of herd behaviour are predicated on the very notion that the actions of others constitute information which influences the probability estimations of subsequent decision makers. Kim and Pantzalis (2003) found that herding increases in relation to companies that are more diversified and therefore more complex to evaluate.

Overconfidence can result from past success (Hilary and Menzly, 2006) or the analysts' overestimation of the value of their private information. Seminal experimental research provided the initial evidence that overconfidence increases when the task at hand is difficult (Tversky and Kahneman, 1974; Shefrin, 2008), much like the complexities of the tasks that analysts perform (Abhayawansa *et al.*, 2018). Self-serving attribution bias, a manifestation of overconfidence, is well documented in research on analysts. Mokoaleli-Mokoteli *et al.* (2009) showed that analysts believed that they had a superior understanding of the market in spite of their recommendations realising limited actual investment value. Dong *et al.* (2022) found that inexperienced analysts tended to overweight the accuracy of their models. Hilary and Menzly (2006) showed that analysts became overconfident after a short streak of accurate predictions, attributing their successes entirely to their own abilities.

Evidence of the disposition effect (Shefrin and Statman, 1985) in analysts' recommendations is provided in Asquith *et al.* (2005). They found that the quantum of increase in the earnings of firms added to a strong buy list was less than the quantum of decrease of shares added to the strong sell list. This implies that the increase in stock price before it was recommended as a "buy" would be less than the decrease in stock price before a "sell" was recommended. The inconsistency between expected responses to (paper) gains and losses is consistent with prospect theory (Kahneman and Tversky, 1979). It also reveals the analysts' need to preserve access to information directly from management. For example, Chiang and Lin (2019) conjecture that analysts are reluctant to reveal negative perceptions of a stock and therefore less likely to produce downward revisions.

3. Research design

This study sought to understand the lived experiences of analysts, using interviews to collect data directly from them. Interviews are a dialogic means of making sense of experiences and commonly used in phenomenological research (Creswell and Poth, 2016).

An Ethics Clearance Certificate was obtained from the Human Research Ethics Committee (Non-Medical) of the University. The researchers, having worked in financial institutions, used their professional networks to obtain the initial participants for the study, as was done in Chaudhury *et al.* (2022). Thereafter, the snowballing method was used to recruit further participants. Table 1 summarises interviews and participants in this study.

Sample sizes in the research that focuses on individuals involved in the investment process have been varied. In a South African context, Atkins and Maroun (2015) interviewed 20 participants: 19 institutional investors and 1 standard setter. Chaudhury *et al.* (2022) interviewed ten, a sample size that was substantiated using the concept of data saturation. In

Table 1. Participant details

Ref.	Period	Approximate interview duration in minutes	Industry	Years of experience	Education
1	Jan 22	45	Various	4	Science, MBA
2	Jan 22	60	Financial	7	Investment management
3	Jan 22	60	Mining	3	Investment management, CFA
4	Jan 22	60	Telecom	8	Mathematics, CFA
5	Jan 22	40	Real estate	5	Investment management
6	Jan 22	60	Various	14	Actuarial science
7	Feb 22	45	Various	12	Actuarial science
8	Feb 22	45	Various	10	Economics
9	Feb 22	40	Global	6	Actuarial science
10	Feb 22	45	Mining	5	Investment management
11	Mar 22	45	Property	5	Investment management
12	Apr 22	40	Telecom.	8	Chartered accountant
13	Apr 22	40	Various	15	Chartered accountant
14	Apr 22	40	Various	13	Chartered accountant
15	Apr 22	40	Retail	10	Chartered accountant
16	Jun 22	45	Telecom	8	Actuarial science
17	Jun 22	45	Technology	5	Actuarial science
18	Jun 22	45	Retail	4	Chartered accountant
19	Sep 22	60	Pharmaceuticals	10	CFA
20	Jul 23	60	Various	16	Actuarial science

Source: Authors' own

the present research, no new insights emerged after the 12th interview. However, to ensure that views were obtained across a variety of industries, further interviews were conducted.

Specifically, semi-structured interviews were considered most appropriate as the questions provide guidance but are sufficiently open-ended to allow flexibility and free flow of responses from participants (Creswell and Poth, 2016). An interview guide was created with reference to prior literature on behavioural biases in the capital markets and amongst analysts. The researchers used prior research to identify possible indications of commonly researched biases in relation to analysts. However, given that the scope of our study was broader than merely checking whether specific biases were evident, we ensured that our questions were sufficiently open-ended to allow for discussion on issues that the analysts deemed relevant so that other themes could emerge. For example, given the literature on herding around the consensus, we asked the participants about their views on the broker consensus. We sought to avoid leading the participants to specific responses, yet we required a guide to direct the interview appropriately. We grouped the various discussion points according to three main categories. Analysts were asked to describe the processes involved in producing a recommendation and report, how they used each source of information and the challenges they faced in their processes. We also allowed analysts to raise any other issues that they deemed relevant during the course of the interview.

The researcher conducted a pilot study by rehearsing the use of the interview guide on an academic and practicing Chartered Psychologist with experience in cognitive behavioural therapy. This participant was chosen for their ability to provide a perspective on the types of responses that would likely be received by participants. In the pilot study, the participant

provided suggestions on how to phrase the questions in a manner most conducive to extracting information about the judgement and potential bias. Data from interview transcripts was coded using a combination of deductive and inductive coding in two cycles (Saldaña, 2021). This enabled the researchers to identify themes that were expected based on the prior literature, as well as to allow unexpected themes to emerge because of the semi-structured nature of the interviews.

4. Findings

4.1 Gathering and processing information

We began the interviews with a tour question, inviting the participants to speak of their daily activities. Even though we did not mention anything related to information in the question, all participants' responses pivoted around the gathering and use of information.

4.1.1 Gathering information. Several sources of information were listed by the participants, with little variation in responses in this regard. Sources of information proffered by the respondents were the trading updates from the Stock Exchange News Service (SENS), the annual financial statements, meetings with management, and news reports, commonly obtained from the Bloomberg financial database. The use of multiple sources of information provided the first indications of proclivity for bias because of cognitive overload (Limkriangkrai *et al.*, 2024; Jiao, 2024).

Participants were of the unanimous view that meetings with management were a key source of information. Further evidence of the emphasis placed on information from management is provided in the world cloud in Figure 1. The word cloud provides a birds' eye view of all the interview transcripts and shows that the word mentioned most frequently was "management".

In the context of fund managers in the UK, Holland (2006) also found that although the financial reports were an important source of information, they served as the starting point for creating further questions for management. The similarity of these findings is notable as the UK is considered a developed economy while South Africa is a developing economy, possibly with different levels of information flows.

However, Graaf (2023) cautions against analysts' preference for information directly from management, as they may become too reliant on them. This concern was reflected by two participants who were now working as buy-side analysts. It emerged that buy-side researchers are well aware of the sell-side researchers' reliance on management. This reliance leads to scepticism on the part of the buy-side analyst, as found in Chaudhury *et al.* (2022). For example, Participant 10 explained:

I'm now on the buy side - on the sell-side, you really do rely on management and being in management's good graces. So you try to toe the line as much as possible.

The tendency to "toe the line" can impede the monitoring role of analysts (Chen *et al.*, 2015) and make them less effective as "speaking partners" of their clients (Graaf, 2023, p. 161). It may also be the reason that investors choose to focus on the contextual information in analysts' reports, rather than the recommendation (Imam and Spence, 2016; Graaf, 2023).

Given that none of the participants had responded spontaneously regarding integrated reports as a source of information, we asked them how, if at all, integrated reports were used by them. Only Participant 19 reported reading extracts from the integrated report in preparation for their discussions with management. This analyst used the integrated report occasionally to confirm the risks that the company had identified. Other participants cited the delayed release of the integrated report as well as their scepticism of the qualitative information contained in the report. There is no dearth of literature on impression



management in the integrated reports [see for example, [Melloni et al. \(2016\)](#)]. On this issue, Participant 8 explained:

A fundamental difference between the annual reports and the integrated report is the inclusion of sustainability-related information in the latter. All participants acknowledged the importance of “ESG”. However, the information on a company’s ESG practices was obtained during discussions with management instead of the integrated report. The participants’ scepticism of the qualitative information was intriguing, given the value of this information in conditions of macroeconomic uncertainty (Bochkay and Joos, 2021). These insights affirm the assertions of Abhayawansa *et al.* (2019) that integrated reports were not aligned to analysts’ research requirements.

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considers the decisions of previous decision makers, as they may have some information that is relevant (Banerjee, 1992).

However, prior literature distinguishes between intentional and spurious herding. The latter arises as a result of trading similarities from the same informational or regulatory motives (Bikhchandani and Sharma, 2000) and has been documented in the context of buy-side analysts (Bennett *et al.*, 2003). Participant 14 had strong views that the practice of herding was inherent in the work of the sell-side analyst. During the interview, they shared their screen on MS Teams and opened the Bloomberg portal. They pointed out that analysts usually release their recommendations at around the same time. Considering the possibility of spurious herding, the researcher questioned whether the release of recommendations rather coincided with the release of annual results or trading updates. The participant acknowledged this possibility but further explained that in their experience, it was usually the more experienced analysts who released their results earliest, with other analysts following soon thereafter. Participant 10 explained how they react when their forecasts are different from the consensus:

[The broker consensus] is something that I can constantly benchmark myself against. Like where is the target price, and then you go back into your model and try to tweak the growth rate and tweak this and tweak this just so you get as close as possible to where the rest of the group is.

During the interviews, participants discussed the difficulties that they faced as sell-side analysts. Participant 1 covered shares that were listed on the JSE and shares that were listed on the London Stock Exchange and the New York Stock Exchange. The analyst explained that technical analysis was relatively easier to perform on international shares because of the “availability of information” (Participant 1). Echoing this sentiment, Participant 20 bemoaned the “liquidity and [lack of] participation” on the JSE. They explained that it was difficult to build a “strong” historic data set of share price information if they wanted to analyse a “different” company that had not attracted a substantial analyst following. Participant 12 attributed this trend to the emerging market status of the JSE – “If there’s a shake-up in some of the bigger markets, and you need to find margin, you basically find margin by reducing your SA trade”. Participant 14 also cited “global risk-on, risk-off sentiment” as a driver of returns on the JSE.

Liquidity and participation were raised as issues specifically for JSE-listed companies. These weaknesses made it difficult for analysts to collate and track reliable price data for smaller companies. Coverage of smaller, lesser-known companies had been identified as an opportunity for analysts. Participant 7 explained, “the less covered [the company] is, the better the opportunity” but that “it’s becoming harder, particularly for smaller South African corporates, to get [reliable price data]”.

Participant 12 also cited fewer analysts who contribute to the broker consensus published on databases such as Bloomberg. Financial institutions were reluctant to spend significant amounts of money on sell-side research, preferring instead to “build their own in-house research capabilities”. They therefore ended up “paying the street [1] less”. This issue has recently been highlighted by Hettler *et al.* (2023). The number of analysts declined by 17.8% globally between 2011 and 2021, with the decline being most pronounced in the following small-cap firms. This reduction in following has resulted in a decrease in analyst forecast accuracy, particularly for non-developed markets. In response to the decline in coverage by independent analysts, smaller firms commission analysts to cover their companies for a fee so that they become more visible to potential investors. We consider the benefits of enhancing visibility with our findings regarding reliance on management and infer that it is

likely that the need to “toe the line” would be more pronounced for company-sponsored coverage.

4.1.2 Processing information. After gathering information, analysts must make judgements regarding the impact thereof on their financial models. While the models are based on valuation principles and require information on company fundamentals, technical analysis is also used to varying extents. The manner in which information is used is based on its source and the macro and company-specific contexts at the time.

4.1.2.1 Assessing relevance of information. A key focus for the participants was the recency of the information because analysts generally update their models quarterly. In addition, more frequent updates are triggered by macro-economic or operational developments. In spite of the use of financial information in the annual reports, analysts unanimously cited the established limitation of the historical focus of accounting information. Different sources of information are used to compensate for the historic focus of the financial reports. These findings are aligned with [Coleman \(2014\)](#), who found that practitioners did not use certain finance theories because the latter ignored data available to practitioners. Coleman’s findings were in the context of the lack of use of neoclassical investment theory in the real world. Yet, they appear strikingly similar to the findings of this study in the context of the usefulness of accounting information.

One of the strategies that analysts use to supplement less recent fundamental data is the use of technical analysis. Participant 1 explained that they “default on technical analysis” as the market incorporates more recent information that is not contained in the annual reports or the integrated report. They explained that the accounting information “is just [pauses] too [pauses] old”. Participant 3 explained that they read the Chairman’s report and the CEO’s report but that the reports had not contained any information that was not known by the analyst by the time the report was released. It appears that the inherently historic focus of accounting information, notwithstanding the intention of integrated reports to provide information to enable investment decisions ([Eccles et al., 2019](#)), can lead analysts to place more reliance on technical analysis. The technical analysis, in turn, is inhibited by illiquidity in the JSE.

The complexity of financial statements was also cited as limiting their usefulness to analysts. Participant 9 explained that they were not Chartered Accountants and explained that they had difficulty in interpreting the information in the financial reports. In spite of being an experienced analyst with thorough knowledge of the sector that they covered, they often had to consult with accounting professionals. Other analysts who did not have an accounting-focused tertiary qualification expressed the same frustration. Interestingly, an experienced Chartered Accountant, Participant 12, supported the view of the non-accounting professionals. Participant 12 had noted the difficulty that her colleagues had experienced in relating the various accounting line items to each other to construct a narrative around the numbers. This participant also felt that “perhaps the accounting is getting too complicated”. This sentiment echoes the research from [Pascual-Ezama et al. \(2018\)](#) that even skilled investors have difficulty in interpreting certain financial information.

When information emerges from multiple sources, it increases cognitive load in short-term memory. It then becomes more difficult to assess the relevance of information in dynamic environments ([Okoli et al., 2016](#)). Applying these concepts to the analyst context, we infer that the strain placed by the complexity of financial statements is likely to result in an increased proclivity for behavioural bias, especially with regards to assessing the relevance of information.

Another factor that influenced the way in which accounting information is assessed was the perceived possibility of misstatement. A recent example is detailed in [Rossouw and Styan](#)

(2019). There was unanimous agreement amongst the participants that accounting irregularities had influenced their view of accounting information. Participant 4 explained:

I would be lying if I said it had zero effect as to how I looked at companies afterwards also. I scrutinize them just that little bit extra to be sure. But I would expect a lot of analysts to have a healthy dose of scepticism, any good analyst would

There was acknowledgement that a detailed re-audit was not possible, but corroborating evidence was gathered in various ways. As part of the usual investment process, analysts performed a detailed fundamental analysis. While financial ratios have been used to forecast growth rates, the ratios are now also used to confirm the accuracy of the subject company's accounting information. This is done through detailed comparisons with peer companies, research conducted by analysts "in the field" and in discussions with management. As an example of research conducted "in the field", Participant 1 explained that they visited the stores of a retail group that they covered to get a sense of the foot traffic through those stores. This practice contrasts with the findings of [Brown et al. \(2015, p. 24\)](#) in a developed market setting, in which analysts took financial information "on faith".

Participant 6 described their experience of covering a company in which accounting irregularities were subsequently uncovered:

The financial statements were fine. There wasn't any issues in there. There was issues in terms of the dominance of the previous CEO, which bothered us [...]. those are some things you don't really get from the numbers [...]. But it didn't feel right to us.

Increasing the cost of capital was a common way of accounting for the increased risk of accounting irregularities as perceived by analysts. This perception was based on the analysts' judgement. Following an audit scandal, Participant 7 explained that they "took extra care" when analysing companies for which the same audit firm was responsible. In addition, Participant 1 flagged the directors of the board where accounting irregularities were uncovered – "we check where else these directors are working and we tend to be more aware of that – our research is more rigorous".

Regarding the audit process, Participant 4 explained that they had "always been sceptical". This analyst's view was relatively unique in that their scepticism pre-dated more recent instances of audit failures and financial misstatements. Other analysts appear to have developed this scepticism. For example, Participant 10 explained that the "negative selection pillar" was incorporated into the research process "over the last few years". This may suggest availability bias in incorporating audit failures in forecasts. Individuals display the availability bias when they overestimate the likelihood of an event based on the ease with which similar, past events can be recalled. The ease of recollection is in turn influenced by the amount of information available and how vividly previous instances can be recollected ([Tversky and Kahneman, 1974](#)).

The availability or recency bias is not commonly researched in the context of analysts. The review of [Mittal \(2022\)](#) found three studies on the bias, all in the context of investors. Therefore, for the present study, the bias is not one that the authors had expected to find, though it highlights the value of the semi-structured approach to interviews.

Some analysts appeared to be more acknowledging of the manner in which audits are carried out and the inherent limitations of any audit engagement. Participant 3 felt that having the same board of directors or auditors did not justify further interrogation of the accounting information – "auditors can't detect fraud in all instances – you shouldn't adjust companies that were not affected – that's when you're being biased". They thought it would be unlikely that audit irregularities would become more frequent. This view was in contrast to the relatively harsher

stance taken by other participants in the study and warranted further investigation. Participant 3 further explained that they had not been directly or indirectly involved in the coverage of any companies that had been affected by audit or accounting irregularities. This may suggest that the perception of increased risk of audit or accounting irregularity may be influenced by the analysts' personal experience of such events in the companies that they cover, consistent with the explanations of availability from the seminal literature (Tversky and Kahneman, 1974).

Our findings indicate that in the discussions with management, analysts relied largely on their perceptions and judgment. Intuition-related heuristics (Boissin *et al.*, 2021) or "gut feelings" are applied when evaluating management's assertions directly; about their assertions regarding the future prospects of the company and indirectly; and about whether the dominance of specific executive managers is likely to be mediated by the rest of their team. The findings in the present study echo those of Coleman (2014), where the contribution of less quantifiable aspects such as organisational culture, managerial skill and governance was considered equally important as fundamental and technical factors.

Notably, at the management meetings, analysts gather information based on how management communicates and the dynamics between members of the management team. For these questions, the analysts relied on their intuition-related heuristics (Boissin *et al.*, 2021). In the context of meetings with management, Participant 8 explains, "It'll be difficult to put it in a report and to prove it, but it's gut feels". It is difficult to describe intuitive thinking because it is intermediate to the stage of acquiring information and processing it (Baylor, 2001). Importantly, this happens without going through the analytical steps that are necessary to arrive at valid conclusions. Extending the notion of "gut feel", the same participant, later in the interview said, "I personally will only recommend the stock if I've met management. It goes back to the thing that I mentioned earlier - that trust element. Like, can you trust what they're saying to you?"

4.1.2.2 Using information to update the model. During the interviews with the analysts, it emerged that the process of formulating a forecast was, to a large extent, according to the prescribed guidelines from their employers. The existence of these protocols was not specifically asked for in the interviews but was consistently discussed in the introductory, tour question about how the participants went about formulating a recommendation and target price. Phrases such as "it typically starts the same for every company that we look at [...]" (Participant 10) and "our process ends with preparing a written recommendation or presentation" (Participant 8). Participant 7 explained that "we've created this hybrid process [...]" and Participant 6 referred to "a very disciplined, qualitative process". Participant 19 summarised the use of established processes when they used the phrase "besides going through the basics of [...]" in the following extract:

We go through a lot of processes and each analyst has their own process for their sector that they prefer, besides going through the basics of reviewing all of the company financials and integrated reports, building yourself a comprehensive model [...].

The guidelines appeared to be sufficiently flexible and covered the fundamental aspects of the forecasting processes. The flexibility allowed each analyst to incorporate their own nuances and techniques in the process. These nuances appeared to differ depending on the industry that the analyst covered – "And then I think one of the areas that that sort of differs, is some analysts will have lots of industry information that they have at their fingertips, some don't" (Participant 19). In describing the attributes of a successful analyst, Participant 20 cited the analysts' own, established [financial] models.

In spite of these indications of spurious herding, it emerged that there are important reputational motivations for intentional herding, both with their peers and to their own prior

recommendations. Participant 14 explained that sell-side analysts are “the only profession where your performance is ranked publicly [as part of the annual Financial Mail Analyst awards]”. In explaining the process for revising recommendations, Participant 20 explained that in spite of the process being “deterministic” with regard to the change in target share price, analysts tended to be reluctant to deviate too far from their initial recommendations. They went on to explain that changing a recommendation also carried the reputational risk of having to explain why their initial recommendations were incorrect, if for reasons other than changes in the company’s prospects. It appears that the proclivity to herding is motivated largely by reputational reasons. These notions appear to echo the sentiments of Keynes (1936, pp. 157-158), as cited in [Scharfstein and Stein \(1990\)](#) – “it is better for reputation to fail conventionally than to succeed unconventionally”.

Participant 4 was one of the few analysts who did not check the broker consensus until after they released their forecasts. They explained:

Not at all. That may not be the answer you get from everyone. I usually do all my analysis and only afterwards would I look, once I’ve published my note to see what the market is thinking. And the reason was I didn’t want to be influenced by the other brokers and I didn’t want to model to a number if that makes sense? Because then how honest are you really being with yourself? Then you’ve got zero differentiation. Just serve the same numbers of anyone else.

Notably, this analyst had won an award in the Financial Mail Analyst Awards. Participant 15, who had also won an award in the same competition, explained that they also did not check the consensus until after they published their notes. These analysts’ desire to differentiate themselves from their peers is consistent with the evidence of analysts ignoring the broker consensus to signal their competence to potential clients. It could also be evidence of the trend identified by [Hilary and Menzly \(2006\)](#), where analysts became overconfident after a short streak of accurate forecasts.

Overconfidence can be characterised as overestimating one’s chances of success or as being excessively certain about the accuracy of their estimates ([Moore and Healy, 2008](#)). Considering these characteristics, participants were asked to reflect on the factors that contributed to their forecasts being accurate and those that contributed to their forecasts being inaccurate. They attributed accurate forecasts to their own forecast models and their hard work and experience and rejected the notion that these forecasts happened by chance. Conversely, they attributed inaccurate forecasts to unforeseeable changes in the economic environment or the inability of company management to execute on their plans. Participant 9 explained:

[...] we live in an environment that is rapidly or constantly changing. Immediately. You put your model down, there’s new information coming through, or that’s developing in the market that actually will render your model completely out.

Participant 6 had worked as an analyst in the past but had recently assumed a role in a smaller financial institution in which they led a team of researchers. This participant described that there were “massive egos that tend to work in these types of industries”. In the context of marketing the sell-side analysts’ research, Participant 20 explained that “when you walk into the room, the client must want to know what you have built [in your models]” and “there is a certain charisma, an x-factor”. In explaining the characteristics of a good sell-side analyst, Participant 13 said, “this is a confidence game”. These insights suggest that overconfidence is advantageous as it encourages risk-taking and competition amongst analysts and can therefore result in longer careers in the research industry ([Limkriangkrai et al., 2024](#)).

The use of information is expectedly closely linked to the analysts’ assessment of its relevance. We found a strong connection between the scepticism with regards to accounting information and

the manner in which that information is incorporated in the analysts' models. The analysts interviewed for this study had differing educational backgrounds. Seven participants had Mathematics and/or Actuarial qualifications. Five participants were Chartered Accountants who had been trained as auditors. The latter participants appeared to be more acknowledging of the manner in which audits were carried out. For example, Participant 15 explained, "Look if you are an accountant and you've come from the audit firm and you know all about sample testing. You know it's possible for there to be fraud". However, Participant 8 appeared to be the outlier in this apparent trend. They had not worked at an audit firm, and yet they said:

When you go back to kind of first year articles, you know they are horribly underpaid, horribly overworked so it's incredibly, incredibly difficult for the auditors to pick up fraud.

As the interview progressed, it transpired that a close personal relative of Participant 8 was a Chartered Accountant who had worked in an audit firm. Collectively, these insights may indicate a proclivity for the availability bias, as analysts who covered companies that misstated their financial information recall these instances more vividly and are more aware of the likelihood of similar occurrences in the future. Analysts who are more familiar with the work of auditors, either through prior experience or through personal proximity, are less inclined to apply risk premia associated with possible misstatement in their models.

We further discussed the analysts' considerations in updating models by asking the analysts what would typically trigger recommendation revisions. Participant 4 explained:

There are two things that we look at [...] [firstly] price movements. The second would be a change in the outlook. So anything material that has happened that could impact the either the financial or business model.

Given the findings that the quantum of increase in earnings of companies added to a "strong buy" list was less than the quantum of decrease in earnings for companies added to a "strong sell" list, we considered the possibility for loss aversion or the disposition effect amongst analysts. The participants were therefore asked specifically about their criteria for upward and downward revisions.

It emerged that there was a reluctance to issue downward revisions unless absolutely necessary. Participant 2 explained, "You revise upwards more than you do downwards. The stock would have to move very, very highly against the house view for it to become a sell [...]". Similarly, Participant 12 explained, "I think we just influenced to issue buy ratings and it's not necessarily the same for sell ratings". These sentiments were echoed by Participant 10, who explained that an analyst would have to "make a really strong case" for issuing a downward revision.

This reluctance towards downward revisions could be a manifestation of the disposition effect. Participant 12's assertions that they are "influenced" to issue buy ratings may indicate the impact of career concerns, as documented in [Hong *et al.* \(2000\)](#). It may also be reason for the observation of [Barberis *et al.* \(1998\)](#) that institutional investors respond more strongly to downgrades than to upgrades. Institutional investors are likely aware that downgrades are less frequent and issued only when absolutely necessary. They are therefore more likely to react to the downgrades rather than the upgrades.

4.2 *Synthesis of findings*

The first aim of this study is to describe the processes followed by analysts as they gather and process information for their research. We find that while the procedures followed by each analyst are guided by the established procedures of their employers, these processes are largely similar across all the analysts. They gather information, assess its relevance and

update their models at least quarterly. In some instances, these updates necessitate recommendation revisions. The stages of gathering and processing information are not entirely distinct, with assessments of relevance of information occurring concurrently with the gathering of information. However, there remains room for each analyst's judgement in fundamental aspects of each stage of the process.

The second aim of this study is to understand the behavioural biases that are likely to influence analysts' research processes. The plethora of available information likely contributes to cognitive overload. Intuition is used when evaluating information obtained from direct interactions with management, further predisposing the process to bias. Selected findings are synthesised in [Figure 2](#).

5. Conclusion

This study was motivated by the gap in qualitative research on analysts' processes and behavioural biases in the context of their information environment and in an emerging market.

Regarding the gathering of information, our interviews revealed that proclivity for bias is enhanced by the cognitive load resulting from multiple sources of information simultaneously. We conclude that companies are producing excessive information that is complex and not aligned to analysts' processes. In doing so, we confirm the findings of irrelevance of integrated reports ([Abhayawansa et al., 2019](#)) in a market in which companies have had sufficient time to entrench integrated reporting practices in their operations. Propensity for bias is also amplified in direct interactions with management where "gut feel" is required to assess the reliability of such information.

Stage	Key Features	Behavioural biases / Proclivity for biases
Gathering information	Complexity	Spurious herding around similar sources of information Intentional herding around the broker consensus Need to maintain relationships with management to preserve access to information
Processing information: Assessing relevance	Time-pressure	Cognitive load when assessing with multiple sources of data, simultaneously Accounting information perceived as too old and too complex – analysts resort to other sources of information requiring judgment, and good relationships with management Scepticism after audit failures – possible availability heuristic Use of intuition to evaluate information shared in direct interactions with management
Processing information: Using information to update the model	Adherence to employers' research protocols Reputational consideration (e.g. Analyst Awards)	Spurious herding due to employers' research protocols Intentional herding around the broker consensus – reputational considerations e.g. Analyst Awards Attributing of accurate predictions to the self, versus inaccurate predictions to uncontrollable factors – possible overconfidence Reputational motivation for overconfidence to attract clients Reluctance to revise recommendations downward – possible disposition effect Need to maintain relationships with management possibly more pronounced in sponsored research, due to declining independent coverage .

Source: Authors' own

Figure 2. Key features of analysts' processes and proclivity for bias

Regarding the processing of information, we find that analysts are largely guided by the protocols of their employers, which could be mistaken for intentional herding. We show reputational motivations for intentional herding around the broker consensus. Declining analyst coverage is therefore concerning for analysts, who value the consensus as a source of information about the company and their peers.

A key contribution of our study is its emerging market perspective. We find several similarities between our findings and those of studies in developed economies. The need to maintain good relationships with management emerged from our interviews and is consistent with the findings based on analysts of FTSE 100 firms (Abraham and Bamber, 2017) and in Sweden (Graaf, 2023). In a study based on analysts in the UK and US, Millo *et al.* (2023) describe a social environment in which some analysts herd towards the broker consensus while others seek to signal their superior skills by diverging from the consensus. Similarly, only two of the participants in our study indicated a divergence from the consensus to differentiate themselves from other analysts.

However, in contrast to Graaf (2023), we do not find evidence of analysts competing against each other in the market for their research. Instead, we find that with declining analyst attention on smaller JSE-listed companies, a greater number of analysts are being paid to provide coverage to build a reliable broker consensus and attract investor attention to these smaller companies. This type of relationship with the company may contribute to the analysts' reluctance to issue downward recommendations. The present study revealed analysts' enhanced scepticism of considerations of financial irregularities or misstatements, to such an extent that Participant 10 cited a "negative selection pillar" in their research processes. This is in contrast to the US context of Brown *et al.* (2015), in which analysts showed more reliance on the audit processes. Having identified aspects of the information environment that enhance proclivity for bias and having provided evidence of specific biases, this study has implications for future research on developing appropriate debiasing strategies for analysts. For example, the practical yet generic debiasing strategies developed by Kahneman *et al.* (2021) can be adapted to the analysts' context. Further research on such debiasing strategies has a significant contribution to make in improving analysts' decision-making.

Given our findings on the reliance on management for information and the resulting proclivity for bias, we infer that the increasing trend of sponsored research is likely to result in a closer relationship with management and greater reluctance to release negative information about the company. Sponsored coverage is attracting greater research attention (Kirk, 2011; Tsang and Yoo, 2023), with some studies focusing on coverage sponsored by exchanges rather than the companies themselves (Gao *et al.*, 2018). Regarding sponsored research, our findings highlight the need for further studies in the context of markets in which institutional trades are directed towards larger companies and coverage is sponsored by the companies.

Note

1. Sell-side researchers

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