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Yudhvir Seetharam; Kingstone Nyakurukwa

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The emotional complexity of corporate communication: An emerging market case study

Yudhvir Seetharam *, Kingstone Nyakurukwa

University of the Witwatersrand, School of Economics and Finance, Johannesburg, South Africa

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ABSTRACT

This study examines Renergen Ltd's Chief Executive Officer's defence of using paid analysts. By analysing sentiment from the CEO's interview, using Facial Expression Recognition (FER) and Dynamic Exploratory Graph Analysis (DynEGA), we explore the emotional tones of sadness, fear, regret, excitement, happiness and optimism. The findings suggest that the CEO's communication was strategically crafted to address investor concerns and promote a positive outlook, highlighting the use of impression management to influence retail investors and navigate the controversy surrounding the company.

1. Introduction

The role of retail investors in the stock market has received increased attention in the recent past, especially as a result of increased participation through online trading platforms (Farrell et al., 2022; Fisch, 2022). Renergen Ltd, a South African energy company, provides an interesting case study in this regard. Following the COVID-19 pandemic, Renergen's stock attracted significant attention from retail investors, leading to price movements that appeared disconnected from fundamental valuations (Greyling, 2023). A key factor in this phenomenon is the company's strategic use of paid analysts to generate media coverage and analytical reports. While these analysts disclosed their compensated status, the critical question remains whether such disclaimers were sufficient to deter herding by retail investors.

Herding, the tendency of investors to follow the majority is a well-documented phenomenon in financial markets. This behaviour is particularly prevalent among retail investors who may lack the resources or expertise to perform in-depth analyses and instead rely on external cues, such as analyst reports and media coverage, to make investment decisions (Nyakurukwa and Seetharam, 2023). The use of paid analysts, despite the disclaimers, can potentially amplify herding by creating an appearance of consensus or expert endorsement. In this context, Renergen may have used paid analysts to encourage retail investors to buy the stock, leveraging the persuasive power of these external cues.

To explore this issue, we analyse the sentiment conveyed by Renergen's Chief Executive Officer (CEO) during an interview, focusing on responses to questions about the use of paid analysts. FER techniques are employed to quantify the emotional and attitudinal tone of the CEO's responses, determining whether the CEO appeared afraid, neutral, or confident. By examining the CEO's communication style, we aim to discern whether the CEO's demeanour reflects an attempt at impression management, aimed at bolstering investor confidence and attracting retail investment. Impression management theory (Tedeschi, 1981) posits that individuals and organisations engage in deliberate efforts to influence how they are perceived by others. These efforts involve controlling and manipulating information to project a desired image. To that end, observing facial emotions during corporate communications may convey information which may not be ordinarily found in textual messages.

We proceed as follows; Section 2 outlines the methods used, Section 3 presents the results and Section 4 concludes.

2. Data and methods

2.1. Data

Since we aim to examine the potential cues for impression

* Corresponding author.
E-mail addresses: Yudhvir.Seetharam@wits.ac.za (Y. Seetharam), knyakurukwa@gmail.com (K. Nyakurukwa).

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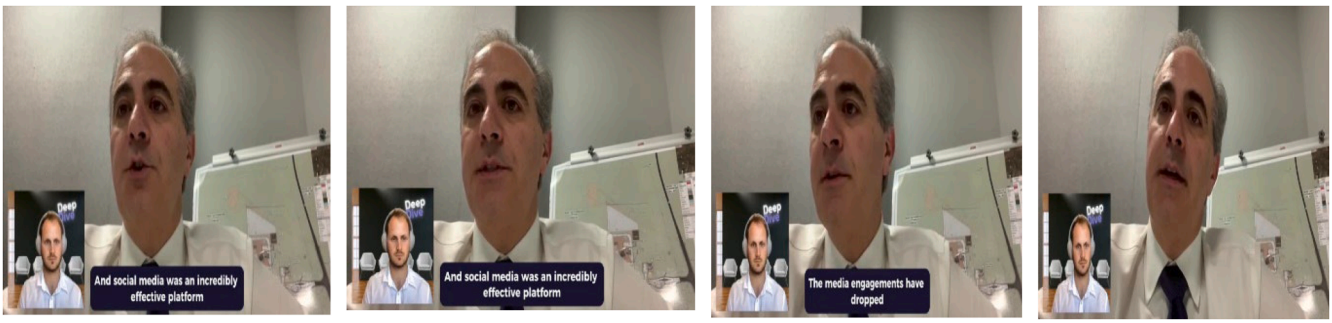


Fig. 1. Example of sampled frames.

management from the interview where the Renergen CEO was defending the use of paid analysts, we use one of the first interviews[a] done by the CEO after the allegations started spreading online. During the interview, the CEO was asked several other things about the company, but we are only interested in the part where he addressed the use of paid analysts. To that end, we only use the video from 11m16s to 14m15s [time in minutes (m) and seconds (s)].

2.2. Methods

Recent developments in deep learning and computer vision have provided tools for detecting emotions from facial expressions, enabling new research into emotional dynamics in contexts like political speeches and public appearances. Accurately detecting and analysing facial expressions has significant implications for understanding human behaviour and social interactions (Tomašević et al., 2024). We use zero-shot emotion classification from video[b] (Christensen et al., 2024) to establish the evolution of various emotional states for the duration of the interview period. We adopt a classification of emotions which includes three positive emotions (excitement, happiness, and optimism), three negative emotions (regret, fear, and sadness), and a neutral category. The video contains 4296 frames and we sampled 600 frames by extracting every 7th frame from the video. This is done such that a FER score is generated for each frame of the video. Furthermore, we reduce noise in the FER scores by applying a rolling mean with a 5-frame window. Using a rolling mean can be beneficial in addressing misclassifications caused by sudden spikes in emotion that occur in just one or two frames (Tomašević et al., 2024).

After generating the FER scores for each frame, we attempt to understand the dimensional structure of the emotional states. To this end, we follow Tomašević et al. (2024) by using the Dynamic Exploratory Graph Analysis (DynEGA[c]) in modelling and interpreting the dynamics of facial expression scores, focusing on its ability to assess the dimensionality of these time series and recover latent dimension values through network scores. Network psychometrics has evolved to incorporate dimensionality assessment. This method involves estimating networks with techniques like the Gaussian Graphical Model (GGM) and applying a community detection algorithm for weighted networks – in this study, we use Walktrap (Pons and Latapy, 2005)- to uncover latent factors. Golino et al. (2022) posit that DynEGA integrates network psychometrics, dynamical systems modelling, and dimensionality assessment into a cohesive framework. This approach can estimate structures at both individual and group/population levels. Partial correlations are reported to show the static relationship between different emotional states.

3. Results

This section reports the results from the methods described above. Before reporting the results, we briefly show some selected frames from the interview video (Fig. 1). Because the interviewer also appears in the video as an insert, we used an option in the algorithm to select the largest face to ensure that the target face is always the interviewee (CEO).

We report the evolution of emotional states from the interview in Fig. 2. The results reveal a spectrum of emotions, with regret, fear and optimism being the most prominent. Regret (red) dominates, showing the highest fluctuations and FER scores, consistently rising to 0.4–0.5 across frames. Fear (green) and neutral (blue) emotions exhibit moderate levels, while other emotions such as excitement, happiness, and sadness remain relatively subdued. This suggests that the conversation was not only engaging but also emotionally charged, indicating the presence of significant corporate impression management efforts. In this context, the CEO's discussion appears to be a strategic effort to shape public perception and mitigate any potential negative fallout from the revelation about paid analysts. The high levels of regret suggest moments where the CEO might have acknowledged mistakes or taken responsibility, a common tactic to regain trust and show accountability.

The noticeable presence of optimism indicates that the CEO likely emphasised positive prospects, aiming to steer the narrative towards a more favourable outlook. By doing so, the CEO could be attempting to balance the negative implications of the controversy with a hopeful vision for the company's future, thereby managing stakeholder impressions effectively. Fear, although less dominant, suggests there were parts of the discussion that raised concerns or doubts, possibly related to the ethics and transparency of using paid analysts. This sentiment highlights the important balance the CEO needed to maintain – acknowledging issues while promoting a positive future.

The combination of these sentiments reflects a calculated effort in corporate impression management. The CEO's responses seem designed to acknowledge and address concerns, evoke positive emotions, and ultimately steer the conversation towards a more optimistic outlook. This approach can be effective in managing the immediate crisis and in rebuilding stakeholder trust, demonstrating the art of corporate communication in handling sensitive issues. Overall, the sentiment analysis outlines the complexities of corporate impression management, where addressing a controversy involves not just tackling the issue at hand but also carefully shaping the emotional responses of the audience to align with the company's desired image. Partial correlations[d] among emotional states over time are shown in Fig. 3.[e]

[a] This interview is publicly available online on the following link: https://www.youtube.com/watch?v=wRVp0zHuyBM&t = 676s

[b] This is done using R package transforEmotion version 0.1.4

[c] This is done using the R package EGAnet version 2.0.6

[d] Henceforth, partial correlations and correlations are used interchangeably but are always to refer to partial correlations

[e] For robustness, the model is re-estimated using the Louvain community detection method and the results do not qualitatively change. The Louvain solution also returns three distinct communities as Walktrap does. Results are not reported in detail for brevity.

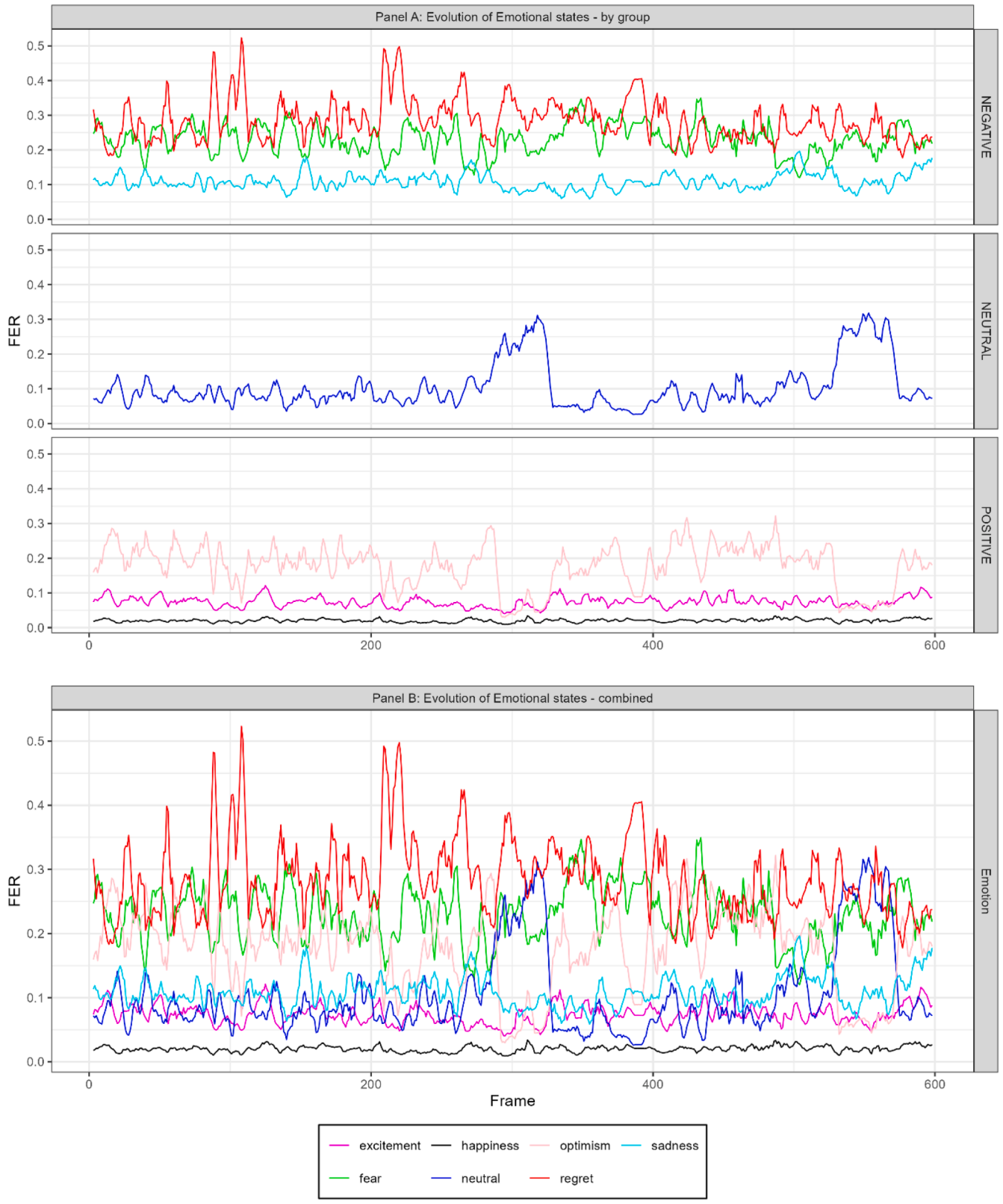


Fig. 2. Evolution of emotional states.

In Fig. 3, each node represents a different emotion—happiness, excitement, fear, regret, sadness, and optimism—tracked throughout the video. The edges connecting these nodes indicate the relationships between these emotions, with the thickness of the lines representing the strength of these relationships and the colour coding (red for negative correlations and green for positive correlations) further distinguishing the nature of these connections. The thick green line between happiness and excitement indicates a high positive correlation, suggesting that moments of excitement in the interview were often accompanied by feelings of happiness. This reflects the CEO's ability to convey a positive

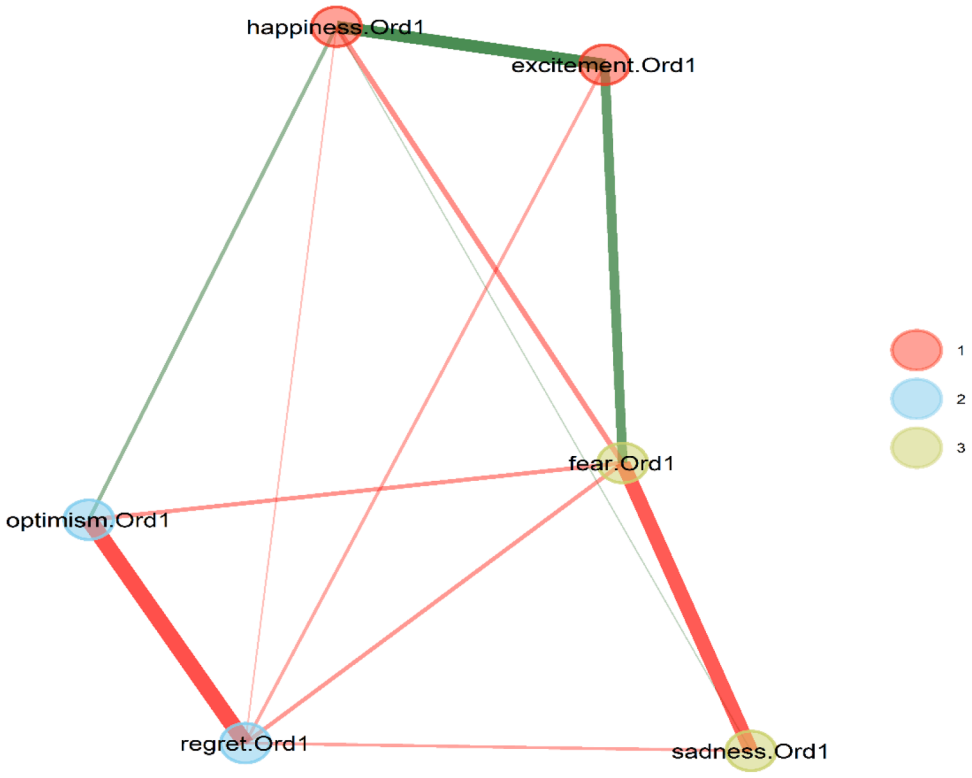


Fig. 3. Network plot of dynamic EGA model.

outlook effectively. This is also observed from the thin green line between happiness and optimism showing a positive correlation, implying that these moments of happiness are consistently associated with optimism about the company.

The thick red line between fear and regret indicates a strong negative correlation showing that fear and regret do not exhibit joint co-expression patterns throughout the video. The focus on managing present fears could have overshadowed any regret about past decisions. We also observe a negative correlation between positive emotion (optimism) and a negative emotional state (regret). Regret is closely tied to counterfactual thinking (Byrne, 2007)—considering "what might have been" if a different decision had been made. Optimism can drive this type of thinking, as optimistic individuals are more likely to envision positive alternatives and thus more prone to regret when those alternatives do not materialise. This counterfactual process links the two emotions through their reliance on similar cognitive mechanisms. Additionally, the CEO's defence of paid analysts, framed through an optimistic lens, likely involved emphasising the potential benefits and positive outcomes of such a decision. We also observe a positive correlation between excitement (positive emotion) and fear (negative emotion). This can be explained by the Circumplex Model of Affect (Russell, 1980) which posits that emotions can be mapped onto two dimensions: valence (pleasant to unpleasant) and arousal (low to high). Excitement and fear are both high-arousal emotions, but they differ in valence—excitement is generally positive, while fear is negative. Both excitement and fear are associated with high levels of physiological arousal. This means that they both activate similar bodily responses, such as increased heart rate, heightened alertness, and an adrenaline rush. This shared arousal level can lead to a positive correlation between the two emotions, as the physiological state that accompanies one can easily transition into or coexist with the other. The CEO's careful navigation of this emotionally relevant conversation demonstrates the complexities of corporate communication and impression management, aiming to rebuild trust while projecting a hopeful future.

4. Conclusion

This study provides a detailed examination of how Renergen Ltd's CEO navigated the controversy surrounding the use of paid analysts through strategic communication. The sentiment analysis of the CEO's interview reveals a strategic use of emotional tones, including regret, excitement, and optimism. These emotional states were employed to manage investor perceptions effectively and mitigate the impact of the controversy. The presence of regret suggests an acknowledgment of past mistakes, aimed at rebuilding trust and demonstrating accountability. Meanwhile, the emphasis on excitement and optimism highlights the CEO's effort to shift focus towards positive future prospects and reinforce investor confidence. This strategic communication underscores the CEO's use of impression management techniques to address immediate concerns while promoting a hopeful outlook for the company. The findings illustrate the complexities of corporate communication in managing crises and shaping public perception. This study contributes to understanding how corporate leaders use emotional and strategic communication to handle sensitive issues and maintain stakeholder trust in a dynamic market environment. A limitation of the study is its dependence on FER scores. People express emotions differently, and not everyone shows clear or typical facial expressions for certain emotions. Some individuals might have subtle or atypical expressions that are not easily captured by FER systems.

Data availability

Data will be made available on request.

References

Byrne, R.M.J., 2007. The rational imagination: how people create alternatives to reality. MIT Press.

Christensen, Al.P., Golino, H., & Tomašević, A. (2024). TransforEmotion: sentiment analysis for text, image and video using transformer models (Version 0.1.4) [R]. https://doi.org/10.5281/zenodo.10471355.

Farrell, M., Green, T.C., Jame, R., Markov, S., 2022. The democratization of investment research and the informativeness of retail investor trading. J. Financ. Econ. 145 (2), 616–641. https://doi.org/10.1016/j.jfineco.2021.07.018. Part B.

Fisch, J.E. (2022). GameStop and the reemergence of the retail investor (SSRN Scholarly Paper 4049896). https://papers.ssrn.com/abstract=4049896.

Golino, H., Christensen, A.P., Moulder, R., Kim, S., Boker, S.M., 2022. Modeling latent topics in social media using dynamic exploratory graph analysis: the case of the right-wing and left-wing trolls in the 2016 US elections. Psychometrika 87 (1), 156–187. https://doi.org/10.1007/s11336-021-09820-y.

Greyling, D., 2023. Euphoria and heartache of meme stocks – two South African examples. Daily Investor. https://dailyinvestor.com/investing/35841/euphoria-and-heartache-of-meme-stocks-two-south-african-examples/.

Nyakurukwa, K., Seetharam, Y., 2023. From Shanghai to wall street: the influence of Chinese news sentiment on US stocks. J. Behav. Fin. 0 (0), 1–14. https://doi.org/10.1080/15427560.2023.2270100.

Pons, P., Latapy, M., 2005. Computing communities in large networks using random walks. In: pInar Yolum, T., Gürgen, Güngör F., Özturan, C. (Eds.), Computer and Information Sciences—ISCIS 2005. Springer, pp. 284–293. https://doi.org/10.1007/11569596_31.

Russell, J.A., 1980. A circumplex model of affect. J. Pers. Soc. Psychol. 39 (6), 1161–1178. https://doi.org/10.1037/h0077714.

Tedeschi, J., 1981. Impression management theory and social psychological research, 1st ed. Academic Press https://shop.elsevier.com/books/impression-management-theory-and-social-psychological-research/tedeschi/978-0-12-685180-9.

Tomašević, A., Golino, H., & Christensen, A.P. (2024). Decoding emotion dynamics in videos using dynamic exploratory graph analysis and zero-shot image classification. https://osf.io/y9jb3/.