

## **Analysis of Visual Communication as a Means of Facing the Challenges of Technological Development in a Securities Company**

**William Surya Wijaya<sup>1)</sup>, Algooth Putranto<sup>2)</sup>**

<sup>1,2)</sup>Postgraduate Program, Master of Communication Science, Sahid University, Jakarta, Indonesia

\*Corresponding Author

Email: [williamsurvwaw88@gmail.com](mailto:williamsurvwaw88@gmail.com), [algooth.pao@bsi.ac.id](mailto:algooth.pao@bsi.ac.id)

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### **Abstract**

*This illustrates that all countries have the same goals in seeking growth, development, progress, and continuous learning to face challenges in the future. The visual emails presented in this study aim to expand the understanding of the denotative, connotative, and mythical meanings believed to be true through the application of the value expectation theory. This theory provides a comprehensive approach to understanding how individuals form and interpret the meaning of a concept or idea, considering the aspect of value expectation. In this research, Roland Barthes' semiotics method is employed for analyzing main interpretations and representations to unravel the denotative, connotative, and mythical meanings in the presented visuals. Data collection techniques involve focus group discussions and structured in-depth interviews aligned with investor feedback. Based on the research results, exploration will be conducted on how individual perceptions of value influence their interpretation of visual understanding. This is supported by the expectation from feedback that investors desire visuals and text to support technical knowledge and portfolio growth based on the visual analysis provided by the securities company.*

**Keywords :** *Visual Communication, Semiotics, Value Expectation, Investor, Securities*

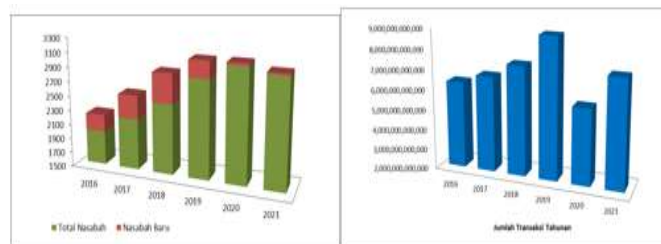
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## **INTRODUCTION**

The rapid advancement of technology has prompted securities companies to adopt the needs of investors/clients by providing information services through electronic networks using electronic mail (email) (Bukar et al., 2020). This is also related to the changing behavior of investors who desire quick updates and the need for accurate data and up-to-date information related to the decision-making process that investors will undertake in making investments in the era of Society 5.0, where the virtual world increasingly blends with real-world conditions (Reber, Jin, & Nowak, 2022). Over time, companies continue to evolve, including developing electronic mail to assist clients in the decision-making process (Quinn, 2018). The transformation of the design of electronic mail has become one of the company's focuses, considering that appearance and information are crucial aspects for generating interest in something (Dirani et al., 2020).

During the journey marked by the 1992 reform, all countries, including Indonesia, have faced two significant global economic crises (Charoensukmongkol & Phungsoonthorn, 2022). The first crisis occurred in 1998, coinciding with major upheavals in our country, while the second crisis occurred in 2008 (Zhai, Zhong, & Luo, 2019). Learning from these events, it became clear that when facing the economic crisis in 2008, Indonesia and the world as a whole were better prepared compared to the 1998 crisis (Malecki, Keating, & Safdar, 2021).

This illustrates that all countries have the same goals in seeking growth, development, progress, and continuous learning to face challenges in the future. However, the current challenge lies in investments, not only in conventional forms such as savings and deposits in the banking sector but also in more advanced forms of investment such as in the capital market, including stocks (Le, Teo, Pang, Li, & Goh, 2019). With the government's focus on capital market investment as a key economic indicator, it becomes crucial to advance the investment industry in the capital market, which is a significant part of a country's investment instruments (Cheng, 2018).



**Figure 1. Growth of customers and transaction values during the period 2016 - 2021**

Image 1 depicts the growth of the number of customers from 2016 and illustrates the growth of transaction values during the same period. This visualization provides insights into the positive trends in the securities industry, reflecting an increase in the number of clients and transaction values. The rapid advancement of technology poses one of the main challenges in the current capital market industry, both domestically and internationally (Kim, 2018). The increasing variety of investment instruments also presents a competitive challenge for the current industry development. In facing these dynamics, the use of email as a means of communication becomes increasingly crucial, with email visualization becoming a key element in effectively conveying information (Claeys & Coombs, 2020).



**Figure 2. Email Display Graph 2016-2022**

Communication through email has proven to be a highly important tool in overcoming these challenges. Visual communication, especially through email, has evolved over time, adapting to current investor trends and preferences. The graphic representation in Figure 2 illustrates the visual communication transformation of email from 2016 to the anticipated design in 2022. Effective visual communication, particularly through email, has become a crucial element in the securities industry (Lee, 2020). As this industry develops, companies must continue to innovate and adapt to technological advancements to maintain effective communication with clients and investors (Swandi, I Made, et al., 2019). The visual representation presented in this research demonstrates the industry's progress and strategies in leveraging visual communication to address challenges and drive growth to maximize the benefits of this program.

This research adopts the semiotic analysis approach of Roland Barthes, known as an expert in semiotic structuralism. Barthes introduces the main concepts of connotation and denotation that are crucial in his analysis (Pengnate, Lehmborg, & Tangpong, 2020). Denotation refers to the literal representation or form of a sign concerning a specific object. Meanwhile, connotation refers to additional significance given to the sign through the first stage of signification and the last stage, which is myth, representing perceptions or beliefs that may not be entirely accurate or could be misunderstood related to the content of the message conveyed through emails by the

securities company (signifier and signified) (Kurniawan, 2001). Therefore, this research employs a semiotic analysis method focusing on the analysis of signs.

1. Signifier (Penanda)	2. Signified (petanda)
3. Denotative Sign (Tanda Denotatif)	
4. CONNOTATIVE SIGNIFIER (PENANDA KONOTATIF)	5. CONNOTATIVE SIGNIFIED (PETANDA KONOTATIF)
6. CONNOTATIVE SIGN (TANDA KONOTATIF)	

**Figure 3. Roland Barthes's Sign Map**

According to Bayes (in Latif, L. A., et al., 2018), the Theory of Value Expectation is a commonly used framework for analyzing consumer behavior from the perspectives of psychology and communication (Zhang, Xie, Chen, Dai, & Yi-Jun, 2023). The theory aims to provide an understanding of how individuals make decisions based on expectations of the benefits that may be derived from an action or decision. Essentially, the theory emphasizes that individuals tend to choose actions or decisions that are expected to provide greater positive value or benefits than the costs or efforts required. In the context of communication, this theory can be applied to understand how a specific message or communication can influence individual behavior. A communicator can use an understanding of expectations and values to design messages that are appealing, offer anticipated benefits, and minimize obstacles or costs that the message recipients may perceive (Liu-Lastres, 2022). The core of this theory involves two key components: 1) expectations, where individuals make decisions based on expectations of outcomes from actions or products, including anticipated benefits; 2) value, which refers to the perceived relative benefits of actions or products considered by individuals. By understanding and applying these concepts, communicators can more effectively influence decisions and behaviors of individuals in various communication situations (Ratzan, Sommariva, & Rauh, 2020).

## RESEARCH METHODS

In this research, the Roland Barthes semiotics method is employed to analyze the main interpretations and representations to unravel the meanings of denotation, connotation, and myths in the presented visuals. A qualitative descriptive approach is used to provide an in-depth overview of how individuals form and interpret the meanings of concepts or ideas by considering the aspects of value expectation. The post-positivism paradigm serves as the philosophical foundation guiding this research, allowing the researcher to explore the constructions of meanings and interpretations of values holistically. The integration of the value expectation theory provides a rich perspective on how individual perceptions of value influence their interpretations of visual understanding. Data collection techniques involve focus group discussions and in-depth interviews, in line with the interview results with investors, to investigate the underlying value implications of visual understanding in the context of this research (Yu, Li, Yu, He, & Zhou, 2021).

## RESULT AND DISCUSSION

### Roland Barthes Semiotic Analysis

#### 1. Visual Analysis of TBIG, SMRA, ASII Email Codes



**Figure 4. Email Codes TBIG, ASII, SMRA**

The stock analysis of Figure 4 involves observing stock price charts, which visually depict the price movements over time. The denotation stage involves identifying elements such as the time axis, stock prices, and technical indicators like moving averages and RSI. Trading volume is also observed as a crucial aspect. In the context of stock analysis, terms like TBIG, SMRA, and ASII are used as stock company codes, with denotative meanings referring to the data evaluation process and investment plans.

The connotation stage, supported by text interpretation and visual representation of candlestick colors on the stock chart, such as red and green, carries emotional connotations. Red may signify concern or price decrease, while green creates optimism and price increase. The yellow color on the MACD table indicates caution towards changes. A white background is chosen to ensure visual contrast. The consistent email layout facilitates the identification of CTA (Call to Action) messages.

In the myth stage, the research investigates how visual signs and messages in stock reports can permeate values and culture. Myths in stock emails include "portfolio success," "security," and "limited opportunities." The messages aim to create an enticing picture of financial success, security, and exclusivity of information. The concept of "limited opportunities" is promoted to encourage immediate action. Together, they create myths to influence investors' views and actions (Meluch, LeBlanc, Hannah, & Starcher, 2023).

#### 2. Visual Image Analysis of JCI Preview Email



**Figure 5. IHSB Preview Email Image**

This email's visual analysis depicts a candlestick chart with elements such as the body, upper shadow, and lower shadow, providing a visual representation of stock price movements. The visual chart of IHSB from November 2022 to February 2023 takes center stage, representing literal stock price data. Terms like "IHSB" and "Preview" denote the stock index and the email's

content summary. The term "Analysis" informs investors that the email contains an analysis of stock performance during a specific period, with IHSG as the support level in the preview for analysis. The term "Advice" indicates potential recommendations related to investment actions or IHSG stock trading.

The basic denotation of this email is as a source of documentation information on recent price movements, including the closing price of IHSG during the today range and last close periods. The focus on the composite entry timeframe provides significant information for readers interested in the entry process into their portfolios (Cheng, 2020). The consolidated description of the candlestick chart creates steps to integrate and organize IHSG data, showing that the email contains carefully and systematically consolidated information. The period "November 2022 - February 2023" emphasizes the focus on analyzing IHSG price movement data during that period (Jin & Austin, 2021).

Connotative analysis within the chart creates expectations for future stock investments and motivates investor actions. Terms like "Preview" and elements such as "Analysis" and "Advice" carry serious connotations and a scientific approach to stock data, influencing investor engagement. Visual translations like today range and last close carry connotations of stability and volatility, influencing investors' risk perceptions. A white background is chosen for visual contrast and readability. Emerging myths include IHSG stability, information exclusivity in the IHSG preview, the image of success, significant opportunities, and the potential for wealth, security, expertise, and limited opportunities related to specific stock investments (Ertem Eray, 2018). The use of charts creates a sense of urgency in following market developments and can motivate investment actions, revealing hidden messages beyond literal meanings.

### **IHSG Email Preview Visual Image Data Analysis**



**Figure 6. Etimen Potential Email**

This email contains the "8 codes of stock sentiments with potential decline" and "8 codes of stock sentiments with potential rise," referring to the identification of stocks with potential price decrease or increase. The denotation is the presence of 8 code sentiments classifying stocks with potential decline and rise during a specific period. Green arrows pointing upward and red arrows pointing downward provide visual indicators of stock price movements. In the "description" and "recommendation" columns, denotation includes a literal understanding of terms such as nearest exit, stop loss, support, resistance, last price, speculative buy, buy on weakness (BOW), sell on strength (SOS), and strong sell. These serve as a guide for investors in making investment decisions and understanding the aspects of stocks they consider (Lu & Jin, 2020).

Connotation in the investment context involves interpretation, psychology, and culture that influence perceptions and actions of investors. The use of "8 codes of stock sentiments" can be interpreted as a portfolio diversification and risk management strategy. Green and red arrow icons create expectations for investment results, influencing investors' decisions regarding specific stocks. Tooltips or educational explanations like "stop loss" and "support" create myths about security and expertise in stock investment, encouraging investors to follow these

recommendations. Myths of limited opportunities also arise through terms like "buy on weakness (BOW)" and "sell on strength (SOS)," urging investors to act promptly. A white email background is chosen to enhance readability.

Semiotic analysis helps uncover myths about "knowledge," "investment success," and "sentiment opportunities," and "information exclusivity" associated with stock investments. This email creates specific expectations, anticipations, and perceptions for investors, influencing stock investment decisions in responding to calls to action (CTA) or decisions from understood information.

### **Value Expectation in Visual Communication to Optimize User Experience (UX) for Investors on Securities Technology Platforms**

Applying this theory allows an understanding of consumer motivation, purchasing decisions, and how to design communication or education strategies for investors in securities companies. In discussions with several informants, researchers will further analyze how the theory of value expectation contributes to understanding and meeting investor expectations and can be applied in the securities industry practice based on visual communication through stock emails. Interviews were conducted through focus group discussions and in-depth interviews with 6 informants, with questions prepared in advance. The interview results will be divided into several parts. Basic Information Instruction Analysis.

Interview Results on September 24, 2023:

P : Do you have any input, gentlemen?

N1 : My suggestion for friends from securities companies is, perhaps, education, at least technical analysis, which is online, is okay. Maybe our friends are not on the same page and haven't learned, at least there can be a common understanding.

N2 : Wow, I agree with that, sir. It can be placed on YouTube too, which can be read and understood repeatedly for education.

P : I also want to make sure, I want to ask about the education request for online learning. In your emails, do you feel they end up in spam or not in the received emails?

N3 : Next, education. For example, if tooltips are included in the email, like the "arrow sign" instructions and there is an explanation, how do you think, is it clear? On the email later. For example, like the risks, the analysis, and other instructions.

N1 : The support system for the arrow sign has helped us, sir.

Interview Results on October 8, 2023:

P : So, is the data sufficient, or is there any missing input, so there are insights for us too?

N5 : Request education about technical analysis, sir... heheh

P : Oh, for additional meaning, right?

N5 : Yes, sir.

P : Because it's more about adding emails, plus there can be an educational story to increase knowledge.

N5 : Absolutely, sir, because we also need that foundation.

Interview Results on October 15, 2023:

P : Regarding emails, according to Mr. Dian, is it better to have only text with detailed explanations, or text with clear and dense images, such as points indicating system support; which one do you prefer, sir?

N6 : For me, sir, I prefer something with text. The text doesn't need to be too long, with images to support it. That's it, sir. Images and text don't need to be long, and if there's a video, it would be great, sir, hehehe...

P : About videos, we may have considered it, and we feel that videos are too heavy. So, if the specifications don't support it, it might bounce, sir. Now, does color affect, sir?

N6 : Very much, sir, it greatly affects.

P : So far, the emails we've sent, according to Mr. Dyan, are they informative?

N6 : Enough, sir, clear.

Interview results with investors indicate that understanding expectations and values are crucial in designing visual communication through stock emails, especially in the context of educating about the basics of stock investment. The interviewees emphasize the importance of clear information and education related to technical analysis. Investors want emails that provide instructional guidance for tooltips, especially regarding signs and meanings provided by securities companies. Most investors feel that less informative or less explanatory email messages can cause confusion and doubt in decision-making. Results Satisfaction Analysis (Frandsen & Johansen, 2018).

Interview Results on September 24, 2023:

P : In your experience, gentlemen, have visualizations of securities performance history or investment portfolio ever persuaded clients to increase stock ownership/customer growth?

N1 : Yes, visualizations of securities performance history, especially investment performance charts, can persuade clients to increase stock ownership. This helps clients better understand investment performance. If you talk about growth, my portfolio has also grown; I'm not a trader, more of an investor.

N2 : I agree. I have seen experiences where investment performance charts persuade clients to increase the number of securities because they provide a clearer picture. So what we need in a trading plan is to buy at what price, sell for a profit at what price, and set a stop loss at what price. So, this is quite helpful; there is a difference in the portfolio, and it's better now.

N3 : I also have a similar experience. Investment performance charts and interactive portfolio maps help clients adjust asset direction as well, leading to customer growth

Results of the Interview on October 8, 2023:

P : What is your status, ma'am?

N5 : I am a housewife, so I have activities at home and time for trading, a lot of time.

P : Well, so you must be making a profit, right? Hahaha

N5 : Well... it's decent, sir, for additional shopping money, hahaha...

P : Well, to fill the kitchen, right? Haha...

N5 : Yes, that's right, sir, hahah...

Results of the Interview on October 15, 2023:

P : Well, sir, for your portfolio, has it been profitable, sir? Hahahaha...

N6 : If it's not profitable, why would we continue to invest, sir, hahaha.

P : I often say, sir, that if we're not making a profit, it's the same as starting a business. Why would we continue and force it, right, sir? So, there are things to consider, right, sir.

N6 : That's right, sir, yes, yes... hahaha.

In the analysis of the value expectation theory, these interview results indicate that investors' expectations influence their investment decisions, with some seeing stock investments as a means to achieve long-term financial goals, such as a secure retirement.

#### Analysis of Decision-Making Suitability Based on Visual Email

Interview Results on September 24, 2023:

P : According to you all, do visual elements such as investment performance charts, result comparisons, or risk visualizations provide a clearer picture and influence clients' decisions to increase the number of securities transactions?

N2 : Yes, visual elements like investment performance charts and risk visualizations can provide a clearer picture to clients. This can facilitate decision-making to increase the number of transactions.

N1 : I agree. Visual elements help clients understand information better. Investment performance charts and result comparisons can motivate action.

N3 : Visual elements are very helpful. Charts and risk visualizations can provide a clearer picture, influence client decisions, and motivate them to engage in more transactions.

Interview Results on October 1, 2023:

P : Interview Results on October 1, 2023:

N4 : Alright sir, one more question, is an email containing information or recommendations more appealing with just text or with added images and colors?

N4 : Yes, it's clear that it's more helpful with images and colors, with visual information. In my opinion, if it's just text, it's harder to grasp the mean point. Usually, I receive some mean points already determined or recommended by the securities, and the charts also help.

P : So, in essence, the addition of charts and colors is more appealing, right? Now, do these visual elements motivate you to make transactions?

N4 : True, indeed. The presence of charts, especially candlestick charts, helps me see the direction and at least aids my predictions. I find the emails sent every night, usually three emails, most beneficial, particularly the night view of the market. If the morning global summary only gives indications of the overall trend, the night view is more specific about which stocks to focus on (Eriksson, 2018) .

Interview Results on October 15, 2023:

P : Usually, we send them in the evening, from 7-9 PM, when people return from work and relax, before or after showering. So, is it more comfortable in the evening compared to early morning or dawn?

N6 : For me, definitely evenings are more comfortable, sir. It aligns with the time of rest, we can calm our minds more, it's more relaxing.

P : So, we've been sending them in the evening based on the data we surveyed about the prime time, right? When people are most relaxed.

N6 : Haha, yes, that's correct, sir.

P : It's easier to get into people's minds, less hectic, right?

N6 : Absolutely, sir. Dinner time is good too, psychologically it's better, haha.

In the analysis of the value expectation theory, interview results indicate that investors' expectations regarding visual elements in stock emails are to provide a clear overview, motivate action, and enhance confidence in decision-making. Investors hope that the emails they receive present visual information with charts and colors to improve understanding, especially when there are recommendations or predictions. Charts are expected to assist in predicting market trends, influencing investors' investment decisions. They want to feel confident and supported in their investments, seeking emails that reflect certainty and stability to strengthen their trust in investment decisions (Popovski et al., 2018).

Risk Decision Making Analysis

Interview Results on September 24, 2023:

P : In your experience, have visualizations of security performance history or investment portfolio ever persuaded clients to reduce risks in making decisions to increase stock ownership/customer growth?

N1 : Yes, visualization of security performance history, especially investment performance graphs, can persuade clients to increase stock ownership. This helps clients understand investment performance better. If we talk about growth, my portfolio is also growing; I'm more of an investor than a trader.

N2 : I agree. I have seen experiences where the investment performance graph persuaded clients to increase the number of securities because it provides a clearer picture. So, what we need in a trading plan is to buy at what price, sell for a profit at what price, and stop losses at what price. So, this is quite helpful; there is a difference in the portfolio, and it's better now.

N3 : I have a similar experience. Investment performance graphs and interactive portfolio maps help clients adjust their asset direction, leading to customer growth.

P : How about the risk analysis?

N3 : Easily recognizable, fortunately not too different from my stock analysis results.

N2 : I caught something from Mr. Steven earlier, the issue of senior and junior investors. I want to ask, does the sender determine belief? Or as long as the securities firm has provided confidence in the email delivery? For example, inputs from emails can already be believed by investors. Can you respond, sir?

Results of Interview on October 1, 2023:

P : Maybe an additional question from Mr. Arya, this email is sent every day, right? Does this email bother you, or do you feel intimidated by this email?

N4 : In my opinion, it helps because the content is relevant. It gives me ideas because there are many stocks, and I don't follow all of them because global trends can also provide some clues. But still, I have to make my own decisions in purchasing stocks, sir.

Results of Interview on October 8, 2023:

P : Because I send emails from the company with pictures, text, numbers, a brief, clear, and concise explanation that people understand. So among these three, which is the most interesting for you, ma'am?

N5 : Writing with pictures, so it's more informative, sir.

P : So, writing supports images, and the numbers limit risks, quite balanced, right?

N5: Exactly, sir. In that information, I can read the risks based on the analysis of the email, sir.

P : So, for investment decisions, everything goes through email, and you only make investment decisions after analyzing the email, ma'am? Or do you have other events?

N5 : Yes. Exactly, sir, because we can't immediately trust input from email, right, sir? Hahaha...

Results of Interview on October 15, 2023

P : I want to ask about the risks too, sir. And there are several points, sir, explaining about decision-making. Does email and graphics sufficiently facilitate your decision-making, sir? Well, simply, sir, resistance, support, and stop-loss are already informative, sir?

N6 : True, sir. If in the picture or graph about what we discussed, that's already important, and informative, sir.

P : And does it describe the risks, sir? Also, up to clear returns?

N6 : Regarding the risks, it can already be analyzed, sir, and the returns can be measured and gauged.

In the context of the value expectation theory, interview results indicate that investors' expectations regarding visual elements in stock emails are to provide a clear overview, motivate action, and enhance confidence in decision-making. Investors hope that the emails they receive present visual information with charts and colors to improve understanding, especially when there are recommendations or predictions (Kodheli et al., 2021). Charts are expected to assist in

predicting market trends, influencing investors' investment decisions. They want to feel confident and supported in their investments, seeking emails that reflect certainty and stability to strengthen their trust in investment decisions (Battistelli & Falcieri, 2020).

#### Analisa Manfaat Emosional

Interview on October 15, 2023:

P : So, from the emails sent, approximately sir, does it generate motivation or interest in making purchases or sales?

N2 : Yes, of course. When looking at the email, we become curious and want to know. Wow, what is this company? Well, we certainly find out, right? The company's activities are healthy or not should be introduced first through email. If we already know the old company and can see how it moves.

P : So, on the email side, it's enough, for example, stock A. diplomatically can stimulate intuition through email, to be able to take action or at least want to know to make a purchase.

N2 : Yes, that's true, especially for stocks that we have been monitoring for a long time.

#### Results of the Interview on October 1, 2023

P : Alright sir, there are certainly many emails, now in terms of color, intuitive layout, what do you feel?

N4 : I'm quite comfortable, and emotionally I can accept the email layout, but for educational apps, it needs improvement.

P : Well, if in terms of competitors' emails, is the evening email compared to competitors in terms of color, which one do you prioritize?

N4 : Okay, if it's at night, maybe your securities will be my priority, for other securities, it's in the morning. I'm stating facts here.

#### Results of the Interview on October 8, 2023

P : So, does this email influence you enough, in the sense that you see the email and suddenly feel... "Oh, this is interesting," and does it trigger you to make transactions?

N5 : Hmm, how do I put it, but still, via email, I have to analyze it first, like that, sir...

P : Still needs analysis, right ma'am... But, does that mean it can still motivate you, and be seen as an interesting picture, then you analyze it again, or is it still just information for you via email?

N5 : Yes, sir... maybe it provides a bit of assistance to motivate me with some stocks that I will analyze, sir, but it doesn't fully encourage me.

P : So, at least it has an impact, right ma'am?

N5 : It has a significant impact, sir...

P : Good, ma'am, then for emails, for example, if it's just text and no images, is it more interesting if there are images or colors?

N5 : Definitely, there is text and there are images, sir...

P : Plus color, maybe?

N5 : Sure, to make it clearer, sir.

P : The graph depicts ups and downs, right ma'am, isn't it too harsh on the eyes?

N5 : Not too much, sir, in fact, it looks better.

P : So, in terms of appearance, that means it has enough influence or not on the desire to see the email, then motivate to take action, it has enough influence, right?

N5 : Yes, sir...

P : So, visual elements are quite effective, right, ma'am, from the statements earlier?

N5 : That's right, sir...

Results of the Interview on October 15, 2023

P : Hmm, like that, sir, it turns out we also send emails every day, sir, in terms of giving a little insight, including recommendations, now about the time or timing of sending it, like the night before the trade opens, or early morning, which one is better, sir?

N6 : If the most comfortable time is... earlier, sir, what time in the evening, sir? If we're talking about the time of sending emails at night?

P : Usually, we range it from 7-9 pm, sir, people come home relaxed, before or after bathing, well, at night for the next day before the market opens rather than in the morning or dawn, which is better?

N6 : If you ask me, the most comfortable is in the evening, sir. According to rest time, we can calm our minds more, sir, more relaxed.

P : So, that's what we've been sending so far, sir, usually we send it at night, based on, in terms of data we surveyed about the prime time, sir. Where people are most relaxed.

N6 : Haha, yes, that's right, sir. So it's easy to get into people's minds, sir, less hectic. Or at dinner time is also good, sir, psychology is also better, haha... That's the most appropriate, sir, according to me.

**Emotional Factors and Delivery Time Play a Key Role in Investment Decision-Making**

Emotional factors and delivery timing play a crucial role in investment decision-making. The interviewee, an investor, believes that emails have an emotional impact, especially when complemented with attractive visual elements such as images and colors. The interviews indicate that the timing of email delivery, especially in the evening, exerts a positive emotional influence on investors, who seek comfort and motivation in their investment decisions.

Overall, in the attached interviews, investors' expectations regarding emotional aspects and email delivery times emerge as significant factors in investment decision-making (Jeong et al., 2018). The theory of value expectation helps understand the influence of these emotional factors on investors' preferences and expectations. Some investors express the hope of deriving emotional benefits from investments, such as a sense of security or personal satisfaction. In the interviews, they emphasize the importance of investment in achieving their emotional goals, especially through visual analysis and stock recommendations from securities. Stock emails reflecting these emotional aspects can influence investors' investment decision-making (Hermawan, Fedyanto, & Hariyanto, 2022).

## CONCLUSION

Visual graphs in stock emails play a crucial role in understanding stock price movements and market trends, assisting investors in swiftly identifying opportunities or risks. Research indicates that visual cues, such as color, shape, and symbols, along with supporting text, effectively convey information to investors. The combination of visual elements and text allows investors to integrate information from various sources and gain a better understanding of market situations, especially through stock recommendations. The proposed visual communication model involves elements such as actors, messages, channels, audiences, and impacts, with impact evaluation encompassing better understanding and increased trust. Comprehensive efforts to measure the success of visual communication strategies involve collecting direct feedback from investors through interviews, aiming to create a more meaningful and relevant experience and build closer relationships with them.

## REFERENCES

- Battistelli, M., & Falcieri, E. (2020). Apoptotic Bodies: Particular Extracellular Vesicles Involved In Intercellular Communication. *Biology*, 9(1), 21. <https://doi.org/10.3390/Biology9010021>
- Bukar, U. A., Jabar, M. A., Sidi, F., Nor, R. N. H. B., Abdullah, S., & Othman, M. (2020). Crisis Informatics In The Context Of Social Media Crisis Communication: Theoretical Models, Taxonomy, And Open Issues. *Ieee Access*, 8, 185842–185869. <https://doi.org/10.1109/Access.2020.3030184>
- Charoensukmongkol, P., & Phungsoonthorn, T. (2022). The Interaction Effect Of Crisis Communication And Social Support On The Emotional Exhaustion Of University Employees During The Covid-19 Crisis. *International Journal Of Business Communication*, 59(2), 269–286. <https://doi.org/10.1177/2329488420953188>
- Cheng, Y. (2018). How Social Media Is Changing Crisis Communication Strategies: Evidence From The Updated Literature. *Journal Of Contingencies And Crisis Management*, 26(1), 58–68. <https://doi.org/10.1111/1468-5973.12130>
- Cheng, Y. (2020). The Social-Mediated Crisis Communication Research: Revisiting Dialogue Between Organizations And Publics In Crises Of China. *Public Relations Review*, 46(1), 101769. <https://doi.org/10.1016/J.Pubrev.2019.04.003>
- Claeys, A.-S., & Coombs, W. T. (2020). Organizational Crisis Communication: Suboptimal Crisis Response Selection Decisions And Behavioral Economics. *Communication Theory*, 30(3), 290–309. <https://doi.org/10.1093/Ct/Qtz002>
- Dirani, K. M., Abadi, M., Alizadeh, A., Barhate, B., Garza, R. C., Gunasekara, N., ... Majzun, Z. (2020). Leadership Competencies And The Essential Role Of Human Resource Development In Times Of Crisis: A Response To Covid-19 Pandemic. *Human Resource Development International*, 23(4), 380–394. <https://doi.org/10.1080/13678868.2020.1780078>
- Eriksson, M. (2018). Lessons For Crisis Communication On Social Media: A Systematic Review Of What Research Tells The Practice. *International Journal Of Strategic Communication*, 12(5), 526–551. <https://doi.org/10.1080/1553118x.2018.1510405>
- Ertem Eray, T. (2018). Storytelling In Crisis Communication. *Online Journal Of Communication And Media Technologies*, 8(2), 131–144. <https://doi.org/10.12973/Ojcm/2358>
- Frandsen, F., & Johansen, W. (2018). Voices In Conflict? The Crisis Communication Of Meta-Organizations. *Management Communication Quarterly*, 32(1), 90–120. <https://doi.org/10.1177/0893318917705734>
- Hermawan, S., Fediyanto, N., & Hariyanto, W. (2022). Research Book Intellectual Capital, Innovation, And Curriculum Of Accounting Study Program Based On The Industrial Revolution 4.0. In *Umsida Press*. Umsida Press. <https://doi.org/10.21070/2022/978-623-464-066-3>
- Jeong, E., Oh, S., Kim, H., Park, J., Bennis, M., & Kim, S.-L. (2018). Communication-Efficient On-Device Machine Learning: Federated Distillation And Augmentation Under Non-Iid Private Data. *Arxiv Preprint Arxiv:1811.11479*. <https://doi.org/10.48550/Arxiv.1811.11479>
- Jin, Y., & Austin, L. (2021). A Cocreative Approach To Social-Mediated Crisis Communication. *The Handbook Of Strategic Communication*, 102, 61.
- Kim, Y. (2018). Enhancing Employee Communication Behaviors For Sensemaking And Sensegiving In Crisis Situations. *Journal Of Communication Management*, 22(4), 451–475. <https://doi.org/10.1108/Jcom-03-2018-0025>
- Kodheli, O., Lagunas, E., Maturo, N., Sharma, S. K., Shankar, B., Montoya, J. F. M., ... Goussetis, G. (2021). Satellite Communications In The New Space Era: A Survey And Future Challenges. *Ieee Co* 70–109. <https://doi.org/10.1109/Comst.2020.3028247>

- Le, P. D., Teo, H. X., Pang, A., Li, Y., & Goh, C.-Q. (2019). When Is Silence Golden? The Use Of Strategic Silence In Crisis Communication. *Corporate Communications: An International Journal*, 24(1), 162–178. <https://doi.org/10.1108/Ccij-10-2018-0108>
- Lee, S. Y. (2020). Stealing Thunder As A Crisis Communication Strategy In The Digital Age. *Business Horizons*, 63(6), 801–810. <https://doi.org/10.1016/J.Bushor.2020.07.006>
- Liu-Lastres, B. (2022). Beyond Simple Messaging: A Review Of Crisis Communication Research In Hospitality And Tourism. *International Journal Of Contemporary Hospitality Management*, 34(5), 1959–1983. <https://doi.org/10.1108/Ijchm-11-2021-1404>
- Lu, X., & Jin, Y. (2020). Information Vetting As A Key Component In Social-Mediated Crisis Communication: An Exploratory Study To Examine The Initial Conceptualization. *Public Relations Review*, 46(2), 101891. <https://doi.org/10.1016/J.Pubrev.2020.101891>
- Malecki, K. M. C., Keating, J. A., & Safdar, N. (2021). Crisis Communication And Public Perception Of Covid-19 Risk In The Era Of Social Media. 72(4), 697–702. <https://doi.org/10.1093/Cid/Ciaa758>
- Meluch, A. L., Leblanc, S. S., Hannah, M., & Starcher, S. (2023). Student-Instructor Communication During A Crisis: College Students’ Disclosures About Academic Struggles And Perceived Instructor Supportiveness And Flexibility During The Covid-19 Pandemic. *Atlantic Journal Of Communication*, 31(4), 325–341. <https://doi.org/10.1080/15456870.2022.2063865>
- Pengnate, S. (Fone), Lehmborg, D. G., & Tangpong, C. (2020). Top Management’s Communication In Economic Crisis And The Firm’s Subsequent Performance: Sentiment Analysis Approach. *Corporate Communications: An International Journal*, 25(2), 187–205. <https://doi.org/10.1108/Ccij-07-2019-0094>
- Quinn, P. (2018). Crisis Communication In Public Health Emergencies: The Limits Of ‘Legal Control’ And The Risks For Harmful Outcomes In A Digital Age. *Life Sciences, Society And Policy*, 14(1), 4. <https://doi.org/10.1186/S40504-018-0067-0>
- Ratzan, S., Sommariva, S., & Rauh, L. (2020). Enhancing Global Health Communication During A Crisis: Lessons From The Covid-19 Pandemic. *Public Health Research & Practice*, 30(2). <https://doi.org/10.17061/Phrp3022010>
- Reber, B. H., Jin, Y., & Nowak, G. J. (2022). Advancing Crisis Communication Effectiveness. In *The Handbook Of Crisis Communication* (Pp. 507–517). Wiley. <https://doi.org/10.1002/9781119678953.Ch35>
- Yu, M., Li, Z., Yu, Z., He, J., & Zhou, J. (2021). Communication Related Health Crisis On Social Media: A Case Of Covid-19 Outbreak. *Current Issues In Tourism*, 24(19), 2699–2705. <https://doi.org/10.1080/13683500.2020.1752632>
- Zhai, X., Zhong, D., & Luo, Q. (2019). Turn It Around In Crisis Communication: An Abm Approach. *Annals Of Tourism Research*, 79, 102807. <https://doi.org/10.1016/J.Annals.2019.102807>
- Zhang, J., Xie, C., Chen, Y., Dai, Y.-D., & Yi-Jun, W. (2023). The Matching Effect Of Destinations’ Crisis Communication. *Journal Of Travel Research*, 62(3), 491–516. <https://doi.org/10.1177/00472875211067548>