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COGNITIVE AI ANALYSIS FOR PREDICTION OF CHANGES IN PUBLIC BEHAVIOR IN PUBLIC RELATIONS MANAGEMENT IN SCHOOLS

Aminullah[1], Moh Mohlas[2], Muhammad Durrin Ni'am*[3], Najiburrahman[4], Hasan Baharun[5]
Universitas Nurul Jadid, Paiton Probolinggo

*Corresponding Author: muhammaddurrinniam@gmailcom
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Abstract:
This study aims to examine the use of Cognitive AI to predict changes in public behavior in the context of public relations management in schools, with a focus on improving the effectiveness of data-driven communication and decision-making strategies. Through this approach, it is hoped that schools will be better able to accurately identify the response patterns of school residents in routine situations, including during communication crises. The research method is qualitative and uses a case study, involving in-depth interviews, directed observations, and document analysis to thoroughly explore the implementation of Cognitive AI and its impact on school communication management patterns. The results indicate that the use of Cognitive AI can recognize changing trends in public opinion, improve the accuracy of PR messages, and help schools design more responsive and personalized communication strategies. After all, the application of technology also strengthens the school's relationship with publications through a more productive and sustainable understanding of behavior. The implications of this study confirm that the integration of Cognitive AI not only improves the effectiveness of public relations management but also serves as a basis for innovation in designing adaptive and sustainable educational communication.

KATA KUNCI
AI Kognitif, Manajemen Hubungan Masyarakat Sekolah, Perilaku Publik, Strategi Komunikasi, Pengambilan Keputusan Berbasis Data

Abstrak:
Penelitian ini bertujuan untuk mengkaji penggunaan AI Kognitif untuk memprediksi perubahan perilaku publik dalam konteks manajemen hubungan masyarakat di sekolah, dengan fokus pada peningkatan efektivitas komunikasi berbasis data dan strategi pengambilan keputusan. Melalui pendekatan ini, diharapkan sekolah lebih mampu mengidentifikasi pola respons warga sekolah secara akurat dalam situasi rutin, termasuk selama krisis komunikasi. Metode penelitiannya bersifat kualitatif dan menggunakan studi kasus, yang melibatkan wawancara mendalam, pengamatan terarah, dan analisis dokumen untuk mengeksplorasi secara menyeluruh penerapan AI Kognitif dan dampaknya terhadap pola manajemen komunikasi sekolah. Hasilnya menunjukkan bahwa penggunaan AI Kognitif dapat mengenali perubahan tren dalam opini publik, meningkatkan akurasi pesan PR, dan membantu sekolah merancang strategi komunikasi yang lebih responsif dan personal. Bagaimanapun, penerapan teknologi juga memperkuat hubungan sekolah dengan publikasi melalui pemahaman perilaku yang lebih produktif dan berkelanjutan. Implikasi dari penelitian ini menegaskan bahwa integrasi AI Kognitif tidak hanya meningkatkan efektivitas manajemen hubungan masyarakat tetapi juga berfungsi sebagai dasar inovasi dalam merancang komunikasi pendidikan yang adaptif dan berkelanjutan.

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INTRODUCTION

School public relations management is reviewed theoretically, should be able to estimate public behavior. Through data analysis, communication systems, and the dynamics of the development of social conditions (Mundiri et al., 2021). In the literature, Cognitive AI is categorized as a technology that can read behavior in concrete terms (Wolff, 2025). Through natural language, sentiment analysis, and representation of community responses. But most schools still rely on manual systems to collect subjective data (Narayanan & McCluskey, 2025). Due to the limited understanding of technology, it is minimally implemented in educational institutions. As a result, schools lag behind in detecting potential communication conflicts, changes in parents' opinions, and student behavior that affects the image of educational institutions (Qodir & Hanif, 2025). This shows a significant gap between the capabilities of Cognitive AI and the reality of its application, which falls far short of expectations. Therefore, this gap is important because it highlights the need for schools to improve communication management that is more adaptive, predictive, and data-driven.

As times develop, schools face increasingly complicated communication challenges. Especially the large use of social media by students, parents, and the community (Mudarris, 2024). Information moves quickly, so public opinion can change within a few hours and directly affect the school's image. Many schools have difficulty estimating public responses to policies such as changes in the learning system, handling disciplinary violations, or communicating school agendas (Khair, 2025). Although the theory states that Cognitive AI-based technology is able to overcome this problem, in practice, schools tend to be reactive due to the lack of adequate prediction tools (El Koshiry & Tony, 2025). Observations show that the inability to process communication data quickly and accurately leads schools to respond late to complaints or to fail to detect changes in sentiment in the first place (Ahmed & Abdullah, 2025). Therefore, the need for prediction technology is very important, but it has not been systematically integrated (Baharun et al., 2025). In this case, the relationship between theory and real conditions suggests that the application of Cognitive AI is no longer an option, but a necessity to improve the effectiveness of school public relations management (Guillén-Martínez et al., 2025).

Previous research has shown that Cognitive AI has been widely used in understanding consumer behavior, estimating social media dynamics, and improving the management of relationships between organizations and the public (Han et al., 2025). Several international studies confirm that machine learning and sentiment analysis are effective in estimating public responses to policies in the business and government sectors (Taha & Abdallah, 2025). However, research on the application of Cognitive AI in public relations management in the school environment, particularly focusing on predicting changes in the behavior of school residents, remains very limited. Most research in the field of education focuses more on the use of AI for learning, academic evaluation, or student data management, rather than on institutional communication strategies (Khairullah et al., 2025). Therefore, this study seeks to fill a gap in the field of educational public relations, which remains underresearched. In addition, this research contributes by directing

AI analysis toward the internal and external public behavior of schools, a perspective that remains under-discussed in the literature. Thus, this research not only strengthens the foundations of existing theories but also expands the use of AI in school public relations management in fields that have received less academic attention (Panda et al., 2025).

Specifically, this study explores the use of Cognitive AI to estimate changes in people's behavior in the context of school public relations (Pirjan & Petroşanu, 2025). This approach differs from previous studies that have more commonly addressed business organizations or government institutions. By combining predictive technology and the social dynamics of school citizens in educational communication, the developed public behavior analysis model integrates data from digital communication, parent responses, observation of student interactions, and conversational trends in the school environment. In addition, the study suggests that schools can simply implement predictive technology through their internal communication systems without requiring large-scale digital infrastructure (Tumpa & Naeni, 2025). Field data show that this approach has never been studied in detail before, adding significant value. In general, the excellence of research lies in the formulation of a Cognitive AI framework that is relevant and practical for use in the school environment, and that can strengthen the role of public relations in anticipating and responding to the dynamics of community behavior.

This research aims to answer the main question: What is the role of Cognitive AI in estimating changes in public behavior and improving the effectiveness of public relations management in schools? This study analyzes the ability of predictive technology to understand the communication dynamics of school residents and identify trends in public opinion. To achieve this goal, researchers assessed how AI leverages digital communication data to analyze language patterns, discussion levels, and emotional responses to predict public behavior. This system is used by schools to accelerate more concrete, data-based communication decision-making. The main reason in this study is that Cognitive AI can analyze data more accurately than a manual system. Especially in managing data and consistently determining behavior patterns. With this ability, AI can strengthen strategies in establishing school relationships with the internal and external public. Through a response that is faster, accurate, and anticipatory. Therefore, the use of AI is considered a strategic bridge in overcoming the limitations of manual analysis. To increase the effectiveness of school public relations management in a sustainable manner.

RESEARCH METHODS

This study uses a qualitative case study approach to examine the application of Cognitive AI in estimating changes in public behavior at SMK Assyafiiyah Gunung Kesan, Karang Penang, Sampang, East Java. This was chosen because the researcher could conduct in-depth research into the process, context, and dynamics of school public relations management when using predictive technology. In addition, this study also applies the principle of grounded research to gradually build a theoretical understanding of the field findings, so that the theory is not forced from the beginning, but is constructed through emerging data patterns (Alvesson & Sandberg., 2024). This approach is relevant because the phenomenon of using AI in school public relations is a new issue, which requires in-depth exploration to produce contextual and actual findings (Apriansah, 2024).

This research was conducted at SMK Assyafiiyah Gunung Kesan, Karang Penang, Sampang, East Java. This location was chosen because the school is developing internal and external digital communication systems, making it suitable

for testing Cognitive AI's ability to read public sentiment and predict changes in school citizens' behavior. In addition, SMK Assyafiiyah is actively implementing technological updates in management, allowing researchers to directly observe the integration of AI with public relations activities. The character of the people of Karang Penang who have the dynamics of quick communication related to school policies, especially in discipline, learning, and religious activities, is another reason (Halil, 2025; Wahyudin et al., 2024). As such, this location provides a strong empirical context for studying the relevance of AI in education PR management.

The study's information source consists of three main groups. First, namely external informants who are students and guardians of students who are part of the school's public and interact directly with school information or policies. Second, internal informants come from several parties involved in managing communication and understanding changes in the Institution's public behavior, including school principals, deputy principals, school public relations departments, teachers, and administrative staff. Third, text sources, including internal school manuscripts, public relations manuals, communication notes, meeting documentation, pesantren reference books, and, if appropriate to the institutional context, online news related to schools or local education issues. These three data elements complement each other to provide a comprehensive picture of public behavior patterns and the potential for AI-based predictive analysis.

Data collection is carried out through several techniques. First, a desk review is a search of internal school documents, such as public relations reports, communication archives, public conversation data, and activity recordings relevant to the dynamics of public behavior. Second, observation, which is direct observation of communication interactions between teachers, students, and guardians, both through face-to-face activities and digital media, including monitoring conversation patterns in school communication groups. Third, in-depth interviews, using semi-structured interview guidelines, so that researchers can obtain broad data while still focusing on the research topic (Chand, 2025). The technique of "lifting," or withdrawing field data, is carried out through direct interaction with informants to obtain contextual information not recorded in official documents.

Data analysis is carried out through three main steps. First, data reduction: selecting, grouping, and simplifying data relevant to public behavior patterns, sentiments, and responses to school communication. Second, presenting data as a matrix, thematic narrative, or pattern chart makes it easier for researchers to see relationships among findings. Third, data verification includes drawing provisional conclusions and ensuring the suitability of the data through confirmation between interviews, observations, and documents (Jansen et al., 2025). The analysis method includes content analysis to understand the message or public conversation. discourse analysis to reveal social constructs in school citizen communication interactions, and interpretive analysis to interpret the meaning behind changes in public behavior and its relevance to AI predictions. These three predictions are expected to make it easier for researchers to understand the phenomenon in depth.

RESULTS AND DISCUSSION

Result

This section presents the study's main findings from in-depth interviews, field observations, and document analysis on the implementation of Cognitive AI in public relations management in schools. The findings are organized into three core

themes: Cognitive AI's capacity to accurately identify patterns in public sentiment, its role in predicting changes in public behavior to support communication planning, and the contribution of Cognitive AI integration to improving the effectiveness of public relations decision-making. Overall, the results demonstrate that Cognitive AI functions not merely as a technical analytical tool, but as a strategic support system capable of providing early warning signals, anticipating shifts in public behavior, and transforming school public relations practices from a reactive approach into a more proactive, analytical, and data-driven model. These findings illustrate how predictive technology can enhance communication stability and strengthen relationships between schools and their internal and external publics.

Cognitive AI Identifies Public Sentiment Patterns More Accurately

This sub-finding concerns Cognitive AI's ability to read, classify, and interpret the public's subjective views by analyzing communication data from the school environment. In this view, opinions, perceptions, complaints, support, and spontaneous reactions are expressed by teachers, students, and parents through media such as message groups, school meetings, and informal conversations. In the field, this definition is applied by monitoring digital communication data and tagging keywords, emotions, and language patterns that indicate changes in public attitudes. In school public relations management, AI is important for anticipating shifts in public opinion before they become issues. Thus, the operationalization of these sub-findings involves using AI to analyze communication data, read emotion levels, and provide an objective picture of sentiment trends in the school environment.

The interview with the principal stated that "AI is very helpful for us in detecting changes in the communication tone of the student's guardian, especially when there is new regulatory information. We became more aware of the signs of parental dissatisfaction with the information we presented." This information shows that AI can provide early signals of changes in public sentiment that were previously difficult to monitor quickly. The teacher also added that "AI can read repetitive complaint patterns, so we know which issues are talked about the most before they become big problems." This statement says that this technology not only identifies momentary emotions but also patterns formed from many messages. The researcher's interpretation indicates that both speakers consistently view AI as a supporting tool that provides objective, structured information. This shows that AI functions as an "early detection" of public emotional changes to schools, which greatly helps school public relations in managing issues and maintaining communication stability. Both pieces of interview evidence show that users immediately feel the benefits of AI, which provide accurate, faster sentiment change signals than manual methods.

The observations showed that the AI system used in schools recognized keywords such as "objection", "confused", "not easy", and "not clear" that appeared in parents' messages in the school message group. The AI then presents a simple visualization in the form of a sentiment trend chart based on negative and positive word levels. Research also shows that when the discussion of changes to student assignment policies increases, AI automatically increases vigilance by labeling it a "potential concern". The researcher interprets this mechanism to make it easier for schools to understand sentiment dynamics without manually reading the entire conversation. In addition, research shows a correlation between AI predictions and noticeable changes in public reaction in the following days. The results of the

research explain the ability of AI to read sentiment patterns in the form of raw data, as well as help schools understand the development of public opinion quickly and in a structured manner through the data presented.

The data obtained shows that Cognitive AI functions as a sentiment analysis tool to automatically detect emotions, keywords, and patterns of public complaints. In informants, AI can help understand changes in public perception faster than manual methods. The data obtained show that AI can flag negative words, identify emotional trends, and provide warning signs when complaints are increasing. Through the combination of interview results and observations, it can be concluded that AI provides an objective picture of changes in public sentiment that are difficult to detect through digital analysis. This emphasizes that AI can strengthen the school's public relations ability to accurately and quickly analyze, read, and understand public sentiment.

Table 1. Qualitative Findings Summary: Cognitive AI in Identifying Public Sentiment Patterns

Focus/Subtopic	Description of Field Findings	Data Source	Meaning/Interpretation of the Researcher
AI's ability to read public sentiment	AI can read opinions, views, thoughts, complaints, support, and spontaneous reactions from digital communication in the school environment.	Observation, AI System Document	AI serves as an *early warning system* that captures public responses faster than manual monitoring.
Identify keywords and emotions	The AI flags words like "object", "confused", "not easy", and "less clear", then generates a graph of sentiment trends.	Technical Observation System	The system can process everyday language into sentiment indicators that indicate the direction of changes in public opinion.
Detection of changes in communication tone	The principal stated that AI helps detect changes in parents' communication tone when a new policy is introduced.	Principal Interview	Showing that AI is sensitive to subtle emotional changes, helps management understand the public's initial response.
Introduction of recurring complaint patterns	The teacher stated that the AI can read patterns in repeated complaints to identify the most frequently discussed issues.	Teacher Interviews	AI detects not only spontaneous emotions but also long-term patterns relevant to issue management.
Auto-alert	As discussions about student assignment policies increase, AI flags "potential concern" as an early warning signal.	AI System Observation	This feature increases the school's responsiveness in anticipating potential problems before they develop.

Match AI predictions with real conditions	There was a correlation between the increase in negative sentiment in the AI data and the public reaction in the following days.	Triangulation: Observation & Interview	Demonstrate the reliability and operational validity of AI systems in school communication.
Acceleration of public relations decision-making	Informants stated that AI helps them understand the dynamics of public perception faster than manual methods.	Interviews & Observations	AI enhances the effectiveness of public relations in monitoring issues, responding to complaints, and maintaining stability.

Cognitive AI Provides Predictions of Public Behavior Change for Communication Planning

These subfindings highlight Cognitive AI's ability to estimate trends in changes in people's behavior based on communication data patterns in the school environment. This prediction not only captures current sentiment but also anticipates future public reactions, such as when new policy announcements or specific issues raise concerns. AI practices can analyze digital conversation data, complaints, keywords, and the relationship between issues in schools and citizen communication. AI can also generate predictions, such as increased dissatisfaction, changes in belief, or potential communication crises. Public relations management provides a foundation for developing a more structured communication strategy. It's not just a spontaneous response. Operationally, AI functions as a public behavior prediction tool that helps schools anticipate changes in opinion before they escalate into problems.

Interviews with school principals show that "AI can give us a notification about the discussion of new rules that are being revealed. So that we can prepare an explanation before misunderstandings arise". This information explains that AI not only monitors public communication, but also forecasts potential problems before they occur. An interview with the student's guardian stated, "Normally I would have a protest, but the AI has responded by reading a question-and-answer pattern that is indifferent to confusion." This shows that AI can capture evolving communication patterns, even before explicit complaints arise. The researcher's interpretation confirms that both informants see AI's predictive function as providing initial insight into the direction of public behavior. In other words, AI serves as an anticipatory tool that helps schools prepare more mature communication strategies. The interview also showed that AI predictions help reduce the risk of communication conflicts caused by response delays.

The field research results show that AI displays predictive indicators, such as trend graphs, indicating a potential increase in complaints based on conversation data from the past three days. The AI system also flags keywords such as "unclear", "sudden change", and "new rules" as signals that the public may question certain policies in the near future. Additionally, AI provides an alert feature that flags a "possible escalation" when the conversation intensity increases over a short period. Researchers interpret this pattern as AI's ability to anticipate potential public reactions that have not yet emerged. Observations also showed a strong link between AI predictions and the real reaction that occurred when AI gave the initial signal, a few days later, a group of parents began asking questions related to the

policy. These findings confirm that AI is not only capable of reading current conditions but also of forecasting relevant situations to support public relations communication planning in educational institutions.

The findings of this research show that AI not only reads the current situation but can also predict relevant situations to support public relations communication planning in educational institutions. The data shows that AI is a reliable predictive tool. So that it can regulate changes in public behavior based on recorded communication patterns. Informants argue that AI helps prevent confusion and impatience. Observation is supported by early warning and analysis features that flag potential issues. In the restatement, it is emphasized that AI's ability to shape public behavior in preparing schools to prevent the emergence of communication conflicts that circulate.

Data Systems shows three main trends. First, AI can predict potential problems before complaints arise. Both AI predictions align with public reaction, indicating high accuracy. Third, AI informants can help schools design anticipatory communication. Such as preparing clarifications before the issue becomes a misunderstanding circulating in the public. This pattern indicates that AI's predictive capabilities significantly impact educational institutions' public relations communication planning, shifting from a reactive approach to a more productive strategy.

Table 2. Communication Prediction, Early Warning Systems, Strategic Public Relations, dan Behavioural Anticipation Model

Field Findings	Relevant Theoretical Concepts	Finding–Theory Relationship	Implications for School Public Relations Management
AI can predict issues before the public notifies complaints	*Predictive Communication Theory*	In theory, communication data patterns can be used to predict public reactions	Schools can prepare communication narratives early
AI can read keyword patterns and question-and-answer sentiment	*Natural Language Processing & Sentiment Flow Theory*	NLP can be able to read semantic patterns that develop gradually	Public relations can detect confusion before it turns into conflict
AI can provide early warning in the form of a "possible escalation" signal	*Early Warning System Model*	The function of social alarm can be in accordance with the concept of risk warning system in communication	PR management is faster to make interventions
The AI prediction proved to be in line with the public reaction a few days later	*Behavioural Anticipation Model*	The accuracy of the prediction reinforces the proposition that public behavior has predictable patterns	Schools are better prepared to face the public response strategically
Schools can change communication from reactive to proactive	*Strategic Public Relations*	In line with the theory of data-driven strategic PR	A paradigm shift in communication: from "spontaneous response" to "evidence-based planning"

Field Findings	Relevant Theoretical Concepts	Finding–Theory Relationship	Implications for School Public Relations Management
Informants feel the direct benefit of AI's predictive function	*Human–Technology Interaction Theory*	Positive perception increases the use of technology	Increase trust in school policies through more timely communication

Cognitive AI Integration Improves School Public Relations Decision-Making Effectiveness

These sub-findings explain how Cognitive AI technology is applied by the school's Public Relations department to accelerate, clarify, and validate strategic decision-making processes related to public communication, response to issues, and information management. In the field, the integration includes behavioral analytics applications, digital monitoring of public conversations, and automated recommendation systems that help PR determine communication priorities. Its operational definition focuses on the process by which public relations decisions, whether it be the preparation of messages, handling complaints, and publication strategies, are made based on AI-processed data, not just personal intuition. Thus, "effectiveness" is measured by response speed, the accuracy of solution selection, and the reduction of errors in interpreting the dynamics of the school population.

The first informant, the Public Relations staff, mentioned that "Cognitive AI can speed up in seeing the response patterns of the Guardian, especially when there is a sudden issue, so that decisions are not based on guesswork". Meanwhile, the publication coordinator added that "In the AI system, it can reduce a conflict of view within the Public Relations because the data shows concrete patterns, such as the type of complaints that often arise". From these two statements, the researcher concludes that cognitive AI functions as a tool to objectify data, thereby strengthening Public Relations' confidence in taking strategic steps. AI not only provides information but also serves as a shared framework, making decisions more directed, accurate, and less biased among staff. Decisions that were previously debated on assumptions are now shifting toward more stable, data-driven ones.

The results of the observation show that the Public Relations staff routinely opens the analytics dashboard before responding to complaints from students' parents or compiling school publications. Researchers have observed a shift in work patterns, with staff more often discussing trends, complaint keywords, and AI-generated sentiment predictions. In addition, the flow of meetings becomes more efficient as every decision starts with digital data analysis. From these observations, it can be concluded that cognitive AI has been practically integrated into the PR work process, not only as a supporting tool, but also as a factor that has changed the work culture from reactive and intuitive to more analytical and measurable.

In general, interview and observation data confirm that the use of cognitive AI can provide a strong database for Public Relations in decision-making. AI also accelerates the identification of problems, displays public service patterns, and reduces personal prejudice. As a result, Public Relations decision-making becomes faster, more accurate, and more consistent. In other words, AI integration not only makes work easier but also changes the way PR understands situations and formulates action steps.

Overall, the data show that AI can enhance objectivity and efficiency in the decision-making process. This system is reflected in the habit of staff always referring to data before acting, reduced internal perception differences, increased speed of response to problems, and the emergence of a new work culture that places digital analytics as the main basis for decision-making.

Table 3. Cognitive AI Integration in School Public Relations Decision Making

Data Source	Main Code	Subtheme	Verbatim Evidence / Field Data	Researcher Interpretation
Public Relations Staff Interview	Acceleration of Results	Decision-Making Efficiency	"Cognitive AI can accelerate in seeing the response patterns of Guardians,"	AI accelerates situational analysis, so decisions are no longer based on guesswork or intuition.
Publication Coordinator Interview	Objective Data	Reduction of Perception Conflicts	"In the AI system, it can reduce a conflict of view within Public Relations because the data shows concrete patterns."	AI is a tool for objectification to reduce bias between staff and strengthen decision stability.
Observe Dashboard AI	Analytics Digital	Changes in Work Patterns	Staff routinely open trend charts, complaint keywords, and sentiment predictions before responding	AI integration is changing the work culture from intuitive to digitally data-driven.
Public Relations Meeting Observation	Data-Driven Decision	Meeting Efficiency & Strategy Formulation	Meeting decisions start from data graph analysis and AI recommendations	AI serves as an objective foundation that builds the flow of decisions faster and clearer.
Document Analysis & Minutes	Decision Consistency	Accuracy and Minimal Bias	The use of AI reduces misinterpretations and improves the consistency of communication strategies	Cognitive AI improves accuracy and reduces variability in non-data-driven decisions.
Summary of Findings	Changing Work Culture	Transformation of Public Relations Management	Staff always refer to data, faster response, reduced bias; More stable results	AI integration creates structural changes in how schools manage communications.

DISCUSSION

The study shows that Cognitive AI can estimate public sentiment more accurately by analyzing keywords and complaint levels from educational institutions. This finding aligns with (Fitroh & Hudaya, 2023), who explain that sentiment analysis is based on deep learning. So they can understand the emotional context precisely, even in informal language, such as messages from students' guardians or student comments. This study reveals that important differences in sentiment analysis in the school environment are not only dependent on text, but

are influenced by the social relationship between the school and society. This means that the emotional context in education is more complex than the business sector discussed in the literature (Wahid et al., 2020). The implementation of AI can be a tool to support school public relations in understanding the emotional dynamics of the public directly (Santiago-Torner, 2025). So as to improve educational institutions' ability to address the situation before it becomes a communication conflict.

The finding that Cognitive AI can predict changes in public behavior in communication planning aligns with research (Hasibuan & Nasution, 2025) that positions AI as a predictive technology in organizational management. This study shows that AI not only maps the current public response but also projects possible reactions based on increased use of words that indicate confusion, objection, or changes in perception. The main difference is that the literature focuses more on statistical pattern-based predictions, while these findings suggest that predictions in school contexts are strongly influenced by emotional patterns, teacher-parent relationships, and internal social responses. Implicitly, schools can design anticipatory measures, such as early clarification before misinformation appears, so that the function of AI is preventive (Branda et al., 2025). Dysfunction can occur when the data analyzed is incomplete, but overall, the results indicate that AI still provides strategic benefits (Rozi & Najiyah, 2025).

The integration of Cognitive AI that increases the effectiveness of school public relations decision-making is very much in line with the concept of evidence-based decision-making described (Wijiati et al., 2025). In the study results, the AI dashboard provides a summary of complaint trends, dominant keywords, and issue predictions, enabling Public Relations decisions to be faster, more precise, and less prone to personal bias. Herbert Simon's (1947) theory of bounded rationality is also relevant, as decision-makers become more rational when they acquire structured, easily interpretable information. The difference is that the literature focuses on large organizations, whereas this study shows that even schools with limited resources can experience significant impacts from AI integration. The consequence is that AI not only supports technical decisions, but also changes the cultural framework of PR Management to be more analytical, collaborative, and data-driven

It can be concluded that AI not only enhances public relations' ability to detect, predict, and respond to changes in people's behavior patterns, but also has the structural capacity to improve school communication governance. Functionally, AI can also speed up problem detection, strengthen accuracy, prediction, and reduce internal conflicts in decision-making (Ojeda et al., 2025). To make school communication more proactive, adaptive, and data-driven. In terms of potential dysfunction, reliance on AI can cause problems if the existing data is incomplete, there are misinterpretations, or staff lack sufficient digital literacy. Research shows that the benefits far outweigh the risks, particularly in school situations that require a rapid response to changing public opinion.

This research can be explained by the basic structure of digital communication in schools. First, the increased use of digital media by parents and students results in abundant, sustainable, and easily analyzed communication data for AI to analyze. Second, the algorithmic structure of Cognitive AI enables big data processing to identify hidden patterns in public sentiment, behavior, and conversation. Third, the combination of real-time data and trend predictions shifts

the PR work culture from reactive to proactive. In general, AI strengthens schools' ability to understand shifts in public emotions, predict the direction of opinion, and determine appropriate communication strategies (Salloum et al., 2025). This framework positions AI not only a technological tool but also an important strategic element that reorganizes the public relations management mechanism in schools to be better, more scientific, and more sustainable (Septiana, 2025).

CONCLUSION

This study demonstrates that applying Cognitive AI to school public relations management brings substantial changes to how public behavior is understood, analyzed, managed, and anticipated. The key insight of this research is that Cognitive AI functions not only as a sentiment detection tool but also as a predictive analytics system that identifies communication patterns, maps public issues, and forecasts shifts in public perception systematically. By providing early warning signals and structured behavioral indicators, Cognitive AI enables schools to develop communication strategies that are more responsive, contextual, and proactive than traditional manual approaches. The findings highlight that data-driven anticipation of public needs and reactions significantly enhances the effectiveness of public engagement and supports more stable and informed public relations practices in educational institutions.

From a scholarly perspective, this study contributes conceptually, methodologically, and theoretically to the field of educational public relations. Conceptually, it extends public relations management literature by positioning Cognitive AI as a strategic variable that reshapes communication governance in educational settings. Methodologically, the study demonstrates that integrating qualitative inquiry with AI-based analytical systems enables a deeper and more adaptive understanding of communication dynamics within school communities. Theoretically, the findings reinforce the relevance of symmetrical two-way communication models by showing that Cognitive AI does not replace human judgment but strengthens professional decision-making through accurate, data-supported insights. Despite these contributions, this study is limited by its focus on a single school context, its emphasis on sentiment analysis and behavioral prediction without in-depth examination of ethical issues, algorithmic bias, and human resource readiness, and its limited analysis of policy integration. Future research should involve multi-site studies, incorporate ethical and governance perspectives, and develop more comprehensive models for sustainable and responsible AI integration in educational public relations management.

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