Advancing educational quality: an online review analysis of stakeholder perceptions in Bali International Schools

Endang Noerhartati [1], Narariya Dita Handani [2], Nindya Dhaneswara [3]

[1]Faculty of Language and Science, Department of Primary Teacher Education, Universitas Wijaya Kusuma Surabaya, Indonesia

[2]Faculties of Economics and Business, Department of Management, Universitas Wijaya Kusuma Surabaya, Indonesia

[2]Global Colleges, Global Hospitality Management, Kyungsung University, Busan, South Korea

[3]Graduate schools of Global Diaspora Studies, Chonnam University, Gwangju, South Korea

Corresponding author's e-mail: enoerhartati.uwks@gmail.com

Keywords:	Abstract
education quality; stakeholder perceptions; analysis; expatriate community	*This study used word frequency and co-occurrence network analysis using KH Coder 3.0 to evaluate perceptions of international schools in Bali, as reflected in 614 online reviews. The analysis, which yielded an average satisfaction rating of 4.4 out of 5, identified school as the most common term and demonstrated its significance in the review. Frequent mention of children, students, teachers, as well as emotionally resonant terms such as amazing and nature, highlight society's emphasis on educational quality, student-teacher relationships, and the ethos of the school environment. This network of co-occurrences further reveals the importance of community, curriculum, and the integration of Balinese cultural and natural elements into the educational experience. This research aims to fill this gap by examining how online reviews of international schools in Bali influence their reputation among the expatriate community and influence parents' choices. The result of this research is an analysis of customer responses to international schools in Bali, which were assessed quantitatively and qualitatively in this research, providing strong evidence of the high regard for these institutions. An average rating of 4.4 out of 5 stars, based on a large number of reviews, indicates strong satisfaction among parents and students with the educational services provided. Green School's outstanding performance, in terms of review volume, is an exemplary example of educational excellence that can serve as a benchmark for other schools. These insights, gained from the application of a robust methodology using KH Coder 3.0, not only confirm the current strength of educational institutions but also pave the way for targeted strategies to address potential growth.*

INTRODUCTION

Bali, Indonesia, has emerged as a pivotal global hub known not only for its tourism but also for its growing international education sector. The island's rich cultural heritage, combined with its international popularity, has attracted a diverse array of expatriates and foreign nationals seeking high-quality education for their children. This trend has precipitated a notable expansion in the number and variety of international schools on the island. Each school offers a distinct blend of educational philosophies and curricula (Taylor et al., 2017). Against this backdrop, online reviews of these schools have become an indispensable resource for parents and students as they navigate the intricate decision-making process of selecting the right educational institution in a foreign setting (Mauri & Minazzi, 2013; Ahani et al., 2019). This research paper analyzes online reviews of international schools in Bali, intentionally not differentiating between levels or types of schools. The aim is to extract general perceptions, identify key factors influencing parental choice, and gauge the overall level of satisfaction with the educational services provided. The study posits that online reviews serve as both reflections of individual experiences and collective indicators of a school's reputation and education quality (Liu & Law, 2019; Handani et al., 2023).

Online reviews, accessible through educational websites, forums, and social media platforms, are a treasure trove of qualitative data (Ray et al., 2021; Handani & Kim, 2023). They offer deep insights into Bali's international community's education expectations and priorities. Employing a comprehensive methodological approach, this research sifts through various online sources to unearth trends, patterns, and themes in parents and students' feedback. Ultimately, this investigation sheds light on the expectations, priorities, and emerging trends within the international education community in Bali (Macrory, 2013). This study has implications beyond the immediate context. It contributes to a wider discourse on international education in Southeast Asia, particularly within Bali's multicultural and globally connected environment (Sudarsana, 2018). Understanding the determinants of satisfaction and choice in international schools can empower educators, policymakers, and administrators to refine educational offerings. This will enable them to better accommodate diverse student needs. Moreover, the insights gained can inform strategies aimed at fostering more inclusive learning environments, ensuring that all students are equipped to succeed. This research, therefore, not only enhances our knowledge of the dynamics shaping international education in Bali. It also offers practical guidance for schools striving to meet the evolving needs of their diverse student populations.

LITERATURE REVIEW

The exponential growth of international education in Southeast Asia reflects broader global trends, influenced significantly by globalization, the increased mobility of expatriate families, and an escalating demand for English-language education. According to Symaco & Chao (2019), the rapid expansion of international schools is part of the wider phenomenon of globalization of education, with Southeast Asia being an important region experiencing rapid growth. This increase is attributed not only to the global economic integration of the region but also to its cultural appeal, which attracts a diverse population from around the world. Research from Kim & Mobrand (2019) further elaborates on this by examining the motivations behind the increasing number of international schools in Southeast Asia, identifying economic dynamism and cultural factors as key drivers that appeal to expatriate families looking for quality education for their children. In the context of Indonesia, and Bali more specifically, the unique cultural heritage and international allure of the island have made it a magnet for quality education sought by a diverse expatriate community. The results of research from Sudarsana (2018), provide an in-depth analysis of how Bali is transitioning to become an education center in Southeast Asia, highlighting the island's capacity to blend its rich cultural traditions with the demands of international education. This transformation is seen as part of a larger trend where international schools not only serve the educational needs of expatriate children but also become integral components of the local community, contributing to the educational landscape of the host country. The rise of international education in Bali, therefore, is not just a reflection of global mobility but also an indication of the island's growing importance as a center for cultural exchange and international understanding.

Online reviews have become a pivotal resource in the decision-making process for parents exploring educational opportunities for their children, with a significant impact on the reputation and selection of schools. The influence of online feedback across various sectors is well-documented, but its role in the educational domain presents unique challenges and opportunities. In research Lovenheim & Walsh (2018), investigated how online reviews serve as an important source of information for parents, potentially shaping their perceptions of a school's quality and influencing their educational choices. This influence is particularly critical in the context of international education, where families are often making decisions from afar, relying heavily on the experiences and opinions shared by others in similar situations. In addition, according to Ma et al. (2013), the dual nature of online feedback, illustrates how positive reviews can

enhance a school's reputation, increasing its appeal to prospective families, while negative feedback can have a detrimental impact, preventing prospective students from being admitted. This dynamic underscore the importance for international schools, particularly those in non-Western contexts such as Bali, to actively manage their online presence and engage with the reviews they receive. The limited research focusing on the specific impact of online reviews on international schools in regions like Bali points to a significant gap in the literature. This study aims to fill that gap by examining how online reviews of international schools in Bali influence their reputation among the expatriate community and affect parental choice. This exploration is crucial for understanding the broader implications of digital word-of-mouth on international education in a globally connected world.

METHOD

The burgeoning interest in international education in Bali, highlighted by its appeal to a diverse expatriate community, underscores the need to explore how these educational institutions are perceived through the lens of online reviews. Acknowledging the vital role that online reviews play across various industries, including education, this study focuses on understanding the impact of such reviews on international schools in Bali (Ma et al., 2013; Lovenheim & Walsh, 2018). Given the context, online reviews offer invaluable insights into the experiences and satisfaction levels of students and parents, thereby serving as a proxy for the reputation and quality of the educational services provided by these schools. Figure 1 displays an illustration of online reviews.
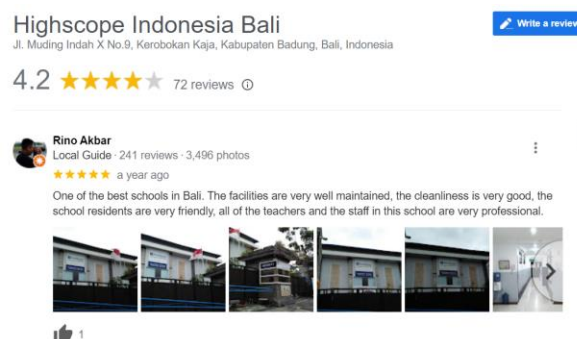

Figure 1. Example of one Google review

To capture the nuances of these perceptions, this research systematically collected and analyzed online reviews from Google for twelve internationally recognized schools in Bali. These schools include Bali Island School, Australian Independent School Bali,

Sanur Independent School, ProEd Global School – UMALAS, Canggu Community School, Sunrise School Bali, Sekolah Dyatmika, Gandhi Memorial International School, Asian Intercultural School Bali, Lycée Français de Bali, Children of the World School & Learning Centre, Regents School Bali, Santosa Intercultural School, Empathy School (International, Ubud), Green School, Pelangi School Bali, Jembatan Budaya School, Montessori School Bali, and Highscope Indonesia Bali. The study meticulously analyzed 614 reviews, spanning from 2012 to 2024, that included both ratings and textual comments, ensuring a rich dataset for examination. Reviews lacking textual comments or not containing pertinent information were excluded to maintain the relevance and quality of the data analyzed. Data extraction was performed using Outscraper, a sophisticated web crawling and data processing tool, which facilitated the collection of reviews from a digital environment—a method increasingly recognized for its effectiveness in studying human behavior and user experiences through online feedback (Zhao et al., 2019; Zhong et al., 2019). Subsequently, the collected data underwent a rigorous analysis using KH Coder, a software tool designed for quantitative text analysis. KH Coder enabled the identification and visualization of networks of words that frequently co-occur, revealing underlying patterns and themes within the review content (Higuchi, 2016). This analytical approach allowed for a detailed exploration of the sentiments, priorities, and concerns expressed by the international school community in Bali, thereby offering a nuanced understanding of how these institutions are perceived and evaluated through online reviews. Figure 2 depicts the phases of the research process.

Figure 2. Research Process

RESULTS
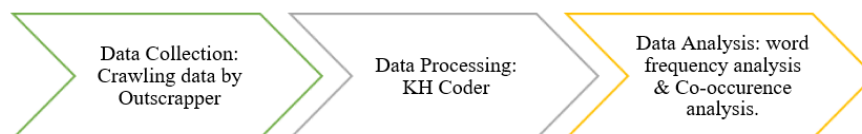
Based on Table 1, international school in Bali have received substantial customer feedback, totaling 614 reviews. The average rating for these establishments is 4.4 out of 5, indicating high average rating based on online review. Among other international school, the Green school has the greatest number of reviews. Asian Intercultural School Bali, meanwhile, has the lowest number of reviews.

Table 1. International school in Bali review and rating

School name	Number of reviews	Average Rating
Bali Island School	30	3.9
Australian Independent School Bali	19	4.5
Sanur Independent School	9	4.8
ProEd Global School - UMALAS	17	4.2
Canggu Community School	19	4.2
Sunrise School Bali	17	4.4
Sekolah Dyatmika	27	4.2
Gandhi Memorial International School	26	4
Asian Intercultural School Bali	4	4.9
Lycée Français de Bali	9	4.2
Children of the World School & Learning Centre	9	4.8
Regents School Bali	38	4.7
Santosa Intercultural School	15	4.5
Empathy School (International, Ubud)	101	4.7
Green School	147	4.5
Pelangi School Bali	15	4.9
Jembatan Budaya School	54	3.7
Montessori School Bali	13	4.3
Highscope Indonesia Bali	45	4.2
Total review	**614**	
Total average rating	**4.4**	

According to the word frequency analysis, the reviews of international schools in Bali are dominated by the term school, which appears 618 times, confirming its central relevance to the discussion. The words have, child, student, and teacher follow in frequency, indicating that these aspects are frequently mentioned in the context of the schools (Pianta et al., 2002). This suggests that the reviewers place a significant emphasis on the availability of resources (have), the importance of the child's experience, the engagement of students, and the role of teachers in the educational process. Other frequently mentioned terms include Bali, place, education, staff, and kid, which appear 91, 85, 77, 73, and 68 times respectively. This demonstrates a strong association with the location and environment of the schools, the educational process, the quality of the staff, and the child-centric focus of the reviews (Coates & Vickerman, 2013). Interestingly, words that evoke emotional and environmental responses such as environment, amazing, nature, empathy, and experience also appear prominently in the reviews, with frequencies ranging from 51 to 41 mentions. This indicates that the reviewers not only focus on the tangible aspects of the schools but also value the emotional and environmental ambiance, and the overall experience. Additionally, the analysis reveals the significance of certain attributes such as facility, quality, and security, which are essential considerations for parents and students when evaluating

schools. The occurrence of words like community, curriculum, and learning indicates a holistic concern for the social and academic environment of the schools. Overall, the word frequency analysis offers insightful data into the collective perceptions held by reviewers about international schools in Bali. It reveals a comprehensive view that considers a range of factors from educational quality to emotional well-being and community involvement, all of which contribute to the reputation and appeal of these institutions.

Table 2. Frequently used 50 words

No	Words	Frequency	No	Words	Frequency
1	school	618	26	love	32
2	have	254	27	happy	31
3	child	195	28	class	30
4	student	134	29	feel	29
5	teacher	114	30	friendly	29
6	Bali	91	31	high	29
7	place	85	32	teach	29
8	education	77	33	come	28
9	staff	73	34	community	28
10	kid	68	35	curriculum	27
11	parent	64	36	security	27
12	environment	51	37	tour	27
13	amazing	50	38	world	27
14	facility	48	39	cool	26
15	nature	48	40	day	26
16	Empathy	43	41	quality	26
17	experience	41	42	son	26
18	year	39	43	teaching	26
19	Green	35	44	create	25
20	beautiful	35	45	green	25
21	learning	35	46	daughter	24
22	time	35	47	people	24
23	recommend	33	48	area	23
24	building	32	49	study	23
25	international	32	50	think	23

The KH Coder 3.0 software suite offers a powerful tool for qualitative data analysis, particularly with its function of the Co-Occurrence Network. This feature allows researchers to visualize the relationships between words within a dataset, presenting these connections in a network diagram that employs various colors to distinguish between different thematic clusters (Xue et al., 2020; Jurkus et al., 2022). Each color in the diagram represents a separate research theme, manifested through the prevalence of certain keywords that emerge from the collected data. In this study, the Jaccard distance, a measure rooted in set theory, is utilized to calculate the similarity between sets of words. The Jaccard coefficient, specifically, offers a statistical metric for gauging the

comparative similarity and diversity of sample sets, enabling us to understand the degree to which certain words are associated within the reviews. This coefficient is instrumental in constructing a meaningful network diagram, as it helps to identify which terms frequently appear in tandem, suggesting a strong relational tie. By employing the Jaccard distance, our analysis benefits from a more nuanced understanding of the textual data. It ensures that the strength of the connections in the co-occurrence network reflects the true likeness of word pairs within the corpus, thereby providing a more accurate depiction of the thematic interplay in the online reviews (Sulis et al., 2022). The resultant network diagram thus serves as a visual and analytical representation of the most salient topics discussed by reviewers, offering insights into the collective perceptions and priorities of the stakeholders involved with the international schools in Bali.

Figure 3. Co-occurrence network results

Based on the co-occurrence network of online reviews presented in Figure 3, we can draw several meaningful conclusions about the international schools in Bali as perceived by the community. Firstly, the term school appears as the most predominant node within the network, with a frequency exceeding 600 mentions. This centrality indicates that the concept of school is at the heart of the discussion in reviews, serving as a focal point around which other experiences and attributes are contextualized. Surrounding this central node, we observe significant terms like child, teacher, education, and learning, which suggest that discussions in the reviews are substantially focused on the educational environment and the actors within it. The prominence of child and teacher alongside school underscores the critical relationship and interactions between students, educators, and the institution. It reflects a community-centric view where the welfare and experiences of the students are paramount. Additionally, terms like community, friendly, and happy suggest a positive sentiment towards the social

aspects of the schools. These terms, being closely linked to the central node, may indicate that the schools are regarded as not only educational institutions but also as hubs for community engagement and social well-being.

Furthermore, the presence of terms such as environment, facilities, quality, and location close to the school shows that the physical attributes and perceived quality of the school are important factors (Chen et al., 2020). The connection of environment with green and bamboo could imply a value placed on eco-friendly school environments or outdoor education, which is in line with Bali's global image as a beautiful, natural destination. Lastly, the occurrence of words like international, curriculum, and Bali reflects the international aspect of the schools and the global context in which they operate. This suggests that reviewers place importance on the international standards and the cross-cultural experiences provided by the schools. In conclusion, the co-occurrence analysis of online reviews reveals that international schools in Bali are highly regarded in terms of their role as educational communities, the quality of interaction between teachers and students, the positive social environment, the quality of facilities, and their adherence to international educational standards. The central positioning of school with the highest frequency reiterates its significance as the core subject of reviewers' feedback. These insights offer valuable implications for school administrators and policymakers in understanding the factors that are most important to students and parents in the international school community in Bali.

DISCUSSIONS

The analysis of customer feedback for international schools in Bali, summarized in Table 1, reveals a wealth of positive experiences, as evidenced by an impressive average rating of 4.4 out of 5. Such a high rating, derived from a substantial volume of 614 reviews, underscores the satisfaction level among the international school community. The distribution of reviews across different schools, with Green School in the lead, suggests varying levels of engagement and visibility among the institutions. The lesser number of reviews for Asian Intercultural School Bali might reflect its unique position or market presence, warranting further investigation to understand the underlying factors influencing these numbers (Xu, 2020). Diving deeper into the qualitative content of the reviews through word frequency analysis illuminates the values and priorities of the reviewers. The predominant use of school, have, child, student, and teacher aligns with the core elements of education, indicating an emphasis on the resources available, the significance of the educational journey for children, the

involvement of students in the learning process, and the pivotal role of teachers. This lexical focus suggests that the evaluative criteria for these schools heavily weigh on the quality of educational interactions and the resources that support them. The mention of Bali and related terms reflects the intertwining of the schools' identities with their geographic and cultural setting, which may contribute to their appeal as unique educational destinations.

Emotionally and environmentally resonant terms such as environment, amazing, nature, empathy, and experience frequently occurring in the reviews, provide a glimpse into the holistic approach to education valued by the reviewers. The emphasis on facility, quality, and security further indicates that tangible aspects of the schools, like infrastructure and safety, are paramount in the reviewers' consideration. The prevalence of words like community, curriculum, and learning in the review's points to a comprehensive concern for the educational environment, suggesting that the schools are perceived as ecosystems that nurture not only academic excellence but also personal growth and community bonds (Rickinson, 2001). The use of the Co-Occurrence Network function in KH Coder 3.0 has enabled a visualization of the interconnected nature of these themes, with the Jaccard coefficient providing a quantitative measure of the relationships between words (Xue et al., 2020; Jurkus et al., 2022). This approach has offered nuanced insights into the collective consciousness of the reviewers, highlighting a multi-dimensional appreciation of the schools that extends beyond traditional academic metrics (Jurkus et al., 2022; Noerhartati et al., 2023). The schools are seen as hubs of community, bastions of quality education, and nurturing environments that honor the natural beauty of Bali. These findings not only affirm the schools' reputations but also offer actionable data for stakeholders to enhance the educational and communal offerings further.

CONCLUSION

In conclusion, the analysis of customer feedback for international schools in Bali, as quantitatively and qualitatively assessed in this study, provides compelling evidence of the high regard in which these institutions are held. The average rating of 4.4 out of 5 stars, based on a substantial number of reviews, indicates a strong satisfaction among parents and students with the educational services provided. The standout performance of Green School, in terms of review volume, suggests an exemplary model of educational excellence that could serve as a benchmark for other schools. However, the relatively lower visibility of Asian Intercultural School Bali, as indicated by its fewer reviews,

highlights an area that may require strategic improvements in marketing or community engagement to enhance its profile. The detailed frequency analysis of key terms underscores the community's emphasis on educational quality, interpersonal relationships, and the integration of the school's environment with the cultural and natural ethos of Bali. The co-occurrence network analysis further elucidates the complex interplay between these themes, offering a nuanced understanding of stakeholder expectations and experiences. These insights, drawn from a robust methodological application using KH Coder 3.0, not only affirm the current strengths of these educational institutions but also pave the way for targeted strategies to address areas of potential growth. Future efforts might focus on enhancing the visibility and perceived value of lesser-reviewed schools, as well as ensuring the continued alignment of educational offerings with the unique environmental and cultural setting of Bali, which is evidently cherished by the community.

REFERENCES

Ahani, A., Nilashi, M., Yadegaridehkordi, E., Sanzogni, L., Tarik, A. R., Knox, K., ... & Ibrahim, O. (2019). Revealing customers' satisfaction and preferences through online review analysis: The case of Canary Islands hotels. *Journal of Retailing and Consumer Services*, *51*, 331-343.

Chen, Q., Huang, R., & Hou, B. (2020). Perceived authenticity of traditional branded restaurants (China): impacts on perceived quality, perceived value, and behavioural intentions. *Current Issues in Tourism*, *23*(23), 2950-2971.

Coates, J., & Vickerman, P. (2013). A review of methodological strategies for consulting children with special educational needs in physical education. *European Journal of Special Needs Education*, *28*(3), 333-347.

Handani, N. D., & Kim, H. S. (2023). Unlocking customer satisfaction of Halal restaurant in South Korea through online review analysis. *Environment and Social Psychology*, *7*(2).

Handani, N. D., Wang, J., & Kim, H. S. (2023, January). The Destination Attributes of Travelers' Satisfaction and Experience at Uluwatu Tourism Area Based on Online Reviews. In *3rd International Conference on Business Law and Local Wisdom in Tourism (ICBLT 2022)* (pp. 829-835). Atlantis Press.

Higuchi, K. (2016). KH Coder 3 reference manual. *Kioto (Japan): Ritsumeikan University*.

Jurkus, E., Povilanskas, R., & Taminskas, J. (2022). Current trends and issues in research on biodiversity conservation and tourism sustainability. *Sustainability*, *14*(6), 3342.

Kim, H., & Mobrand, E. (2019). Stealth marketisation: How international school policy is quietly challenging education systems in Asia. *Globalisation, societies and education*, *17*(3), 310-323.

Liu, X., & Law, R. (2019). Insights into managers' response behavior: priority and effort. *International Journal of Hospitality Management*, *77*, 468-470.

Lovenheim, M. F., & Walsh, P. (2018). Does choice increase information? Evidence from

online school search behavior. *Economics of Education Review*, *62*, 91-103.

Ma, X., Khansa, L., Deng, Y., & Kim, S. S. (2013). Impact of prior reviews on the subsequent review process in reputation systems. *Journal of Management Information Systems*, *30*(3), 279-310.

Macrory, B. (2013). Green school in Bali. *Green Teacher*, *99*, 25-27.

Mauri, A. G., & Minazzi, R. (2013). Web reviews influence on expectations and purchasing intentions of hotel potential customers. *International journal of hospitality management*, *34*, 99-107.

Noerhartati, E., Handani, N. D., & Dhaneswara, N. (2023). Exploring the Influence of Online Reviews on Sales. *JWEE*, (3/4), 48-74.

Pianta, R. C., La Paro, K. M., Payne, C., Cox, M. J., & Bradley, R. (2002). The relation of kindergarten classroom environment to teacher, family, and school characteristics and child outcomes. *The elementary school journal*, *102*(3), 225-238.

Ray, A., Bala, P. K., & Rana, N. P. (2021). Exploring the drivers of customers' brand attitudes of online travel agency services: A text-mining based approach. *Journal of Business Research*, *128*, 391-404.

Rickinson, M. (2001). Learners and learning in environmental education: A critical review of the evidence. *Environmental education research*, *7*(3), 207-320.

Sudarsana, I. K. (2018). Pentingnya sekolah bertaraf internasional di Bali. *Ganaya: Jurnal Ilmu Sosial dan Humaniora*, *1*(1), 135-143.

Sulis, E., Humphreys, L., Vernero, F., Amantea, I. A., Audrito, D., & Di Caro, L. (2022). Exploiting co-occurrence networks for classification of implicit inter-relationships in legal texts. *Information Systems*, *106*, 101821.

Symaco, L. P., & Chao Jr, R. Y. (2019). Comparative and international education in East and South East Asia. In *Comparative and international education: Survey of an infinite field* (pp. 213-228). Emerald Publishing Limited.

Taylor, E., Taylor, P. C., Karnovsky, S., Aly, A., & Taylor, N. (2017). Beyond Bali: a transformative education approach for developing community resilience to violent extremism. *Asia Pacific journal of education*, *37*(2), 193-204.

Xu, X. (2020). Examining consumer emotion and behavior in online reviews of hotels when expecting managerial response. *International Journal of Hospitality Management*, *89*, 102559.

Xue, W., Li, H., Ali, R., & Rehman, R. U. (2020). Knowledge mapping of corporate financial performance research: a visual analysis using cite space and ucinet. *Sustainability*, *12*(9), 3554.

Zhao, Y., Xu, X., & Wang, M. (2019). Predicting overall customer satisfaction: Big data evidence from hotel online textual reviews. *International Journal of Hospitality Management*, *76*, 111-121.

Zhong, Q., Liang, S., Cui, L., Chan, H. K., & Qiu, Y. (2019). Using online reviews to explore consumer purchasing behaviour in different cultural settings. *Kybernetes*, *48*(6), 1242-1263.

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