

The Analysis of Parental Satisfaction: Examining Expectations and Actual Performance on School Quality of A Private International School In Surabaya

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Abstract

This study explores parental satisfaction in a private international school in Surabaya, Indonesia, focusing on how well the school meets expectations in terms of Learning Quality, Teacher Quality, and Facilities. As education becomes increasingly market-driven, parents play a vital role as primary stakeholders whose satisfaction impacts school reputation, loyalty, and student success. The objective is to identify key factors influencing satisfaction by comparing parental expectations with actual school performance using Important-Performance Analysis (IPA) and regression analysis. A quantitative descriptive approach was used, collecting data from 133 parents across various grade levels. Findings revealed that Learning Quality and Facilities Quality significantly affect parental satisfaction, while Teacher Quality showed no statistical significance, likely due to uniformly high ratings. The analysis highlights critical gaps in areas like real-world learning and academic facility quality, emphasizing the need for targeted improvements. These insights offer practical guidance for school administrators seeking to enhance educational service delivery and build stronger parent-school relationships.

Keywords: parental satisfaction; school quality; importance-performance analysis; learning quality, teacher quality; facilities quality

INTRODUCTION

The heightened competition among private and international schools has transformed education into a market-driven sector where institutions strive to distinguish themselves. In this competitive landscape,

maintaining high school quality is paramount, not only to satisfy parents' expectations but also for the school's success. In Indonesia, many parents rely on general perceptions and school reputation when choosing schools, especially private ones, underscoring the importance of clearly defined quality criteria (Sulisworo & Siswanto, 2019). The growing demand for high-quality education has transformed international schools into appealing options for Indonesian elites seeking a blend of Western education and local cultural values (Tanu, 2014; Maulana & Yudhistira, 2018).

High-performing schools typically excel in areas such as teacher competence, facilities, and learning quality. Leadership and teacher quality, for instance, are directly linked to improved learning outcomes and parental satisfaction (Alhebshi et al., 2022). Moreover, competent teachers with strong classroom practices make a significant contribution to student achievement and institutional reputation (Hanushek et al., 1998; Lazarides et al., 2021). School facilities and effective teaching practices are equally important. High-quality infrastructure and resources create positive learning environments that influence student outcomes and satisfaction (Uline & Tschannen-Moran, 2008; Maxwell & Schechtman, 2012). Parents also prioritize affordability, nurturing environments, and robust curricula (Zafar et al., 2016), all of which contribute to their perception of value.

Parental satisfaction, a critical driver of student success and institutional loyalty, is shaped by the quality of education, school environment, and parent-school relationships (Gibbons & Silva, 2011; Xu & Gulosino, 2006). Meaningful teacher-parent interactions, pedagogical competence, and inclusive, safe environments further enhance parental perceptions (Sekari & Yuniarsih, 2019; Ahmad et al., 2017). Strong communication and parental involvement are essential for fostering trust and satisfaction (Hoover-Dempsey & Walker, 2002; Avvisati et al., 2010). Parental decisions on school choice are significantly influenced by the quality of education, the school environment, safety, and the institution's reputation. A strong reputation can drive interest and influence parents' perceptions, often playing a key role in school selection (Badri & Mohaidat, 2013). Since parents are the primary financial contributors through tuition and other fees, they are regarded as the direct customers of the school (Stribbel & Duangekanong, 2022). Therefore, schools must ensure that their services meet or exceed parents' expectations to build trust and interest.

Measuring the quality of a school involves understanding both perceived quality and service quality. Perceived quality is shaped by parents' expectations, which are influenced by factors such as the school's reputation, word-of-mouth, promotional materials, and perceived academic rigor or extracurricular offerings. Service quality reflects the actual performance of the school, including teacher competence, facilities, and the learning experience. When schools fulfil these expectations, parents are

more likely to speak positively about the institution, enhancing its reputation and competitiveness (Stribbel & Duangekanong, 2022). Additionally, Lodesso et al. (2019) highlighted that low service quality correlates with poor satisfaction scores among students, underlining the need for improvements that can also appeal to parents who invest in their children's education. Ultimately, service quality and perceived quality are crucial in achieving parental satisfaction and maintaining loyalty to educational institutions. To measure satisfaction effectively, schools must assess both dimensions. By comparing perceived quality and service quality, schools can identify gaps and make targeted improvements to align their services with parental expectations. This approach ensures that schools not only meet but exceed expectations, fostering satisfaction and long-term success.

However, despite extensive studies on school quality and parental satisfaction, there remains limited research on how these factors interact to influence parental loyalty, especially in the context of private international schools in Indonesia. This gap is critical given the rising expectations of parents and the increasing competition among international schools, which demand more targeted strategies to ensure long-term trust and engagement. To identify gaps between expectations and actual performance, Importance-Performance Analysis (IPA) provides a practical framework. It helps schools evaluate service delivery based on parent priorities and highlight areas needing improvement (Ortinou et al., 1989; O'Neill & Palmer, 2004). This ensures resources are focused on what matters most to stakeholders.

There has been a rise in parental choice in education. When parents are able to choose where their children attend school, they have more control over what schools they deem are able to meet their children's needs and preferences (Goldhaber, 1999). The results of this paper will offer insights as to how schools can maintain a good relationship with the parents and foster loyalty for years to come.

This study was conducted at an international school in Surabaya, Indonesia. It focuses on the role of parents' satisfaction in shaping the academic quality perception of the school. Specifically, it aims to understand the current level of parents' satisfaction and how such perceptions, in turn, foster loyalty among parents. Furthermore, this study examines whether academic quality serves as a mediator between satisfaction and loyalty, while also identifying which school service attributes have the most significant influence on parental satisfaction.

The paper will provide school administrators with clear, evidence-based insights that can be used to improve educational services and parent engagement. The findings will contribute to both the institutional practices and the broader body of literature on parents' satisfaction in international education settings, particularly within the Indonesian context. It will include parents from all grade levels, from early learning care to senior high school, in the Academic Year 2024-2025. By highlighting the factors

that influence satisfaction, the study supports the development of more responsive and effective strategies for building long-term relationships between schools and families, which are essential to both student success and institutional sustainability.

LITERATURE REVIEW

2.1 Parents' Satisfaction

Parents' satisfaction reflects how content parents are with their children's education and school environment, influenced by factors such as teacher effectiveness, school facilities, and overall quality (Fantuzzo et al., 2006). As primary stakeholders, parents must see their expectations met, positioning them as the true "customers" of educational services (Stribbel & Duangekanong, 2022). High satisfaction boosts a school's reputation, student outcomes, and community engagement through stronger partnerships and increased parental involvement (Henderson & Mapp, 2002; Newman, 2005; Meier & Lemmer, 2018). Satisfied parents support learning, engage more actively, and promote the school (Mansour et al., 2024; Bowen & Chen, 2001), while dissatisfaction can reduce trust and lead to student attrition (Meier & Lemmer, 2018).

Two major drivers of satisfaction are teacher quality and school facilities. Effective teachers who communicate well with parents and provide personalized support significantly enhance parental perceptions of school value (Fantuzzo et al., 2006). Meanwhile, clean, well-maintained classrooms, libraries, and restrooms are seen as indicators of a school's commitment to quality education (Meier & Lemmer, 2018). The integration of parents in school decision-making processes and their active involvement in their child's education enhances their satisfaction and trust (Mansour et al., 2024; Newman, 2005).

In market-driven education systems, parental satisfaction acts as a performance indicator for schools and a driver for continuous improvement (Voss et al., 1998). It reflects how well a school addresses both academic and non-academic needs, influencing school choice, retention, and investment in the school community (Meier & Lemmer, 2018). Ultimately, high parental satisfaction helps create a supportive environment that enhances academic success and strengthens a school's contribution to broader societal development (Friedman et al., 2006).

2.2. Factors Affecting Parents' Satisfaction

Parental satisfaction with schools is a critical factor shaped by various dimensions, including service quality, perceived quality, and overall school quality. These elements collectively influence

parents' evaluation of whether a school meets their expectations and provides the desired value for their children's education. Together, these aspects of quality influence not only satisfaction but also loyalty and trust. High levels of satisfaction are often schools that exhibit strong institutional performance in teaching, safety, and student development, aligning with parents' aspirations for their children's success (Green, 1994; Elassy, 2015). By understanding and addressing these quality dimensions, schools can bridge expectation gaps, foster parental loyalty, and strengthen their reputation.

Service quality refers to how well a service meets or exceeds customer expectations and is shaped by the interaction between customers and service providers, particularly through employee performance (Kettinger & Lee, 1994). In the context of education, service quality directly impacts perceived satisfaction, loyalty, and motivation among students. As such, service quality influences parental satisfaction, as parents evaluate the educational or caregiving services provided to their children. Reliable communication, empathy, and responsiveness align closely with parental expectations and contribute to their satisfaction (Parasuraman et al., 1988, as cited in Kettinger & Lee, 1994). Parents expect institutions to provide a supportive environment, competent teaching, and holistic development opportunities for their children, which parallels the concept of service quality influencing satisfaction.

Perceived quality, on the other hand, extends beyond individual service encounters to form a holistic evaluation based on cumulative experiences (Tam, 2004). Its connection with service quality underscores the dynamic interplay where high service quality enhances perceived value, which subsequently fosters customer satisfaction and loyalty (Lee, Lee, & Yoo, 2000). For instance, according to Hu et al. (2009), in education, high-quality facilities, empathetic teacher interactions, and high learning quality significantly shape parents' perceived quality of schools, reinforcing institutional reputation.

While service quality focuses on operational and interactional aspects (e.g., assurance, empathy), perceived quality includes a broader evaluation of overall excellence. Both constructs significantly influence satisfaction, loyalty, and behavioural intentions, forming the backbone of customer-oriented strategies.

School quality encompasses various dimensions that collectively define an educational institution's ability to meet stakeholders' expectations, particularly parents and students (Green, 1994; Elassy, 2015). It includes the characteristics, processes, and outcomes that align with educational goals and expectations (Hardie & Walsh, 1994; Elassy, 2015). In terms of parental satisfaction, school quality has a direct influence on perceptions, with parents valuing academic excellence, a nurturing environment, and teacher effectiveness (Elassy, 2015; Hardie & Walsh, 1994).

Discrepancies between parents' expectations and perceptions, referred to as 'quality gaps,' can significantly affect satisfaction level, making it essential for schools to address these gaps to foster parental loyalty and improve their branding (Freidman et al., 2006; Meier & Lemmer, 2018). Schools that actively address concerns through visible improvements in infrastructure and practices not only enhance satisfaction but also encourage parents to advocate for the institution, further boosting its reputation and enrolment (Hardie & Walsh, 1994; Barrett et al., 2006). Parental satisfaction, based on safety, inclusivity, and educational quality, influences school reputation and support (Skallerud, 2011; Lim, 2017). Moreover, a relevant curriculum that aligns with societal needs and prepares students holistically is pivotal for long-term student development (Hardie & Walsh, 1994; Zafar et al., 2016). When schools effectively deliver on core areas (teacher competence, safety, infrastructure, and curriculum), they not only satisfy current stakeholders but also build lasting loyalty and community support.

2.3. Sub-Dimensions of School Quality

School quality is a multifaceted concept that determines an institution's ability to meet the diverse needs and expectations of its stakeholders, particularly parents and students. It is a critical factor influencing parental satisfaction, student outcomes, and a school's overall reputation. At its core, school quality can be understood through three interconnected dimensions: Learning Quality, Teacher Quality, and Facilities Quality (Badri & Mohaidat, 2013; Hugener et al., 2009; Frick et al., 2007; Martens & Prosser, 1998; Kolb, 1984; Jepsen et al., 2014; Biggs, 1996; Ingtias et al., 2022; Valle et al., 2009; Calabria, 1960; Lazarides et al., 2021; Gershenson, 2021; Aldrup, Carstensen, & Klusmann, 2022; Uline & Tschannen-Moran, 2008). Each dimension and their respective sub-dimension have key indicators that play a unique role in shaping the educational experience and ensuring that schools provide a safe, supportive, and enriching environment. Together, these elements form the foundation of a high-performing institution that not only meets academic and developmental goals but also fosters trust, loyalty, and engagement among parents. By focusing on continuous improvement in these areas, schools can bridge quality gaps, enhance satisfaction, and establish themselves as leaders in education.

2.3.1 Learning Quality

Learning quality, as defined by Badri and Mohaidat (2013), encompasses both the learning outcomes and the unique teaching methods that a school uses to ensure students are learning effectively. It involves the processes, strategies, and outcomes that enhance a student's ability to acquire, apply, and extend knowledge. This quality refers to the effectiveness of teaching strategies, instructional materials,

and the educational environment in fostering students' cognitive, emotional, and social development (Hugener et al., 2009; Frick et al., 2007).

Learning quality improves when teaching aligns with student learning styles, enhancing perceptions and outcomes (Jepsen et al., 2014). Biggs (1996) emphasizes that assessment strategies shape learning, with qualitative methods fostering deeper understanding and critical thinking. Collaborative models that combine practical and theoretical knowledge are also key indicators of learning quality. Such indicators are as follows:

Teaching Practices

Effective teaching practices go beyond the mere delivery of content; they are characterized by their ability to create a context that supports and encourages deep learning (Martens & Prosser, 1998). This includes student-centered approaches such as active and reflective engagement, which promote critical thinking and deeper comprehension. Balanced workloads and meaningful assessments further contribute to understanding, rather than memorization (Entwistle & Ramsden, 1983, as cited in Martens & Prosser, 1998).

This can be measured through several indicators as follows (Martens & Prosser, 1998; Jepsen et al., 2014; Kolb, 1984):

1. Clear learning objectives
2. Engaging activities
3. Various teaching methods

Learning Strategies

High-quality learning emphasizes deep learning strategies that focus on understanding and applying knowledge rather than rote memorization (Entwistle & Ramsden, 1983, as cited in Marten & Prosser, 1998). Aligning teaching methods with learning styles, such as reflective or activist preferences, can improve engagement and outcomes (Jepsen et al., 2014). This can be measured through the following indicators (Ingthias et al., 2022; Frick et al., 2007; Hugener et al., 2009):

1. Develop problem-solving skills
2. Encourage active participation
3. Lesson with real-world application (e.g. group presentations, class debates).

Although teaching practices and learning strategies are closely related, teaching practices focus on how material is presented, whereas learning strategies focus on how students actively engage with and apply the material to enhance their understanding.

Learning Environment

The learning environment significantly affects the quality of education. Collaborative learning models, often developed through institutional and industry partnerships, enhance real-world relevance (Ingtias et al., 2022). Access to high-quality physical resources like laboratories, digital tools, and collaborative spaces supports active, engaged learning. A supportive environment—where faculty and peers offer both intellectual and emotional reinforcement—also promotes student motivation and success (Martens & Prosser, 1998). Put simply, indicators for this sub-dimension are as follows:

1. High-quality physical resources
2. School spaces for collaboration

Assessment and Feedback

Assessment and feedback are integral for maintaining learning quality. Continuous formative assessments and structured feedback loops help teachers monitor progress and make instructional improvements (Martens & Prosser, 1998). Aligned assessments and constructive feedback encourage student growth by clarifying performance gaps and reinforcing learning (Jepsen et al., 2014).

Indicators for this include (Martens & Prosser, 1998; Jepsen et al., 2014):

1. Provision of quizzes and assignments
2. Provision of constructive feedback.

Graduate Readiness

Graduate readiness reflects how well students are prepared to meet professional and societal demands. This involves curriculum alignment with industry expectations and the integration of both technical skills and soft skills (communication, collaboration, and problem-solving) (Ingtias et al., 2022). This includes the following (Martens & Process, 1998; Jepsen et al., 2014):

1. Developing teamwork and collaboration
2. Provision of real-world learning.

Learning quality plays a key role in a school's success, influencing student outcomes, parental satisfaction, and overall school support. Frick et al. (2007) and Hugener et al. (2009) emphasize the pivotal role of perceived learning quality, showing that effective teaching enhances students' mastery and satisfaction. Furthermore, learning quality significantly influences parental satisfaction and the school's reputation. Learning quality greatly impacts parental satisfaction. Martens and Prosser (1998) emphasize that deep learning occurs when students engage meaningfully with material in a supportive, student-centered environment.

2.3.2. Teacher Quality

Teachers are arguably the backbone of any school. Good teachers create a steady foundation, not only for the students but also for the school itself. Teacher quality is defined as the blend of professional knowledge, instructional skills, and interpersonal abilities that support meaningful learning and holistic development. Calabria (1960) highlights traits like creativity, motivation, discipline, and humour as essential to effective teaching and a positive classroom environment.

Teacher Competence

According to Badri and Mohaidat (2013), good teachers are reliable, effective, and liked by their students. Studies consistently highlight the link between high-quality teaching and long-term student success, such as higher college enrolment rates and improved earnings in adulthood (Lee, 2018). Key indicators for teacher competence include (Lazarides et al., 2021; Hanushek & Rivkin, 2006):

1. Expert in the subject
2. Actively engages students
3. Organized classroom
4. Ensures a focused learning space.

Teacher Traits

Effective teachers create positive learning environments, deliver quality instruction, motivate student engagement, and uphold fairness (Walls et al., 2002). Empathetic teachers who address students' emotional needs foster more positive emotional and behavioural responses (Havik & Westergard, 2019), showing that effective teaching also involves supporting students' well-being. Moreover, students from diverse backgrounds value different teacher traits; Saafin (2008) notes that respect and friendliness are key, while Jumiatty and Kuswoyo (2023) found that Indonesian students appreciate interactive learning. Thus, good teachers continuously refine their methods and management strategies.

Indicators for this are as follows (Aldrup, Carstensen, & Klusmann, 2022; Badri & Mohaidat, 2013; Saafin, 2008):

1. Understands emotional needs
2. Supports emotional needs
3. Enthusiastic
4. Interactive.

Professional Development

Identifying teacher effectiveness is complex and requires targeted policies and professional development to maintain high instructional standards (Gershenson, 2021). Effective teaching, which significantly impacts student outcomes, is marked by traits like dedication, mastery, discipline, and exam success (Calabria, 1960). Sustaining school performance also depends on teacher training and strong leadership, with principals playing a key role in improving learning and indirectly enhancing parental satisfaction (Alhebshi, 2022).

Teacher competence, professional development, and classroom effectiveness are key drivers of student achievement and school reputation. Hanushek et al. (1998) found that teacher quality significantly influences student performance, highlighting the importance of instructional excellence. Ultimately, teacher quality encompasses the attributes, skills, and practices that enable educators to support learning and improve academic outcomes (Gershenson, 2021). Key indicators for such are as follows (Alzebaree & Hasan, 2021; Lazarides et al., 2021):

1. Professional development
2. Usage of innovative teaching

Good teachers are not only effective in delivering content and fostering a positive learning environment but are also empathetic to students' emotional needs. They maintain discipline while encouraging active participation. Strong classroom management and positive teacher-student relationships lead to greater student and parents' satisfaction.

2.3.3. Quality of Facilities

School facilities are vital to educational outcomes and stakeholder satisfaction, as their condition directly shapes the teaching and learning environment. Uline and Tschannen-Moran (2008) emphasize that quality facilities foster a positive school climate and support academic achievement. Roberts (2009)

defines them as both physical and non-physical elements that ensure a safe, healthy, and functional space for learning and productivity. These include classrooms, libraries, and labs, as well as factors like air quality, lighting, acoustics, and thermal comfort (Roberts, 2009; Abdulahhi & Yusoff, 2019).

Similarly, Kärnä & Julin (2015) found that facility conditions influence stakeholder satisfaction and a school's public image. Well-maintained, versatile environments enhance academic experiences and parental confidence, while neglected can hinder both learning and trust.

Physical Facilities

Physical indicators refer to tangible infrastructure and spaces within a school environment that directly impact the teaching and learning process. Abdulahhi and Yusoff (2019) found that poorly maintained facilities contribute to discomfort, overcrowding, and reduced learning outcomes, highlighting the importance of proactive facilities management. Functional and aesthetically appealing spaces (classrooms, laboratories, and libraries) can foster a sense of belonging, enhance morale, and promote academic achievement (Uline & Tschannen-Moran, 2008). Moreover, well-maintained facilities signal a school's commitment to quality, which can positively shape student focus and increase parental satisfaction. (Hoplan & Nyhus, 2015; Kärnä & Julin, 2015). Indicators for physical facilities are as follows (Roberts, 2009; Abdulahhi & Yusoff, 2019; Uline & Tschannen-Moran, 2008; Hoplan & Nyhus, 2015):

1. School cleanliness
2. Functional learning spaces
3. Well-equipped academic facilities.

Non-physical Facilities

Non-physical indicators (lighting, air quality, thermal comfort, acoustics, safety) indirectly but significantly influence teaching and learning (Roberts, 2009; Hassainan, et al., 2022). Poor conditions like inadequate ventilation, extreme temperatures, or excessive noise hinder concentration and lower academic outcomes. Duyar (2010) highlights these factors as essential to effective teaching and student engagement. Well-designed and maintained spaces improve focus, comfort, and well-being. For instance, proper acoustics reduce noise, and adequate lighting and clean air enhance health and productivity (Abdulahhi & Yusoff, 2019; Hassainan, et al., 2022). Neglecting these elements can lead to dissatisfaction and weaken a school's ability to meet its educational objectives. This can be measured through several indicators (Roberts, 2009; Hassainan, et al., 2022; Duyar, 2010; Abdulahhi & Yusoff, 2019):

1. Good air quality

2. Proper lighting
3. Minimal noise distractions
4. Comfortable classroom temperature.

Parents often judge school quality by the state of its facilities, viewing clean, safe, and functional spaces (classrooms, libraries, and labs) as key indicators of a strong learning environment and a school's dedication to academic and holistic development. Investing in such infrastructure builds stakeholder trust and promotes long-term engagement. Roberts (2009) defines quality facilities as environments that support educational goals, noting that their value lies not just in technical adequacy but in fostering effective teaching and learning. Aligning facilities with these goals enhances student outcomes and reinforces a school's commitment to its community.

2.4. Linking and Measuring Quality and Satisfaction

Quality in education is multifaceted, encompassing academic outcomes, infrastructure, stakeholder satisfaction, and alignment with institutional goals. Hardie and Walsh (1994) define quality as the gap between what is and what ought to be, emphasizing that it reflects both performance and customer expectations. In education, this concept has shifted from abstract ideals to operational definitions, shaped by accountability and enhancement demands (Elassy, 2015; Sebastianelli & Tamimi, 2022). Quality also includes emotional support, social development, and physical infrastructure (Uline & Tschannen-Moran, 2008; Maxwell & Schechtman, 2012).

School reputation, driven by stakeholder satisfaction, plays a central role in competitiveness and student retention (Sanny, 2017; Alhebshi et al., 2022). The signalling theory suggests that schools deliberately project quality through visible markers (advanced facilities and qualified staff) to attract families and build institutional trust (Alhebshi et al., 2022). As schools compete globally, aligning local cultural values with international standards becomes vital for meeting parental expectations and enhancing reputation (Sanny, 2017; Alhebshi et al., 2022).

Parental satisfaction, in particular, hinges on how well schools meet expectations regarding learning environments, safety, and outcomes. The performance-expectation gap, the discrepancy between expected and perceived service quality, directly influences stakeholder trust and satisfaction (Porter, 1993; Voss et al., 1998). Closing this gap requires schools to consistently deliver on quality indicators and manage stakeholder expectations transparently.

Numerous tools have been developed to measure satisfaction in educational contexts. Among these, Importance-Performance Analysis (IPA) stands out for its simplicity, clarity, and actionable output. IPA evaluates how important certain service attributes are to stakeholders and how well those attributes are perceived to perform (Martilla and James, 1977). O'Neill and Palmer (2004) and Ortinau et al. (1989) demonstrate its effectiveness in identifying service gaps related to responsiveness, staff competence, and infrastructure. As educational institutions face rising expectations, especially from parents, tools like IPA offer valuable frameworks for assessing and improving quality. By focusing on both importance and performance, schools can enhance satisfaction, close expectation gaps, and build lasting stakeholder trust.

2.5. Summary

Parental satisfaction is a critical determinant of a school's success, directly influencing its reputation, trust, and student enrolment. Satisfied parents are more likely to support school initiatives and recommend the institution, while dissatisfaction can lead to disengagement and withdrawal, undermining institutional stability. Several key factors shape parental satisfaction. Service quality, defined by a school's reliability, responsiveness, and empathy, affects how parents evaluate their interactions with staff. Schools that communicate clearly and address family needs foster greater trust and satisfaction. Relatedly, perceived quality, shaped by elements like teacher competence, academic programs, and facilities, influences parents' overall impression of the school.

Among the strongest predictors of satisfaction is Learning Quality, which encompasses the school's ability to promote student understanding, critical thinking, and individual academic growth. Parents value environments where teaching goes beyond rote memorization and adapts to diverse student needs. Central to this are teachers, whose competence, empathy, and classroom management directly affect both student outcomes and parental trust. Facilities also play an important role, as a clean, safe, and modern environments contribute to a school's perceived commitment to student well-being. Physical elements (lighting, ventilation, and classroom maintenance) reinforce parental confidence in the learning environment.

To measure and improve satisfaction, tools like IPA are especially valuable. IPA helps identify the gap between what parents expect and what they perceive the school is delivering. By analysing both the importance of specific attributes and their performance, schools can strategically prioritize improvements that will most impact parental trust, loyalty, and satisfaction. Parental satisfaction extends beyond academics to include how well schools communicate, meet needs, and create a supportive environment.

Institutions that excel in these areas foster stronger relationships with families and build thriving educational communities.

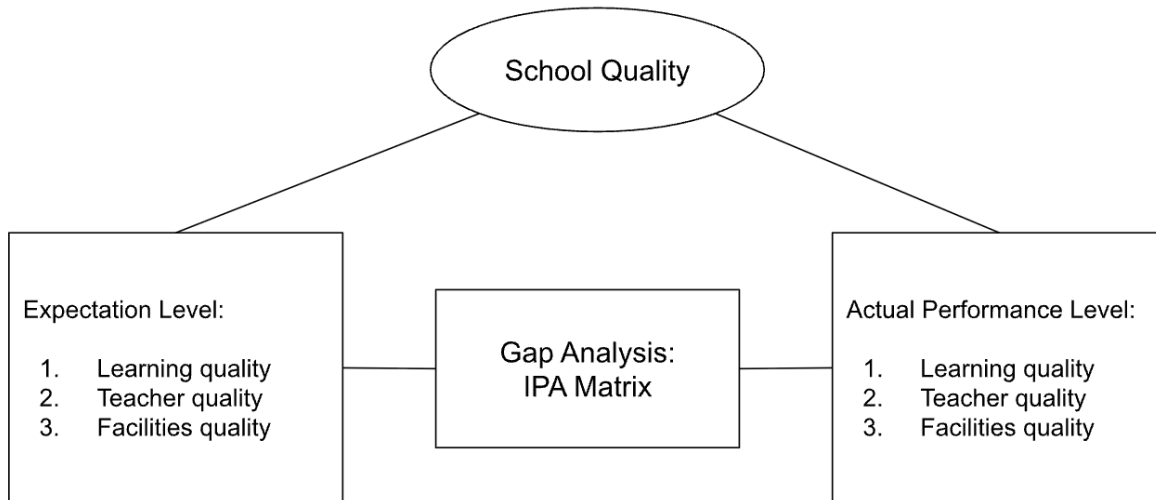


Figure 1. Conceptual Framework

3. RESEARCH METHODS

3.1 Population and Sample

This study employed a quantitative descriptive approach to systematically measure and evaluate parental satisfaction with school quality factors, including Learning Quality, Teacher Quality, and Facilities Quality. The method enabled the collection of measurable, objective data to provide insights into parents' perceptions and identify areas for improvement.

The population consisted of parents with children enrolled at a private international school in Surabaya, Indonesia, from Early Learning Care to Senior High School during the 2024-2025 academic year. Initially, targeting two schools, the study focused on one due to limited responses. A purposive sampling technique was used to select parents who were actively involved in their children's education and had direct experience with the school's quality aspects. Out of approximately 200 students, accounting for siblings and one parent per household, the study successfully gathered responses from 133 participants, ensuring a representative and meaningful dataset. This study used primary data from structured parent surveys to measure satisfaction factors.

3.2. Variables, Operational Definition, and Empirical Indicators/Interview Questions

The study involved the following variables targeted specifically for the international school in Surabaya, Indonesia:

1. **Learning Quality**- Operationally defined as the strategic integration of teaching practices, learning processes, and measurable outcomes implemented by the target schools in Surabaya, aimed at ensuring students effectively acquire, apply, and extend knowledge while fostering their cognitive, emotional, and social growth. Learning Quality will be measured by these 12 indicators (Martens & Prosser, 1998; Jepsen et al., 2014; Kolb, 1984; Ingtias et al., 2022; Frick et al., 2007; Hugener et al., 2009):

LQ1: Teachers create clear and specific learning objectives that are directly linked to the course outcomes

LQ2: Teachers use active and engaging activities in class that promote critical thinking and deeper understanding

LQ3: The school has tailored teaching methods like visual, auditory, hands-on activities to cater to different learning preferences by providing visual aids, group work, or individual tasks

LQ4: Teachers emphasize developing critical thinking and problem solving through class lessons

LQ5: Teachers practice active participation through conducting student-centered activities in and out of the classroom that promote learning

LQ6: Class lessons include activities that can be applied in real-world contexts

LQ7: The school provides good-quality physical resources that are sufficient and able to support student learning

LQ8: Students have access to spaces that promote collaborative learning

LQ9: Teacher regularly uses formative assessments like quizzes and assignments to monitor student progress

LQ10: Feedback given by the teacher is specific, constructive, and helpful for students to improve their class performance

LQ11: Lessons help students develop important soft skills like teamwork, communication, and problem solving

LQ12: School provides opportunities that allow for application in real-world scenarios

2. Teacher Quality- Operationally defined as the collective set of competencies, traits, and practices exhibited by the teachers of the target private international schools in Surabaya, that facilitate meaningful learning experiences, holistic student development, and overall academic success. Teacher Quality will be measured by ten indicators (Lazarides et al., 2021; Hanushek & Rivkin, 2006; Gershenson, 2021; Aldrup, Carstensen, & Klusmann, 2022; Badri & Mohaidat, 2013; Saafin, 2008; Alzeebaree & Hasan, 2021;), namely:

TQ1: The teacher demonstrates expertise in the subject matter

TQ2: The teacher has the ability to engage students in the learning process

TQ3: The teacher has the ability to maintain an organized classroom environment

TQ4: The teacher has the ability to maintain a focused classroom environment

TQ5: The teacher has the ability to understand students' emotional needs

TQ6: The teacher has the ability to respond to students' emotional needs

TQ7: The teacher shows enthusiasm for the students to be actively engaged in the learning process

TQ8: The teacher has the ability to create an interactive learning environment that promotes collaboration among students

TQ9: The teacher regularly participates in professional development programs to improve their teaching skills

TQ10: The teacher has the ability to implement innovative teaching strategies in the classroom to make learning more effective

3. Facilities Quality- Operationally defined as the adequacy and maintenance of school infrastructure, including classrooms, libraries, and recreation spaces that collectively support teaching, learning, and stakeholder satisfaction. Facilities encompass both tangible infrastructure— such as classrooms, laboratories, libraries, and recreational spaces— and environmental conditions like air quality, lighting, acoustics, and thermal comfort. Facilities Quality will be measured by eight indicators (Roberts, 2009; Abdulahhi & Yusoff, 2019; Uline & Tschannen-Moran, 2008; Hoplan & Nyhus, 2015; Hassainan, Daghistani, & Sanni-Anibire, 2022; Duyar, 2010), namely:

FQ1: Regular upkeep and cleanliness of school facilities like classrooms, hallways, and common areas to ensure a safe and conducive environment

FQ2: The school has adequate and functional spaces and layout to support teaching and learning

FQ3: The school provides well-equipped academic facilities, such as science laboratories, libraries and recreational areas, and functional infrastructure to support educational activities

FQ4: The school provides well-equipped non-academic facilities such as recreational areas and functional infrastructure to support educational activities

FQ5: The classrooms and school spaces have good air quality to ensure a healthy school environment

FQ6: The classrooms are well-lit with proper lighting to promote focus and concentration

FQ7: The classrooms have minimal noise interference to promote focus and concentration

FQ8: The classrooms and school facilities maintain a comfortable temperature throughout the day to support student and teacher focus and productivity

4. Overall Satisfaction- A measure of the extent to which parents feel that the school successfully meets their expectations in terms of learning quality, teacher quality, and facilities (Fantuzzo et al., 2006; Meier & Lemmer, 2018).

OS1: The school meets my expectations for learning quality

OS2: The school meets my expectations for teacher competence

OS3: The school meets my expectations for facilities.

OS4: I am satisfied with the overall experience provided by the school

Each variable was measured twice using a Likert scale. The expectation level was measured ranging from 1 (Most Important) to 5 (Least Important). The actual performance ranged from 1 (Strongly Agree) to 5 (Strongly Disagree). These indicators were adapted from existing literature discussed in Chapter 2, including works by Martilla and James (1977), O'Neill and Palmer (2004), Ortinau et al (1989), and Stribbel and Duangekanong (2022).

4. RESULTS

This section presents the demographic profile of parents who participated in the study a private international schools in Surabaya, selected for their active role in school decisions, and children enrolled from ELC to Senior High in 2024-2025. Due to limited access, only one school provided sufficient responses, but its data still offers valuable insight into parental perceptions of school quality and satisfaction.

4.1. Result on the Field Study

Table 1. Participants' Response Rate

Responses	Frequency	Percentage
Total responses	138	100
Total responses with standard deviation of 0.000	5	3.62
Total response could be used for data analysis	133	96.38

Table 1 shows the response rate of the participants in the study. Out of a total of 138 responses, 96.38% (133 responses) were considered valid and usable for data analysis. Meanwhile, 3.62% of the total respondents (5 responses) had no variation in answers (standard deviation of 0.000) and were therefore excluded to maintain the quality and integrity of the analysis. This reflects a strong overall participation rate, allowing for a reliable interpretation of the results.

Table 2. Demographic Profile

Variable	Category	Frequency	Percentage
<i>Sex</i>	Male	37	26.4
	Female	101	73.6
<i>Age Range</i>	25-34	30	20.9
	35-44	58	41.1
	45 and above	50	38.0
<i>Residential Zoning Location</i>	West Surabaya	71	51.45
	East Surabaya	34	24.64
	South Surabaya	18	13.04
	Central Surabaya	13	9.42
	North Surabaya	2	1.45

Based on the data in Table 2, a majority of the participants were female, accounting for 73.6%, while 26.4% were male. In terms of age range, the largest group fell within the 35-44 years old gap (41.1%), followed by those who are 45 years old and above (38%), and 20.9% were aged 25-34 years old. Most respondents reside in West Surabaya (51.45%), with the rest distributed across East Surabaya (26.64%), South Surabaya (13.04%), Central Surabaya (9.42%), and a small number from North Surabaya (1.45%). This distribution highlights that the study gathered responses from a diverse range of parents, primarily mothers, within typical school-age parenting brackets, and mainly residing in West Surabaya.

4.2. Findings

This section presents the statistics of each school quality factor assessed in the study. These statistics summarize how parents perceive both the importance of and performance on each indicator in relation to Learning Quality, Teacher Quality, and Facilities Quality. Importance indicates the level of expectations of parents of each attribute of school quality, while performance refers to how well the school is perceived to be delivering on those expectations. All data are based on the 133 valid survey responses collected from parents of the participating international school. To identify gaps between what parents expect and what the school delivers, this study used the formula Rahman and Islam (2018):

$$Gap = [(5 - \text{mean satisfaction } (S)) \times \text{mean importance } (I)] / 5$$

This formula enables a clearer and structured way of measuring which indicators should be prioritized. More specifically, identifying which attributes need to be focused on in terms of improvement efforts based on the magnitude of the gap. This formula helps assess not only differences but also gaps that matter most to parents.

Table 3. Importance vs. Performance Values of Learning Quality (LQ)

Indicator Code	Description	Importance Mean		Performance Mean		Gap
		<i>Mean</i>	<i>Std. Dev</i>	<i>Mean</i>	<i>Std. Dev</i>	
L1	Clear Learning Objectives (e.g. Understand, Identify, Develop)	4.632	0.709	4.331	0.622	0.619
L2	Engaging Activities (e.g. Science Experiments, Educational Games)	4.459	0.761	4.218	0.664	0.697
L3	Adapts Various Teaching Methods (e.g. Visual Diagrams, Hands-on Projects)	4.451	0.790	4.053	0.861	0.843
L4	Develop Problem-Solving Skills (e.g. Case Studies)	4.654	0.672	4.188	0.787	0.755
L5	Encourage Active Participation (e.g. Group Presentations, Class Debates)	4.594	0.683	4.248	0.799	0.684
L6	Lessons with Real-World Application (e.g. Budgeting Exercises, Role-playing, Problem-solving)	4.617	0.669	4.000	0.813	0.923
L7	High Quality Physical Resources (e.g. Smartboards, Modern Lab Equipment)	4.406	0.776	3.835	0.959	1.026
L8	School Spaces for Collaboration (e.g. Group work tables, Learning Zones)	4.459	0.751	4.053	0.835	0.844
L9	Provision of Quizzes and Assignments (e.g. Reflection Journals, Weekly Quizzes)	4.233	0.857	4.293	0.744	0.598
L10	Provision of Constructive Feedback (e.g. Commented Rubrics, Review Sessions)	4.609	0.670	4.090	0.818	0.838
L11	Developing Teamwork and Collaboration (e.g. Team-building Activities, Collaborative Research)	4.654	0.661	4.203	0.783	0.741
L12	Provision of Real-World Learning (e.g. Field Trips, Internship, Job Shadowing)	4.699	0.613	4.023	0.946	0.918

Table 3 shows that all Learning Quality indicators were rated highly important by parents, with mean scores ranging from 4.233-4.699, with L12 (Practical Learning) scoring highest, highlighting a strong preference for real-world application in education. However, performance scores lagged, particularly in L6 (Real-World Lessons), and L7 (Quality Resources), revealing key gaps between expectations and delivery. These results suggest the need for improvements in practical learning, updated resources, and adaptive teaching to better align with parental expectations.

Table 4. Importance vs. Performance Values of Teacher Quality (TQ)

Indicator Code	Description	Importance Mean		Performance Mean		Gap
		<i>Mean</i>	<i>Std. Dev</i>	<i>Mean</i>	<i>Std. Dev</i>	
T1	Expert in the Subject (e.g. Accurate Explanations, Subject Mastery)	4.662	0.560	4.180	0.774	0.764
T2	Actively Engages Students (e.g. Group Discussions, Learning Games)	4.624	0.667	4.203	0.743	0.737
T3	Organized Classroom (e.g. Clear Routines, Labeled Materials)	4.481	0.752	4.15	0.741	0.761
T4	Ensures Focused Learning Space (e.g. Minimal Distractions, Time Management)	4.481	0.791	4.083	0.756	0.821
T5	Understands Emotional Needs (e.g. Active Listening, Empathy)	4.662	0.624	4.045	0.839	0.882
T6	Supports Students Emotionally (e.g. Encouraging Words, Safe Space)	4.609	0.635	4.090	0.888	0.838
T7	Enthusiastic (e.g. Energetic Tone, Positive Attitude)	4.459	0.666	4.150	0.809	0.758
T8	Interactive (e.g. Two-way Feedback, Collaborative Tasks)	4.526	0.731	4.195	0.760	0.728
T9	Professional Development (e.g. Teacher Workshops, Online Training)	4.353	0.851	3.940	0.865	0.922
T10	Usage of Innovative Teaching Strategies (e.g. Flipped Classroom, Gamification)	4.534	0.741	4.068	0.797	0.845

Table 4 shows that all Teacher Quality indicators were rated highly important (means: 4.353-4.662). However, gaps emerged in areas like T5 (Understanding emotional needs), indicating unmet expectations despite its importance. In contrast, indicators such as T8 (Interactive) and T2 (Actively Engages Students) showed smaller gaps, suggesting better alignment. These findings underscore the need to strengthen emotional support in teaching to boost parental satisfaction and instructional quality.

Table 5. Importance vs. Performance Values of Facilities Quality (FQ)

Indicator Code	Description	Importance Mean		Performance Mean		Gap
		<i>Mean</i>	<i>Std. Dev</i>	<i>Mean</i>	<i>Std. Dev</i>	
F1	School Cleanliness (e.g. Clean Hallways, Sanitized Restrooms)	4.594	0.736	3.82	1.096	1.084
F2	Functional Learning Spaces (e.g. Flexible and Comfortable Seating, Spacious Rooms)	4.504	0.791	3.759	1.049	1.117
F3	Well-Equipped Academic Facilities (e.g. Science Lab, Library Books and Shelves)	4.556	0.719	3.692	1.145	1.191
F4	Good Air Quality (e.g. Proper Ventilation)	4.541	0.699	3.812	1.227	1.078
F5	Proper Lighting (e.g. Natural Light, LED Light)	4.594	0.672	3.917	1.09	0.995
F6	Minimal Noise Distractions (e.g. Quiet Zones, Thick Walls)	4.414	0.805	3.722	1.106	1.128
F7	Comfortable Classroom Temperature (e.g. Ceiling Fans, Air Conditioning)	4.474	0.731	3.782	1.216	1.089

Table 5 shows that parents rated all facility-related indicators as high important (means: 4.414-4.594). However, performance ratings were lower (means: 3.692-3.917), with the largest gaps in F3 (Well-Equipped Academic Facilities), F6 (Minimal Noise Distractions, and F2 (Functional Learning Spaces), indicating areas needing urgent improvement. Even the smallest gap in F5 (Proper Lighting) reveals unmet expectations.

IPMA MATRIX

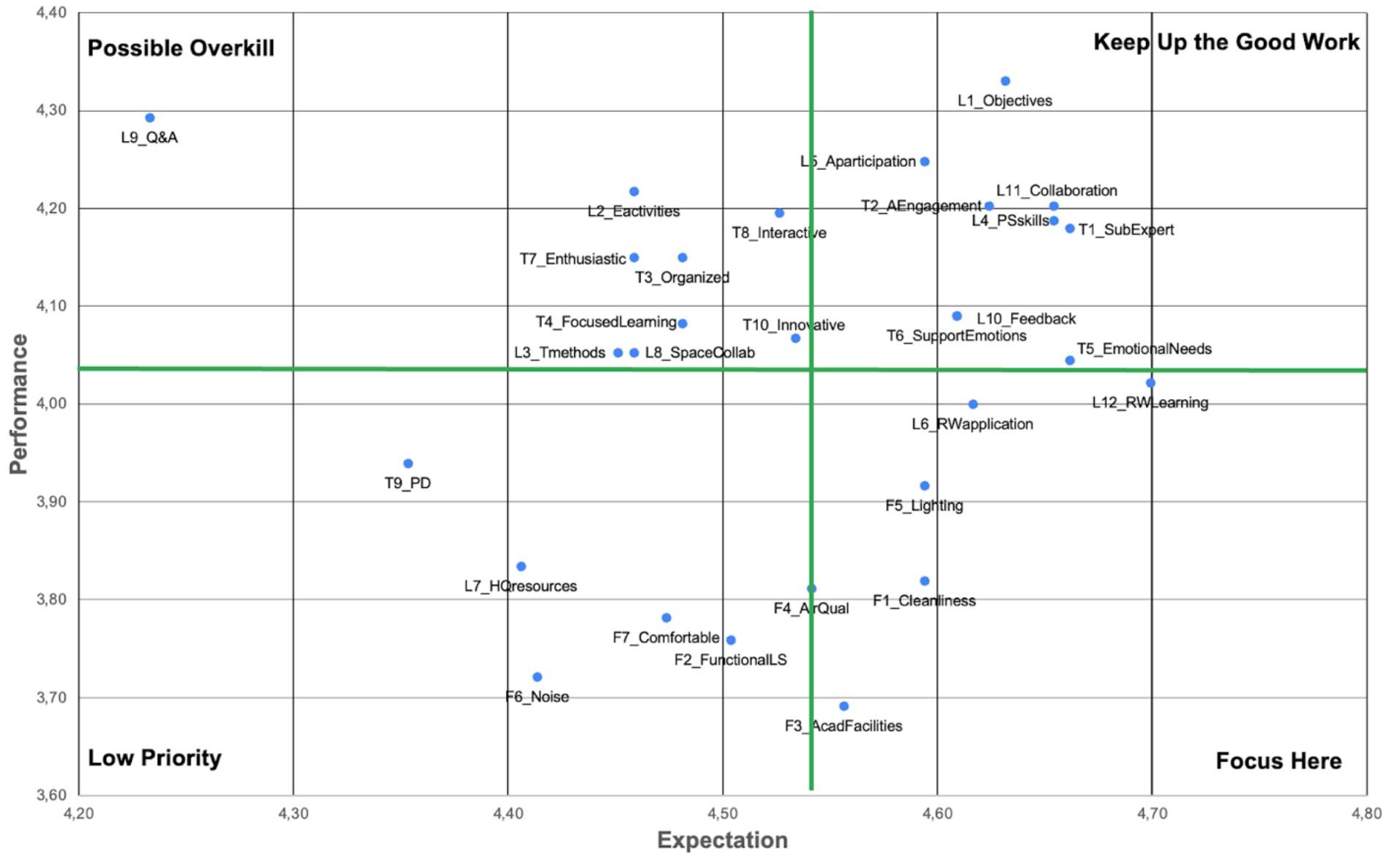


Figure 2. IPA Matrix of School Quality

The Importance-Performance Analysis (IPA) matrix provides a visual and statistical representation of how parents from the International School in Surabaya, Indonesia, perceive various school quality factors in terms of their importance and the actual performance of the said school. This approach will identify key areas that require attention or reinforcement. The matrix is divided into four quadrants, namely: *Keep Up the Good Work*, *Possible Overkill*, *Low Priority*, and *Focus Here*. Each quadrant offers different strategic implications and is discussed with the study’s overall research questions and literature review.

Table 6. Quadrant 1-Keep Up the Good Work (High Importance, High Performance)

Quadrant 1: Keep Up the Good Work	L1 Clear Learning Objectives
	L4 Develop Problem-Solving Skills
	L5 Encourage Active Participation
	L10 Provision of Constructive Feedback
	L11 Developing Teamwork and Collaboration
	T1 Expert in the Subject
	T2 Actively Engages Students
	T5 Understands Emotional Needs
	T6 Supports Students Emotionally

Table 6 shows the school’s strongest areas. These are the attributes that parents consider to be highly important and where the school is seen to have performed well in. These areas represent the strengths of the school that should be maintained and reinforced. These results reveal that parents strongly value clear learning structures as well as skilled, engaging, and emotionally supportive teachers.

Table 7. Quadrant 2-Possible Overkill (Low Importance, High Performance)

Quadrant 2: Possible Overkill	L2 Engaging Activities
	L3 Adapts Various Teaching Methods
	L8 School Spaces for Collaboration
	L9 Provision of Quizzes and Assignments
	T3 Organized Classroom
	T4 Ensures Focused Learning Space
	T7 Enthusiastic
	T8 Interactive
	T10 Innovative

Table 7 identifies areas where the school performs well, but parents do not necessarily see them as especially important or place high significance on. These might be maintained, but should not divert resources from more critical areas. The current findings show that parents already assume that these features are a given and are standard in international schools, and therefore do not attribute as much importance to them. Maintaining these strengths is highly encouraged, but efforts may be better redirected and focused on areas with higher importance but lower performance.

Table 8. Quadrant 3-Low Priority (Low Importance, Low Performance)

Quadrant 3: Low Priority	L7 High Quality Physical Resources
	T9 Professional Development
	F2 Functional Learning Spaces
	F6 Minimal Noise Distractions
	F7 Comfortable Classroom Temperature
	F4 Good Air Quality

Table 8 includes aspects that parents rate as both less important and where the school also performs lower. While these areas do not demand immediate attention, they should not be ignored entirely. While such factors do support a conducive learning environment, they are not top priorities for parents when it comes to evaluating school quality.

Table 9. Quadrant 4. Focus Here (High Importance, Low Performance)

Quadrant 4: Focus Here	L6 Lessons with Real-World Application
	L12 Real World Learning
	F1 School Cleanliness
	F3 Well-Equipped Academic Facilities
	F5 Proper Lighting

Table 9 identifies critical areas where parental expectations are high, but the school's performance falls short, which can be considered performance gaps that the school needs to focus on. These are the aspects parents see as important, but the school is not perceived to perform as well as it should. These should be prioritized for immediate improvement. It is recommended that immediate improvements are to be made in order to close the expectation-performance gap and enhance overall parental satisfaction.

4.3. Regression Analysis

In order to test the structural relationship among variables in this study, SEM-PLS via SmartPLS was utilized. The test included two model evaluations which were: the outer model test in order to assess the measurement fit and the other one is the inner model test to examine the structural fit.

4.3.1. Test of Measurement Fit

The test is used to check how well each indicator reflects the variable it is supposed to measure. This is important to make sure that the items used in the questionnaire truly represent the concepts like that of Learning Quality, Teacher Quality, and Facilities Quality.

To ensure that the indicators used in this study accurately measure their corresponding constructs, a convergent validity test was conducted. According to Hair et al. (2021), convergent validity is confirmed when the Average Variance Extracted (AVE) value is 0.500 or higher, indicating that the construct explains more than half of the variance of its indicators. This test is crucial for establishing that the items associated with each construct are indeed related and measure the same underlying concept.

Figure 3 shows the outer loading of each measurement item and the AVE values for each variable.

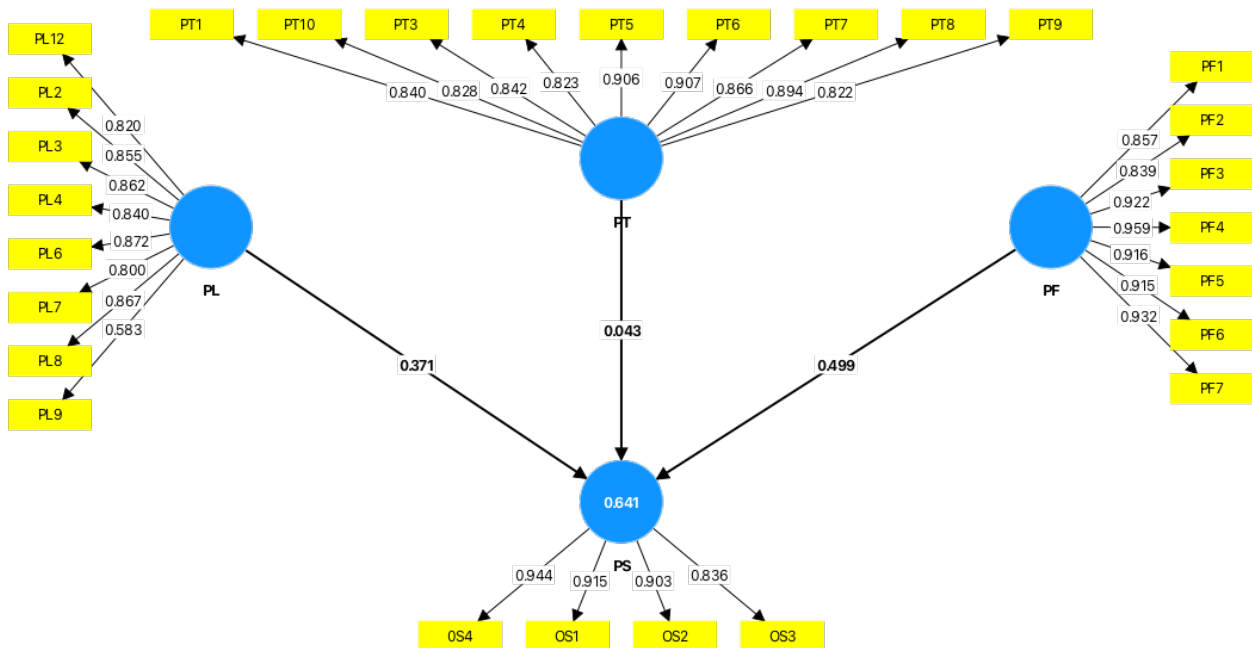


Figure 3. Outer Loading and AVE Values

Table 10. Measurement Validity and Reliability Test

Construct	Label	Item	Factor Loadings
<i>Parent's Satisfaction</i> AVE = 0.738 CR = 0.923 CA = 0.921	OS4	Satisfaction of Overall Educational Experience	0.944
	OS1	Meets Expectations for Learning Quality	0.915
	OS2	Meets Expectations for Teacher Quality	0.903
	OS3	Meets Expectations for Facilities Quality	0.836
<i>Learning Quality (Performance Learning)</i> AVE = 0.822 CR = 0.933 CA = 0.927	PL2	Engaging Activities	0.855
	PL3	Adapts Various Teaching Methods	0.862
	PL4	Develop Problem-Solving Skills	0.840
	PL6	Lessons With Real-World Application	0.872
	PL7	High Quality Physical Resources	0.800
	PL8	School Spaces for Collaboration	0.867
	PL9	Provision of Constructive Feedback	0.583
	PL12	Provision of Real-World Learning	0.820
	<i>Teacher Quality (Performance Teacher)</i> AVE = 0.668 CR = 0.956 CA = 0.955	PT1	Expert in the Subject
PT3		Organized Classroom	0.842
PT4		Ensures Focused Learning Space	0.823
PT5		Understands Emotional Needs	0.906
PT6		Supports Students Emotionally	0.907
PT7		Enthusiastic	0.866
PT8		Interactive	0.894
PT9		Professional Development	0.822
PT10		Usage of Innovative Teaching Strategies	0.828
<i>Facilities Quality (Performance Facilities)</i> AVE = 0.811 CR = 0.967 CA = 0.964		PF1	School Cleanliness
	PF2	Functional Learning Spaces	0.839
	PF3	Well-Equipped Academic Facilities	0.922
	PF4	Good Air Quality	0.959
	PF5	Proper Lighting	0.916
	PF6	Minimal Noise Distractions	0.915
	PF7	Comfortable Classroom Temperature	0.932

Based on the measurement validity and reliability test results in Table 10, the constructs for Learning Quality, Teacher Quality, and Parental Satisfaction demonstrate acceptable loading values. The outer loading values for most indicators exceed the recommended 0.70 threshold, indicating that the items effectively represent their respective constructs. However, one indicator (PL9) under Learning Quality showed a lower

loading of 0.583, which is the only exception and does not significantly impact the overall validity of the construct.

Furthermore, the Average Variance Extracted (AVE) values for all constructs exceed the 0.50 minimum benchmark, confirming that the indicators share a sufficient amount of variance in measuring the intended concept. Additionally, the Cronbach’s Alpha and Composite Reliability scores for each variable fall well above the 0.70 threshold, with values ranging from 0.921 to 0.967. This reflects excellent internal consistency and reliability, supporting the overall validity of the measurement model and its suitability for further analysis.

1. Reliability Test

Table 11. Result of Heterotrait-Monotrait Ratio Test

	PF	PL	PS	PT
PF				
PL	0.568			
PS	0.759	0.732		
PT	0.601	0.892	0.687	

Table 11 presents that all discriminant validity values are below the 0.90 threshold, indicating that the constructs are empirically distinct. The highest value is between PL and PT (0.892), which is close to the limit, but still acceptable. This confirms that the constructs are not overlapping. As noted by Hair et al. (2021), composite reliability values above 0.70 indicate that the indicators consistently measure their intended construct. Overall, these results support the validity of the structural model and confirm that each variable measures a separate concept.

4.3.2. Test of Structural Relationships Among Variables

1. Collinearity Test

Table 12. Result of Collinearity Test (Inner VIF)

	PF	PL	PS	PT
PF			1.526	
PL			3.431	
PS				
PT			3.640	

Table 12 presents the results of the collinearity test (Inner VIF) for the predictor variables: PF (Facilities Quality), PL (Learning Quality), and PT (Teacher Quality) in relation to the dependent variable PS (Parental Satisfaction). All VIF values are below the threshold of 5, with PF at 1.526, PL at 3.431, and PT at 3.640. This test of inner variance inflation factor (VIF) showed no potential multicollinearity in the model, given that the results did not exceed the cutoff value of 5 (Hair et al. (2017).

2. Predictive Accuracy (R^2) and Relevance (Q^2)

Table 13. Predictive Accuracy and Relevance Results

	R-square	Q-square
PS	0.641	0.602

Table 13 shows that the R^2 value for the dependent variable Parental Satisfaction (PS) is 0.641, showing a strong level of predictive strength. This suggests that Learning Quality, Teacher Quality, and Facilities Quality together explain about 64.1% of the variance in parental satisfaction. The R^2 test measures how well the independent variable and the independent variables explain the variation in the dependent variable. A value above 0.25 indicates acceptable predictive accuracy (Hair et al., 2014).

The Q^2 test checks the predictive relevance of the model, where values above 0 indicate reliability. The Q^2 value for Parental Satisfaction is 0.602, confirming that the model can meaningfully predict parental satisfaction based on the school quality dimensions.

3. Structural Relationship Test

To examine the structural relationship among the variables, specifically the influence of Learning Quality, Teacher Quality, and Facilities Quality on Parents' Satisfaction, this study utilized regression analysis by way of SmartPLS. This method allows for a deeper exploration of how well the school quality dimensions predict parental satisfaction, offering a statistical complement to the Importance-Performance Analysis (IPA) matrix. The structural model analysis helps verify whether the expectations and performance gaps identified in the IPA are statistically supported in terms of their impact on parental satisfaction.

This result indicates that Teacher Quality, as perceived by parents in this data, may be due to low variability in how parents rated Teacher Quality. If most respondents rated teacher performance similarly (e.g., all gave 4-5 ratings), it leads to a restriction of range problem, which reduces the ability of the model

to detect a statistical relationship. This phenomenon is also discussed in Bassok et al. (2018), who found that parents tend to rate educational programs and teacher-related indicators very highly, resulting in limited variability. Thus, despite Teacher Quality being regarded as important in the literature, the uniformity in responses in this particular sample may have minimized its statistical impact. This is consistent with Caretta and Ree (2022), who explain that range restriction in variables, like that of consistently high ratings, can lead to underestimated or non-significant statistical results, even when a true relationship exists.

5. DISCUSSION

5.1. Use of Importance-Performance Analysis and Regression Analysis

This study used both Importance Performance Analysis and regression analysis to better understand how key school quality dimensions (Learning Quality, Teacher Quality, and Facilities Quality) relate to parental satisfaction. The use of IPMA helped visualize the alignment (or even the misalignment) between what parents expect and how they perceive actual school performance. It effectively highlighted which indicator the school is excelling at and which requires more attention. For instance, the IPMA results, as seen in Figure 2, show that Learning Quality and Facilities Quality fell into the ‘focus here’ quadrant, aligning with regression results that confirmed both had a significant influence on parental satisfaction. This reinforces that when these dimensions perform well, parents are more likely to feel satisfied with their child’s educational experience. Regression analysis, conducted using SmartPLS, statistically validated the predictive strength of the three quality dimensions on satisfaction.

Together, the IPMA and regression findings offer insights into how the school quality dimensions influence parental satisfaction. IPMA gives practical insights for improving specific school attributes. Regression provides a deeper statistical understanding of which variables drive satisfaction. Their combined use gives school management a clearer picture of where to focus improvement efforts and how those efforts may impact parental perceptions.

4.5.2. Parents’ Satisfaction on Learning Quality

Both the regression analysis and IPMA results confirm that Learning Quality is a significant driver of parental satisfaction at the international school studied in Surabaya. Parents value how effectively the school delivers educational content, promotes student growth, and incorporates real-world learning. Among the three quality dimensions, Learning Quality had the strongest impact on satisfaction and

demonstrated high performance across indicators such as critical thinking, problem-solving, and real-world application.

However, despite strong performance overall, the IPMA revealed gaps in indicators such as ‘lessons with real-world application’ and ‘real-world learning,’ which parents deemed highly important. In Surabaya’s competitive educational landscape, where academic excellence and future readiness are key concerns for elite families, this underscores the need for continuous instructional innovation. While Learning Quality largely meets expectations, these gaps highlight opportunities to enhance parental satisfaction further by aligning classroom practices more closely with real-world relevance.

4.5.3. Parents’ Satisfaction on Teacher Quality

Interestingly, Teacher Quality did not emerge as a significant predictor, despite being rated relatively high in performance, likely due to low variability in responses. Many parents consistently scored teacher-related items within a narrow range (mostly 4 or 5), resulting in a statistical issue known as restriction of range, which weakens the ability to detect meaningful relationships in regression analysis (Gibbons & Silba, 2011; Mann, 2023). From a managerial perspective, the lack of a significant statistical effect of Teacher Quality does not mean it is unimportant. In high-performing international schools like those in Surabaya, parents may regard strong teaching as a baseline expectation rather than a distinguishing feature, leading to uniform ratings that obscure its predictive power. Song, Hur, and Kwon (2017) emphasize that in top-performing school systems, high-quality professional development significantly contributes to instructional improvement and long-term teaching effectiveness. These efforts help sustain instructional quality and reinforce parental trust, even when not directly reflected in statistical models.

Moreover, parents may also evaluate school quality more heavily on visible aspects like facilities and academic results, which are easier to assess than day-to-day teaching practices. Subtle and emotionally influenced aspects of Teacher Quality may be underrepresented in satisfaction models unless they deviate significantly from the norm (Burchinal et al., 2021; Mann, 2023). Thus, while Teacher Quality remains essential, its statistical invisibility in this context reflects the need for complementary tools like IPMA that can better capture nuanced perceptions beyond what is revealed in traditional regression analysis.

4.5.4. Parents’ Satisfaction on Facilities Quality

Facilities Quality emerged as a significant predictor of parental satisfaction, highlighting the importance parents place on the school's physical environment (cleanliness, lighting, air quality, and learning space conditions). This aligns with research showing that well-maintained facilities enhance the learning climate and build parental trust (Uline & Tschannen-Moran, 2008; Abdulahhi & Yusoff, 2019). In Surabaya's competitive international school market, high tuition fees raise expectations, making infrastructure a visible indicator of safety professionalism, and institutional commitment to quality.

Results further revealed the largest gaps between importance and performance in indicators like cleanliness, air quality, lighting, and academic facility quality. These gaps suggest that while parents view these aspects as highly important, current conditions may not fully meet expectations. For international schools, maintaining and improving facility standards is more than ensuring comfort; it is a strategic imperative for sustaining parental satisfaction and reinforcing long-term trust and loyalty.

6. Conclusion and Recommendations

6.1. Conclusion

This study aimed to examine how key school quality dimensions (Learning Quality, Teacher Quality, and Facilities Quality) influence parental satisfaction in an International School in Surabaya. With the use of Importance-Performance Analysis (IPA) and regression analysis, the findings show a great understanding as to which factors are perceived as most important, how well the school has performed with regard to these factors, as well as which dimensions significantly shape parental satisfaction.

The findings show that the Learning Quality and Facilities quality emerged as significant predictors of parental satisfaction. Indicators like the real-world application of lessons, quality physical resources, cleanliness, and air quality showed high importance but, unfortunately, low performance. This shows an urgent area for improvement.

Moreover, Teacher Quality, while rated highly across most indicators, did not show a statistically significant influence in the regression analysis. This is most likely due to the restriction of range, with parents providing high ratings that limited the model's ability to spot a statistical significance. Nevertheless, IPA findings still place many teacher-related indicators in the 'Keep Up the Good Work' quadrant, highlighting their importance in shaping positive perceptions.

As a whole, the study confirms that while three school quality dimensions are valued, Learning Quality and Facilities Quality require more targeted improvement to enhance satisfaction. The use of both IPA and regression allowed for a comprehensive and data-driven understanding of parental expectations, perceptions, and satisfaction.

6.2. Recommendations

Based on the findings of the Importance-Performance Matrix Analysis (IPMA) and the regression analysis, the following recommendations are proposed to help the school management maintain and enhance key areas of school quality.

To maintain and enhance school quality, management should prioritize strengthening the practical application of lessons by integrating real-world learning strategies (problem-solving tasks, field-based activities, and case-based approaches). Active, student-centered learning should be sustained through interactive methods and co-curricular activities that promote real-world application and engagement. Formative assessment tools and teacher training on constructive feedback and subject expertise should be sustained. To better align—on the facilities side—with parental expectations, resources should be allocated to improve academic infrastructure, particularly in lighting, cleanliness, and well-equipped spaces like labs and libraries. Scheduled maintenance and upgrades are essential to ensure a safe, comfortable, and well-functioning environment that promotes both academic achievement and student well-being.

In terms of further research, the school is encouraged to continue utilizing tools such as Importance-Performance Matrix Analysis (IPMA) and regression analysis to identify which quality dimensions most influence parental satisfaction. These methods offer valuable insights for prioritizing improvements, particularly in Learning Quality and Facilities, which were found to have the greatest impact. Future research could expand the scope of the study by including more international schools across Surabaya or other cities in Indonesia. This broader approach would improve the validity of the findings and allow for comparative analysis to determine if key satisfaction drivers remain consistent across different institutions. Additionally, future studies may apply more nuanced qualitative methods (interviews, open-ended questions) to capture deeper insights into parental perception of teaching or apply IPMA at different school levels (e.g., Primary vs High School) to better understand how perceptions of quality vary, especially concerning teacher effectiveness and parental expectations.

6.3. Limitations

Although this study contributes meaningful insights, certain limitations must be acknowledged to guide future research and provide a more comprehensive understanding of parental satisfaction.

This study exclusively used quantitative data, which limits the depth of insight into parental motivations and expectations. Including qualitative methods, such as interviews or open-ended survey

questions, could provide richer contextual understanding of what parents specifically value in terms of learning quality, teacher quality, and facilities quality.

Additionally, The HTMT ratio between Teacher Quality and Learning Quality was close to the threshold, suggesting potential conceptual overlap. This raises the possibility that some indicators used in these variables may measure similar dimensions of quality. This overlap could have contributed to the non-significant regression result for Teacher Quality.

While this study provides a cross-sectional snapshot, future research could adopt a longitudinal approach. This is particularly relevant as the school studied has experienced student attrition over several academic years, suggesting a need to understand whether shifts in satisfaction levels contribute to enrolment decisions. Hence, tracking changes in parental satisfaction over time may offer valuable insights into causal relationships and long-term perceptions of school quality.

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