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An Analysis of Stakeholders' Perceptions of Moroccan Secondary School Quality

Hicham Berbar[1](✉), Saïd Lotfi[2], Narjiss Berbar[3], Mohammed Talbi[1]

[1]Faculty of sciences Ben M'sik, Hassan II University, Casablanca, Morocco

[2]Normal Higher School (ENS-C), Hassan II University, Casablanca, Morocco

[3]Faculty of Juridical, Economic and Social Sciences, Abdelmalek Essaadi University, Tangiers, Morocco

hicham.berbar-etu@etu.univh2c.ma

ABSTRACT

Quality becomes an integral part of a school when the staff's thinking and vision align with the school's culture as a global organization. Stakeholders such as school directors, administrators, educational inspectors, and guidance counsellors play a significant role in ensuring quality integration through effective managerial practices in schools. The research study follows a generally inductive qualitative method. The analysis used semi-structured interviews with stakeholders to explore their perceptions of quality in secondary schools. The 24 interviews were conducted, and their responses were transcribed into text, classified, sorted, and coded in the first stage. This was done with two researchers and experts in consultation. In the second stage, we utilized computer-assisted qualitative data analysis software. As a result, the sub-themes from the research have been grouped into 36 major themes in two phases. We identified perceived categories and themes that mainly revolved around the leadership of school heads and their participative management. This research contributes to an analytical discussion of school administrators' and directors' perceptions of quality. A set of generic and innovative multidimensional key performance indicators for school quality is finally proposed.

KEYWORDS

quality, evaluation, schools, perceptions, performance

1   INTRODUCTION

The notion of quality, as determined by established standards, continues to be multifaceted and challenging. It pervades our daily existence and manifests across various domains, including economics, industry, health, psychology, athletics, and education. Ensuring quality is a significant focal point across various industries and countries, aiming to guarantee optimal performance of both organizations and personnel [1], [2]. The cited literature survey underscored the significance and the increasing scholarly attention devoted to the subject matter [3], [4]. The OECD has published reports in 2004, 2016, and 2018 assessing the quality of education in various countries, including those in Europe, Anglo-Saxon nations, and developing countries. However, these

assessments have generated considerable controversy due to their reliance on country-specific data and institutional indicators, as well as the absence of a comprehensive evaluation culture within the education system [5], [6]. Furthermore, it is important to note the absence of a comprehensive national assessment framework, especially in some developing nations, which does not include the necessary components for evaluating the educational standards of schools. Scholars such as [7] have deliberated on the concepts of national identification, cultural sensitivity, and religious sensitivity.

This study aims to develop and validate a scale for evaluating school quality in Morocco, considering epistemological and methodological aspects. By doing so, we aim to identify indicators of school quality. An increasing body of research has recently emphasized the importance of quality in education, especially in higher education, where it is becoming more significant. The authors [7–10] establish a connection between quality assurance and quality culture, as well as total quality management (TQM) and its indicators, with a particular focus on emerging or developing nations. [11] Previously, instruments were developed to assess students' beliefs regarding their future employability and to evaluate the quality of connections between students and professors. Nevertheless, several studies have not been conducted using empirical methodologies [12]. Furthermore, extensive research is currently being conducted to establish measurement scales that are tailored to address specific and limited concerns within the realm of higher education institutions. For instance, [13] has developed a psychometrically sound tool for assessing students' demotivation in English writing, specifically in the context of Turkey. Nevertheless, the aforementioned instrument, which aligns with the methodology and recommendations proposed by [14], has encountered criticism. Instruments used for assessing the sustainability and quality of services at Turkish universities have also been subject to scrutiny [15]. Further research is being conducted to verify and develop a measuring tool using established models from current scholarly works. This tool aims to identify and validate the various characteristics of quality within higher education institutions, similar to the ones explored by [16] and [17]. Research is currently underway to validate and develop a measurement tool that is based on existing literature models. This instrument aims to identify and verify the various dimensions of TQM within secondary schools. Specifically, the dimensions being examined include school management, which has been identified as a critical component [18], as well as the areas of values, curricula, and the structural aspects of the educational institution. Nevertheless, the implementation of this policy is now constrained to a specific group of individuals, namely teachers and administrators, and is also limited in terms of the number of schools that have successfully merged. According to [19], several studies have referenced the incorporation of perspectives of stakeholders, including students, instructors, and administration, or the evaluation of relationship quality (between students and professors) as key parameters for the development of tools [20]. The use of this particular technique remains prevalent in the realm of higher education research but is subject to significant controversy. One aspect to consider is the correlation between the provision of high-quality service and the perceptions of various stakeholders. Conversely, another aspect to consider is the disparity that may exist between stakeholders' perceptions and their expectations. Although scholars have recognized the potential of integrating technology into education [7], [21], criticisms arise when quality assessment tools from the commercial and industrial sectors are applied to measure a complex public institution such as a school, which involves multiple actors and objectives [22].

It is commonly acknowledged that a quality education system is essential for social and economic growth, as well as for a country's international competitiveness [23–25]. In Morocco, as in other developing countries, there is an ongoing commitment to improving the quality of the education system. Concerns exist, however, that

the school system does not effectively prepare students for the workplace and life. To this end, the parent ministry has urged the search for ways to rethink the education system through three pillars: the student, the teacher, and improving school quality.

There's no doubt that the school is no longer a normal, standard place where teaching and learning take place at a measured academic pace, as it was in past centuries. It is a large, complex, demanding, and competitive pedagogical and institutional entity that requires continuous large-scale investment. Today, school and university education are facing global turmoil, regulatory compliance, and technological upheaval. Admissions processes are being scrutinized, better education is in high demand, and students are redefining the norms. Educational institutions must promptly adapt to these challenges by addressing their weaknesses, capitalizing on their strengths, and prioritizing quality as a key factor for success [24]. This requires the definition of simple, quantifiable quality indicators. Similarly, the negative impacts of significant reliance on control by such indicators have been emphasized [26]. With this in mind, the present study was primarily motivated by the lack of methodologies and tools to measure quality factors in schools, evaluate them, and produce quality measures that could bridge the gap between quality measurement and stakeholders' perception, or even lead to reform. The aim of this research is to benefit stakeholders in school education, particularly those at central, regional, and provincial levels, by helping them understand the importance of quality measures and the perspectives of direct stakeholders in Moroccan schools. This understanding can lead to improvements in school performance and quality. The primary aim of this paper is to present the main methodological approach used in the qualitative study analyzing the perceptions of school principals and administrators. Additionally, the main findings of this qualitative research will be presented in the following sections. The main aim was to investigate the specification of school administrators' constructive perceptions of quality determinants. There are two goals for the qualitative data analysis in this study:

– The primary aim of this study is to investigate the fundamental perspectives on quality indicators as perceived by secondary school administrators and principals.
– Additionally, it is important to examine any hidden or pre-existing connections between quality measures and the performance indicators of the various stakeholders. To further clarify, the objective is to construct a comprehensive framework of quality indicators by integrating various perceived aspects.

To this end, an in-depth analysis was conducted to specify and present the main findings of this qualitative study. The primary objective was twofold: first, to develop a methodological analysis that will form the basis of an integrated quality model, and second to address the gap in key performance indicators for measuring school quality and to comprehend the essential performance metrics.

2 LITERATURE REVIEW

2.1 The concept of quality

There's no doubt that defining quality in the field of schooling and education is challenging. Nevertheless, the term "quality" has gained increasing significance in this field. Those who believe that educational quality equates to excellence are still debating [27], added value [28], the alignment of educational outcomes with objectives [29], preventing flaws in educational processes, and meeting or surpassing the expectations of stakeholders directly involved in education [30]. These debates have raised

additional questions about the adequacy of educational outcomes and the quality of students' educational experiences [31]. Although other research was based on the principle of TQM, which is widely used in the literature to transform organizations outside the education sector [32], [33]. Its work is relevant to school improvement and is well-documented in the literature, such as [34–36]. However, this literature does not align closely with our survey of perceptions regarding quality measurement as a concept for the school entity known as "the school." However, quality, as measured by external standards, is problematic in its own right. Schools can easily achieve benchmarks and desired grades by teaching to the test [37]. Moreover, there is no guarantee that these standards are worth achieving. Despite the obligation to do so, schools may lack quality [38]. These discussions have prompted additional inquiries regarding the appropriateness of educational outcomes and the quality of students' educational experiences.

However, one of the most significant barriers to empirical investigations of school quality is the challenge of establishing clear and unambiguous definitions of "quality" in the field of education. Despite the existence of certain tools such as the Malcolm Baldrige national quality award (MBNQA), which is a definitional framework that provides a set of criteria for assessing and improving organizational quality and has been widely used by businesses, healthcare organizations, and higher education institutions for over a decade. It is accepted by authors [25] and [39].

2.2 Quality at school

Since the 1980s, school and university policies have prioritized the quality of education and its evaluation [40]. It is important to highlight the researchers' approach to quality assurance [8], which states that "quality should not be rigidly 'defined', but seen as a flexible concept used appropriately in particular circumstances". The stakeholders, related aims and objectives, and the educational institution's mission determine the meaning of quality. Furthermore, quality policies must be tailored to the institution's goals and objectives, its mission, and the stakeholders involved. In addition, De Ketele [19], [41], [42] recognizes that quality is a difficult concept to define because of its multidimensional and relative nature. In the same vein, [42] suggests that defining quality is a political process because everyone involved in a project has their own unique definition of quality, and it can be challenging to find common ground. Furthermore, Deming [43] utilizes business concepts to illustrate the importance of quality education. McLean [23] points out that "individuals and institutions can be transformed for better or for worse, whether or not we seek radical change." Once the mindset and vision of the personnel and the culture of the school as a whole are aligned, quality becomes an inherent part of the school [25]. Stakeholders also play a crucial role in integrating quality through practices and the concept of leadership. Literature in the field of education reveals that an important advancement in the study of head-teacher leadership is receiving growing attention regarding quality schools [44], [45].

These include the need for leaders to communicate their vision and for staff development with constructive interpersonal skills. The representations of frontline actors on the implementation of results-based management and the performance of educational establishments are still poorly documented in Morocco. However, the question of hierarchical coherence in the implementation [46] is fundamental to this subject, which aims for successful results and quality management [47]. Thus, the opinions of front-line players must also be considered and taken into account [48], as well as evaluations [18], especially since these players (teachers, administrators, and directors) are required to adopt the tools and culture of the context [49]. The study of opinions and perceptions enables the documentation of the

representations and experiences of front-line participants regarding school quality in Morocco. Analysis shows that opinions on performance, management quality, and perceptions of the effects of its implementation in education are neutral. Opinions and perceptions vary globally between school principals, administrators, and teachers. However, there are many points of convergence [50].

3 METHODOLOGY

The themes or patterns in the data can be identified, associated, and analyzed in one of the two main ways of thematic analysis: [51]: an inductive or "bottom-up" approach [52] or a theoretical or deductive or "top-down" approach [53]. An inductive approach implies that the themes identified during the analysis are strongly linked to the data or, more precisely, that they emerge from the data itself [54]. This implies a strong correlation with the grounded theory approach to qualitative research. This type of research aims to let the data speak for themselves, rather than trying to adapt them to preconceived notions that exist in the researcher's mind or to make them conform to a pre-existing coding framework. This makes thematic analysis data-driven. Nonetheless, it is crucial to note that researchers cannot escape their epistemological and theoretical commitments, and that this does not imply that the data were coded in an epistemic vacuum [51].

There's no doubt that defining quality in the field of schooling and education is challenging. Nevertheless, the term "quality" has gained increasing significance in the field. Those who believe that educational quality equates to excellence are still debating [21]. They emphasize the importance of adding value by ensuring that educational outcomes align with objectives [41], preventing flaws in educational processes, and meeting or surpassing the expectations of stakeholders directly involved in education [22]. The research study we conducted follows a qualitative method, generally inductive, in line with interpretive epistemology (constructivism). The analysis was conducted using semi-structured interviews with stakeholders to explore their perceptions of quality in secondary schools. The interviews were conducted with the public of interest, and their responses were transcribed into text. Subsequently, the responses were classified, sorted, and coded in the initial stage by two doctoral researchers (H.B and N.B) in consultation. In the second stage, NVivo, a computer-assisted qualitative data analysis software (CAQDAS), was utilized. The results are obtained in two stages, with subjectivism proposed by the researcher to ensure the impact of the researcher's specificity and expertise. The process of thematic analysis [51], which involves becoming familiar with the data, generating initial codes, searching for themes, examining the themes, defining and naming the themes, and producing the report, was used for the data analysis.

The present study was carried out in the Oriental region of Morocco with a sample of twenty-four participants, including school principals (ES) and educational administrators. They were contacted and interviewed either individually and directly (face-to-face) or through a focus group of no more than two people. We opted for the second technique due to the availability of specific actors. However, it was only used on two occasions.

3.1 Interview language

The interview consisted of two parts: a question section and a pre-interview section containing information on the interviewees' years of professional experience, demographic questions, and, of course, gender. It was designed in French.

The questions were written in simple French, assuming that participants would have no difficulty understanding them. However, some probing questions were conveyed in Arabic to help participants understand the purpose of the question. As participants began to answer the questions, the interviewer assisted them by explaining various terms when they had difficulty understanding them. At the same time, he was receptive and intervened when answers exceeded the scope of the study. This approach ensured that participants correctly understood the meaning of the questions and were free to respond according to their perceptions or opinions. Five participants who still had difficulty understanding and answering the questions were eliminated from the sample before the analyses were conducted.

3.2 Sample

The empirical data for this study were collected through 24 interviews with actors working in schools in the Oriental region of the ministry of national education, preschool, and sport. One interview was withdrawn as it was not completed with all the planned questions, so we decided to exclude it from the analysis (Table 1). We emphasize that the meeting place was always outside the workplace of all the players. The sample had over five years of work experience. Table 1 displays the distribution of the sample based on status, sector, gender, and years of experience.

All the participants invited to the interview were principals and administrators who are currently employed in secondary schools. The participation of these professionals was also voluntary. After presenting the aim and objective of the current study to the participants, they chose whether or not to take part in the research. Participants who agreed with the aim of the study and wished to take part were informed that all statements made during the interview would remain anonymous. Only participants who accepted the condition were included in the study.

Table 1. Demographics characteristics of the participants

Demographic Characteristics	Measures	Frequency	Percentage
Actors	Administrators	5	22%
	School directors	18	78%
Sex	Men	20	87%
	Woman	3	13%
Delegation	Berkane	7	30%
	Guercif	1	9%
	Oujda	10	43%
	Taourirt	2	18%
Years of Experience	5–9 years	2	8%
	10–15 years	11	48%
	16–20 years	6	26%
	21–25 years	2	9%
	26–30 years old	2	9%
Urban/Rural	Urban	18	78%
	Rural	5	22%

3.3 Study protocol

Administration protocol and sample selections. We conducted a qualitative experimental study using a universal scientific approach based on semi-directive interviews to evaluate and externalize the perceptions of the actors, including directors and administrators of schools in the educational delegations of oriental Morocco. These perceptions were considered as independent variables affecting school performance, as well as its pedagogical and administrative quality. More specifically, the list of interviewees included administrators and directors of secondary schools in Morocco's oriental region. Interviewees were selected based on their willingness to participate in this research, their in-depth knowledge of teaching, management, and assessment procedures, and their expertise in managing educational institutions within their provincial delegation. A total of 24 interviews were collected. One interview was withdrawn because it had not been completed with all the planned questions. Therefore, we decided to remove it from the analysis.

This research study selected 24 homogeneous actors from the national education system who work in schools [55]. We reached saturation with the 18th respondent, and the sample size was in line with that proposed by [56].

Saturation is reached with 12 or more respondents in the case of homogeneous groups of informants. However, a sample of ten people may be sufficient for a qualitative study in the case of homogeneous informants. [57] some researchers have proposed that a sample size of five to eight individuals is adequate for homogeneous informants, while a sample size of 12 to 20 people is recommended for non-homogeneous informants.

Stakeholders were selected for interviews (semi-structured interviews) based on their shared interests in improving performance and quality in schools, as well as their roles and professional connections within the education sector. Participants were invited to take part individually in almost all of the interviews, which focused on perceptions of quality in the schools, their performance, and the quality of school management. Participants were asked to provide their perceptions of the factors, constraints, and solutions related to quality in their schools. Consequently, a battery of four main questions was posed to the actors regarding the objectives of the interview. In addition, the interview is guided by follow-up questions (two dunning questions) whenever the interviewee repeats information, becomes redundant, or digresses off-topic. The questions are not intended as a guide, but rather as a roadmap to ensure that the sequence of questions aligns with the aim of the study. The duration of each interview varies from 30 minutes to at least 25 to 35 minutes. It begins with a brief explanation of the purpose of the interview and ends with the interviewee thanking us for our contribution. At this point, the interviews were analyzed using the constant comparison method. As pointed out, we comprehend situations and articulate them in words. Therefore, when presenting and analyzing qualitative data, "the researcher's task is to identify patterns in the words and present them for others to examine while staying as faithful as possible to how the participants originally experienced them."

Before starting each interview, all participants gave their consent. The study was approved by the local ethics committee, which included the thesis director, co-directors, and academic experts from the home laboratory, and was conducted in accordance with the 1964 Declaration of Helsinki.

However, we would like to point out a few weaknesses in the interview conducted:

There is always a risk associated with answers that may be influenced by the interviewee's behavior and attitude.

The challenge lies in keeping participants focused on the subject discussion, and maintaining their concentration throughout the meeting.

Measurement tool. As mentioned above, content analysis is used to determine the results of this study, utilizing CAQDAS (computer-assisted qualitative data analysis software), specifically NVivo 14. The analysis is conducted in two stages using NVivo14 software, involving category analysis and grouping. Data analysis involves word-tree text search, coding for word cloud generation, and conceptual rubric modeling. In the second stage, the researchers (two researchers for our study) familiarized themselves with the data collected by the software. They read the results several times and made initial assessments of the information gathered. In the following section, we will present the findings. During interviews with school principals and administrators, five questions were asked.

The empirical data collected and transcribed (after analysis and correction of the text by the researchers in consultation) are imported into NVivo for interpretation. Initial codes were generated through line-by-line coding of the interviews. Once the axial coding of all transcripts had been completed, homogeneous themes were identified, followed by the research questions and two sub-questions, and the relationships with the codes. The primary advantage of computer-assisted qualitative data analysis software (CAQDAS) software is that it enables us to move away from the traditional pen-and-paper method, providing straightforward and efficient tools for data management and analysis. In the early phase of the study, the researcher engaged in open coding and generated initial codes by extracting sentences from the original responses in the interview transcripts. The set of similar codes was then divided into relevant groups called themes.

Data transcription. We are equipped with a paper notebook for better transcription, which involves faithfully reproducing the words of the interviewees. We obtained verbatim reports and texts, and at times, we rephrased and synthesized those using linking words to avoid the "spoken language" style and maintain the original content. At the end of each interview, we transcribed all the interviewees' statements onto a draft paper in the first phase, making all necessary linguistic and grammatical corrections, before transferring them to an Excel 2019 spreadsheet.

Coding and categorization. To analyze the qualitative data, we identified themes in the responses of our participants, coded them, and categorized the codes. To be more precise, we conducted a line-by-line analysis of the replies' content and assigned codes to words or phrases representing discrete units of data associated with an idea. Next, quality perceptions were grouped into categories that best matched the data. The categories were directly linked to the questions asked in the structured interview.

A manual content analysis was conducted for each of the five interview questions. To accomplish this, a word-frequency search was conducted on the 100 most frequently repeated four-letter words in each interview response to become acquainted with the content. Next, a word-tree analysis of the most frequent word was performed to gain insight into the dimensions and context of this word. The word frequency query and word tree analysis formed the basis for the manual content analysis, which involved coding each response after a thorough line-by-line reading. The codes were then grouped into broader themes or categories, following content analysis conventions (refer to Table 2).

<p align="center">**Table 2.** Coding process</p>

Num	Question	Excerpt	Items Identified	Coded Factor
1	Can you tell me what the key elements are that guarantee your school's administrative and pedagogical performance?	Opening up the school to its socio-cultural and economic environment through parallel activities: seminars, educational meetings, and awareness-raising sessions with parents and partners.	Socio-cultural environment Economical Seminars Educational Meeting Awareness-raising sessions Parents and partners	Awareness-raising activities
2	What indicators do you use to measure the quality of the school you run?	Extracurricular activities are diversified according to the needs of the students and their creation: and relate to themes of school life: absenteeism, dropping out of school, delinquency, etc.	Extracurricular activities Diversified according to student needs	After-school programs that meet the needs of the school, the students...
3	What are the key parameters on which we can base our decision as to whether or not we have quality in the school?	The institution must have security personnel to monitor the surrounding perimeter.	Security personnel Monitor the perimeter	Security personnel for school perimeter surveillance
4	In your experience, what are the difficulties blocking the implementation of a quality system in your school?	Access to the school is difficult for students with special needs	School access Difficult for students with special needs.	Access for students with special needs
5	What solutions have you chosen to improve performance and quality (administrative and pedagogical)?	Reduce learning teaching hours for students by 20% of total hourly volume, decrease teaching hours for teachers by 2 hours % of total weekly hourly volume, Reduce hourly volume by 3 hours for students per week.	Reduce teaching and learning hours Reduced teaching hours for teachers Reduce the number of hours per week by 3 for students	Reduce teaching hours

We have adopted a categorical thematic analysis approach, based on stakeholder interviews. This method is considered one of the methodological procedures of content analysis, which is a set of techniques for analyzing communications. The aim is to use objective procedures to describe texts, obtain criteria, and classify and interpret their constituent elements with inference, as stated by [58].

4   RESULTS

The research study identified codes called sub-themes presented in Table A1 (Appendix). Sub-themes associated with the main research questions and have been identified. Under the axial codes, responses, citations, or open nodes were discussed and justified. For each code, various homogeneous pieces of information were obtained from respondents. Subsequently, the sub-themes were grouped into 36 main themes by the two researchers in accordance with the research questions and sub-questions, while also considering the thematic fields of lexical meanings of the recorded codes (refer to Table A1 in the Appendix).

Inductive analysis is a process of coding data without attempting to force it into a pre-existing coding framework or the researcher's analytical preconceptions. In this sense, this form of thematic analysis is data-driven. Nevertheless, we must acknowledge that scientists cannot evade their theoretical and epistemological responsibilities. Consequently, there was ample justification for the researcher to analyze the interview transcripts following the process of thematic analysis of the last four phases of the six, as suggested by [51]. The second step for the researcher is to categorize the

data in a general way, searching for data features and structuring it in a meaningful and verifiable way. The third step is to search for themes to organize all the data related to each theme. Fourthly, the themes are examined for their relevance to the coded data extracts and to the data collection as a whole. This two-step technique allows the researcher to create a thematic map of initial results. Labelling each theme is the fifth stage. This process takes a long time until each theme is defined. The codes and themes must also align with the overall findings of the data analysis.

The researcher must provide examples of extracted data that are relevant to the research question and the literature review in order to create a scientific presentation of the results. Often, a colleague with expertise in the research area will pose intriguing questions, contribute supplementary data, challenge the researcher, and provide insights from a unique perspective [59]. Critical peers in research encourage methodological rigor and examine the researcher's biases. According to [60], a qualitative expert research colleague served as a critical sounding board for the project, creating codes and themes from interview responses. To achieve this goal, two coders (the lead researcher and another expert researcher) read the interview transcripts multiple times. Coders identified themes during the reading process. To understand the data and identify perceptions related to research. The two coders inputted the data into the software, then compared, synthesized, and categorized it into themes. (Table A1 in the Appendix).

4.1 Key elements of school performance

The present study aims to explore the concept of "key elements of school performance" in relation to question 1, specifically, "What are the essential factors underlying efficient and effective administrative and pedagogical practices at your educational institution?" To achieve this goal, the analysis process employs a multifaceted approach, which includes frequency analysis and word-tree analysis (text search) in NVivo, and ultimately manual content analysis. The emerging themes and coded segments extracted from the interview transcripts related to each question are presented on the thematic axis.

The analysis process used includes a frequency analysis approach, word tree analysis (text search) in NVivo, and manual content analysis.

The content analysis of Question 1, which focused on the key elements for ensuring efficient and effective school administrative and pedagogical practices that underpin school's performance, involved manual coding and subsequent categorization of codes for each type of perception identified in the question.

The first theme developed within the framework of the first axis, "key elements of the administrative and pedagogical performance of your ES school," was the combination of homogeneous initial codes that contributed to the construction of eleven themes (refer to Table A1 in the Appendix). It presents the results of the content analysis, classifying the coded segment references according to their types of meaning. The total number of emerging themes was eleven, with each theme grouping several analyzed segments.

4.2 Measuring school quality indicators (in-depth questions)

The measurement of school quality indicators relates to question 2, namely, "What are the fundamental parameters and benchmarks that can be used to assess

the presence or absence of quality in a given educational institution?" To achieve this goal, the process utilizes a comprehensive semantic analysis approach, which includes word frequency analysis and word tree analysis (text search) in NVivo, in along with manual content analysis.

The content analysis of question 2, which focused on the essential benchmarks that can be used to assess the presence or absence of quality in an educational institution, also included manual coding and subsequent categorization of the codes for each type of perception identified in question 2.

Table A1 presents the results of the content analysis, classifying the coded segment references according to their types of meaning. The total number of emerging themes was seven, with each theme grouping several analyzed segments.

4.3   Measuring school quality parameters

The concept of "measuring parameters of educational quality" is relevant to question 3, which is "What criteria can we use to determine whether a school has quality or not." To answer this question, semantic analysis was conducted using various analytical techniques, such as word frequency analysis, word tree analysis (text search) in NVivo, and manual content analysis.

The content analysis of question 3, which focused on the key parameters for determining the presence or absence of quality indicators within a school, also involved manual coding and subsequent categorization of the codes for each type of perception identified in question 3.

Table A1 shows the results of the content analysis, classifying the coded segment references according to their types of meaning. The total number of emerging themes was set at six, with each theme grouping together several analyzed segments.

4.4   The challenges of guaranteeing quality in school

The concept of "difficulties and challenges in ensuring quality in schools" pertains to question 4, "In your experience, what difficulties block the establishment of quality in schools," which aims to uncover the obstacles that hinder the achievement of quality in the school context. To explore this question, semantic analysis was conducted through word frequency analysis, word tree analysis (text search) in NVivo, and manual content analysis for each type of perception.

The content analysis of question 4, which focused on difficulties hindering the establishment of quality in ES based on personal experience, also involved manual coding and subsequent categorization of codes for each type of perception identified in question 4.

Table A1 summarizes the results of the content analysis, classifying the coded segment references according to their types of meaning. The total number of emerging themes was set at five, with each theme grouping together several analyzed segments.

4.5   Solutions to improve performance and quality

The concept of "solutions to improve performance and quality" pertains to question 5: "What solutions do you choose, within your school, to enhance performance

and quality (administrative and pedagogical)?" The study seeks to identify the measures implemented within the educational establishment to improve both administrative and pedagogical performance and quality. To explore this question, the semantic analysis incorporates various analytical techniques, such as word frequency analysis, word tree analysis (text search) in NVivo, as well as manual content analysis.

A content analysis was conducted for question 5, which focused on the solutions implemented within the school to enhance administrative and pedagogical performance and quality. This involved manually coding the responses and then classifying the codes for each type of feeling identified in the question. Table A1 presents the results obtained from the content analysis, categorizing the coded segment references based on their types of meaning. The total number of emerging themes was seven, with each theme grouping together several analyzed segments.

5   DISCUSSION

The research study we conducted follows a qualitative method, generally inductive, in line with interpretive epistemology and constructivism. The analysis was carried out using semi-structured interviews with stakeholders, school principal administrators, to gather information on their perceptions of quality in secondary schools. The interviews were conducted, and their responses were transcribed into text. Subsequently, the data was classified, sorted, and coded in two stages. Initially, two researchers and experts collaborated, which was followed by consultation with two additional experts. In the second stage, the "Nvivo14" computer-assisted qualitative data analysis software (CAQDAS) was utilized. The methodological approach followed was initially presented in the third stage of research conducted by Varouchas in 2016 [61]. This stage involves conducting qualitative research aimed at understanding the perceptions of school principals and secondary education administrators. The goal is to gather information to inform and update the initial research model.

The results are obtained in two stages, with subjectivism proposed by the researcher to ensure the impact of the researcher's specificity and expertise. The process of thematic analysis involves familiarizing oneself with the data, creating initial codes, and identifying themes. We identified perceived categories and themes that mainly revolve around the leadership of school principals and their participative management. This impacts the involvement of human resources and social partners in the school's performance process, as well as the role of infrastructure and the integration of ICTE. Furthermore, financial independence and administrative management of schools.

Other authors have raised these points within a similar, yet different, framework for higher education. The application of quality measures to maintain sustainability in educational cooperation across disciplines and close coordination with different societal actors are essential in institutional settings [19]. We highlight the emerging theme of our study related to the involvement of partners from the parents' association and social partners from the city where the school is located [62]. There is no doubt that it has been difficult to precisely define what quality means in schools in Morocco. Despite the absence of a clear definition, the term has gained prominence in educational circles. Additionally, the argument continues among numerous studies [27].

It is the responsibility of educational institutions to determine when and how to strategically and successfully integrate quality metrics into their systematized

quality assurance processes in order to promote organizational effectiveness, performance, and accountability [63]. In addition, emphasizing the significance of quality measurement will empower facility managers and administrators, who are key players in quality assurance, to recognize that they have a vital and challenging role in quality assessment, rather than just being administrative entities. These findings have important implications as they reveal existing relational dynamics among actors within the school: principals, administrators, and teachers. These dynamics should serve as a foundation for the effective implementation of the quality process. This is also confirmed in the literature [64], [65]. Moreover, the results indicate that the leadership aspect related to the headteacher plays an important role in enhancing relationships among all members of the organization, particularly between the administrative team, teachers, and students. As a result, the administrators' pedagogical and administrative performance, as well as the students' results at the end of the school year, are enhanced due to this sense of belonging. Leadership associated with school principals has been empirically proven to strengthen relationships within the organization, particularly between the executive team and the board of directors. This connection is especially crucial in secondary schools as it cultivates a sense of school belonging which is considered a significant factor in both pedagogical and administrative performance outcomes. This view is supported by similar studies [66]. The findings suggest that school leaders have a crucial role in impacting educational outcomes directly and indirectly through the functioning of the school system, and offer new perspectives on leadership for school reform [25], [67]. This research also indicates that "school climate" is an essential element of high school quality that significantly and favorably influences students' academic success. The latter is closely linked to the school's performance results, which supports for the idea that the theme is associated with school performance and the percentage of students entering higher education and universities [66], [68].

In addition to the numerous challenges that schools and students encounter, as indicated by the perceptions of stakeholders within schools, such as the state of school equipment and facilities, there are obstacles in attainment of quality when dealing with substandard or mediocre facilities [69]. These facilities have both direct and indirect negative impacts on school performance and quality [69], [70]. Through assessing the perceived quality of actors (principals and administrators), our study has unveiled the key determinants of secondary school quality. It indicates a need for improvement in the dimensions we mentioned earlier, which are classified in other empirical quantitative studies and supported in the literature, such as SERVPERF. This model emphasizes service quality, which is multifaceted and influenced by several dimensions, including at least five (tangibility, and empathy, reliability, responsiveness, and assurance). They are never sufficient when used alone [16], [71–75]. The results of our study are consistent with studies in the literature on the impact of service quality on school performance [76–78].

6   CONCLUSION AND LIMITATIONS

This research was inspired by the lack of techniques and instruments to measure quality elements in schools, evaluate them, and generate quality measures that can bridge the gap between quality assessment and stakeholder perception. This research aims to assist school administrators and leaders at the central, regional, and provincial levels in comprehending the importance of quality measures and the perspectives of key stakeholders in Moroccan schools. It also aims to guide reforms

to enhance school performance and quality. We identified perceived categories and themes that mainly revolved around the leadership of school heads and their participative management.

This research contributes to an analytical discussion of school administrators' and directors' perceptions of quality. A set of generic and innovative multidimensional key performance indicators for school quality is finally proposed. The most important implication of this study is that it provides initial parameters for the stakeholders to improve quality and ensure a continuous process linked to various identified aspects: equipment, materials, and facilities within the school, school management skills and know-how, and relationships based on constructive communication and leadership with a participative approach involving other actors and partners. Nevertheless, they need to become increasingly involved in these various dimensions to continue enhancing the best managerial practices to ensure sustainable and competitive quality. However, our research also has certain limitations. It used a single qualitative tool that does not always garner consensus, especially in a highly complex educational and pedagogical setting involving multiple stakeholders. It would therefore be worthwhile to replicate this study by incorporating the perspectives of students and parents and adopting alternative methods for assessing quality, such as quantitative empirical studies, HEDPERF, and SERVQUAL.

The key contribution of this study is an in-depth analytical discussion of school administrators' and principals' perceptions of quality. A set of generic and innovative multidimensional key performance indicators for school quality is finally proposed.

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8   APPENDIX

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts

Themes and Coded Segments (Sub-Themes)
Q1: Can you tell me what the key elements are that guarantee your school's administrative and pedagogical performance?
T1.1 School performance and success rates
Low repetition rate
High success rate
Low drop-out rate
High baccalaureate pass rate
Bridging the gap in student understanding
Lower drop-out rates in ES
Registration indicators for colleges
Reporting and exploitation of results
Mastery of basic skills
Performance control
Educational and support projects based on student needs
T1.2 Managing the school's financial resources
Grants for school projects
Support for students with socio-economic difficulties
Additional financial resources
Increase budget allocation for ES
Lack of educational resources
Number and structure of national education staff
Expenses justified at the end of each school year
T1.3 Improving efficiency
Conflict management
Efficient use of available services
Number of students per class (max 30)
Ratio of teachers to students in the school
Examinations and assessments (on time)
Establish a model for communication and commitment between stakeholders

(Continued)

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts *(Continued)*

T1.4 Infrastructure and technology
Digitization of schooling and administrative services (certificates, school records, absence slips, etc.)
Integrating ICTE into subject teaching
Equipping rooms with technological and multimedia tools
Improving infrastructure and teaching materials
Development of school infrastructure: digital whiteboards, desks, printers, office computers, video projectors
T1.5 Professional development and HR management in ES
Periodic teacher training
Lack of educational resources
Involving teachers in school clubs
Management and leadership training for principals every 3 school years
Annual training programs for the academy's executive teachers.
Reducing teaching hours and teacher productivity
Continuing professional development for teachers
Administrative staff should be drawn from the teaching profession
Draw up an annual list of stakeholder needs (teachers, administrators and students)
T1.6 Establishing relationships
Contacting parents about student absences
Establish a climate of trust with parents through semi-annual and/or annual listening and sharing meetings.
Creating a family atmosphere among staff
Listening to students, parents and teachers (monthly)
Participatory approach with stakeholders to manage ES
T1.7 Leadership and school administration
Autonomy of the ES director
Decentralized decision-making
Streamlining the school's pedagogical structure
Strengthening the managerial skills of administrative staff
Diversifying extracurricular activities
Activities from awareness to participation in school life.
T1.8 School culture
ES culture charter
Reduce the gap in students' socio-economic environment within ES
Enhancing the value of teamwork in ES
Rewarding active and innovative school clubs
Encourage volunteer work (students, teachers and administrators)
Follow-up and support for exceptional students: (gifted and special needs)

(Continued)

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts *(Continued)*

T1.9 Academic performance and student success
Bridging the gap of understanding
Lower drop-out rates
Recording indicators
The fight against school dropouts
Mastery of basic skills
Performance control
Projects based on student needs
T1.10 Environment and safety
Creating a positive image of education
Ensuring student safety
Maintaining classroom discipline
Student discipline and safety
T1.11 Teaching and learning
Continuous learning assessments
Effective curriculum design
Diversified learning resources
Enrichment and extracurricular educational activities
Innovation in teaching content and practices
Personalized and differentiated learning approaches
Professional specialization for teachers
Aligning the curriculum with the new model
Empowering learners through a dynamic curriculum
Q2: What indicators do you use to measure the quality of the school you run?
T2.1 Administration and leadership
Parental commitment with administration to monitor student attendance
Participatory approach with stakeholders
Transparent communication with partners and parents
Participating administrative management
Manage conflicts and unforeseen events within the ES
Partnerships and operating agreements (Win/Win)
Financial management based on targets and indicators
Internal vision and management through planning and objectives
Fostering excellence in the workplace
Organizational collaboration and synergy between administrators and teachers
Strategic planning as part of the school project
Conflict resolution at school

(Continued)

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts *(Continued)*

T2.2 Extracurricular activities
Extracurricular programs proposed by the ES Management and Teaching Board
Preschool programs tailored to students' needs
Equipment and resources for teaching and learning
Extracurricular and cultural activities
Empowering students through individual and/or group project activities
Set up class projects in collaboration with public or private institutions.
T2.3 Attendance-behavior and safety
Discipline evaluation system and student absence
Managing student behavior
Set up (violence prevention and management committee)
Space planning and environment (clean, friendly and pleasant).
Educational and administrative sanctions
Low student and teacher absenteeism,
Supervision of students outside class hours
Empowering and engaging students
Very low absenteeism rate over the 3-year average by grade level
T2.4 Digital education (and/or digital tools)
Classrooms equipped with teaching tools
Digital resources and management
Using digital tools in education
T2.5 School infrastructure
Sufficient sports facilities
Maintenance and cleanliness of school premises
School facilities and accessibility (Specific needs)
Infrastructures and equipment for teaching and learning.
Fully equipped multimedia rooms
30 students per class
Partner contributions for maintenance of ES facilities
In-house space
Classes with Internet access
Classrooms with video projector
Green spaces inside the school
Facilities management and accessibility for students with special needs

(Continued)

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts *(Continued)*

T2.6 School leadership and management
Communication and stakeholder commitment: administrators and teachers
Training in the use of digital technology in ES
Operationalize the disciplinary measures platform
Partnerships and community involvement
Partnerships with neighboring institutions
Implement a continuous school improvement project
ES management autonomy
Visionary leadership
Teamwork
Delegation of secondary administrative tasks
Measuring and exploiting students' academic results
Involvement of teachers in school life
T2.7 School results and performance
Continuing education and accreditation
Improving data-driven education
Rigorous, participative school management
Personalized learning programs based on student results
Professional staff development
Access to higher education (limited access)
Year-end success rate
Teachers' skills
Improving approaches to the examination and assessment system
Q3: (Going deeper) What are the key parameters on which we can base our decision as to whether or not we have quality in the school?
T3.1 School results
Improve participation rates in competitive entrance exams to higher education
Declining school results for ES students
Reduce learning sessions for all subjects
High graduation rates
Small classes
Student results
T3.2 Facilities and resources
Facilities are not adapted for disabled people
Improving school infrastructure
Innovative administrative recruitment
Annual teacher training programs
Lack of teaching resources
Optimizing the school's structure

(Continued)

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts *(Continued)*

T3.3 School environment
Positive climate among stakeholders
Security personnel for perimeter surveillance
Recruitment of maintenance services for ES facilities and equipment
T3.4 Active participation of stakeholders
Involving parents in ES organizational management
Involve parents in monitoring students and student absenteeism
Approach to delegating tasks to directors
Organization and involvement of students in school life and school projects
T3.5 Teacher well-being
Reduce teachers' workloads (reduce the number of hours per week)
Involvement of teachers in school life
T3.6 Financing of facility projects
Financing of educational projects approved by the ES management board
Promote and operationalize partnerships to finance facility projects
Q4: In your experience, what are the difficulties that block the implementation of quality in EAs?
T4.1 Human resources management and training
Conflict among school staff
Insufficient number of managers
Lack of specialized staff
Resistance to change in managerial practices
Weak basic training for senior academy teachers
Lack of personnel responsible for safety and maintenance of ES facilities and equipment
Compensation for additional administrative tasks
Lack of pedagogical supervision
Developing the skills of administrative and teaching staff through annual and periodic training courses
T4.2 Limited resources and infrastructure
Inadequate school facilities
Teaching equipment in worn-out rooms
Equipment and materials in unusable laboratories
No access for students with special needs
Poor condition of sports facilities
T4.3 School leadership and staff development
Limits of ES directors' duties
A heavy workload for school principals
Limited teacher qualifications and development
The school principal rejects all proposals

(Continued)

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts *(Continued)*

T4.4 Participative SE management
Research and innovation in education
Continuous improvement of ES management through partnerships
School management's participatory approach with stakeholders and social partners
Stakeholder participation in school development
Transparent communication and proposals for innovative ES projects
ES managers open to constructive comments and suggestions
Linear and non-diversified approaches to ES management
Closed leadership style of school principals
T4.5 Budget allocation and financial autonomy
School management budget is low and standard
Limited and conditional financial autonomy (does not take into account the specific nature of each ES)
Q5: What solutions do you choose to improve performance and quality (administrative and pedagogical) at your facility?
T5.1 Organizational management and leadership
Liability for maladministration
Managing conflicts between ES players
Delegation of secondary tasks and
Understaffing and performance problems
Autonomy for school heads
School principal open to all proposals
Needs-based partnerships
The challenges of boarding school management
Language skills
Heavy workload for administrative staff
Internal charter for school staff
Flexible approach to ES management
Encourage innovation in HE through prizes and group competition days at nearby schools
T5.2 Professional development and training of players
Collaboration and sharing of positive teaching and learning practices
School guidance based on students' personal plans and results
Teacher training
Training and development for school principals
In-service training for teachers, administrators and principals
Orientation and support for new teachers by administrative body
Leadership training for ES administrative managers
Priority to practical training and allocation of skilled human resources
Strengthening the managerial skills of ES directors

(Continued)

Table A1. Themes emerging and their relationship with the research questions extracted from interview transcripts *(Continued)*

T5.3 Digital resources and infrastructure
Digital equipment in every room
Digital absence control
Financial autonomy for school heads
School funding partnerships
Digital tools and resources available in ES administrative offices
Correlation between number of rooms and students
Multimedia room with digital resources required
Sufficient teaching materials for every subject
T5.4 Active involvement of stakeholders
Student involvement and participation
Student behavior and discipline
School community and values
Encourage the active participation and commitment of teachers in tutoring and school life activities
Adopt best pedagogical and managerial practices for HE management
Encourage innovation and independence of the ES (related to administrative management)
Recognizing and rewarding talent
Revitalizing extracurricular activities
T5.5 Teaching and learning
Student guidance based on profile and results
Yearly review of tutoring programs
Reduced learning hours for all subjects
Year-round educational support programs
Remuneration of support teachers
T5.6 Collaborative and consultative approach
Collaboration and communication with all ES staff
Professional development and sharing best practices
Collaboration with other public and private schools
Development of post-school curricula for better guidance
T5.7 Resource allocation and financing
Financing ES digital and technological resources
Budget support for innovative projects
Drawing up a list of budget fundraising proposals
Grants for innovative ES projects

9   AUTHORS

Hicham Berbar is a Ph.D. Candidate, in training engineering and science didactics at the Faculty of Sciences of BenM'sik in Casablanca. He is working as

an inspector of national education (E-mail: hicham.berbar-etu@etu.univh2c.ma; ORCID: 0000-0002-8565-7268).

Saïd Lotfi is a Doctor and Professor at the Normal Higher School (ENS-C) at Hassan II University, Casablanca, Morocco. He is a member of expert committees solicited by the Ministry for several structuring projects (E-mail: lotfisaid@gmail.com; ORCID: 0000-0002-0008-6145).

Narjiss Berbar is a Ph.D. Candidate, in laboratory law, economics, and management at the Faculty of Economic, Legal, and Social Sciences at the University of Abdelmalek Essaadi in Tangier. Morocco and also serves as a senior administrator at the Ministry of Health in Morocco (E-mail: narjissberbar10@gmail.com; ORCID: 0009-0000-6477-6375).

Mohammed Talbi is the Dean of the Faculty of Sciences of BenM'sik of Casablanca. Doctor of State in Sciences and analysis processes at the Pierre and the Marie Curie University of Paris. He is also interested in analyzing policies, organizations, and educational systems (E-mail: talbi.uh2c@gmail.com; ORCID: 0000-0002-9262-2223).