



## **Exploring Nurses Perception of I-Audit: A Qualitative Study**

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### **Summary**

**Background:** iAudit is widely used and recommended in the field of nursing to improve care quality. However, despite its use in clinical practice, literature is lacking regarding its effectiveness from the perspective of front-line healthcare professionals.

**Aim:** This research explores nurses' perceptions of iAudit in a tertiary healthcare setting.

**Method:** This is a qualitative study using individual, semi-structured interviews with nine registered nurses in an acute care tertiary hospital.

**Results:** Three major themes emerged from the data analysis: (1) Efficiency of the auditing task, (2) Job efficacy and effectiveness, and (3) Delivery of quality healthcare services. Each theme reflects how iAudit influences nurses' workflow, performance, and overall quality of patient care.

**Conclusion:** According to nurses, iAudit is an efficient tool that enhances their efficiency and improves the quality of healthcare services.

**Keywords:** Attitude of Healthcare Professionals, Audits, Efficiency, Nurses, Organisational, Quality of Healthcare.

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## INTRODUCTION

Quality of care, particularly the delivery of services and maintenance of standards, is essential to any healthcare institution, with clinical governance and ongoing service improvement are heavily dependent on audits and quality improvement initiatives [1]. One method of assessing and enhancing patient care and outcomes is through clinical audits, which have been linked to significant and long-lasting improvements in patient care [2]. Clinical audits measure clinical outcomes or processes against clear standards, based on the principles of evidence-based medicine, to determine the changes required to improve care quality [3]. However, while auditing is a crucial process for performance evaluation, some research indicates that the roles of auditor and auditee can change between audits, and may even become ambiguous during the audit itself [4].

Data visualisation tools are increasingly used in the auditing process to help identify data discrepancies and improve audit risk management by enhancing auditors' analytical capabilities [5]. This trend aligns with growing academic interest in continuous auditing and monitoring, the adoption of software tools in accounting and auditing, and the relationship between information systems and audit practices [6]. As information assets are crucial for organisations to achieve their goals, so is managing them and their associated risks. In this context, iAudit serves as an essential digital application for managing and supporting clinical audit processes focused on practice, safety, and quality of treatment, rather than functioning as an information-seeking platform or standalone information system [7].

iAudit is a centralised audit environment that enables the efficient management and organisation of internal audit data related to clinical transactions, patient safety, and quality of care, allowing such data to be collected, stored, and accessed electronically through a shared platform [7]. As a web-based digital tool that replaces manual, paper-

based audits, the system also generates electronic or digital trails, which enhance transparency, support data confidentiality, and make audit results more accessible for authorised users [8]. iAudit offers a range of user-friendly features that enable quick access to audit results and allow inspection forms to be completed in minutes. In combination with the web platform, users can employ ready-made checklists, customise existing checklists, or transform them into entirely new checklists. [9]. In a case study by Cisterman (2019), the studied company found that conversion to paperless forms provided numerous benefits, including improved safety, quality, productivity, and efficiency [9].

iAudit facilitates the handling and distribution of audit documents electronically, allowing for the upload of completed forms to safe digital storage and enabling electronic distribution of reports. This process reduces administrative load, enhances organisation of documents, and enables faster access to historical documents, as compared with traditional paper-based methods. The platform can also provide analytical outputs that allows users and administrators to track performance indicators and trends and easily identify areas for improvement through automatically generated reports [9]. Digital auditing using iAudit has been linked to enhanced operational efficiency and a simplified workflow process, while the application of technology-based audit tools has been demonstrated to save significant time and increase efficiency in institutional settings, enhancing safety, quality, and overall work processes.

Despite the recognised importance of clinical auditing, some audit cycles remain incomplete and several issues and problems remain unresolved. Clinical auditing is often viewed as a resource-intensive, time-wasting activity, due to the persistent challenges inherent in managing large volumes of healthcare data that must be organised, well-sorted, and analysed to support effective understanding and decision-making. Moreover, audit-related work is generally reported to be highly de-

manding and time-consuming, encompassing initial data collection and subsequent data analysis, thereby leaving little time for the development, implementation, and re-audit of specific action plans. Many of these challenges can be addressed through the use of a responsive, efficient, and streamlined service platform such as iAudit [3]. Evidence-based findings indicate that institutional care settings typically conduct frequent audits, often involving processes that are heavily concentrated on the initial data-collection stage. This focus affects subsequent auditing activities and leads to the absence of effective data trails. Consequently, numerous audits remain incomplete or result in findings that are not implemented due to the volume of information and the extensive manual effort required for evaluation and analysis [13]. The above identified challenges prompted the implementation of the iAudit system in the Cardiac Centre of this tertiary healthcare facility, to ensure that quality standards are consistently upheld in accordance with the requirements of international and national accreditation boards. Training initiatives were subsequently provided for nurses and other staff members, and this study was undertaken to evaluate the current usability of the application from the perspective of nursing personnel. This study, therefore, aims to explore the perceptions of nurses regarding the usability of the iAudit system.

## RESEARCH METHODOLOGY

### *Study Design*

The study was carried out between January 2024 and December 2024, using a qualitative phenomenology research design. In qualitative research, open-ended inquiries concerning human realities and experiences are investigated via extended interactions with subjects in their natural settings, yielding rich, descriptive data that will aid in understanding those subjects' lives. Researchers focus on the personal experiences of participants to explain a specific phenomenon based on the data obtained [10].

### *Setting*

The study took place at a cardiac centre in a tertiary healthcare setting in Riyadh, Saudi Arabia. This centre was selected for its high acuity and regular use of iAudit as a strategy to improve care quality.

### *Respondents*

The nine nurses who participated in the study were employed across various departments of the Cardiac Centre. The sample size was set according to the principle of data saturation, a commonly-used criterion in qualitative research to determine the point at which no new concepts or meaningful understandings can be obtained through the collection of additional data [10,11]. Data saturation was considered achieved when successive interviews yielded repetitive information regarding the usability of iAudit. After the ninth interview, no new themes or categories emerged, and participant recruitment was thus discontinued.

The participants possessed sufficient and relevant work experience, and represented a diverse range of backgrounds, including varying shift assignments, levels of seniority, and degrees of familiarity with information technology (IT) and the iAudit system. It was ensured that all participants involved in the study had engaged meaningfully and possessed hands-on experience with the system.

### *Sampling Technique*

This qualitative study employed a non-probability, purposive sampling method to select participants most pertinent to the research objectives. Qualitative research often uses purposive sampling to ensure the inclusion of participants with direct experience of the phenomenon of interest [10,12]. In this study, nurses were chosen for their direct involvement in iAudit activities, experience with auditing tasks in their department, and appropriate duration of employment at the Cardiac Centre. Participants were recruited by identifying nurses across various units and shift schedules and inviting them to participate either through email or in person. This strategy ensured representation of the various degrees of seniority, shifts, and IT skills.

Recruitment proceeded until data saturation was reached; this was determined as the stage at which no new insights or data were obtained by interviewing additional participants [11].

#### *Data Collection Instrument and Procedure*

Data were collected using a semi-structured interview guide. Semi-structured interviews are common in qualitative studies because they enable a thorough examination of the lived experiences of participants, as well as flexibility in the questioning process [10]. Core questions were prepared beforehand to suit the purpose of the study, with further probing questions brought about during the participants' interviews. The interview guide consisted of two sections (Appendix): Part 1 examined the participants' demographic information, while Part 2 explored nurses' experiences and opinions regarding iAudit's ease of use.

Participation was voluntary, and the interview rules and standards were clearly explained to all participants. The necessary orientation was provided, and written informed consent was obtained before data collection began. To ensure the participants' comfort and privacy, individual interviews were conducted in a hospital conference room after working hours. The interviews lasted between 20 and 40 minutes, depending on the depth and flow of the conversation.

As English is the hospital's official language of communication, all interviews were conducted in English. However, individuals who wished to clarify any points in Arabic were allowed to do so. The primary researcher, who is fluent in both Arabic and English, translated these Arabic responses into English during transcription. The transcripts were reviewed twice; first by the researcher and later by a second bilingual nurse with qualitative research experience. Participants were not given verbatim transcripts, but key responses were clarified and validated during the interviews in line with standard practices to ensure trustworthiness [12]. Member checking was also undertaken during the analysis process to confirm the

accuracy of emerging ideas.

Open-ended questions were used during the interviews, including, "Please tell me about your experiences using iAudit in your unit."; "What do you think is the purpose of conducting an iAudit?"; and "What are your views on using the iAudit software based on standard indicators?" This allowed the participants to introduce additional topics that were not discussed in the handbook. The interview was subjective and exploratory, consistent with phenomenological research which aims to broadly understand lived experiences [11,10].

With the participants' permission, all interviews were audio recorded and transcribed verbatim. Non-verbal cues and contextual data were also recorded as field notes to aid data analysis and increase confirmability [12].

All members of the research team were nurses trained in qualitative interviewing and knowledgeable about phenomenological research methodologies, and they conducted the interviews accordingly. The researchers also practiced reflexivity to reduce bias; this was done by documenting assumptions, beliefs, and thoughts in a research diary—a method recommended to reduce researcher bias and preserve the authenticity of participants' perspectives [12,11]. Such process guaranteed that the interpretation of the data was based on the views of the participants rather than based on the expectations of the researcher.

#### *Data Analysis*

The interview data were examined using content analysis, an established and systematic approach in qualitative nursing studies for identifying patterns and themes within textual data [11,12]. This data-driven, inductive methodology enabled the development of themes from the participants' narratives. All of the interviews were transcribed verbatim, and the transcripts were reviewed repeatedly to ensure full immersion in the data. The primary researcher conducted the initial open coding by identifying significant sentences, recurring

ideas, and noteworthy phrases; these codes were grouped according to similarities in meanings.

To enhance reliability, the second researcher coded a portion of the transcripts separately, and the coding decisions were then compared. Differences, which were mainly associated with category assignment, were resolved through discussion until agreement was reached, according to suggested measures for enhancing rigour in qualitative research [12]. With further analysis, the categories were grouped into wider themes and sub-themes. They were constantly contrasted with the raw data to ensure that they reflected the participants' statements.

Additional credibility and confirmability were achieved through peer debriefing with individuals with previous experience in conducting qualitative research, and in line with established guidelines to ensure the rigour of the methodology [12]. Member checking occurred during the interviews, whereby participants were asked to clarify meanings and confirm the researcher's interpretations in real time. Transcript interpretation and other supporting methods, including field notes, which captured tone, pauses and contextual cues, were also employed to improve trustworthiness.

The analysis also included a purposeful analysis of negative or deviant cases. In this study, no participants expressed unfavourable views regarding the usability or effectiveness of iAudit. All nine nurses consistently indicated that iAudit was effective and enhanced efficiency in their auditing and clinical responsibilities. Some participants showed more familiarity with certain system features than with others, but none reported experiences that disagreed with the general positive view. There is an explicit recognition of the lack of deviant cases in the analytic process.

Through this systematic and iterative process, the data were organised into clear themes and sub-themes that accurately represent nurses' perception and experiences regarding the usability of iAudit.

### *Ethical Considerations*

The study was carried out with the endorsement of the Institutional Review Board of King Fahad Medical City, Riyadh (IRB Log No. 24-034). Preceding the data collection, the objectives of the study, the voluntary nature of participation, and the right to withdraw at any time without repercussions were explained to all participants. Each participant gave their written agreement to participate. During the transcription process, all identifying information was removed from the transcripts to protect privacy and anonymity; each participant was assigned a number for data analysis and reporting. Only the research team had access to the password-protected computer where audio recordings, transcripts, and field notes were kept. Hard copies of documents were secured in a locked cabinet within a secure office. All data will be kept for the duration prescribed by institutional policy, after which it will be destroyed. These steps are in line with best standards for keeping qualitative research rigorous, open, and safe for participants [12,11].

Throughout the study, reflexivity was used to reduce researchers' bias and to ensure that the results reflected participants' viewpoints rather than researchers' preconceptions. The lead researcher had previously used the iAudit program and believed it to be effective, easy to use, and timely. To address these preconceptions, the researcher kept a reflective notebook to record reflections and presumptions during data collection and analysis. This practice is a well-known method for enhancing credibility and reducing personal bias [11,12]. The professional positions of the study team, which included a Director of Nursing, a head nurse, a charge nurse, a quality nurse, and the head of the hospital's research team, were recognised as factors that might influence participants' responses. As such, participants were guaranteed that their replies would be kept private and would not have any effect on their job, performance reviews, or position in their department. This method, in line with advice on qualitative research [12], helped level the playing field and encouraged

people to share their experiences honestly and openly [12].

## RESULTS

### *Demographic Profile*

The study included nine nurses, most of whom were women between the ages of 31 and 40. Most participants were registered nurses, although the

sample also included a charge nurse and unit managers. Many participants had a lot of experience in their field; more than half said they had been nurses for more than ten years. Participants were distributed among several units of the Cardiac Centre, including the Medical/Surgical, Procedural, and Critical Care units, thus guaranteeing representation of a range of clinical settings.

**Table 1.** Demographic Characteristics of Participants

Participant	Age	Gender	Position	Years of Experience	Unit Assignment
1	31–40 years	Female	Registered Nurse	6–10 years	Medical/Surgical Unit
2	31–40 years	Female	Registered Nurse	More than 10 years	Procedural Unit
3	31–40 years	Female	Registered Nurse	3–5 years	Medical/Surgical Unit
4	Older than 40 years	Female	Unit Manager	More than 10 years	Medical/Surgical Unit
5	31–40 years	Female	Registered Nurse	More than 10 years	Procedural Unit
6	Younger than 30 years	Male	Registered Nurse	6–10 years	Procedural Unit
7	31–40 years	Male	Registered Nurse	3–5 years	Medical/Surgical Unit
8	Older than 40 years	Female	Charge Nurse	More than 10 years	Medical/Surgical Unit
9	31–40 years	Female	Unit Manager	More than 10 years	Critical Care Unit

### *Themes and Sub-Themes*

Three major themes emerged from the analysis: (1) Efficiency of auditing tasks, (2) Job efficacy and effectiveness, and (3) Delivery of quality healthcare services. ‘Ease of access and navigation functionality’ and ‘Error detection and correction’ were the sub-themes identified under the first theme. The sub-themes under the second theme were ‘Optimising resource allocation’ and ‘Staff performance, ownership and responsibility at work’. Finally, ‘Focus on patient-centred care’ and ‘Standardised work processes’ were the sub-themes identified under the third theme.

#### **Theme 1: Efficiency of Auditing Tasks**

This theme incorporates task management, organisational effectiveness, and file accessibility aspects that can enhance the audit procedure and overall workflow process.

#### *Ease of Access and Navigation Functionality*

iAudit significantly improved the efficiency of auditing tasks by simplifying processes, consolidating documentation, and supporting job prioritisation, consistent with the idea of improving the task management, organisation, and accessibility of the auditing workflow.

One of the participants said: “Our documentation process has become more efficient due to iAudit. Earlier, the manual handling of multiple paper-

based documentation systems was replaced with organised digital documentation, which enhances retrieval time. The system provides a simple navigation interface which allows team members to direct their efforts to clinical work instead of document workloads.”

#### *Error Detection and Correction*

This sub-theme focuses more on system updates, troubleshooting methods, automated problem identification, and continuous improvement. The nurses emphasised that iAudit automatically identifies documentation errors, ensures adherence to standards, and increases auditing precision.

As stated by one participant: “The leading advantage of iAudit emerges from its self-generated system, which detects documentation errors automatically. The system detects abnormal documentation procedures while providing specific directions to resolve these issues and maintain standard compliance. Our auditing process runs more efficiently while meeting all standards through the enhancement of documentation structures, which has decreased errors significantly.”

#### **Theme 2: Job Efficacy and Effectiveness**

This theme illustrates how iAudit facilitates the best use of available resources, raises employee engagement, and boosts productivity while encouraging responsibility at work.

#### *Optimising Resource Allocation*

Nurses mentioned that iAudit contributed to proactive staffing, optimised staffing, increased staff participation in the auditing process, and hospital standardisation.

According to one participant: “The use of iAudit enables our organisation to better distribute staff resources by revealing specific areas where additional focus is needed. The auditing process becomes more efficient because all hospital staff complete audits, which leads to better compliance across different areas and stronger standardisation throughout the hospital. Improving resource allocation allows us to deliver better patient care and satisfy audit standards.”

#### *Staff Performance, Ownership, and Responsibility*

According to nurses, iAudit improved accountability, motivation, and productivity, resulting in a more engaged and productive healthcare workforce.

One participant stated: “Through iAudit, we take greater responsibility for our tasks because the system tracks and organises everything we do. The system motivates us to perform detailed documentation and audits, which results in increased productivity. Working knowledge of our direct contributions to hospital standards creates ownership and role responsibility within our professional positions.”

#### **Theme 3: Delivery of Quality Healthcare Services**

This theme combines a focus on patient-centred care with standardised work processes for the delivery of quality healthcare services.

#### *Focus on Patient-Centred Care*

The participants reported that iAudit has greatly improved the overall quality of healthcare services by supporting early detection and prompt resolution of errors. They noted that iAudit real-time reporting allows staff to handle issues as they arise and facilitates prompt action. Additionally, it contributes significantly to the streamlining of processes, providing more time for patient care rather than administrative duties.

One participant reiterated: “iAudit enables us to identify issues promptly and take prompt remedial action to maintain safety and quality standards. Patient care quality increases alongside patient satisfaction because the system reduces documentation times.”

#### *Standardised Work Processes*

According to nurses, iAudit helps maintain consistent quality across the healthcare system by standardising work processes, enhancing service delivery across departments, and ensuring adherence to best practices. The technology facilitates adherence to rules and procedures by enhancing the auditors' capacity to gather and assess data.

“Staff procedures are standardised by the iAudit system, which reduces errors and inconsistencies,” said a participant. The system upholds legal documentation standards to establish smooth audit procedures that operate faster.

## DISCUSSION

Nursing has an obligation to the public to establish measures for quality of care that enhance patient safety and system efficiency [13]. This study explored nurses’ perceptions of the iAudit system, and participants highlighted its importance in improving auditing efficiency, as well as error detection and correction. They also emphasised the impact of the system on job efficacy and effectiveness and the delivery of quality healthcare services.

Results show that iAudit improves auditing efficiency through workflow simplification, task prioritisation, and standardised documentation. The literature recognises iAudit as a digital tool that supports audit processes, enabling centralised and transparent data management and ensuring high quality auditing practices and technological updates. It facilitates risk analysis and operational efficiency, and aids decision-making [14]. Additionally, iAudit provides insights to help improve safety and quality standards by collecting consistent data, standardising procedures, and generating reports. The application records performance and generates important indicators to identify areas for improvement. It can also generate reports at set intervals and store historical reports for easy access at any time [9].

Digital auditing practices, team support, and management all have a significant influence on auditors’ performance [15]. Digital transformation enhances auditing by providing integrated system features that support audit processes [16]. With the advent of information technology, organisations have greater opportunities to improve internal audit performance, as such technology positively influences the effectiveness of internal audit systems [17].

The nurses in this study emphasised the iAudit system’s ability to detect errors automatically, ensure compliance with standards, and improve the auditing process, thus fostering continuous system improvement and enhancing operational troubleshooting. Research indicates that strong internal controls and active audit committees are crucial for preventing and detecting fraud [18]. Digital auditing technologies in the public sector allow for in-depth examination of budget fund utilisation, resulting in improved fiscal management and more effective resource allocation [19]. Furthermore, the consistent application of digital technologies provides a robust defense against budgetary fraud. Lastly, research has shown a clear positive correlation between the overall strength of internal controls, sophisticated accounting information systems, and efficient internal audit procedures [20].

Nurses in this study also expressed that iAudit helps to optimise staffing, improve productivity, foster motivation, and ensure accountability, all of which help create a more engaged and efficient workforce in the healthcare setting. The integration of digital technology integration in auditing has clearly increased auditor satisfaction and audit efficiency [21]. Auditors can more successfully carry out their auditing responsibilities by modifying processes using digital tools, which will improve efficiency and deliver greater reliability with fewer resources [22].

Furthermore, research from Serbia indicates that digitisation significantly improves audit quality through positive shifts in auditors’ perceptions, changes in auditors’ work practices, and transformations in auditors’ professional profiles [23]. Ultimately, the utilisation of digital technologies expands the opportunities for deeper client understanding, improved documentation, reduced audit risk, and enhanced decision-making support [24]. According to the nurses in this study, iAudit’s deployment has greatly improved the general standard of healthcare services by facilitating early detection and prompt correction of errors. They also

stated that, by simplifying procedures and freeing healthcare professionals to spend more time with patients rather than on administrative duties, iAudit has helped maintain a focus on patient-centred care. Additionally, the system enhances auditors' data management skills, ensuring compliance with policies and procedures.

Numerous studies corroborate the findings of this research, demonstrating the positive impact of information technology on healthcare quality management. For instance, implementing IT tools in nursing practice significantly reduces nurses' workloads, enhances head nurses' job satisfaction, and improves overall nursing quality [25]. Similarly, electronic audits have been shown to contribute to enhanced quality of care within hospital settings [26]. Additionally, auditing procedures are used by healthcare systems to ensure adherence to evidence-based practices, and studies have shown the effectiveness of electronic data collection in supporting quality improvement programs [27].

Thus, the literature supports the overall use of iAudit as a tool, highlighting the benefits of improved documentation in enhancing care quality, patient safety, and system efficiency.

## CONCLUSION

The quality features of iAudit include its accessibility, ease of use and navigation, centralised programming tools, and general user-friendliness, all of which enable accurate and timely reporting. Workflow efficiency is improved through faster execution of auditing tasks, rapid identification of problems, and less reliance on paper-based procedures. By eliminating paper-based and manual procedures, auditors can work more productively and focus on important assessments rather than administrative duties. In general, the ability to quickly execute tasks and integrate systems allows for more effective completion of auditing work. Practitioners are thus able to prioritise patient needs and focus on improving health outcomes with the aid of current digital auditing tools.

## Limitations

Notwithstanding these encouraging results, several restrictions should be noted. First, the study was conducted in only one cardiac centre within a tertiary healthcare facility, which may limit the generalisability of the findings to other settings. Second, all participants were nurses who were already involved in auditing activities, which may indicate greater familiarity with quality improvement practices compared with nurses who do not routinely conduct audits. Furthermore, participation and perception may have been impacted by several factors that may lead to variations in perceived usability when user support varies. Finally, the study relied on self-reported observations, which might be affected by personal attitudes, past experiences, or departmental professional cultures.

## Study Implications

Administrators may benefit from the study's insights, as these provide clarity on the usability of iAudit and may help them make well-informed decisions. Developers can identify opportunities for software updates and determine whether additional capabilities are needed, as the usability findings highlight the notable effects of iAudit's use in this setting. Finally, through a deeper understanding of nurses' perspectives on the effective use of iAudit to enhance the audit process, this study supports managers and nursing leaders involved in quality improvement.

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## APPENDIX

### Part 1: DEMOGRAPHIC DATA

1. *Age*
  - a. Younger than 30 years
  - b. 31–40 years
  - c. Older than 40 years
2. *Gender*
  - a. Male
  - b. Female
3. *Position*
  - a. Registered nurse
  - b. Charge nurse
  - c. Unit manager
4. *Years of Experience*
  - a. Less than 3 years
  - b. 3–5 years
  - c. 6–10 years
  - d. More than 10 years
5. *Unit of Assignment*
  - a. Medical/Surgical units
  - b. Critical units
  - c. Procedural units

## Part 2: INTERVIEW QUESTIONNAIRE

Good day!

This questionnaire is aimed at exploring staff perceptions of iAudit in the tertiary healthcare setting.

Name (optional):

1. **How useful is the iAudit software application based on:**

a. *Accessibility and organisation of pertinent files?*

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b. *Detection and prompt troubleshooting of problems?*

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c. *Job efficiency and effectiveness?*

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d. *Delivering quality healthcare services?*

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2. **From your perspective, how does iAudit help to improve staff performance in your unit?**

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3. **Do you think that using iAudit helps you, as an auditor, complete other tasks assigned to you?  
If yes, in what way?**

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4. **Do you recommend the use of iAudit? If yes, why?**

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