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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# Linguistic features and legibility of the consolidated audit reports: An original investigation from the Tunisian case

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**Abstract:** The consolidated audit report is a source of information that strengthens corporate governance and financial communication. The purpose of this paper is to analyze the linguistic features and readability of auditors' reports on consolidated financial statements in Tunisia. The literature was examined in order to obtain a rigorous approach that explores the content and structure of audit messages. The study sample consists of 42 consolidated audit reports that are related to several sectors. The empirical results show that these reports are not readable by all users of the consolidated financial statements. The same results confirm the significant impact of specific determinants on readability of audit reports such as modification of the opinion of the independent auditor and the audit report lag.

**Subjects:** Accounting; Auditing; Financial Accounting

**Keywords:** auditing; consolidated auditor's report; international auditors' reports; ISA 700; understandability; readability and determinants of legibility

### 1. Introduction

The groups of companies contribute to the growth of markets and product diversification. Theoretically, several reasons may justify the creation of groups of companies (maintenance of commercial sources, optimizing the performance of capital, mastering new leading technologies).

In Tunisia, the corporate groups are required to appoint independent auditors who are members of the Association of Chartered Accountants. These independent auditors are responsible for verifying the fairness of the consolidated financial statements and to issue reports that summarize the audit results.



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### ABOUT THE AUTHOR

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### PUBLIC INTEREST STATEMENT

The quality of financial reporting requires an efficient and effective consolidated audit reports. The quality of the use of audit results is enhanced when the consolidated audit report is readable for Stakeholders and all users of financial statements. Tunisia, as a developing country, needs to improve all financial disclosure and economic structures in order to create sustainable development. The linguistic quality of audit reports on consolidated financial statements is among the instruments and mechanisms that influence such development.

As a definition, the consolidated audit report is a written message which crowns the financial audit. This message includes audit information and opinion of the independent auditor (Fakhfakh, 2013b).

For groups of companies, audit reports are instruments of communication that play an undeniable role in the transmission of information useful for decision-making. These reports are for many readers of the financial statements of corporate groups. The different users of financial statements expressed more information needs to guide economic behavior and financial choices. The usefulness and importance of consolidated audit reports is conditioned by the qualitative characteristics that enhance the performance of financial communications. These characteristics reinforce the satisfaction of needs of users of the consolidated financial statements (Tunisian Financial Reporting, 1996).

The intelligibility of auditing information is a qualitative indicator that enhances the performance of financial communication in Tunisia. Readability is a fundamental characteristic of the quality of audit information and separate (or consolidated) financial statements. In addition to the audit opinion, the consolidated audit report conveys more information that relates to the difficulties of consolidation of financial statements.

Meeting the needs of users of financial statements is imperfect when audit reports are illegible. The performance of the consolidated audit reports is based on several characteristics such as understandability and readability. Internationally, the content of the consolidated audit report has been standardized by several international standards (ISA 700, ISA 705 and ISA 706). Theoretically, the accounting standardization should improve the quality of financial statements, the structure of audit reports, and understandability of audit information.

During the last decade, several changes have affected the Tunisian economy, politics, and society. Tunisia has modernized the financial accounting and auditing legislation to monitor international developments. Regarding auditing, international auditing standards were adopted by the Institute of Chartered Accountants. These standards have been admitted to improve the quality of financial audit.

The modernization of Tunisian economy and the growth of markets require intelligible consolidated reports. Investors are always looking for clear information to justify the financial choices. The financial statement users expect audit results to secure the reading and interpretation of financial information (Calculation of financial ratios, analysis of accounting results, financial balances).

Following the adoption of international auditing standards, the consolidated audit report must be understandable. This communication tool should incorporate linguistic principles that organize the presentation of information. The audit report structure may influence the analysis of consolidated financial information. The role of the independent auditor will be ignored when the audit reports are unreadable. The communication of audit results is seen as a mechanism that protects the rights and interests of stakeholders. The illegibility of audit reports can be a problem for corporate governance.

Linguistic problems intensify the reading difficulties of audit consolidated information. The organization of audit information affects the intelligibility of auditor's reports on the consolidated financial statements. The lack of careful presentation can cause loss of relevant information. Consequently, the lack of readable information reduces the scope of users of the consolidated financial statements. With empirical investigation, we will discuss a number of issues that relate to the linguistic performance of the consolidated audit reports.

The organization of this article is as follows: After the introduction, there is a discussion of relevance of the studied topic. The second section provides an overview of conceptual framework for the readability of auditing information. The third section provides a synthesis of previous research on the readability of auditor's report. The fourth section focuses on the linguistic performance and structural features of the consolidated audit reports in Tunisia. The fifth section describes the level of

linguistic compliance with International Standards on auditor's report. The sixth section discusses the implications of empirical results. This section is devoted to drawing the main research findings.

## 2. Relevance and contributions of this research

For several years now, Tunisia as emerging country had modernized its financial legislation to align with the requirements and the new international changes. Towards new economic ambitions of the country, new challenges are imposed to the quality of legislation and financial communications (Meeting the needs of foreign investors, as financial accounting, audit quality, regulatory quality).

Periodically, groups of companies publish consolidated financial statements which are used by many Stakeholders and business partners (suppliers of capital, investors, suppliers, customers, financial institutions). The independent auditor's report on consolidated financial statements must include all features that enhance the comprehensibility of information and auditing results.

Readability of the auditing information is a fundamental criterion for the quality of financial reporting. All Stakeholders need clear and readable information. The legibility guides the behavior of economic agents and justifies the financial decision-making. Comprehensibility is a criterion that determines the satisfaction of informational needs of users of texts. The hypothesis of comprehensibility is accepted when written information is clear, concise, and readable. The ambiguity of audit reports disrupts the financial control system and hinders the mechanisms of corporate governance. The proliferation of corporate scandals has raised several questions regarding the effectiveness of financial reporting and the role of independent auditors.

The intelligibility of consolidated reports affects the quality of the financial audit. The relevance of the audit is to be rejected if the quality of the independent auditor is low. Comprehensibility of the consolidated audit reports remains a standard insurance for all readers of financial information. It remains a topic that stimulates financial experts to develop new ideas for the quality of financial reporting.

With each financial crisis, issues relating to the responsibility of the independent auditors are growing intensively. Legibility of information is directly linked to the quality of financial reporting and the performance of the transmission of information. Imperfect information amplifies the flow of rumors and bad indicators. Researches on the readability of the consolidated reports are not numerous. Currently, the theme of comprehensibility requires additional investigations to improve financial reporting and refine international standards on auditing.

Currently, the readability of the consolidated audit reports is a topical issue in Tunisia. The relevance of this subject is manifested on several levels:

- Examination of the linguistic characteristics of audit reports is an extension of the analysis of the effectiveness of financial reporting;
- Audit reports' readability is related to compliance with the needs of readers who demand clear messages and useful for decision-making; and
- This theme interested a multitude of economic agents and affects several areas of interest (financial communication, accounting regulations, financial performance, quality audit).

The linguistic characteristics of consolidated audit reports have not been the subject of empirical research in Tunisia. This shortage encourages us to explore the structure of audit reports on the consolidated financial statements. Our discussions can bypass the obstacles that hinder the effective communication between producers and users of audit information. The contributions of our article are focused on:

- The level measurement of difficulty of the consolidated audit reports;
- The use of a multivariate linguistic gate;

- The extension of previous research;
- The adoption of an explanatory approach to find the determinants of readability consolidated reports; and
- The discussion of the impact of standardization of consolidated audit reports.

We believe that this study offers relevant and original analyses for readers of this newspaper. Currently, Tunisia illustrates a case of an emerging country that evolves and seeks to achieve a significant development threshold. Our empirical research paper offers new insights that affect the quality of audit reports and the specificities of financial communications in an African country.

### **3. International normative wording of consolidated auditors' reports and conceptual framework for the legibility**

#### **3.1. International standardization of audit reports on consolidated financial statements**

The efforts made to achieve international harmonization of the audit report, which led to the publication of the International Standard (ISA 700, previously IAG 13) bear witness to the successful pursuit of an international consensus in auditing opinion. The International Federation of Accountants (IFAC) issued the International Standard on Auditing 700 "The Auditor's Report on Financial Statements." This standard provides three illustrations of auditors' reports with unmodified opinions. The first illustration standardizes the auditor's report on financial statements prepared in accordance with a fair presentation framework designed to meet the common financial information needs of a wide range of users.

The second illustration normalizes the auditor's report on financial statements prepared in accordance with a compliance framework designed to meet the common financial information needs of a wide range of users.

The third illustration is recommended for the auditor's report on consolidated financial statements prepared in accordance with a fair presentation framework designed to meet the common financial information needs of a wide range of users. The wording of this illustration is required for the following situations:

- Audit of consolidated financial statements prepared for a general purpose by management of the parent in accordance with International Financial Reporting Standards;
- The terms of the group audit engagement reflect the description of management's responsibility for the financial statements in ISA 210; and
- In addition to the audit of the group financial statements, the auditor has other reporting responsibilities required under local law.

This illustration enumerates various elements related to the wording of the auditor's report on consolidated financial statements. Five elements dealing with the form of the consolidated report are identified, covering the title of the auditor's report, the addressee, the date of the audit report, the auditor's address, and the auditor's signature. In addition to the form, ISA 700 prescribes 22 elements that relate to content. These elements serve to describe the introductory paragraph, the management's responsibility, the auditor's responsibility, and the opinion paragraph. Table 1 shows the elements of the consolidated audit reports prepared according to the ISA 700.

#### **3.2. Linguistic framework for readability of auditor's report**

##### **3.2.1. The meaning of readability of auditor's report**

Scientifically, it is generally accepted that the quality of the language is an essential element that determines the optimization of reading and decoding of the corpus. The independent auditors who frequently produce letters and reports are required to adapt their messages to specific financial

**Table 1. Elements of the consolidated audit reports prepared according to the ISA 700**

Elements of the auditor’s report on consolidated financial statements	ISA700 paragraph	
Elements of form	Title	21
	Identification of addressee	22
	Date of the report	41
	Auditor’s Address	41
	Auditor’s signature	40
Elements of content	Section with the heading “Introductory Paragraph”	23
	Section with the heading “Management’s Responsibility”	26
	Section with the heading “Auditor’s Responsibility”	29–31; 33
	Section with the heading “Auditor’s Opinion”	35 (a, b)

communication. In terms of communication, issuers must prepare their text messages written in accordance with their capabilities and receivers decoding skills (Taylor, 1953). Consequently, the audit reports should be written in plain language, simple, and accessible. These qualitative characteristics require compliance with a set of linguistic principles to reduce equivocal interpretations of information documents. Companies and economic organizations produce many financial documents to inform internal and external partners. GélinasChebat, Macot, Préfontaine, and Daoust (1991) note that written documents do not always fulfill their information duties. In other words, several texts are inaccessible to many readers and stakeholders.

According to Trudeau (2003), Francophone authors ignore the conceptual boundaries between readability and comprehensibility. Some researchers accept the integration between the intelligibility and readability. Other language experts discuss analytical models that distinguish perceptual readability ease of reading comprehension (Préfontaine & Lecavalier, 1996; Sorin, 1996). This thought seems to be more solid and provides the theoretical basis of textual analysis assisted by computer. The readability of text represents a cornerstone in written communication and writing skills. It is still considered in the programs of quantitative content analysis of written texts.

Linguistic researches offer several definitions for readability and its meanings. According to DuBay (2004), readability is what makes some texts easier to read than others. It is often confused with legibility which concerns typeface and layout. Klare (1963) defines readability as the ease of understanding or comprehension due to the style of writing. This definition focuses on writing style as separate from issues such as content, coherence, and organization.

In a similar manner, Hargis, Hernandez, and Hughes (1998) state that readability is the ease of reading words and sentences and is an attribute of clarity. McLaughlin (1969) defines readability as the degree to which a given class of people finds certain reading matter compelling and comprehensible. This definition stresses the interaction between the text and a class of readers of known characteristics such as reading skill, prior knowledge, and motivation.

Currently the formulas consider a number of factors like average word length or number of characters per word (number of characters divided by the number of words), average sentence length in words or average number of words in sentence (number of words divided by the number of sentences), average number of sentences, average number of syllables per word (the number of syllables divided by the number of words), and the count of the “complex” words (those with three or more syllables). Table 2 displays an overview of linguistic criterion used in these formulas.

**Table 2. Overview of linguistics requirements in relation to the formulas of readability**

Readability formulas	Linguistic criteria
<i>(A) Formulas of readability applied for English texts</i>	
Flesch-Kincaid test	$206.835 - (1.015 \times ASL) - (84.6 \times ASW)$
Gunning fog index	$(0.4 \times ASL) + \text{percentage of complex word}$
Automated readability index	$(4.71 \times ASW) + (0.5 \times ASL) - 21.43$
Simple measure Of Gobbledygook	$\sqrt{\text{Total complex words} \times \left(\frac{30}{\text{total sentences}}\right) + 3}$
Flesch reading ease (FRE)	$206.835 - (1.015 \times ASL) - (84.6 \times ASW)$
<i>(B) Formulas of readability applied for French texts</i>	
De Landsheere (French adaptation of Flesch reading ease)	$206.835 - (1.015 \times ASL) - (84.6 \times ASW)$
Kandel and Moles	$207 - (1.02 \times ASL) - (73.6 \times ASW)$
Index of cordial	Combining multiple language settings (Kandel and Moles; grammatical complexity, sentence length and semantic ambiguity)

Notes: ASL = average sentence length, ASW = average word length in syllables.

### 3.2.2. Qualitative measurement of legibility

Given the criticisms of the readability formulas, literature discusses the relevance of a qualitative analysis based on extensive linguistic indicators (Fuchs, Fuchs, Hamlett, & Ferguson, 1992; Gélinas-Chebat et al., 1991; Henry, 1975; Labasse, 1999; Préfontaine & Lecavalier, 1990; Taylor, 1953; Trudeau, 2003). Besides the mathematical indices of readability, linguistic research provides several indexes that are able to measure the level of difficulty of the text (sentence complexity, complexity of vocabulary percentage of difficult words, lexical density, the type-token ratio). These indicators summarize the structural and organizational characteristics of written documents.

The appreciation of the difficulty of the text considers the length of sentences, their ambiguity and structure. The assessment of the complexity of the vocabulary refers to the lists that contain common words and widely known by the readers. The Type-token ratio (TTR) is a measure of lexical diversity within a written text or a person's speech. The Type-token ratio is shown to be a helpful measure of vocabulary variation. It can be used to monitor lexical fertility of text. The development of computer software has facilitated the assessment of linguistic features of written information. Currently, text analyzers and spell checkers display messages that visualize statistical readability and comprehensibility.

### 3.2.3. Understandability of the independent auditor's reports

The auditor's report is among the major components of financial communication. For the independent auditor, the issuing of an audit report is a culmination of several cognitive efforts that synthesize results. This issue is part of a linguistic framework that encompasses several dimensions and constraints such as:

- Maintaining an information quality that satisfies the users of financial statements.
- The comprehensibility and accessibility of information and audit results.
- Clarity and completeness of the opinion of the independent auditor.

Broadly, the audit report is a message that includes a technical terminology. The issuance of this message requires special care and intellectual work that is related to the knowledge of the independent auditor, skills, qualities, judgment, ethical behavior, and professional ethics. The success of this work and the achievement of the audit report targets require the use of multiple financial techniques. Financial communication is a human phenomenon that involves explicit and specific means

of information transmission. This phenomenon represents a set of actions and structures that develop the culture of a society (Fayard, 2006). The first communication theories are inspired research on cybernetics. Communication techniques contain a set of linguistic principles that facilitate clear transmission and complete reception of messages. The majority of these principles are developed by groups of specialists and experts. In the academic context, communication techniques are taught in several disciplines to improve the training of accountants, auditors, and independent auditors. These techniques can be used as a guide for issuers of texts and the independent auditors.

The readability of the consolidated audit reports remains among the top concerns of independent auditors. The simplicity of these reports influences the reading and decoding of audit information (Hay, 1998). Linguistically, there are many rules to facilitate the reading of texts. These rules cover several dimensions allowed by communication specialists such as syntax, vocabulary, semantics, and typography.

The fit between product specifications text and characteristics of the target readership is among the difficulties faced by issuers of audit reports. This match is required when the audit information includes ambiguous notions, complex and rare. Most often, these concepts are transmitted by the financial, technical, regulatory, or scientific texts (Labasse, 1999). The independent auditors are strongly affected by optimizing the use of written communication. Such optimization is necessary to meet the needs of users of the consolidated financial statements seeking clarity expressions, reliability, and completeness of language.

#### **4. Previous researches on the readability of financial and auditing information**

##### **4.1. Prior studies on readability of annual reports**

The companies publish annual reports to meet the needs of users of financial statements. These reports are considered among the most important publications of the companies. The relevance of those documents covers several aspects:

- The annual reports have a strong influence on the performance and the company's reputation;
- The annual reports provide detailed information on development of the company and its latest innovations; and
- The annual reports trace transactions made during the accounting.

The annual report is a communication tool that can strengthen the financial relations between the company and its stakeholders, employees, and future clients. It can also promote mutual understanding and increase loyalty. For several years, accounting research has focused on the legibility of wording annual reports. Among the most important research studies, we cite Curtis (1995), Schroeder and Gibson (1990, 1992), Subramanian, Insley, and Blackwell (1993). In most previous studies, the researchers measured the readability with instruments that affect the style, the choice of concepts, word length, length and complexity of sentences, and the use of the passive voice. These instruments are highly inspired by the linguistic theory and the field of communication.

Accounting literature includes numerous studies that describe and explain the phenomenon of readability of annual reports. The following table describes the most important studies that have focused on this phenomenon of legibility (Table 3).

##### **4.2. Previous studies on legibility of consolidated auditor's report**

According to the literature, most previous researches have focused on the legibility of audit reports on separate financial statements (Barnett & Leoffler, 1979; Fakhfakh, 2013b; Hay, 1998; Pound, 1981; Zeghal, Maingot, & Tassé, 2000). The previous researches on the legibility of the consolidated audit reports are not numerous. As a relevant theme, the readability of consolidated audit reports was not fully discussed by the accounting literature. All Certified Public Accountants apply International Standards on Auditing as unquestionable dogma.

**Table 3. Selected studies on the readability of annual reports**

Author	Context of research	Sample of study (full or parts of annual reports)	Readability test	Level of readability
Pashalian and Crissy (1950)	United States (USA)	Full annual reports	FRE	Difficult to read
Soper and Dolphin (1964)	United States (USA)	Full annual reports	FRE	Very difficult to read
Smith and Smith (1971)	United States (USA)	Explanatory information	FRE	Very difficult to read
Dolphin and Wagley (1977)	United States (USA)	Full annual reports	FRE	Very difficult to read
Barnett and Leoffler (1979)	United States (USA)	Auditing report and other explanatory information	FRE	Very difficult to read
Schroder and Gibson (1990)	United States (USA)	Annual reports and other explanatory information	FRE	Very difficult to read
		Chairmen's Statements	FRE	Difficult to read
Colbert, Carty, and Beam (1998)	Canada and United States (USA)	Narrative accounting disclosures	FRE, Flesch-Kincaid Test and Fog	Difficult to read
Still (1972)	United Kingdom (UK)	Chairmen's Statements	FRE	Difficult to read
Jones (1988)	United Kingdom (UK)	Chairmen's Statements	FRE	Difficult to read
Butterworth, Gray, and Haslam (1989)	United Kingdom (UK)	Full annual reports	FRE	Difficult to read
Smith and Taffler (1992a)	United Kingdom (UK)	Chairmen's Statements	FRE	Difficult to read
Smith and Taffler (1992b)	United Kingdom (UK)	Narrative accounting disclosures	FRE	Difficult to read
Healy (1977)	New Zealand	Explanatory information	FRE	Difficult to read
Tower and Bauer (1991)	New Zealand	Annual reports and Narrative accounting disclosures	FRE	Difficult to read
Courtis (1986)	Canada	Chairmen's statements	FRE	Very difficult to read
		Explanatory information		
Courtis (1995)	Hong Kong	Chairmen's statements	FRE	Difficult to read
		Explanatory information	FRE	Very difficult to read
Courtis and Hassan (2002)	China and Malaysia	Narrative disclosures within corporate annual reports	FRE and Yang formulas	The indigenous language version is easier to read than the English-written counterparts
Li (2008)	United States (USA)	Annual report	Fog and the length of the document	Annual reports with lower earnings are harder to read.
Jones and Shoemaker (1994)	Analytical review of 32 studies	Accounting narratives	FRE	Annual report narratives are difficult to read
Abu Bakar and Ameer (2011).	Malaysia	Annual reports of all listed companies	FRE	The extent of syntactic complexity making it difficult to comprehend the corporate disclosure varies from very difficult to fairly difficult
Moreno and Casasola (2016)	Spain	Accounting narratives written in Spanish	FRE	Difficult to read
Hammami (2004)	Italy	Chairmen's statements	FRE, Lix and Fog	Difficult to read

Notes: FRE: Flesch reading ease, Lix: Läsbarhetsindex, Fog: Gunning fog index.

The first study on the readability of illustration of consolidated audit reports was conducted by Fakhfakh (2013a). This study is pioneer in the study of readability of consolidated audit reports, so it opens up new avenues of research in a context of high regulatory activity. The purpose of this work was to examine the readability of reports which have been standardized by three International Standards on Auditing (ISA 700, ISA 705, and ISA 706). The measurement of the readability of standardized reports is achieved in terms of the legibility formulas. The results show that the illustration of auditor's report on consolidated financial statements presents the longest audit report. The lengthening of the wording of the report is justified by the large number of words, number of

sentences, and number of lines. The same results show that the normative illustration of consolidated audit report is not fully readable. This illustration cannot fulfill the informative function for all users of consolidated financial statements. The education level of Flesh-Kincaid, said that the normative consolidated auditor’s report is complex. On average, the intelligibility of this report requires several years of schooling.

The lack of previous research on legibility of consolidated auditors’ reports enhances the originality of this article. Despite the lack of empirical investigations, we present the main studies that have focused on the readability of audit reports. In reviewing the past literature, we have not found several researches in the areas of the readability of consolidated audit report. The previous researches on the legibility of the standardized audit reports were not numerous.

Regarding the literature, a distinction should be made between what prior research refers to as *de jure* readability (Fakhfakh, 2013a, 2015a, 2015b; Zorio, Garcia-Benau, & Civera, 2011) and *de facto* readability (Barnett & Leoffler, 1979; Fakhfakh, 2013b; Hay, 1998; Pound, 1981; Zeghal, Maingot, & Tassé, 1999; Zeghal et al., 2000). Table 4 displays a list of the most significant studies.

**Table 4. Selected studies on the readability of auditor’s report (separate financial statements/consolidated financial statements)**

Authors	Collected data	Measuring scale	Empirical results: level of readability
<i>(A) Previous studies on De Jure readability of auditors’ reports on separate financial statements</i>			
Zorio et al. (2011)	Clarified international standards on Auditing	Flesch reading ease, SMOG index and the FOG index	The results show very low readability of ISAs, according to all the readability indices applied
Fakhfakh (2013a)	International illustrations on unmodified and modified auditor’s report	Lexical density, Gunning-fog index, Flesch reading ease, ARI index and SMOG grade level	The results show that the standardized audit reports are not fully readable. These reports do not fulfill their informative function
Fakhfakh (2015a)	Unmodified audit reports illustrated by the ISA 700	Flesch reading ease, Gunning fog index and Index of Kandel and Moles	The three illustrations provided by the ISA 700 are not fully readable by the users of separate financial statements. The length of several sentences greatly exceeds the linguistic standards
Fakhfakh (2015b)	Modified audit reports illustrated by the ISA 705	Flesch reading ease, Gunning fog index and Index of Kandel and Moles	The illustrations provided by the ISA 705 are not always understood by the readers of the separate financial statements. The wordings of modified audit reports do not comply with Generally Accepted Linguistic Standards
<i>(B) Previous studies on de facto readability of auditors’ reports on separate financial statements</i>			
Barnett et Leoffler (1979)	Audit report published by independent auditors in the United States of America	Flesch formula (Flesch reading ease)	The audit reports are unreadable. The information reading difficulty is extreme
Pound (1981)	Audit reports published in Australia	Flesch formula (Flesch reading ease)	The reading of the audit reports is difficult
Hay (1998)	Audit information published by the independent auditors in New Zealand	Flesch formula (Flesch reading ease)	The financial statement users face many difficulties in the interpretation of the audit results
Zeghal et al. (1999)	90 audit reports published in nine countries from Anglo-American model and continental model	Word length, Sentences length and paragraph length	Anglo-American reports are more uniform in terms of their organization than those related to the continental model
Zeghal et al. (2000)	90 audit reports published in nine countries (Australia, Canada, the USA, the UK, Germany, Belgium, France, Italy, and Japan)	Flesch formulas and Gunning fog index	The audit reports are difficult to read by users of financial statements. The results confirmed the existence of significant differences between the readability scores of reports
Fakhfakh (2013b)	Audit reports issued by the statutory auditors in Tunisia (Separate auditors’ reports)	Flesch reading ease, Gunning fog index, lexical density, complexity of sentence and complexity of vocabulary	The results of this research show that the Tunisian reports are not legible to users of financial statements. The difficulty in understanding audit information hampers the interpretation of financial statements

## 5. The readability of audit reports on consolidated financial statements: the Tunisian case

### 5.1. *Wording of consolidated audit reports and framework of understandability*

In 1990, the Association of Chartered Accountants had issued a standard that describes the components of the report of the independent auditor (issued on separate financial statements). With regard to the consolidated financial statements, no Tunisian normalization was focused on the content of the audit report of a group of companies.

In Tunisia, the lack of standardization has created a normative vacuum. The lack of standardization of consolidated reporting encourages independent auditors to refer to foreign standards, including international standardization. After the adoption of international auditing standards, the reference standard for the Tunisian auditor's report is the International Standard: ISA 700 (Forming an opinion and reporting on financial statements).

In Tunisia, the Commercial Companies Code always insists on the readability of the information disclosed by companies. According to this code, communication with shareholders must be free of ambiguity. Convening shareholders' general meetings must be in writing and clear. Tunisian regulations encourage independent auditors to improve their communication with the users of financial statements. According to company law, statutory auditors must clearly express their opinions on the fairness of the financial information.

Understandability of consolidated audit reports is a legal requirement for the validity of the audit work. In their reports, statutory auditors must specifically declare that they have carried out an audit in accordance with auditing standards. According to the Tunisian commercial law, any report of the auditor that is ambiguous and incomplete will be deemed invalid.

The conceptual framework of financial accounting considers readability among the qualitative characteristics of financial information. Besides intelligibility, the conceptual framework identifies the relevance, reliability, and comparability of financial statements. Financial principles state that accounting information must be understandable by users of financial statements. Verification of this feature means that the information is explicit, concise, and clear to the users. The conceptual framework indicates that users are assumed to have a reasonable knowledge of business and accounting. As a result, stakeholders are keen to analyze financial information with care.

### 5.2. *Collection of data and research methodology*

Given the purpose of this article, we consulted several sources of information that periodically publish financial information and audit reports in Tunisia. Among these sources, we have: the Internet sites, newspapers, the stock exchange (TSE), and the official bulletin of the Financial Market Council (CMF). In addition, we visited the offices of accountants registered in the Association of Chartered Accountants of Tunisia. Many chartered accountants have agreed to provide copies of the audit reports on the consolidated financial statements.

Despite our efforts, the composition of the study sample is influenced by multiple constraints such as:

- The availability of information for several financial years
- The limited number of corporate groups in Tunisia
- The language of publication of some reports and computer processing problem of Arab documents
- The publication format of the consolidated audit reports (Hard copy, JPEG image format).

As a remark, it is important to note that the number of corporate groups is reduced in Tunisia. In addition, some groups refused to provide copies of their audit reports on the financial statements. As a result, these restrictions may limit the number of reports that will be considered in this research.

The selection of audit reports on consolidated financial statements was random. Most audit reports are collected in French. Other audit reports are published in Arabic or English. Therefore, translation work was needed to save the sample homogeneity.

The translation was consistent with the terminology used by the International Standard on Unmodified and Modified Auditor’s report.

Each report originally published with PDF has been converted to Word format. This conversion was necessary for analytical and linguistic considerations. In total, the sample consists of 42 reports published in three years (2012; 2013, and 2014). This sample covers several sectors (Commerce, Industries, Financial services). Such diversification enhances the richness of the data and the faithful representation of the Tunisian economy. The table below describes the detailed composition of the study sample (Table 5).

The reliability of the empirical study requires the use of texts analyzer. We chose the software which is integrated with the computer program Microsoft Word. At the end of each grammar checking, the analyzer displays several readability statistics such as the number of sentences, the Flesh test, the complexity of vocabulary, and sentence complexity. The analysis of results refers to the

**Table 5. The sample of the study**

Financial year	Industry and trade	Leasing	Banks and insurance	Chemistry	Tourism and hotel	Property development	Total
2012	4	2	5	1	1	1	14
2013	7	2	6	1	0	2	18
2014	5	1	3	1	0	0	10
Total	16	5	14	3	1	3	42

**Table 6. Linguistic features of normative illustration of consolidated audit reports provided by the International Standards on auditing**

International normative illustrations of consolidated auditors’ reports			
Length and linguistic features		ISA 700	ISA 705
Length measurement	Total word count	405	534
	Total number of characters	2,846	3,686
	Number of characters without spaces	2,416	3,121
	Number of syllables	891	1,154
	Number of paragraph	14	16
	Number of lines	40	50
	Number of sentences	19	25
	Average word length (per characters)	7.03	6.90
	Average word length (per syllables)	2.20	2.16
	Average sentence length (per words)	21.32	21.36
	Average paragraph length (per words)	28.93	33.37
	Average paragraph length (per sentences)	1.36	1.56
Measurement of readability	Flesh reading ease	-0.92	2.33
Measurement of education level	Gunning-fog score	15.66	15.68

theories of communication and linguistic principles generally accepted. These principles provide several recommendations that organize the word length, sentence structure, and paragraphs.

Before analysis of the database, we have studied the linguistic structure of normative illustrations of consolidated auditor’s report provided by the International Standards on Auditing. This study is required for compliance assessments and statistical comparisons. Table 6 shows the linguistic features of normative illustrations of audit reports on the consolidated financial statements.

In Tunisia, the application of these illustrations is mandatory for independent auditors who prepare audit reports on the consolidated financial statements. The interpretation of empirical results is based on several univariate and multivariate analysis. Our analytical discussion includes statistical tools that can test several hypotheses such as:

- The adoption of linguistic principles;
- Comparability of reporting practices; and
- Compliance with international auditing standards.

### 5.3. Structure and length of consolidated audit reports in Tunisia

Our empirical analysis of audit reports refers to the theories of communication and linguistic principles generally accepted. These principles provide several recommendations that organize the word length, sentence structure, and paragraphs.

The results of this study show that the longer report includes 2,426 words, 76 sentences, and 27 paragraphs. This report focuses on the financial statements that are issued by a financial institution (specifically a commercial bank). The issuer of this report expressed a qualified audit opinion. In contrast, the shorter report was published with 475 words, 22 sentences, and 17 paragraphs. This audit report is prepared with unmodified opinion.

According to the clear writing principles, the use of long words intensifies the difficulty of reading and hinders the readability of information. Nine characters (or three syllables) per word is a good average. For a full audit report, the average word length should be around 5.34 (per character) and 2.28 (per syllable). These lengths are consistent with the principles of comprehensible writing. At the

**Table 7. Results of one-sample student’s t-test and  $\chi^2$  tests on contingency tables**

	One-sample student’s t-test			Descriptive statistics		
<i>(A) Average word length and average sentence length</i>						
Average length	t (OV)	t (CV)	One-tailed p-value	Mean	Minimum	Maximum
Average word length per character	-18.19	1.68	1.00	2.27	1.96	2.90
Average word length per syllable	-206.28	1.68	1.00	5.34	5.09	5.52
Average sentence length per words	10.90	1.68	<0.0001	25.88	21.44	37
<i>(B) Test for homogeneity of the structure of audit reports</i>						
	$\chi^2$ (OV)	$\chi^2$ (CV)	df	One-tailed p-value	$\alpha$	
Proportion of long words	285.60	56.94	41	<0.0001	0.05	

Notes: OV–observed value; CV–critical value.

level of significance  $\alpha = 0.05$ , the results of the one-sample *t*-test reject the hypothesis that the average word length is strictly greater than the linguistic standards (Table 7(A)).

According to the clear writing rules, sentences must vary in length to avoid boring your reader. But the average length should be short. 15–20 words per sentence is a good average.

The average sentence length is about 25.88 words. This shows that the length of sentences greatly exceeds the linguistic rules. With regard to the language standards, the one-sample Student's *t*-test is applied in order to estimate if the average sentence length is excessive. At the level of significance  $\alpha = 0.05$ , the null hypothesis that the mean is equal to 20 is rejected. In other words, the alternative hypothesis that the mean is greater than 20 words is significant (Table 7(A)).

Regarding the effectiveness of communication, it is generally accepted that the comparability of audit information facilitates the interpretation of financial statements. For this research, the assumption of homogeneity of the reporting structure is not accepted. The rejection of this assumption is approved by the comparison tests of percentages (Table 7(B)). The rejection of this hypothesis is justified by the chi-square test, which shows that the proportion of long words is not equal between the audit reports.

The length of the audit report is an attribute that enhances the information content. Statistically, the modification of the audit opinion influences the length of the audit reports. In some situations, the reports signed by two auditors are longer than reports prepared individually. At the level of significance ( $\alpha = 0.05$ ) the decision is to reject the null hypothesis of equality of the means. In other words, the difference between the average lengths is significant (Table 8).

#### 5.4. Descriptive analysis of readability of consolidated audit reports

According to the Flesh Reading Ease Formula, Tunisian reports on consolidated financial statements are not readable by many users of financial statements. According to the same formula, the average index of readability of these reports is 9.29. According to Gunning Fog Index, understandability of audit reports requires a very high level of education in Tunisia. The average level of education required for the readability of the consolidated reports is 21. Comparison of means shows that audit

**Table 8. Results of student's *t*-test for determinants of readability of audit reports**

Synthesis table for student's test						Descriptive statistics			
Variations	Observed <i>t</i>	Method	df	Critical <i>t</i>	Pr >   <i>t</i>	Sample	Mean	Minimum	Maximum
<i>(A) Impact of joint audit</i>									
Unequal	-2.34	Satterthwaite	7.96	2.31	0.05	Non-joint auditors' reports	673.50	534.00	912.00
	-2.34	Cochran-Cox	0.00	2.72	0.08	Joint auditors' reports	943.58	475.00	2,426.00
Equal	-1.18		40.00	2.02	0.24				
<i>(B) Impact of the qualified opinion report</i>									
Unequal	3.95	Satterthwaite	22.75	2.07	0.00	Modified audit report	1,128.77	509.00	2,426.00
	3.95	Cochran-Cox	19.00	2.08	0.00	Unmodified audit report	685.85	475.00	912.00
Equal	3.78		40.00	2.02	0.00				

reports are not consistent with the principles of readability. According to the empirical results, the assumption of compliance is not accepted.

Regarding the characteristics of narrative, it is recognized that highly complex sentences weaken the communication. The communication efficiency deteriorates when the independent auditors use a vocabulary that is very complicated. The complexity of the vocabulary intensifies the ambiguity of audit reports. The optimization of financial reporting requires the simplification of sentences and vocabulary. Clarity of audit reports is always conditioned by the choice of the lexicon, the selection of technical terms, and the use of professional language.

For the selected audit reports, the analyzer indicates that the complexity of sentences is between 41 and 64. For these reports, the complexity of vocabulary varies between 38 and 74. Statistically, the correlation between these scores is found to be significant. Comprehensibility of reports is not guaranteed when the complexity of the lexicon is high. Extreme complexity scores amplify the reading difficulties of audit opinions. Imperfect reading leads to misinterpretation of audit results (Table 9).

### **5.5. Explanatory analysis of readability of consolidated audit reports in Tunisia**

#### *5.5.1. The determinants of readability of consolidated audit reports: Theoretical analysis*

*5.5.1.1. Impact of international reputation of the independent auditors.* Since, 1985, several Tunisian's auditors represent many international accounting firms. These large companies include big four accounting firms and second-tier firms. The implementation of these firms can contribute significantly to the improvement in audit market. It can also facilitate the encouragement of the foreign investments and the implementation of longer industrial companies.

On the other hand, the implementation of international accounting firms in Tunisian auditing market contributes to the improvement in the auditor's formation level. The international accounting firms use software that integrates text analyzers. This software assists written communication and reduces the ambiguity of accounting reports. In addition to this software, spell checkers are used to improve the readability and linguistic quality (Fakhfakh, 2013b).

As the first determinant of readability, our research investigated the association between reputation of auditors and the understandability of Tunisian audit reports on consolidated financial statements.

*5.5.1.2. Impact of joint audit.* As definition, a joint audit is an audit by two or more auditors to produce a single audit report, thereby sharing responsibility of the audit. In several countries (France, Denmark, Greece) listed companies that prepare consolidated financial statements are required to be jointly audited by two independent auditors, with the audit effort shared and a single audit report issued by the two auditors of record (Francis, Richard, & Vanstraelen, 2009).

According to the generally accepted audit principles, joint audit addresses two underlying principles of audit quality: auditors' competence and independence. It enables a benchmarking of audit approaches and affords audit committees the opportunity to pick and choose the best local firms from within two global audit networks.

In Tunisia, the commercial companies' code states that several institutions are required to appoint two auditors members of the Association of Chartered Accountants of Tunisia (Credit institutions making public offering, insurance companies). In 2006, the Association of Chartered Accountants of Tunisia promulgated a standard that establishes the terms and conditions of appointment of two co-auditors. This standard states that the co-auditors prepare a joint report even if the audit opinions would be different.

**Table 9. Descriptive statistics and one-sample student's t-test**

Sample	Mean	Standard deviation	Minimum	First Quartile	Median	Third quartile	Maximum
<i>(A) Descriptive statistics</i>							
Gunning fog index	20.95	1.31	18.51	19.97	20.77	21.55	24.35
Flesh reading ease score	9.29	3.88	2.00	8.00	9.50	12.00	16.00
Complexity of vocabulary	65.10	8.20	38.00	61.00	68.00	71.00	74.00
Complexity of sentence	53.02	5.32	41.00	48.00	53.00	57.00	64.00
<i>(B) One-sample student's t-test/right-tailed test</i>							
Principles of readability	t (OV)		t (CV)		df	One-tailed p-value	$\alpha$
Flesh reading ease score	-68.04		-1.68		41	<0.0001	0.05
Gunning fog index	54.31		1.68		41	<0.0001	0.05

As the second determinant of readability, our research investigated the association between joint audit and the understandability of Tunisian audit reports on consolidated financial statements.

**5.5.1.3. Impact of the audit delay.** According to accounting standards, punctuality is considered as one of the qualitative characteristics of financial information. By analogy, punctuality is a determinant of the quality of audit reports. Several conceptual frameworks indicate that the qualitative features enhance the usefulness of information provided to stakeholders. According to the international conceptual framework, these characteristics are complementary concepts for obtaining accounting data. The relevance of such data is necessary for financial decision-making.

Timeliness of reporting is an essential element that determines the quality of financial publications. This element is always appreciated by national and international standards. According to accounting standards, punctuality is a parameter that ensures the relevance of financial information.

From a practical standpoint, written communication may be influenced by the timing of disclosure. The shortening does not condition the quality of information. The speed of writing does not improve the characteristics of the financial statements. Audit works (including statutory audit) are limited by several regulatory deadlines. Audit reports are required to meet these deadlines to inform users of financial statements. The independent auditor is required to optimize its work. This optimization is desirable under the following constraints: Describe the most relevant information on the financial statements; and respect the legal calendar that governs the publication of audit reports.

The audit delay may be extended when the financial statements describe complex situations. In such cases, the independent auditors must submit comments understandable by users of consolidated financial statements. Reporting is based on techniques used in journalistic writing (Tremblay, 1984). These techniques prohibit the repetition of words and use shorter sentences to reduce the length of texts. As the third determinant of readability, our research investigated the association between audit delay and the understandability of Tunisian audit reports on consolidated financial statements.

**5.5.1.4. Impact of the qualified opinion.** Internationally, the audit reports (with modified opinions) are normalized by two ISAs: ISA 705 and ISA 706. The International Standard on Auditing (705) deals with the auditor's responsibility to issue an appropriate report in circumstances when the

auditor concludes that a modification to the auditor's opinion on the financial statements is necessary. The same standard provides five illustrations of auditors' reports with modifications to the opinion.

The International Standard on Auditing (706) deals with additional communication in the auditor's report when the auditor considers it necessary to:

- (a) Draw users' attention to a matter or matters presented or disclosed in the financial statements that are of such importance that they are fundamental to users' understanding of the financial statements; or
- (b) Draw users' attention to any matter or matters other than those presented or disclosed in the financial statements that are relevant to users' understanding of the audit, the auditor's responsibilities, or the auditor's report.

The table below illustrates how the auditor's judgment about the nature of the matter giving rise to the modification, and the pervasiveness of its effects or possible effects on the financial statements, affects the type of opinion to be expressed (Table 10).

When the audit report is not unmodified, the independent auditor writes comments that explain the financial anomalies. Furthermore, additional comments and explanatory notes improving the quality of audit information require compliance with the principles of readability (Fakhfakh, 2013b). The inclusion of explanatory notes and additional information can influence the level of comprehensibility of the consolidated audit reports.

As a fourth determinant, our research investigated the association between the modification of the auditor's opinion and the understandability of Tunisian audit reports on consolidated financial statements.

*5.5.1.5. The impact of the industry classification.* The approach of the independent auditor is influenced by the features of the company's business. The company's environment can influence the organization of the methodology of the financial audit. According to the audit risk-based approach, the independent auditor should analyze the inherent risk. This risk must consider several parameters such as: changes in business operations, market characteristics, and the characteristics of the company's products.

According to the Tunisian accounting law, industry standards establish the financial framework for some sectors. These standards establish accounting rules that are applied to sectors. Accounting Standards cover several areas such as:

- The banking sector
- The insurance industry
- The industry associations that provide micro-credits
- The sector of sport organizations.

When the impact of sectoral specificities is considered, the independent auditor can add multiple comments and observations in the consolidated audit reports. The inclusion of additional information can change the structures and linguistic characteristics of audit results. As a fifth determinant, our research investigated the association between the industry classification and the understandability of Tunisian audit reports on consolidated financial statements.

**Table 10. The judgment of the independent auditor and the determinants of modified reports**

<b>Nature of matter giving rise to the modification</b>	<b>Auditor's judgment about the pervasiveness of the effects or possible effects on the financial statements</b>	<b>Types of modified opinions</b>	<b>Illustrations of auditors' reports with modifications to the opinion</b>
Financial statements are materially misstated	Material but not pervasive	Qualified opinion	Illustration 1 (ISA 705)
		Qualified opinion and emphasis of matter	Illustration 1 (ISA 706)
	Material and pervasive	Adverse opinion	Illustration 2 (ISA 705)
Inability to obtain sufficient appropriate audit evidence about a single element of the financial statements	Material but not pervasive	Qualified opinion	Illustration 3 (ISA 705)
	Material and pervasive	Disclaimer of opinion	Illustration 4 (ISA 705)
Inability to obtain sufficient appropriate audit evidence about multiple elements of the financial statements	Material but not pervasive	Qualified opinion	Illustration 3 (ISA 705)
	Material and pervasive	Disclaimer of opinion	Illustration 5 (ISA 705)

*5.5.1.6. The impact of the stock exchange listing.* For corporate groups, the IPO can improve the quality of the consolidated financial statements. In Tunisia, the list of companies making public offering includes several admitted to trading companies. The majority of these companies consist of financial institutions (banking institutions, insurance companies, leasing companies).

The stock exchange listing enhances the credibility and reputation of the company. The permanent visibility is secure if the company is listed. The IPO strengthens the reputation of the financial relationships with large companies and multinationals.

Trading on financial markets requires compliance with regulations. Regulations strictly define the timely submission of audit results. In many financial markets, the legislation sets deadlines for the publication of information in the financial reports. Empirically, the study published by Piot (2005) shows that the listing of US firms can improve punctuality.

All financial market participants seek to read and understand information. The linguistic quality of the consolidated audit reports influences all operations and financial market activities. Audit reports must meet the needs of users including expectations of investors, brokers, and financial analysts.

For listed companies, the independent auditors are encouraged to enhance the linguistic quality of the consolidated audit reports. Improving language characteristics of these reports enhances the reputation of the independent auditors and the efficiency of financial markets.

As a sixth determinant, our research investigated the association between the listed companies and the understandability of Tunisian audit reports on consolidated financial statements.

*5.5.2. The determinants of readability of consolidated audit reports: An empirical analysis*

According to the descriptive statistics, audit reports issued by international firms are less readable than other consolidated reports. With four linguistic indicators (Flesh reading ease, Gunning fog score, Complexity of sentence, and Complexity of vocabulary), the parametric test (Student's *t*-test: Two-tailed *p*-value) indicates that the statistical differences were not significant (Table 11(A)). Advanced statistical analysis (Bivariate and multivariate analysis) rejects the hypothesis that assumes the association between reputation of independent auditors and the understandability of Tunisian audit reports on consolidated financial statements (Table 12(A)).

**Table 11. Descriptive statistics and results of two-samples t-test**

	International accounting firms (Big four)			Other accounting firms			Student's t-test (Two-tailed p-value)
	Mean	Min	Max	Mean	Min	Max	
<i>(A) Impact of international reputation of the independent auditors</i>							
Flesh reading ease	9.96	2.00	16.00	8.19	2.00	15.00	0.15
Gunning-fog score	21.06	18.51	24.35	20.77	19.03	23.51	0.49
Complexity of sentence	53.85	41.00	64.00	51.69	45.00	63.00	0.20
Complexity of vocabulary	66.69	44.00	74.00	62.50	38.00	73.00	0.11
<i>(B) Impact of joint audit</i>							
	Joint audit			Single audit			Student's t-test (Two-tailed p-value)
	Mean	Min	Max	Mean	Min	Max	
Flesh reading ease	9.34	2.00	16.00	8.75	4.00	15.00	0.77
Gunning-fog score	20.89	18.51	24.35	21.49	20.29	23.51	0.39
Complexity of sentence	52.87	41.00	64.00	54.50	47.00	63.00	0.57
Complexity of vocabulary	64.50	38.00	74.00	70.75	68.00	73.00	0.15
<i>(C) Impact of the audit delay</i>							
	Publication within 130 days			Publication after 130 days			Student's t-test (Two-tailed p-value)
	Mean	Min	Max	Mean	Min	Max	
Flesh reading ease	8.90	2.00	14.00	9.67	2.00	16.00	0.53
Gunning-fog score	20.80	18.51	24.35	21.10	19.25	23.45	0.47
Complexity of sentence	52.00	41.00	64.00	54.05	48.00	61.00	0.22
Complexity of vocabulary	67.00	58.00	74.00	63.19	38.00	73.00	0.13
<i>(D) Impact of the qualified opinion</i>							
	Qualified opinion			Unqualified opinion			Student's t test (Two-tailed p-value)
	Mean	Min	Max	Mean	Min	Max	
Flesh reading ease	9.27	2.00	16.00	9.30	4.00	15.00	0.98
Gunning-fog score	21.02	18.51	24.35	20.88	19.03	23.51	0.73
Complexity of sentence	53.45	41.00	64.00	52.55	45.00	63.00	0.59
Complexity of vocabulary	62.55	38.00	74.00	67.90	58.00	73.00	0.03
<i>(E) The impact of the industry classification</i>							
	Financial institutions			Other institutions			Student's t test (Two-tailed p-value)
	Mean	Min	Max	Mean	Min	Max	
Flesh reading ease	9.68	2.00	16.00	8.96	2.00	15.00	0.55
Gunning-fog score	20.92	18.51	24.35	20.98	19.39	23.51	0.88
Complexity of sentence	53.32	41.00	64.00	52.78	46.00	63.00	0.75
Complexity of vocabulary	65.11	38.00	74.00	65.09	44.00	73.00	0.99
<i>(F) The impact of the stock exchange listing</i>							
	Listed companies			Other companies			Student's t test (two-tailed p-value)
	Mean	Min	Max	Mean	Min	Max	
Flesh reading ease	9.68	2.00	16.00	6.40	2.00	12.00	0.08
Gunning-fog score	20.89	18.51	24.35	21.36	20.10	23.03	0.46
Complexity of sentence	53.00	41.00	64.00	53.20	47.00	60.00	0.94
Complexity of vocabulary	65.81	38.00	74.00	59.80	44.00	71.00	0.13

**Table 12. Results of tests on contingency tables (Bivariate and Multivariate analysis)**

	Multivariate analysis			Bivariate analysis		
	$\chi^2$ test	CV ( $\alpha = 0.05$ )	CV ( $\alpha = 0.10$ )	$\chi^2$ test	CV ( $\alpha = 0.05$ )	CV ( $\alpha = 0.10$ )
<i>(A) Impact of international reputation of the independent auditors</i>						
Flesh reading ease	6.00	7.81	6.25	0.08	3.84	2.71
Gunning-fog score	6.21	7.81	6.25	0.40	3.84	2.71
Complexity of sentence	3.78	7.81	6.25	1.06	3.84	2.71
Complexity of vocabulary	3.15	7.81	6.25	2.04	3.84	2.71
<i>(B) Impact of joint audit</i>						
Flesh reading ease	1.61	7.81	6.25	1.11	3.84	2.71
Gunning-fog score	1.48	7.81	6.25	1.11	3.84	2.71
Complexity of sentence	2.85	7.81	6.25	0.01	3.84	2.71
Complexity of vocabulary	5.35	7.81	6.25	1.58	3.84	2.71
<i>(C) Impact of the audit delay</i>						
Flesh reading ease	2.98	7.81	6.25	2.38	3.84	2.71
Gunning-fog score	10.00	7.81	6.25	0.86	3.84	2.71
Complexity of sentence	5.87	7.81	6.25	3.44	3.84	2.71
Complexity of vocabulary	6.86	7.81	6.25	0.10	3.84	2.71
<i>(D) Impact of the qualified opinion report</i>						
Flesh reading ease	9.67	7.81	6.25	1.53	3.84	2.71
Gunning-fog score	1.88	7.81	6.25	0.00	3.84	2.71
Complexity of sentence	3.23	7.81	6.25	0.89	3.84	2.71
Complexity of vocabulary	3.31	7.81	6.25	1.47	3.84	2.71
<i>(E) The impact of the industry classification</i>						
Flesh reading ease	2.64	7.81	6.25	0.86	3.84	2.71
Gunning-fog score	0.31	7.81	6.25	0.10	3.84	2.71
Complexity of sentence	0.97	7.81	6.25	0.35	3.84	2.71
Complexity of vocabulary	1.88	7.81	6.25	0.06	3.84	2.71
<i>(F) The impact of the stock exchange listing</i>						
Flesh reading ease	2.57	7.81	6.25	2.04	3.84	2.71
Gunning-fog score	3.56	7.81	6.25	0.23	3.84	2.71
Complexity of sentence	2.88	7.81	6.25	0.35	3.84	2.71
Complexity of vocabulary	2.56	7.81	6.25	0.06	3.84	2.71

The descriptive results show that the comprehensibility of information is improved when the consolidated reports are signed by two independent auditors. This improvement is supported by the three linguistic indicators: Gunning fog score, Complexity of sentence, and Complexity of vocabulary (Table 11(B)). The comparison of means indicates that the statistical differences are not significant. The frequency comparison test does not accept the hypothesis that assumes the association between joint audit and the understandability of Tunisian audit reports on consolidated financial statements (Table 12(B)).

With a confidence interval (95%), the descriptive analysis notes that timely reports are not always difficult for users of the consolidated financial statements (Table 11(C)). For the Gunning fog score indicator, the non-parametric test shows that the readability of the reports is improved when the audit information are punctual. According to the index of complexity of vocabulary, the consolidated audit reports are more understandable when the audit delay is short. At the level of significance

**Table 13. Structural characteristics and readability of consolidated audit reports illustrated by the international standards on auditing (French translation)**

Auditor's report on consolidated financial statements		Unmodified opinion	Modified opinion	Emphasis of matter paragraphs	Modified opinion and emphasis of matter paragraphs	Average values
Structural features	Average word length (per characters)	5.57	5.36	5.51	5.36	5.45
	Average word length (per syllables)	2.4	1.97	2.2	1.98	2.14
	Average sentence length (per words)	23.55	25.92	22.34	24.74	24.14
	Average paragraph length (per sentences)	1.66	2.27	1.64	2.45	2.01
Index of readability	Flesh Reading Ease	10	14	13	14	12.75
	Gunning-Fog Score	21.99	22.22	21.39	22.05	21.91
Index of complexity	Level of difficulty of sentences	56	63	53	59	57.75
	Level of complexity of vocabulary	74	72	74	73	73.25
Percentage of complexity	Short sentences (%)	1 (5.00)	1 (4.00)	1 (4.35)	1 (3.70)	1
	Long sentences (%)	7 (35.00)	10 (40.00)	7 (30.44)	9 (33.33)	8.25 (34.69)
	Simple sentences (%)	0 (0.00)	2 (8.00)	0 (0.00)	1 (3.70)	0.75 (2.92)
	Hard words (%)	148 (31.42)	192 (29.63)	160 (31.13)	203 (30.39)	175.75 (30.64)

( $\alpha = 0.10$ ) the decision is to accept the hypothesis of association between audit delay and the understandability of Tunisian audit reports on consolidated financial statements (Table 12(C)).

The statistical results indicate that the comprehensibility of reports decline when the independent auditor modifies the audit opinion. The Two-Sample *t*-test shows that the average differences are not significant. As can be seen from the table (11(D)), the decision is to accept the hypothesis of association between the modification of the auditor's opinion and the understandability of Tunisian audit reports on consolidated financial statements (8.4).

The descriptive study of the data shows that the audit reports of the financial institutions are less comprehensible than other audit reports (Table 11(E)). Parametric and non-parametric tests confirm the homogeneity of groups of companies (Financial Institutions / Other institutions). At the level of significance ( $\alpha = 0.10$ ) the decision is to reject the hypothesis the association between the industry classification and the understandability of Tunisian audit reports on consolidated financial statements (Table 12(E)).

Statistical comparisons indicate that the consolidated audit reports of listed companies are more understandable than the reports of unlisted groups. Empirically, the preeminence of the intelligibility of consolidated reporting remains low and relative (Table 11(F)). Therefore, there is no association between the listed companies and the understandability of Tunisian audit reports on consolidated financial statements (Table 12(F)).

### 6. Linguistic compliance with international standards on auditing

Linguistically, the corpus of audit reports is influenced by the illustrations provided by the International Standards on Auditing ISA 700, ISA 705, and ISA 706. Compliance with the standards seems to be a factor that can determine the level of readability of reports audit. Before testing the level of compliance, we have analyzed the linguistic structure of the illustrations provided by the above standards. The French translation is selected as the Tunisian audit reports are written in French. All the structural and linguistic characteristics of the illustrations are presented in Table 13.

Linguistically, the consolidated audit reports were not fully compliant with illustrations provided by the three ISAs: ISA 700, ISA 705, and ISA 706. Empirically, several significant differences are displayed by advanced linguistic analysis.

**6.1. Linguistic compliance with International ISA: Structural features used as control**

For the three types of consolidated audit reports (Unmodified opinion, Emphasis of matter paragraphs, and Modified opinion and Emphasis of matter paragraphs) word length differs from the structure prescribed by the standards: ISA 700, ISA 705, and ISA 706. Average sentence length was not consistent with international standardization of audit. For all reports, the length of paragraphs complies with average standards (Table 14). The harmonization of the structure of the consolidated audit reports seems to be relative. In many cases, the preparation of reports requires longer texts to convey more explanatory information. The additional information can change the length and the structural characteristics of audit information.

**6.2. Linguistic compliance with international ISA: Index of readability and index of complexity as control**

For all reports, the readability of audit information was not comparable. According to two readability tests (Flesh Reading Ease and Gunning Fog Score), compliance with standardized illustrations is not accepted (Table 14). Statistical results reject the homogeneity of the readability of the consolidated audit reports.

Regarding the difficulty of phrases, language tests show that the complexity of the consolidated audit reports varies significantly (Modified and Unmodified consolidated reports). The assumption of compliance is accepted with a paragraph included in the auditor’s report that refers to a matter appropriately presented or disclosed in the financial statements that, in the auditor’s judgment, is of such importance that it is fundamental to users’ understanding of the financial statements.

**Table 14. Linguistic compliance with international audit reports**

Statistical results	Linguistic features		Auditor’s report on consolidated financial statements			
			Unmodified opinion	Modified opinion	Emphasis of matter paragraphs	Modified opinion and emphasis of matter paragraphs
One-sample student’s t-test (Two-tailed p-value)	Structural features	Average word length (per characters)	0.00	0.45	0.00	0.03
		Average word length (per syllables)	0.95	0.31	0.72	0.05
		Average sentence length (per words)	0.05	0.46	0.00	0.06
		Average paragraph length (per sentences)	0.05	0.22	0.12	0.06
	Index of readability	Flesh reading ease	0.31	0.29	0.02	0.01
		Gunning-fog score	0.00	0.00	0.95	0.08
	Index of complexity	Level of difficulty of sentences	0.01	0.00	0.48	0.06
		Level of complexity of vocabulary	0.00	0.07	0.00	0.04
$\chi^2$ statistical test	Percentage of complexity	Short sentences	0.67	0.93	0.88	0.22
		Long sentences	0.98	0.67	0.70	0.89
		Simple sentences	0.86	0.48	0.07	0.62
		Hard words	0.00	0.00	0.00	0.00

With the exception of modified audit reports, statistical results confirm the variability in degree of difficulty of vocabulary. These results confirm the heterogeneity of writing skills and language skills of independent auditors (Table 14).

### **6.3. Linguistic compliance with international ISA: Percentage of complexity used as control**

For sentences difficulties percentages, the linguistic decision is to not reject the null hypothesis that the consolidated reports are compliant with illustrations provided by the ISA 700, ISA 705 and ISA 706.

About the percentage of long words, the non-parametric test (Test on Contingency Tables) shows that the difference between the standardized values and observed data is significant. The assumption of compliance with international standards is not valid. This result is accepted at the level of significance:  $\alpha = 0.05$ . Regarding the percentage of long words, the non-parametric test (Tests on contingency tables) shows that the difference between the standardized values and observed data is significant. Regarding the percentage of long words, the non-parametric test (Tests on contingency tables) shows that the difference between the standardized gains and observed data is significant. The assumption of compliance with international standards is not allowed. This result is accepted at the level of significance:  $\alpha = 0.05$ .

### **6.4. Determinants of linguistic compliance with international standards on auditing**

#### **6.4.1. Impact of international reputation of the independent auditors**

According to the accounting literature, the quality of the audit is significant when the independent auditor is affiliated to international audit firms. According to several empirical studies (Gangolly, Hussein, Seow, & Tam, 2002; Garcia-Benau & Zorio, 2004) compliance with International Standards on Auditing is higher when the financial statements are audited by international audit firms (Big Four).

The international audit firms publish manuals that explain the application of international auditing standards. For accounting firms, compliance with standards is seen as a factor that enhances the quality and effectiveness of audit results.

As the first determinant of linguistic compliance, we believe that the consolidated audit reports are more consistent with ISAs when independent auditors are affiliated with international audit firms.

For many linguistic indicators (length Word, Sentence length, Readability, Complexity of report, Simple sentences, and Hard words), descriptive statistics show that the reports published by international firms comply with international standards more than other reports. Statistically, the differences between groups of independent auditors (Big Four/other auditors) were not significant (Table 15).

#### **6.4.2. Impact of Joint Audit**

As definition, a joint audit is an audit by two or more auditors to produce a single audit report, thereby sharing responsibility of the audit. A typical joint audit has audit planning performed jointly and field work allocated to the auditors. The auditors are typically not individuals, but auditing firms. The allocation of work is rotated after a set number of years to mitigate the risk of over-familiarity.

Joint audit is seen as a mechanism of corporate governance that reassures investors and strengthens the confidence of shareholders. Each independent auditor is responsible for auditing and expression of a reasoned opinion (Fakhfakh, 2013b). Each institution audited by dual-auditors benefits from the interaction of several abilities and writing skills. This interaction enriches the content and quality of auditing information.

**Table 15. Statistical measurement of linguistic compliance with reports illustrated by the international standards on audit reports**

Linguistic measure		Descriptive statistics										Student's t-test		
		Mean	Variance	Standard deviation	Minimum	First quartile	Median	Third quartile	Maximum	Unequal variances*	Unequal variances**	Equal variances		
Word length per characters	Non big	5.35	0.02	0.13	5.13	5.29	5.37	5.43	5.52	0.90	0.90	0.90		
	Big	5.34	0.01	0.11	5.09	5.28	5.34	5.43	5.50					
Word length per syllables	Non big	2.33	0.07	0.27	1.96	2.05	2.35	2.50	2.90	0.37	0.38	0.36		
	Big	2.25	0.06	0.25	1.97	2.00	2.25	2.40	2.80					
Sentence length per words	Non big	26.54	10.07	3.17	21.44	24.25	25.69	29.05	31.92	0.32	0.33	0.34		
	Big	25.47	13.54	3.68	21.59	23.44	24.74	25.78	37.00					
Paragraph length per sentences	Non big	2.02	0.31	0.55	1.22	1.49	2.04	2.53	2.81	0.41	0.42	0.44		
	Big	1.87	0.46	0.68	1.13	1.36	1.56	2.44	3.83					
Flesh reading ease	Non big	8.19	15.23	3.90	2.00	5.00	8.50	10.00	15.00	0.16	0.17	0.15		
	Big	9.96	14.28	3.78	2.00	8.00	11.00	12.00	16.00					
Gunning-fog score	Non big	20.77	1.90	1.38	19.03	19.71	20.39	21.39	23.51	0.50	0.50	0.49		
	Big	21.06	1.62	1.27	18.51	20.36	20.82	21.83	24.35					
Difficulty of sentences	Non big	51.69	31.30	5.59	45.00	47.50	49.00	55.50	63.00	0.22	0.23	0.21		
	Big	53.85	25.74	5.07	41.00	51.00	54.00	58.00	64.00					
Complexity of vocabulary	Non big	62.50	84.40	9.19	38.00	58.50	65.00	70.00	73.00	0.13	0.14	0.11		
	Big	66.69	52.62	7.25	44.00	66.00	69.00	71.00	74.00					
Short sentences	Non big	1.94	1.66	1.29	0.00	1.00	2.00	2.50	4.00	0.53	0.53	0.52		
	Big	2.19	1.44	1.20	1.00	1.00	2.00	3.00	5.00					
Long sentences	Non big	10.75	30.33	5.51	6.00	8.00	8.50	11.50	26.00	0.61	0.61	0.56		
	Big	11.54	10.98	3.31	5.00	10.00	11.00	13.00	19.00					
Simple sentences	Non big	5.06	12.33	3.51	2.00	2.50	4.00	5.50	13.00	0.87	0.87	0.86		
	Big	5.23	7.94	2.82	2.00	3.00	5.00	7.00	13.00					
Hard words	Non big	227.69	11330.10	106.44	141.00	163.50	190.00	254.00	523.00	0.70	0.70	0.67		
	Big	239.15	4,224.54	65.00	131.00	193.00	232.00	264.00	409.00					
Word length per characters	Joint audit	5.34	0.01	0.12	5.09	5.26	5.35	5.43	5.52	0.11	0.14	0.32		
	Single audit	5.40	0.00	0.05	5.32	5.36	5.41	5.44	5.44					
Word length per syllables	Joint audit	2.26	0.06	0.24	1.96	2.00	2.30	2.40	2.80	0.31	0.32	0.08		
	Single audit	2.49	0.15	0.39	1.97	2.24	2.55	2.75	2.90					

(Continued)

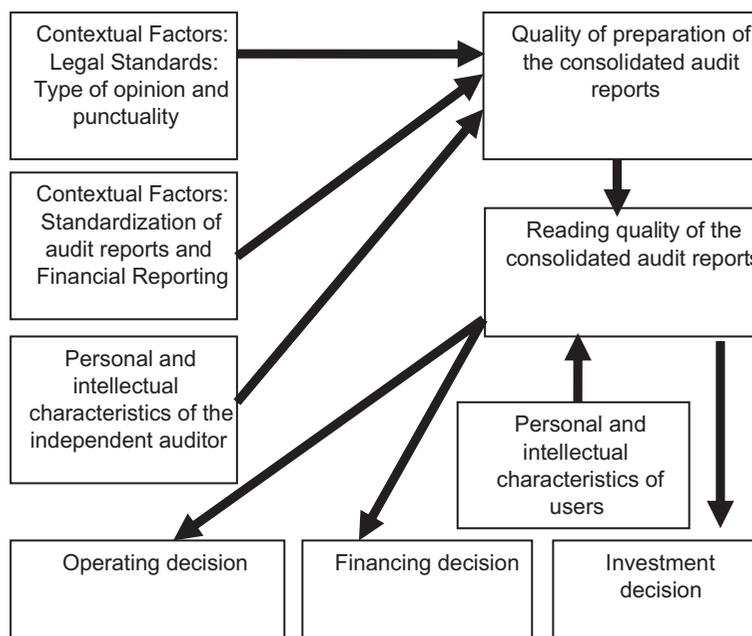
**Table 15. (Continued)**

Linguistic measure		Descriptive statistics										Student's t-test		
		Mean	Variance	Standard deviation	Minimum	First quartile	Median	Third quartile	Maximum	Unequal variances*	Unequal variances**	Equal variances		
Sentence length per words	Joint audit	26.00	12.69	3.56	21.59	23.46	25.24	27.71	37.00	0.45	0.46	0.48		
	Single audit	24.69	8.42	2.90	21.44	22.86	24.41	26.53	28.50					
Paragraph length per sentences	Joint audit	1.93	0.41	0.64	1.13	1.36	1.75	2.45	3.83	0.99	0.99	0.99		
	Single audit	1.92	0.42	0.65	1.37	1.38	1.83	2.47	2.66					
Flesh reading ease	Joint audit	9.34	14.93	3.86	2.00	8.00	10.00	12.00	16.00	0.82	0.82	0.78		
	Single audit	8.75	20.92	4.57	4.00	6.00	8.00	11.50	15.00					
Gunning-Fog Score	Joint audit	20.89	1.69	1.30	18.51	19.96	20.75	21.55	24.35	0.47	0.47	0.39		
	Single audit	21.49	2.00	1.42	20.29	20.53	21.09	22.45	23.51					
Difficulty of sentences	Joint audit	52.87	27.36	5.23	41.00	48.00	53.00	57.00	64.00	0.67	0.67	0.57		
	Single audit	54.50	45.67	6.76	47.00	49.50	54.00	59.50	63.00					
Complexity of vocabulary	Joint audit	64.50	70.31	8.39	38.00	61.00	67.00	70.00	74.00	0.00	0.00	0.15		
	Single audit	70.75	4.25	2.06	68.00	69.50	71.00	72.00	73.00					
Short sentences	Joint audit	2.24	1.37	1.17	1.00	1.00	2.00	3.00	5.00	0.04	0.00	0.02		
	Single audit	0.75	0.92	0.96	0.00	0.00	0.50	1.50	2.00					
Long sentences	Joint audit	11.32	18.87	4.34	5.00	8.00	10.00	12.00	26.00	0.68	0.69	0.72		
	Single audit	10.50	11.67	3.42	7.00	8.00	10.00	13.00	15.00					
Simple sentences	Joint audit	5.26	10.04	3.17	2.00	3.00	4.00	7.00	13.00	0.35	0.37	0.54		
	Single audit	4.25	2.92	1.71	2.00	3.00	4.50	5.50	6.00					
Hard words	Joint audit	238.87	7,045.79	83.94	131.00	188.00	213.00	264.00	523.00	0.23	0.25	0.33		
	Single audit	196.00	3,174.00	56.34	156.00	156.50	176.00	235.50	276.00					

\*The test is computed under the assumption that the two theoretical variances are not equal (Satterthwaite's method).

\*\*The test is computed under the assumption that the two theoretical variances are not equal (Cochran-Cox's method).

**Figure 1. The determinants of production and reading of the consolidated audit reports: qualitative determinants**



Faisal, Mishari, Eyad, and Saad (2012) examined the use of a joint audit process and the level of compliance with IFRS in listed financial institutions in Kuwait. The main results reveal that financial institutions audited by dual auditors were more compliant with IFRS-required disclosure than financial institutions audited by joint auditors.

As the second determinant of linguistic compliance, we believe that compliance with ISAs increases when the consolidated auditor’s report was signed by joint auditors. For most linguistic measurements, empirical analyzes show that the joint audit reports are not the most consistent with international standards on auditing. The reports signed by one independent auditor are more homogeneous and are based on standards: ISA 700, ISA 705 and ISA 706. Statistically, the second hypothesis (Assumption that compliance with ISAs increases when the consolidated auditor’s report was signed by joint auditors.) is not accepted (Table 15).

**7. Implication and discussion of empirical results**

In this research, our empirical investigation focused on the phenomenon of communication of consolidated reports. In Tunisia, the consolidated audit reports are difficult to read for many users of financial statements. Overall, the linguistic structure of these reports is consistent with international standards on auditing. Linguistic difficulties require extensive discussion of the role of the consolidated audit reports. The results of this study encourage future research to analyze the informational value of audit reports and the quality of the financial audit.

**7.1. The illegibility of consolidated audit reports and reduction relevance of financial information**

The readability of the consolidated audit reports reduced the informational framework of the financial statements in Tunisia. When the audit messages are not understandable, users of financial information cannot interpret the content and parts of the consolidated financial statements. In addition, the incomprehensibility of audit information cannot enhance trust in corporate disclosures. The financial statements lose their usefulness and relevance when the report of the independent auditor is not decoded by readers and Stakeholders. Thus, the illegibility of audit results intensifies the problems and risks of information decoding.

The lack of readability in audit reports may reduce the credibility of the management bodies who are responsible for preparing financial statements. This credibility is needed to maintain the integrity of the management groups of companies and the quality of financial information. The illegibility of the opinion of the independent auditor increases the ambiguity of annual reports.

It is generally accepted that the financial audit is a mechanism that improves corporate governance. The incomprehensibility of audit reports minimizes users' confidence in the financial statements. The illegibility of the consolidated audit report does not clarify the responsibility of the financial auditor, the responsibility of management, and those charged with governance of the entity.

Corporate governance issues are not resolved when the consolidated audit reports are incomprehensible. Reading difficulty can amplify the imperfections of corporate governance mechanisms. The unintelligibility of the consolidated audit reports hinders the quality of the financial audit. This quality influences the reliability and relevance of financial reporting. The informational value of audit reports will be jeopardized if the audit quality is low. The current audit standards influence the structure and readability of audit reports on the consolidated financial statements. Consequently, the quality of these reports is conditioned by the linguistic characteristics of three international auditing standards: ISA 700, ISA 705, and ISA 706 (Figure 1). Despite the evolution of standardization of audit, ISAs are not always perfect.

### **7.2. The quality of audit information and improvement in the structure of the consolidated audit reports**

Firstly, we believe that the consolidated audit report should be a separate standardization. A specific standard on the consolidated report can improve all qualitative characteristics of consolidated information.

The expanded audit report can improve the quality of financial reporting (Hatherly, Innes, & John & Brown, 1991; Innes, Brown, & Hatherly, 1997). The auditor's report could be extended to provide more financial information and audit results. Additional technical information can improve the intelligibility of audit reports such as:

- Areas of risks that are identified by the auditors
- Financial issues that are the subject of professional judgment
- The level of significance
- The effectiveness of internal controls of the entity
- The quality and effectiveness of the governance structure.

The communication of the additional information facilitates the evaluation of the financial situation and the performance of the company.

In the final analysis, the contribution of this research may be limited. First, it is important to note that readability formulas do not fully measure the comprehensibility of texts (Préfontaine and Lecavalier (1990), GélinasChebat et al. (1991) and Trudeau (2003)). In this regard, several authors point out that these formulas neglect several qualitative factors that hamper intelligibility information such as agreement errors, the use of inappropriate words, errors structure.

Second, the use of analyzers text is not always sufficient. All analyzers display indicators that partially describe the linguistic characteristics of texts. Most computer programs cannot evaluate illustrated text and tables that enhance the intelligibility of audit information. In addition, the majority of analyzers ignore the real abilities of readers and personal decoding capabilities.

### 7.3. Discussion of research limitations

In this article, we deployed several efforts to analyze the linguistic characteristics of the consolidated audit reports that are issued in Tunisia. Despite the contributions of the international standardization of audit, these reports suffer from imperfections that reduce the performance of financial communications.

Despite our efforts, our investigations may be limited. First, it is important to note that several researchers have criticized the mathematical formulas that measure the readability of text. For this, the linguistic literature recommends several hypotheses discussing the predictive abilities of these. According to several authors:

- The readability formulas do not consider the true abilities of texts from readers
- Readability formulas apply for prose texts. They cannot assess the comprehensibility of the tables, the intelligibility of illustrations, and diagrams that influence the interpretation of information; and the readability formulas do not allow the assessment of the meaning of sentences. They neglect the structure and composition of texts.

For this research, the empirical results should be interpreted with caution because the number of audit reports was not high. Thus, the sample size of the study can influence statistical inference and generalization of the analyzed phenomena.

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