

Target consistency	X	X	X	X	X
Change report				X	
Multiple files	X	X		X	X
CamelCase	X	X	X	X	X
Terminology	X	X	X	X	X
Checklists	X	X			X
PowerSearch* ***	X	X	X		X
Profiles*****		X		X	X
Report	X	X	X	X	X
Command line*****					X
DNT List	X	X	X	X	X

* Potentially untranslated text

** I.e. unpaired parentheses, square brackets, or braces

*** Setting with minimum number of untranslated consecutive words

****Searching modes: Simple, Regular Expressions, and MS Word Wildcards.

***** “Profiles” are custom QA and language settings that are selected for a specific customer

***** It allows to automate the QA tool without processing files via the graphical user interface

Even though those tools have many similar settings, some of them are preferable to others.

As has been described in the ISO 17100 standard, client requirements are determined before the start of a translation project. The following files are usually requested at the time of delivery:

“Deliverables:

1. Cleaned files
2. _____ QA report with commented issues”

The blank space usually signifies which type of report if required. "Commented issues” relates to all false positives that are inevitably detected. A few such examples are given below.

5. QA Tools Output Comparison

As already established, those tools have many common characteristics, but also a lot of different ones. Some of them can be connected to a CAT

tool, while others cannot. They all verify terminology, inconsistency, numbers, tags, links, and create an exportable report (mostly in excel format), which can then be verified by a QA specialist, or sent to the translator, who worked on the project. This last step depend on what practices have been adopted by the participants in the project. Although those tools provide an excellent quality when used for the verification of formal characteristics of a translation, they are not perfect. False-positive errors can be a difference in spacing rules from SL to TT, difference in length from source to target, the word forms, instruction regarding numbers. Each specific QA tool is better at detecting something than the rest. For example, in English, a number and its unit measures are written without a space in-between, while for Norwegian it is mandatory to write the number separated by a space. In an Ltb report, this will be indicated as an error. Another false-positive issue is the difference in length from source to target. When the target is 20% longer, Verifika indicates it as a possible error, even though languages have distinct semantic and morphological structures. Xbench is unable to detect linguistic differences as well. In order to achieve the best possible outputs, it is mandatory to set specific settings for every project by installing the proper language and settings.

Below are listed examples from exported reports from Xbench and Ltb. Since they have a lot of common features, it will be interesting to verify how they behave with identical settings.

In addition, it is important to briefly touch upon privacy restrictions. As quality notion is previously agreed upon by petitioner and translator, so are confidentiality agreements. Texts are not to be shared or inserted into machine translation engines under any circumstances. For the needs of this paper, and only with a previously corrected text, that would not contain any sort of references about the client, it was possible to use parts of the hereby-listed examples.

Further down are a few examples of how those tools detect possible errors and visualize them. An identical text has been imported in Xbench and Ltb. Only their general settings are activated. This is due to the fact that each translation project is characterized by specific settings related to the

client's requirement and instructions. The translation is from English to Bulgarian.

EN	Ltb	Xbench
Dear Mr/Mrs [NAME],	Уважаема г-жо/г-не <x id="213" mmq78catalogvalue="<nt s value=""[NAME]" t;/>" mmq78shortcatalogvalue="nts" />,	Уважаема г-жо/г-не [ИМЕ],

Table 1: Link visualization.

Both tools have identified that between the parentheses there is a link, but have visualized it in a different way. In the Ltb report it is far more difficult to see where the issue is.

EN	Ltb	Xbench
xxx@123456group.com	xxx@123456group.com	xxx@123456group.com
<g id="383">2B.</g>		<g id="383">2B.</g>

Table 2. Segment not translated

While both tools have identified that the email addresses have not been translated, only Xbench has identified the other segment as untranslated.

EN	Ltb	Xbench
NA		Неприложимо

Table 3. Uppercase mismatch

This issue has been detected only in the Xbench and not in the Ltb.

EN	Ltb	Xbench
Please answer any incomplete (red) questions before trying to submit.	Отговорете на всички непопълнени (в червено) въпроси преди изпращане.	

Table 4: Difference in error detection.

It frequently occurs that a tool will determine something as a potential error, which another tool will not. An example is the Bulgarian word "непопълнени". The file is less than a 100 words. Xbench has detected no errors, while the Ltb has registered a possible spelling error. Even though here we have only a few examples, it is enough to see that Ltb is better at spelling, while Xbench verifies more possible errors on a segment level.

All of the above are false positives. In a real work situation, those issues will be declared "False" or marked "Ignore" before delivering them to the client. A QA specialist or an experienced translator will immediately understand which of those warnings are real and which are not. Nevertheless these tools help visualize quickly what can be wrong with a text, especially when the settings for the specific project are set correctly.

6. Polls

Over the years many researchers have attempted to determine what the current state of affairs is within the translation industry. Julia Makoushina describes in her article (2007), among other things, awareness of existing QA automation tools, the distinct approaches to quality assurance, the types of QA checks performed, the readiness to automate QA checks, and the reasons not to. According to her survey, 86.5% of QA tool users represented translation/localization service provider companies, while a few were on the service buyer side, and 2 were software developer representatives. 1/3 reported that they applied quality assurance procedures at the end of each translation. Small companies applied QA before delivery. 30% of respondents applied QA procedures to source files as well as to final ones. Over 5% of respondent companies, mostly large ones, didn't apply any QA procedures in-house and outsourced them. Other QA methods (selected by

4.62% of the respondents) included spot-check of final files and terminology check, while the most popular response in this category was "it depends on a project". The least popular check for that period was word-level consistency, which is often one of the most important checks, but on the other hand is very difficult and time consuming. The most popular QA automation tools were those built into the TM tools - Trados and SDLX. Almost 17% of large companies indicated they used their own QA automation tools. Other tools specified by respondents included Ando tools, Microsoft Word spell-checker and SDL's ToolProof and HTML QA. Also SAE J2450 standard and LISA12 QA model were mentioned which are not in fact QA automation tools, but metrics.

In 2013, QTLaunchPad¹¹ analyzes which models are being used to assess translation quality. Nearly 500 respondents indicated to use more than one TQA model. This happens because in certain cases, the models depend on the area of application. Such shortcomings lead to the use of internal or modified models in addition to the above. Internal models were by far the most dominant at 45%. The QA options included in a CAT tool, were also popular at 32%. The most widely used external standard was EN 15038 followed (30%), followed closely by ISO 9000 series models (27%). Others had no formal model (17%), and 16% employed the LISA QA. To the question which QA tools are being used, most respondents use a built-in QA tool functionality of their existing CAT tools (48%) or their own in-house quality evaluation tools (39%). Here too, in some cases, more than one tool is used. Particularly popular choices were ApSIC Xbench (30%) and Yamagata QA Distiller (12%), yet 22% state they do not use QA tools at all.

The situation has not changed much, as can be seen from a poll from few years ago from SDL Trados¹². The poll is based on the responses from the Translation Technology Insights Research 2016¹³. One of the key findings of the research is the overriding importance of translation quality (it has been pointed as 2.5X more important than speed and 6X more important than cost). At the same time, 64% of the polled have to rework their projects. Terminology is the top challenge. Those

who face rework have to deal with 'Inconsistencies in the use of terminology' - almost 48%. Another fact is that quality assessment is largely subjective. 59% of respondents are not measuring it at all or using ill-defined or purely qualitative criteria. Only 4% are relying entirely on formal, standardized metrics for quality assessment. This result is echoed in a question asking about feedback received: Twice as many receive subjective feedback as getting objective feedback. 59% either don't measure translation quality at all, or use ill-defined or purely qualitative assessment. In details, 35% have no measures or have ill-defined ones. 24% rely on qualitative feedback, 37% have adopted mixed measures and only 4% of respondents have adopted standardized assessment procedures.

According to the same poll, in order to improve translation quality, it is necessary to prioritize terminology management (as terminology inconsistencies are the top cause of rework), participants should familiarize themselves with existing international standards and adopt formal objective approach to measuring quality.

7. Conclusion

Translation quality assurance is a crucial stage of the working process. QA tools are convenient when it comes to both the economical aspect and time-consumption of the work process. Their adoption has helped to create new professions in the industry.

Although the examples that have been shown are mostly false issues, this does not mean that those tools are not able to detect real errors in a text, be it source or target. QA tools are valuable when there is necessity to verify if the right terminology has been followed, and that there are no inconsistencies in the translated text. The last one was previously not considered as important.

¹¹ QTLaunchPad is a two-year European Commission-funded collaborative research initiative dedicated to identifying quality barriers in translation and language technologies and preparing steps for overcoming them. <http://www.qt21.eu/>

¹² <https://www.sdltrados.com/download/the-pursuit-of-perfection-in-translation/99851/>

¹³ <https://www.sdl.com/software-and-services/translation-software/research/>

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