

# Top-down or bottom-up: what do industry approaches to translation quality mean for effective integration of standards and tools?

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## 1. Introduction

Translation quality matters in the industry, and for different reasons than in translation studies. Providers have to measure, compare and guarantee quality throughout the translation process. Before winning contracts, they must convince clients they can deliver translations more reliably or efficiently than rivals. During translation, feedback on aspects of quality might be expected. Post-project, decisions affecting quality must be justified or repaired at no additional cost. At the strategic level, quality is important when planning, allocating resources, designing training and support, ensuring return on investment (ROI), or measuring the impact of change. The industry is driven to maintain quality while reducing costs or deadlines, or to improve quality, usually without increasing costs or extending the time needed for translation.

None of this is new, but there has been a fresh turn to translation quality, due to the combined effects of the Information Age, changes in the types of translation needed, rising demand, and growth in opportunities for international trade when home markets in many regions are stagnating or declining. Translation happens faster today for more - and more diverse - clients, into an increasing number of target languages, across more technical formats, using more complex tools, and is increasingly subject to international standards. Source texts are also more complex, perhaps co-authored by teams working in a shared language which is not their mother tongue, and regularly updated.

## 2. Research methods and questions

Research on translation quality in such real-world contexts has barely begun. Researchers have devised models to assess quality then tested them on short - often literary - texts in a single language pair/direction (Al-Qinai, 2000; House, 1997); or measured the effects of a single intervention, such as using a translation memory (TM), in artificial settings - usually a small group of student subjects translating a short text in a single language pair/direction in a university lab (Bowker, 2005; Teixeira, 2011); or focused on post-editing machine translation (MT) (Fiederer & O'Brien, 2009); or assessing quality in student translations (Delizée, 2011). In contrast, the research reported here observed language service providers (LSPs) of all sizes over a decade. Challenges for this approach are significant. How can we study translation quality across dozens of language pairs, in different specialisations, for diverse clients, produced by thousands of translators to varying deadlines, using a range of tools and resources? Methods were tested and revised during the research, including the use of questionnaires, workshadowing, interviews, and Think-Aloud Protocols (TAPs), drawing on a range of disciplines. A modified form of Grounded Theory (Glaser & Strauss, 1967) was then used to describe common features of real-world approaches. Initial conclusions were tested with some providers before arriving at the published classification (Drugan, 2013).

Industry approaches to translation quality can be grouped in two broad camps: top-down and bottom-up. I identified eight further sub-models within these two camps, and described their distinctive features. The research initially focused on classifying the range of industry approaches, and mapping their key features. This article digs deeper on two questions. First, what does a top-down or bottom-up approach to translation quality mean for use of *tools*? Second, what does a top-down or bottom-up approach to translation quality mean for integration of *standards*? These questions are related to one another, and to translation quality. Tools and standards are designed and adopted to guarantee, measure or improve quality; or, at least, to maintain quality levels while producing translations more efficiently. Their likelihood of success may be linked to how translation quality is understood in the different models.

### 3. Top-down and bottom-up models

What is meant by ‘top-down’ and ‘bottom-up’ in practice? Top-down approaches are hierarchical, driven from the top. They harness translation expertise and aim to manage or control quality levels. Associations with this group of approaches are traditional, conservative, authoritarian, or paternalistic. Bottom-up approaches, in contrast, are led by users or suppliers themselves. They draw on target-language ability and/or product expertise, combined with end-user feedback loops, rather than translation competence. Associations with this group of approaches are novel, radical, egalitarian, or democratic. In the top-down category, I identified five sub-models: *Maximalist*, *Client-driven*, *Experience-dependent*, *Content-dependent*, and *Purpose-dependent*. In the bottom-up category, I found three sub-models: *Minimalist*, *Crowdsourced*, and *User-driven*. For each of these eight sub-models, a relatively ‘pure’ form was outlined in detail (*Ibid.*: 127-173), based on a real provider which hosted one or more research visits, sometimes over several years. I describe the main features of each approach, including details of how suppliers are recruited and assigned to projects, any pre-translation tasks, tools and resources used, quality checks during the project lifetime, post-translation checks, return of work, post-project review and ongoing planning. As well as the ‘pure’ forms of sub-model, a given project or provider might combine aspects from more than one sub-model in a hybrid approach. The Organisation for Economic Co-operation and Development (OECD) uses a model combining aspects of Content-, Experience- and Purpose-dependent sub-models, for example (Prioux & Rochard, 2007). Similarly, providers operated various models or hybrids for different translation projects.

This discussion is based on broad definitions of translation quality and professional translation. The inclusion of some approaches, such as user-generated translation, might be questioned, as these generally do not involve professionals. A broad understanding of LSPs was chosen to include emerging bottom-up approaches which are increasingly filling gaps in professional provision. Demand for translation is not met by the industry, so it seemed important to capture what was happening in these contexts too.

### 4. Top-down and bottom-up models and tools

Is there a relationship between top-down or bottom-up approaches and integration of tools? Do top-down models impose use of certain tools, while bottom-up models leave users to decide, for instance? A review of a representative range of providers within each of the eight sub-models demonstrated significant diversity. As Cronin points out (2003), translation *is* tools. Without tool use, we would be discussing interpreting. Translation is based on a long history of harnessing tools, whether parchment, quill and early dictionaries, or current combinations of terminology management, MT, TM, localisation tools and add-ons, or potential ‘personalized’ MT environments integrating predictive text and adaptation to individual users’ styles and preferences (Green *et al.*, 2014). Given this rich history and today’s diverse industry, a range of approaches to tools was predictable.

Top-down sub-models were first reviewed, concentrating on requirements regarding the use of tools. Some Maximalist approaches mandated use of given tools and resources (e.g. imposing locked segments in TM content). Even in the most extreme Maximalist settings, however, tool use was not required for all jobs. In most top-down settings, users decided whether and when to use tools, though they were offered ‘hidden’ or unprompted resources and support, with investment at the design stage (creating and supporting highly customised versions of tools). Translators were encouraged to harness useful features by default suggestions, via concordance features in editing interfaces or colour coding of source texts to highlight potential matches in previous translations, even without TMs.

The principal tools used in top-down models were for terminology, TM (including localisation), corpora<sup>1</sup>, bespoke MT, and automated quality assurance (QA). These tools were used in heterogeneous combinations, alongside personal resources such as specialised glossaries. A common feature of top-down models was the quality ‘gatekeeper’: where translators suggested new content, gatekeeper authorisation was needed before incorporation in databases. In-house and external suppliers were separated, so content was only approved for databases if authored by in-house translators or freelance suppliers who met imposed quality ‘standards’ (e.g. translation for the organisation for several years). This aspect of top-down approaches had perverse effects for consistency and quality, because excellent content was excluded. Top-down approaches to tools usually accorded significance to training in ‘appropriate’ tool use.

Bottom-up sub-models were next reviewed. Use of tools was occasionally mandated for specific formats (e.g. in Free and Open Source Software (FOSS) localisation projects, users had to select one of four interfaces). Because many such contexts depend on tools to exist (e.g. free online machine translation (FOMT) to generate website translations), tool use was effectively imposed, but selection of any particular tool or workflow remained user-driven. Bottom-up sub-models shared an emphasis on offering tools, resources and support then letting translators decide whether to adopt them. The community approach meant additional support for novice users and informal training resources. Instead of emphasising initial training and mentoring, bottom-up models archived records of previous translation issues then made these easily searchable by users. Discussion boards, wikis, YouTube videos and blogs provided peer support for collaborative working. Unlike top-down models, where providers must reassure clients as to translation quality, bottom-up participants were encouraged to admit weaknesses so others could help. Feedback from motivated end-users meant translation was never viewed as complete. Different tools were used: terminology and TM tools were widely available, but Open Source (OS) or customised collaborative platforms and editors were the norm, rather than proprietary tools. Informal corpora were widely integrated, particularly through quick search features to identify similar previously translated content. FOMT was harnessed as a matter of course. No bespoke automated QA tools were observed, though translation environments included QA features such as terminology verification.

Integration of tools relied on some top-down approaches. User behaviour was directed via ‘rules for translators’, style guides, or getting started guides stipulating tools and workflow. Localisation leads, super-users or experienced contributors performed management roles akin to those of quality gatekeepers in top-down models: ranking translations, deciding when translators disagreed, or signing off approved versions of translations before release. Contributors might be unaware of these features.

How might common top-down attitudes to tools affect translation quality? One strength lies in their ability to impose aspects which prove useful for quality, while maintaining scalability. Best practice can be observed and disseminated efficiently. Understanding of clients and the industry has benefits for quality and continuity, as do staff retention, effective training, and high levels of experience. Top-down approaches dominated in large providers with extensive customisation: dedicated IT support staff managed bespoke solutions, interoperability and transfer of resources across tools and formats, and fixed bugs, so translators could concentrate on content. Top-down approaches mean problems can be caught rather than delaying delivery - the ultimate quality failure being to miss a deadline.

During the research, larger providers began recruiting to new roles in translation quality management. This enables and emphasises ongoing review of quality processes. Gatekeepers for translation content can make similarly beneficial contributions: checks by experienced staff meant only high quality material was re-used. Large clients with ongoing translation needs preferred top-down models because problems can be addressed then prevented for fu-

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<sup>1</sup> Usually informal collections of texts, with search buttons giving quick access to previous translations, alignments or related source documents.

ture projects. They also appreciated guaranteed levels of quality across multiple languages. For multilingual contexts, language leads could discuss shared projects and share knowledge or innovation. Clients saw quality as linked to other aspects of translation provision, notably confidentiality and ownership of resources. Top-down providers were able to guarantee such aspects.

Some of these features are absent in bottom-up models. Imposing processes or tools was rare or impossible. How then did common bottom-up approaches to tools affect quality? Rather than imposing certain features, the bottom-up approaches could instead harness an unusual degree of provider enthusiasm and commitment, both to design and use tools. Community support and provider knowledge of products for translation were key. Bottom-up models integrated end-user feedback to improve translation quality via buttons, voting features or discussion boards. The chief drawback for quality in this method lay in the high turnover of volunteers, making ongoing quality planning and review challenging. Most bottom-up providers had some limited management behind the scenes for this reason.

Ethical aspects of translation quality were more apparent in bottom-up models. Some translated content with high quality requirements is not, and is unlikely to be, funded. For instance, Wikipedia articles on medical topics are the most used online healthcare resource<sup>2</sup> in the world and are widely accessed in translation, but translation quality depends on volunteers. In contrast, some amply funded translation content is ephemeral, or commissioned but never used. Allocation of high quality translation resources is not linked to where the need for high quality is greatest. Conversely, bottom-up approaches enabled translation that would otherwise never happen, sometimes with wider societal and ethical benefits. An illustration here is the localisation of OS resources for Lao, with integration of translation tools and resources enabling important progress in standardisation of the complex script and the language itself<sup>3</sup>.

## 5. Top-down and bottom-up models and standards

Standards are linked to tools and translation quality. The term refers both to *technical standards* to enable translation (e.g. Unicode) and to *quality management standards* applied to translation processes (e.g. the ISO 9001:2008 standard). The translation industry is unexceptional in its embrace of the latter sort of standards, as the ISO series relates to process quality management across industries. Did top-down and bottom-up approaches predict a different attitude to such standards? The sub-models in each camp were reviewed with this question in mind.

For top-down approaches, adoption of standards was observed mainly in the Maximalist, Client-Driven and Content-Dependent models; among Multi-language vendors (MLVs) rather than smaller providers, with some exceptions in regulated sectors such as automotive translation; and where ROI on substantial long-term contracts justified the effort and investment to devise and refine the requisite policies and procedures. A ‘bandwagon’ effect was observed: once standards were adopted by some MLVs in a sector or region, there was a need for others to demonstrate compliance or ability to meet the same standards. Suppliers who qualified for certification to quality standards emphasised this prominently in sales and marketing materials, making clear links between certification and a commitment to translation quality in general. Certification to quality management standards does not mean that all jobs are certified, however. Certification is for companies, rather than projects, and the additional resources implicated in complying with the standards make them prohibitive for most projects. This may be misunderstood by clients, with associated potential for misplaced confidence in such apparent badges of quality. Beyond ISO or related national standards for translation quality, a more common feature across the top-down models was integration of informal industry or

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<sup>2</sup> See [http://en.wikipedia.org/wiki/Wikipedia:WikiProject\\_Medicine/Translation\\_Task\\_Force](http://en.wikipedia.org/wiki/Wikipedia:WikiProject_Medicine/Translation_Task_Force).

<sup>3</sup> See [http://en.wikibooks.org/wiki/FOSS\\_Localization/Localization\\_Efforts\\_in\\_the\\_Asia-Pacific#Lao\\_Localization](http://en.wikibooks.org/wiki/FOSS_Localization/Localization_Efforts_in_the_Asia-Pacific#Lao_Localization) for details.

sector norms relating to translation quality processes. These were poorly understood by both providers and clients. Freelance translators were often unclear whether their translations would be revised in full or via sampling after return to agencies, for instance, and clients were clearly surprised to learn during interviews that their texts might not be edited and proofread from start to finish. Some top-down models did place greater emphasis on their own internal quality standards and processes, notably in the Maximalist models.

Standards for translation quality processes were conspicuous by their absence from bottom-up approaches. Given the emergence of such approaches for technical or ICT settings, technical standards dominated rather than those such as the ISO or CEN standards. These latter standards were not found in any in the bottom-up models. Instead, informal quality ‘standards’ were widespread, relying on style or quick-start guides, ‘rules for translation’, archives, community guidelines and norms. This absence of formal quality standards does not straightforwardly predict low levels of eventual translation quality, however. Alternative methods filled the gap in bottom-up approaches, bringing some novel benefits for quality.

Nor was there a straightforward positive relationship between top-down adoption of standards and effects for translation quality. Because standards for quality management focus on *processes*, compliance and certification might not actually guarantee high quality translation *products*. Indeed, the costly and lengthy certification process itself, and subsequent administration of the standard, tend to divert resources to process management instead of translation. Unless clients value the standard and pay extra for certified providers, the proportion of project funds spent on translation can be cut to support the processes. The nature of the standard protocols and processes make compliance inefficient and inflexible, unless it is sensitively managed. Once processes are defined and agreed, any subsequent revision is costly, cumbersome and again diverts resources from translation. This means that standards affect providers’ ability to respond nimbly, for instance to the rapid pace of change in society or technology.

A risk for quality of such standards is that they encourage providers and clients to focus on what can be measured and recorded, rather than on important aspects of quality which are challenging to define or guarantee. The National Standard of the People’s Republic of China GB/T 19363.1-2003 stipulates a dress code for receptionists working in the industry, which is unlikely to have any direct bearing on the quality of the translation products. A more important absence from quality standards is the end-user of translations. Standards are based on processes agreed between clients and providers, so cut a significant stakeholder - the eventual beneficiary or user of translation - from the discussion, unless providers choose to integrate user feedback as a standard workflow process. This was not observed in any visit to certified providers or in their documentation relating to standards.

In contrast, bottom-up approaches emphasised user input to assess and improve translation quality. Bottom-up approaches operated outside formal translation quality management standards, but (perhaps as a result?) relied on an unusual degree of user feedback to refine translations. End-users were integrated widely in evaluating translation quality and improving it, via buttons, wikis, voting, discussion boards, blogs and other interactive features designed into the tools. This process was also viewed in bottom-up models as an evolving one. In this, it was in evident contrast to the sort of in-country review (ICR) sometimes integrated in top-down models near the end of the translation workflow. In the bottom-up models, translations continued to evolve as contexts for their use evolved or new users brought different quality expectations.

## 6. Conclusion: Findings and lessons

No straightforward pattern was found between top-down or bottom-up approaches to translation quality and respective attitudes to tools or standards. Instead, positive practice was identified across the range of approaches. Top-down approaches were more able to impose good practice; harness tools effectively through training, customisation and support; invest strongly in resources; retain and reward staff expertise; ensure client confidentiality and confidence;

and scale processes to suit different contexts, including certification to internationally recognised standards, perhaps with benefits for the status of the profession. Bottom-up approaches were more able to draw on emerging technological features to enhance translation quality in imaginative ways; adapt quickly to changing contexts for translation, without having to confront institutional barriers or standards; harness positive features of the top-down models behind the scenes; and draw on providers' enthusiasm and technical skills, and end-user feedback.

Negative impacts for translation quality were found in both models too. The top-down approaches' reliance on gatekeepers and mandated uses of some tools or workflows meant high quality content was excluded from resources and lost for future re-use. Compliance with standards had perverse effects for translation quality. One conclusion of this study is that standards and tools interact with each other in the real world, with as yet unmeasured effects for translation quality. Top-down models' integration of standards for quality management can actually impede nimble reactions to evolving translation contexts, lead to a 'one-size-fits-all' approach, and block early adoption of new technical features. Standards can in this view be seen as potentially in opposition to effective use of tools, and indeed translation quality itself.

Further work is needed. Significant sectors and providers remain unmapped, notably some language pairs and regions (South America, Eastern Europe), specialisations (literary translation, game localisation) and translation providers working with direct clients at the high end of the profession. Problems remain in identifying methodologies to research the industry in the workplace rather than the lab. Encouragingly, increasing attention is being paid to this sort of approach across the piece: in translation studies (e.g. by the PACTE group, Barcelona, Spain; and the EXPERTRANS research group, Oslo, Norway); in the translation industry (e.g. by the W3C World Wide Web consortium); and via industry-academic cooperation (e.g. under the auspices of TAUS).

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