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The challenge of quality management in crowdsourced translation: the case of the NGO *Translators Without Borders*

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ABSTRACT

The rise of machine translation and translation memories along with the technologies of the Web 2.0 have brought about new flavours and workflows, setting new challenging research pathways for translation studies. Emerging crowdsourcing-based models have been presented as *de facto* mainstream approaches in the translation industry. Therefore, exploring the newborn approaches and processes is a priority for translation studies for better insights and further understanding of relevant impacts that may reach the stage of deprofessionalizing the discipline and marginalizing the profession.

To pursue this question, the present paper explores a unique and interesting model of translation that is both crowdsourced and collaborative, the non-profit organization *Translators Without Borders* or *TWB*. *TWB* does not only resort to crowdsourcing to provide humanitarian translation services on pro-bono basis but also maintains a global network of volunteers and deploys a fully fledged environment for translation management as well as quality assurance and control. This paper demonstrates the array of processes adopted by *TWB* to manage quality and the myriad of challenges it presents. Through *TWB* model study, this paper investigates the way various theoretical concepts are confronting the industry realities and implications and examines the extent of dynamicity and tolerance thresholds in the application of such concepts.

Keywords: Crowdsourcing, collaborative translation, volunteer translation, translation quality, quality management, quality assurance, quality control

1. INTRODUCTION

The progressive advancement in technology has been shaping and shifting the translation industry over the last few decades in the most dynamic and innovative ways. The traditional translation landscape has been overdrawn by a more multifaceted and complex digital environment, giving rise to new trends that, magnified by the powerful means of globalization, have been downsizing brick-and-mortar offices. One of the most remarkable, yet relatively controversial, trends are crowdsourced and online collaborative translations.

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Crowdsourced and online collaborative translations, simply explained, are the use of technology enabling multiple participants to collaborate remotely and simultaneously on a translation task or project. Nevertheless, this definition is very basic and partial and will be explained further in this paper.

Resorting to crowdsourcing in translation is of great benefit from the business point of view; businesses can localize their activity, get a cheap and real-time translation, and collaborate with a myriad of translators across the globe. However, the use of different resources (as in the crowdsourced and collaborative translations) would yield linguistic troubles and shortcomings and raise concerns about quality and, particularly, challenges to quality management.

Nevertheless, many crowdsourced and online translation workflows have succeeded in setting up exemplary models that are worthy of understanding, investigating, optimizing, and even replicating. One model that stands above many is the NGO *Translators Without Borders*, as discussed as from the third section of this paper.

2. BACKGROUND

2.1. Crowdsourcing: from the portmanteau to the umbrella

American Journalist Jeff Howe used the term "crowdsourcing", coined as a portmanteau of "crowd" and "outsourcing", for the first time in his *Wired* magazine article "The Rise of Crowdsourcing" in 2006.[1] In his seminal article, Howe defines crowdsourcing as the act of outsourcing, under an open call, a job conventionally performed by a designated agent – usually an in-house agent – to a group of people or a sole individual.[2] In the same way, MIT scholar Brabham asserts that crowdsourcing, based on "problem solving" and "task realization", is deeply rooted in the Web 2.0 reality and virtuality, leveraging collective intelligence or "the wisdom the crowd" to perform any given task.[3] The crowd can encompass amateurs, volunteers, experts, companies, and any entity connected to the Web.[4] Indeed, the array of crowd flavours and crowdsourcing applications gave birth to endless internet initiatives that have been sheltered under the umbrella term "crowdsourcing"; definitions to crowdsourcing have, thus, proliferated and boundaries between what is crowdsourcing and what is not have gained further uncertainty.

In this regard, Estellés-Arolas and González-Ladrón-de-Guevara reviewed different crowdsourcing definitions[4–8] with the aim of extracting therefrom all the elements that would allow setting boundaries between true crowdsourcing and any other Internet initiative.

Departing from these definitions, the authors identified eight founding elements that define any crowdsourcing initiative. These elements are: (E1) a clearly defined crowd, (E2) a task with a clear goal, (E3) a clear reward for the crowd, (E4) a clearly identified crowdsourcer, (E5) a clearly defined compensation to be received by the crowdsourcer, (E6) an online-assigned process of participative type, (E7) an open call of variable extent, and (E8) an online medium.[9]

Jiménez-Crespo states that "the majority of publications used one of the three aforementioned definitions: Howe's (2006), Brabham's (2008, 2013), or Estellés and González's (2012a)".[10] It is clear that the three aforementioned definitions, though not completely exhaustive, are relatively inclusive in terms of defining crowdsourcing and setting its boundaries and general traits.

As far as translation is concerned, crowdsourcing, while being a portmanteau word meaning outsourcing a translation task to the crowd via an open call, is an umbrella term that encompasses many web-based translation flavours including, *inter alia*, collaborative translation, community translation, volunteer translation, activist translation, and crowd post-editing. Such flavours are not mutually exclusive as it will be shown below. Translation crowdsourcing, in line with the three aforementioned definitions, is in fact a translation model that calls upon a large virtual crowd on the web to accomplish given translation tasks.[11]

2.2 Collaborative translation

Collaboration is omnipresent and "evident in all types of translation scenarios and across the whole process of translation, from authors, publishers, to translation agencies and to translators".[12] Indeed, collaborative translation, as understood in the new web-based working environments, shares many features with the broader paradigm of "crowdsourcing".[10] Both rely on the Internet to exist as they have been boosted by the collaborative and social networking technologies that have emerged in the wake of the Web 2.0 advent. Likewise, a translation can be both crowdsourced and collaborative at the same time.

In this regard, Désilets and Van De Meer,[13] while presenting crowdsourcing as a flavour of

collaborative translation, explain the different uses of collaborative technologies and approaches in translation as follows:

- **Agile translation teamware:** agile and parallelized systems and processes that allow linguists (translators, revisers, terminologists, etc.) and non-linguists (domain experts, managers, etc.) to collaborate on translation projects;
- **Collaborative terminology resources:** Wikipedia-like platforms where a crowd of translators, terminologists, domain experts, and even general members of the public may create and maintain terminology resources;
- **Translation memory sharing:** platforms for large-scale compiling and sharing of multilingual parallel corpora between organizations and individuals.
- **Online marketplaces for translators:** eBay-like environments for connecting customers and translators directly, with reduced role of a middle man.
- **Translation crowdsourcing:** mechanical Turk-like systems that, through an open-call process, allow the translation of a variety of contents by large crowds of mostly amateurs.
- **Post-editing by the crowd:** systems allowing a large crowd to correct the output of machine translation systems for a better quality and improved accuracy.

While the two authors focus on the collaborative systems and processes enabling translation crowdsourcing, others may shift the focus to the factors involved in applying crowdsourcing as a translation model. Flanagan distinguishes between non-profit and for-profit translation crowdsourcing with three factors involved in both. Such factors were synthesized as follows:[14]

Table 1. Flanagan's overview of translation crowdsourcing elements[14]

Factor	Non-profit		For-profit	
Payment	No payment (humanitarian or social cause)		No payment: Material incentives (gifts, tokens, or clothing) Virtual incentives (name on the leader board, badge, mention on the company/organization blog) Invitations to exclusive events	
			Payment: Paid crowdsourcing	
Crowd	Open community (no restriction on the crowd)	Amateur Professional	Open community	Amateur Professional
	Closed community (preselection via screening tests or setting conditions)	Amateur Professional	Closed community	Amateur Professional
Call for participation	Content-owner-initiated call		Content-owner-initiated call	
	User-initiated call		LSP makes call	
			Cloud marketplaces make call	

The table above is indeed a versatile tool in exploring and examining any given translation crowdsourcing model. For this reason, elements from the table will be subsequently used to explore the translation crowdsourcing model this paper examines and outline the main features, components, and processes thereof.

Moreover, the clustering of crowdsourced translation flavours into "for-profit" and "non-profit" prompts the discussion about a unique type of crowdsourcing that has been effectively harnessed for humanitarian causes, that being community or volunteer translation.

2.3 Volunteer translation

Olohan defines volunteer translation as a translation that is "conducted by people exercising their free will to perform translation work which is not remunerated, which is formally organized and for the

benefit of others".[15] This type of translation, also known as "community translation" in relation to "community interpreting", is both crowdsourced and collaborative.[16] It relies on the "wisdom of the crowd" to make a difference in the world and to serve humanitarian causes or supporting information sharing.

As per the initiative in online volunteer translation, O'Hagan distinguished between "solicited" and "non-solicited" models. Under solicited models, a call to the community is put out by companies, institutions, or non-profit organizations to complete a specific translation task. Notable examples of solicited volunteer translation include Global Voices, Ted talks, The Rosetta Foundation, Kiva, and Lingua translation project.[1]

It is very common for NGOs, charities, and non-profit organizations to resort, via an open call, to solicited and unpaid crowdsourcing models as frameworks for volunteer translation to "promote humanitarian ideology, support disaster relief, and to spread information and knowledge".[17] Such frameworks were soon based on direct crowdsourced human translation or machine translation output post-editing.[10]

2.4 Crowd post-editing: Is the crowd to PE or not to PE?

This question is an analogy to Allen's question whether to pursue post-editing or no post-editing.[18] Allen's question might have been delicate to answer then, as the author pointed out himself. Since the translation industry has witnessed a migration from traditional models into more advanced and innovative workspaces and workflows, post-editing by the crowd is a paradigm shift from the standard Translate, Edit, Proofread (TEP) process to another process that combines machine translation and translation memories with post-editing.[19]

Therefore, crowd post-editing (CPE) is a logic wake of the emergence of machine translation and its introduction into the realm of translation crowdsourcing.[20] Volunteer translation is no exception. CPE is when the crowd post-edit MT output rather than performing a direct human translation.[19]

Post-editing can prove an inescapable tool in terms of cost-cutting and efficiency. A trained post-editor working full time has a daily productivity of 4000 to 10,000 polished and ready-to-deliver output words compared to the traditional translation where a professional can deliver 1500 to 3000 words a day that often need further reviewing and proofreading.[21]

Moreover, Google Translate, while always offering the possibility for the crowd to post-edit its output, can have a productivity per day that amounts to 10 times more translated content that the entire volume of professional translators in the world can handle.[10]

One question that rises in this context, regardless of the post-editing process being implemented, involves the quality of the end output.[19] Based on the output, there are many taxonomies of post-editing levels. Allen distinguishes between inbound PE intended for gisting or browsing and bound PE intended for publication and wide dissemination.[22] A similar taxonomy can be found in Translation Automation User Society (TAUS) that uses the same classification with different terminology, the previously mentioned levels being named by TAUS "good enough" quality, and "human translation quality".[23] DePalma, founder of Common Sense Advisory, explains that light post-editing, or inbound PE for "good enough quality", renders the MT output, that will retain the traits of a machine translation, understandable and usable while full, or bound, post-editing aims at reproducing human-quality output.[24]

From this perspective, quality stands as a central issue in crowdsourced translation and post-editing. For the purposes of the present paper, quality and quality management in crowdsourced translation will be addressed using a real-world translation crowdsourcing model, this model being the NGO *Translators Without Borders*.

2.5 Quality in crowdsourced translation

Translation quality and translation quality assessment have been always at the core of translation studies and theories in the most debatable and controversial ways. Undeniably, the problematic and multifaceted nature of quality paradigm poses a true challenge not only to defining translation quality but also to quality assessment.[25]

As crowdsourcing and online collaborative translation phenomena are forcing their way into professional and academic spheres, it is crucial more than ever to explore relevant emerging contexts, technologies, processes, and workspaces and to establish a minimum understanding for their applications and implications. Questions arise from the new crowdsourced and online collaborative models not only about ethics but also about quality.[16]

While the profession in its conventional landscape, informed by translation studies and theories, has always opted for robust, holistic, and fine-grained quality management models, the post-modernist era of the translation discipline shifted to a much more flexible or "dynamic" notion for quality. O'Brien and Jiménez-Crespo stress the fact that "dynamicity" is presently and factually the new prevailing feature in translation quality.[10,26] Real-world models and new paradigms in the industry have caused a variation in quality metrics and a fluctuation in its thresholds. This is due to the reality that translation quality is bound to *de facto* constraints and variables (costs, deadlines, situational constraints, the purpose of translation, the translation user expectations, etc.).

Challenging is quality management in the light of new models, paradigms, technology, and foci. Indeed, the notion of quality has shifted from a TS-informed concept to a user-bound perception leading to the adoption of industry-inclined quality management solutions.

2.6 Translation quality management

Translation quality has always been at the core of the debate in both translation theory and practice. The terminology about translation quality is both rich and volatile; everyone talks about quality management, quality assurance, quality control, quality improvement, and all related processes in an interchangeable manner while every single term depicts a unique concept and process.

Kockaert and Makoushina, in their seminal paper on quality assurance in translation, distinguish between three main processes that aim at achieving quality: (1) quality control: detecting flaws in the end product; (2) quality assurance: detecting and addressing problems during the translation process; and (3) quality improvement: preventing and controlling problems.[27]

The two authors integrate QC and QA under the QI overall process. Meanwhile, the present paper suggests "quality management" [QM] as the overall system encompassing QC and QA while considering QI as a finality that QA and QC or QM in general strives to achieve eventually.[28] Furthermore, while both QC and QA are components of quality management with their respective activities being interrelated, QC is embedded in its turn in QA.[29] The whole can be represented in the figure hereunder.

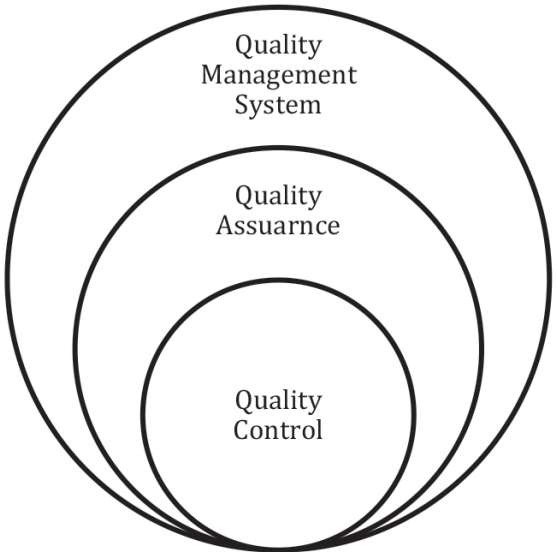

Figure 1. Relationship between QMS, QA, and QC.

Nevertheless, it is worth comparing and contrasting QC and QA to shed more light not only on their similarities and differences but also on their complementary traits in achieving, managing, and improving quality. Priority in order below will be given to QA as the broader process encompassing QC.

2.6.1 Quality assurance

Quality assurance is "a part of quality management focused on providing confidence that quality requirements will be fulfilled."[30] It is proactive and process-oriented. It starts well before the translation is submitted to the translator. It is focused on managing, planning, and agreeing on the steps and guidelines to ensuring quality.[28]

2.6.2 Quality control

Quality control is "a part of quality management focused on fulfilling quality requirements"[30]. It aims at identifying issues and fixing them to ensure, at the end of the process, that the translation meets the requirements and, thus, is reactive and product-oriented.[28]

3. THE NON-PROFIT ORGANISATION *TRANSLATORS WITHOUT BORDERS*

3.1 Overview

Translators Without Borders (TWB) presents itself as "non-profit organization offering language and translation support for humanitarian and development agencies, and other non-profit organizations on a global scale". It has the vision of a "world where knowledge knows no language barriers" and the mission of "... [providing] people access to vital knowledge in their language (...) through translation and interpreting; (...) translation and simplification services (...); [b]uilding language translation capacity (...); [and r]aising awareness globally of language barriers."[31] The organization maintains a global network of professional translators that devote valuable time and effort to support the humanitarian work carried out by partner NGOs for *TWB*.[32] *TWB* serves as a liaison between partner NGOs, which require translation services, and the global network of volunteer translators, mostly professionals, working on a *pro-bono* basis.[33]

3.2 Quality for *TWB*

In emergency situations, what people need the most is information in their own language, and when disaster strikes, it is a priority for both those affected and humanitarian workers is the exchange of information. Yet, providing and receiving information is often hindered by language barriers. Hence, *TWB* strives to bridge the language gaps that hinder humanitarian work worldwide.

In this way, the majority of texts translated by *TWB* are informative, aiming at ensuring that relevant information reaches the communities in desperate need of it. The content translated may include, but not limited to, forms, administrative documents, service guides, information brochures, packs, posters, factsheets, action messages, etc.[34] All in all, the user of the text is the average person in an emergency that needs information the most. Similarly, translated materials are intended to break the language barriers that complicate the crisis response efforts.

That being said, *TWB* neither translates legal documents nor provides legal translations. It does not also translate fundraising documents or lobbying or campaigning documents.[34] Therefore, *TWB* translates mainly informative texts that will come closer to the general "understandable" language level. The NGO adopts a vulgarizing approach in translation that transforms specialized knowledge into non-specialized information. Translation in this case will focus mostly on the information rather than the text (content and meaning over language and style).[35]

3.3 Quality management at *TWB* and inherent variables

Translation as an intellectual and cognitive act is affected by different factors ranging from human to procedural, from textual to extratextual, from intratextual to intertextual, and many other factors that form the complexity of the translational act. Therefore, it is inevitable when dealing with translation quality to address these factors and the impact of each in controlling the end product and assuring its quality.

As regards *Translators Without Borders*, it is important to point out the main factors to be taken into consideration in any attempt to tackle the question of quality. For this purpose, the factors have been divided into two sets: QA-related and QC-related factors.

3.3.1 QA-related variables

As mentioned above, quality assurance is a proactive step that starts well before the translation process and, thus, it is a step that paves the way for quality control. By this token, it is better to consider the procedural aspects of non-profit translation under the *TWB* framework, i.e. from the very first steps of recruiting translators till the act of translating on the platform and delivering the translation as a ready-to-use material for humanitarian purposes.

Motivation: volunteers are motivated by many factors that range from altruism such as helping communities in crises and translating for humanitarians causes to utilitarianism, mainly gaining professional experience that is internationally recognized.[15] Indeed, newly qualified translators perceive volunteer translation as a way to gain work experience and to use that experience to promote

their personal services, establish a good track record in translation, and, eventually, make a career out of it.[13,14] For example, translators may receive certificates and credit on the *TWB* blogs (Kató community) and relevant social media and may also promote themselves professionally through the badges and skill endorsements that *TWB* provides for the different professional platforms such as Proz.com and LinkedIn. With regard to certificates, translators accepted to join the organization may take a specialized training provided by the organization to familiarize them with relevant work processes and settings.

In the case of *TWB*, the organization takes into account all the above-mentioned motivations through providing professionals with a breathing ground where they can spare some of their time and effort to contribute in the noble non-profit work and translate for humanity as well as for gaining skill endorsement and recognition for contribution that will help boost their careers. Furthermore, *TWB* has established for this purpose the "General Kató Translators Recognition Program" under which "Translators can now request reference letters, translator feedback (WWA) on ProZ.com, and skill endorsements on LinkedIn. The most active translators will also be featured on *TWB*'s blog and in the Kató Community forum."[36]

Motivation is the catalyst of every action, and when motives are pure and noble, the deed is perfect and well cared for. Therefore, there is no doubt that one of the main pillars of quality assurance in the *TWB* is the motivation that drives the team of its contributors.

Joining the TWB (the Community or Crowd): to join *TWB*, there are, besides having a soaring interest in the humanitarian work achieved by the organization and cheer will to leave your mark on it, some terms and conditions. Indeed, to be accepted as a volunteer, the applicant must be a professional translator justifying a minimum of four years of professional translation experience, or two years of professional translation experience and a university degree in translation or a related subject. As per the application, a translator application form must be completed. In a normal qualification track, a screening test is administered and the applicant is notified within 30 days whether or not he has been accepted as a volunteer. If the applicant is ATA-certified, a Proz.com Pro, or a Lionbridge translator, he will qualify in the fast track and does not have to complete the test.[33]

Mesipuu distinguishes between two models that define a crowd community: open and closed. On the one hand, the crowd in the open community, while its participants have to register to join the community, has no restriction, resulting in a large number of participants working on a given project. Translations of quality in the open community are agreed upon by means of crowd voting. On the other hand, the closed community has a much smaller crowd as participants are vetted via tests or via specific conditions before joining any initiative. Instead of voting adopted by the open community, volunteer translators, in the closed community, work collaboratively with project managers to carry out project and resolve issues in terms of language choices for an improved translation quality.[37] Therefore, the first step by *TWB* in addressing quality is to control its community profiles by selecting and pre-screening translators. In this way, *TWB* has opted for the "closed community" model under which translators are selected before joining any project and are working in a tight coordination with project managers to solve any problem pertaining to such translation projects.

In recent years, with the introduction of Kató Community, *TWB* has shifted to a hybrid community model in which open and closed communities were combined for optimized crowd participation. *TWB* has expanded the criteria for translators wishing to join the community in the last few years via introducing several subcommunities of translators. Such subcommunities include: (1) Kató Translators: open to anyone joining *TWB* provided that they declare their working languages and agree to the Translators' Code of Conduct (open community model); (2) verified translators: vetted translators that demonstrate a high level of translation skills (closed community model); and (3) senior translators: translators with a strong track record with *TWB* (closed community model refined).[38]

Task management: when a document is submitted for translation, there is an entire team that is involved with the final product, which is thoroughly proofed and investigated before it is finalized. Beyond translator, editor, and proofreader, there is a project manager and may be desktop publishing team, all working to deliver the final translation. There are so many eyeballs that any errors are sure to be caught before the project is finalized. In this regard, *TWB* dedicated a socializing webspace for communication between project managers, translators, and partners, the webspace being Kató Community.[39]

Training, guidelines, and glossaries: as a step forward to quality assurance, *TWB* provides its volunteers with training on its translation environment and toolkits.[34] To further explicit its standards

of quality, the organization has a Code of Conduct for Translators in which some practices to achieve a "good" translation are mainly accuracy, competence, and reliability.[40] Such quality metrics will be discussed in the subsequent section of quality control as they constitute the standards that translation quality must meet.

TWB, via its TM tool, provides as well glossaries for its community of translators that contain key terminology used and approved by partners. This would allow translators to opt for appropriate key terminology in a specific language consistently and correctly.[41]

Task taking and load sizing: the process of translating a document under *TWB* practices is exclusively done in the Kató Environment, which is a set of tools. The Kató Environment consists of Kató Translation platform, Kató TM, and Kató Community.[34] For any given task, it all starts in the Kató platform, where translators can view the available tasks and pick up a task commensurate with their competence and reliability (see above).

Since the documents translated by *TWB* are often too large to be worked on individually, they are split into part or "chunks" as much as needed. Generally, a translator is requested to translate from 1 to 10 pages.[33] With the widespread use of translation memories, *TWB* is presently using a translation memory integrated in a platform that has a component for segmenting and assigning translations and revisions.[32]

This is probably an effective way to address challenges to the timely completion of translation projects and to answer the claim that deadlines in crowdsourcing are impossible to implement, as it is a volunteer translation without any monetary compensation.[42] Furthermore, QA at *TWB* is mainly achieved primarily through the Kató Community and through the Kató Translation Platform that also support QC process as will be shown below.

3.3.2 QC-related variables

While *TWB* adheres to a communicative and functionalist approach in terms of translation quality control considering the context, the aim, the audience, and the partners' needs, it complies with the current industry standards.[43] That being said, it is worth observing quality control across the variables involved in such process: the workplace (Kató platform and Kató TM), the workflow, and the quality metrics.

The workspace: *TWB* workspace is constituted mainly of Kató translation platform. It is the collaborative and web-based *TWB* workplace which has an integrated TM (Kató TM).[44] Kató translation platform provides access to the translation memory and online glossaries improving the efficiency of the translation process. It allows translators to pre-translate the text using machine translation and then review and edit the machine translation output (nevertheless, translators can adopt a human translation approach and translate manually on Kató TM). Moreover, it allows several volunteers to work on a single task as well as reviewers to revise translation entries in real time.[44] This may be different from the traditional TEP (translate–edit–proofread) process where revision cannot begin until translation is complete.

Kató TM is a free online computer-assisted tool (CAT) for translating and reviewing tasks. It is based on the open-source MateCat system, and the translation is performed directly on the browser following the segmentation approach that is very common in all translation memories.[45]

The workflow: Several workflow solutions with distinctive features have continuously emerged in the realm of crowdsourced and volunteer translation which range from platforms that follow the TEP process to fully fledged and integral translation workflow management environments that follow collaborative crowdsourcing major models.[10]

While the industry is implementing what is known as the TEP model,[27] *TWB* workflow, collaborative and web-based, completely occurs on the translation management workspace (Kató translation platform) that allows task organization and translation process parallelization as shown above.

In the TEP process, a translator will receive the work to be translated. Once complete, the work is sent to the editor who will review it. Finally, the work is sent for proofreading where it is seen as a whole and approved by the proofreader. Major issues might result in the work moving back a stage to be performed again. The steps in the TEP process are done successively, and the major drawback is that any issue that might arise cannot be addressed unless the tasks are performed again. This will be very costly and time-consuming in terms of fixing errors and addressing flaws in the end product.[46]

Conversely, *TWB* has a workflow that accounts for the crowdsourced and collaborative translation trends and it is much more performing and flexible. The project manager uses Kató Community to foster communication between and among translators/post-editors and revisers involved in the same

task. This prevents mistakes and problems during the process of translation, helps achieve coherence and consistency in terminology, and contributes to the overall quality. This is thanks to the fact that any issue that arises during the process of translation will be solved in real-time by consensus among the community involved in the project.[33]

In this way, the *TWB* revision process is done in parallel to translation/post-editing and, therefore, the communicative functionalities on the platform will allow the community to interact during the whole process achieving error prevention rather than error detection and correction. This "parallel" approach would enable *TWB* to produce translations much faster than it would by opting for conventional TEP "sequential" processes.[46]

One major TM drawback in this regard is the "segmentation" that would deprive the text from its context and render coherence and cohesion hard to approach in the original and harder to address in the translation.[10] In this sense, the author of the present paper suggests that *TWB*-like translation models would allow counterbalancing the TM segmentation drawbacks via the re-creation of the context of the text by the crowd through their collaboration, communication and consensus when any issue arises. This can be supported by established metrics that are provided and made clear to all participants and would serve as a reference for the projected quality.

Quality metrics: on the Kató TM, translators translate or edit MT output according to four major standards: meaning and accuracy, grammar and sentence structure, spelling and punctuation, and readability and style.[34] However, this is roughly an introduction to quality metrics that have been recently more expanded and explained on the organization's website.

TWB is up to date with the industry standards regarding quality control and assessment using the harmonized DQF-MQM error typology.[47] The Translation Automation User Society (TAUS) Dynamic Quality Framework (DQF) was developed in consultation with its members, while the Multidimensional Quality Metrics (MQM), an error typology metric and superset of prominent metrics, was developed as part of the (EU-funded) QTLaunchPad project based on careful examination and extension of existing quality models.[48]

The harmonized DQF–MQM error typology combines two different approches for quality. The MQM, on the one hand, is a top-down model that endeavours evaluating machine translation and human translations. The DQF, on the other hand, is a bottom-up approach based on industry feedback, designed to address common needs in simple situations of use and can be implemented in online dashbords or vendor-specific tools.[49]

By this token, the MQM is hierarchical in which quality control is controlled from the top while the DQF is an approach led by the users or suppliers.[50] The harmonized MQM–DQF error typology has many advantages for the end user who no longer has to choose either approach. In addition, users of DQF, which is a susbset of MQM under the harmonization, can opt for metrics that are compatible with the volatile nature of the industry while still being able to use MQM tools.[49]

The highly customizable harmonized DQF–MQM error typology is a natural response to the dynamicity of translation quality notion and its shift incurred due to the new industry landscape and the emerging crowdsourced flavours. This is no justification for low quality but a room that accounts for the varying tolerance thresholds for quality implied by many situational factors.[10]

As per TWB, the organization uses a simplified version of the DQF–MQM error typology that reduces the original eight error categories to five categories. Each category includes specific issues that translators have to address in translation, post-editing, or revision. The *TWB* simplified version is made up of accuracy, fluency, terminology, style, and design, while the harmonized DQF–MQM error typology has, in addition, local convention, verity, and other issues. Moreover, whereas the harmonized DQF–MQM error typology is more exhaustive at the granular level with more specific issues in each category, *TWB* maintained chosen issues from the categories.

Errors are tagged with severity degree; each error is classified according to its impact on the translation, and the *TWB* simplified version has maintained the same taxonomy as the DQF–MQM typology.[48,51]

The reason why TWB has opted for a flexible and dynamic version of the DQF–MQM typology is suggested to lie in the fact that TWB crowdsourced model deploys a top-down quality management process leveraged by bottom-up participation by the crowd with the view of harnessing the expertise of its members, the "wisdom of the crowd".[10]

The top-down aspect in the TWB workflow is a warranty for quality and a guarantee for professionalism, while the bottom-up aspect is a flexibility facilitator that enables the organization to embrace emerging crowdsourced and collaborative scenarios where the user and context-dependent

quality is variable and multifaceted. By the same token, vertical top-down processes allow *TWB* make use of crowdsourcing to carry out its humanitarian mission while horizontal bottom-up processes enable the crowd's online collaboration in order to volunteer their time and skill furthering, thus, *TWB's* mission.

On another side of the discussion, using harmonized DQF–MQM error typology helps provide constructive feedback to fellow translators at *TWB*.[51] In fact, the feedback loop under the *TWB* model is not an open loop but a closed loop where the input is always enhanced based on previous output feedback. Hence, Kató TM output is continuously improving whether it is pure MT, HT, PE, or a combination of two or more thereof. The quality loop is no longer a circle but a spiral that transcends the mere permanent input enhancement and reach for higher crowdsourced solutions based on collective intelligence. This would allow *TWB* to embrace emerging concepts in the industry and explore new ways in harnessing advanced language technologies and creative operating models for humanitarian causes.

4. DISCUSSION

In discussion whereof, the crowdsourced and online collaborative approach that the NGO *Translators Without Borders* deploys is truly unique and insightful. The organization combines a top-down process inspired from the professional practice with a bottom-up process facilitated by the new trends of crowdsourcing and web-based workspace technologies. This is a proof that the profession is not in conflict with amateurism provided that the latter be informed by its rules and a reminder that the top-down process is the originator of the newly born bottom-up process.

Considering Flanagan's overview of crowdsourcing elements and the emerging online collaborative technologies and processes explained by Désilets & Van De Meer and which are explained above, *TWB* combines most of them, if not all.[13,14] It deploys an "agile translation teamware", namely Kató Translation platform, that allows parallelized tasking. The teamware encompasses an integrated "shared TM" that allows human translation, machine translation as well as "post-editing by the crowd" of volunteers. The centralized TM is supported by "collaborative terminology resources", mainly glossaries with key terminology used and approved by the partner NGOs. Above all, it has a Proz.com-like environment, namely Kató Community, for recruiting, training, managing volunteers – professionals and amateurs – as well as promoting them professionally and rewarding them via various incentives.

As per quality management, it is moving from a holistic to a more dynamic approach that accounts for various real-world factors. Indeed, real-world translation scenarios are going beyond the theoretical framework where the translator strives to achieve the optimum quality, which is simply an unachievable abstraction. Thus, traditional holistic approaches to translation quality no longer apply to the fast-moving and drastically changing translation landscape where work environments are web-based and have more customizable and volatile quality standards.

5. CONCLUSION

It is quite obvious that crowdsourcing and online collaboration are presently a fundamental reality in the realm of translation and omnipresent in all its flavours. Similarly, translation, under crowdsourcing, does not only rely now on professional skills but also on collective intelligence or "the wisdom of the crowd". Therefore, quality is no longer fully informed by translation studies and theories but bound to the user perception and many other real-world variables such as costs, deadlines, situational constraints, the purpose of translation, etc. In other words, quality, indeed, is no longer a utopian abstraction deemed in translation studies and theories as the Holy Grail but a dynamic perception of what the translation should serve or used for: the purpose described by the user of the translation is presently the supreme norm that the translator should adhere to.

In this way, the new trends in translation such as crowdsourced and online collaborative translations have to be at the core of Translation Studies as a breathing ground for seeking new realistic insights that would address pressing unanswered fundamental questions in translation.

This will prevent such fundamental questions about ethics and quality arising from new models of crowdsourced translation to go irreversibly unanswered and outdate translation studies while deprofessionalizing the discipline and marginalizing the translator as the key player.

Translation studies have to consider the fact that the text is not always intertextual but may be hypertextual, the author is not always a seasoned writer but might be a beginner, the workspace is not always a desk or office but can often be a cloudspace, and the translator is not always a professional but could be an amateur. Translation studies shall observe also a minimum commitment to the reality

that dynamicity and relativity in the discipline do not imply the disappearance of all established rules but the adaptation to an increasingly fast-changing industry.

Competing interests
The authors declare no competing interests.

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