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WHITE PAPER:

Proposal for a Collaborative Standards Development Model for ISO Management System Standards

By Christopher Paris
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The Oxebridge "Solution Series" of white papers intends to provide sober, common sense proposals to resolve problems facing the international management system certification scheme.

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PREAMBLE

The International Organization for Standardization (ISO) requires that its standards be the product of a consensus-driven process involving volunteer subject matter experts. Per ISO's various rules of procedure, the process requires draft documents to be submitted for voting among nominated delegates from each of the 160+ ISO member nations. ISO has been criticized, however, for not following these rules and instead allowing drafts of standards to be written by select individuals, with ISO member nations only granted the right to comment and vote on the final product. The public is kept out of the process nearly entirely, with only a tiny public review period performed, but where the comments are entirely nonbinding.

ISO justifies this through two main arguments. First, they claim that allowing groups to draft documents, as opposed to merely vote on them, is unwieldy: allowing large numbers of people to write the documents would take too long and result in too much chaos, and the documents would never coalesce into anything that could be submitted for voting.

Next, ISO pursues predetermined print deadlines, as does any other publishing company. For ISO however, this leads them to push forward on publishing a document even when subject matter expert (SME) participation in a given technical committee is low. ISO then utilizes a model whereby Technical Committees are expected to meet at physical locations in far-flung locations throughout the world; since ISO does not reimburse these costs, this ensures that participants only include the very few who can afford to pay the costs of such travel on their own.

Both arguments can be easily defeated. The following proposal suggest ISO develop a modern collaborative model for standards development that will allow greater participation by a greater number of SME participants, while at the same time allowing for greater input by the public, all while doing away with the need for physical meetings. The proposal would improve participation and transparency, while also reducing overall standards development time. ISO standards would not only be completed faster, with greater SME participation, but would be available for ISO to sell in a shorter time frame.

KEY CRITICISMS

Few people and government agencies understand that ISO is, first and foremost, a publishing company. It only generates revenue when it sells books, and it happens to call those books "standards." Per its annual financial reports, ISO's primary source of revenue is the sale of its books.

ISO therefore has a vested interest in ensuring its standards are developed quickly, since ISO generates no revenue when standards are in development. As a result, ISO has adopted a number of controversial approaches it uses to tightly control the standards development process which work to limit participation, which ISO views as friction to the fast and efficient release of publications.

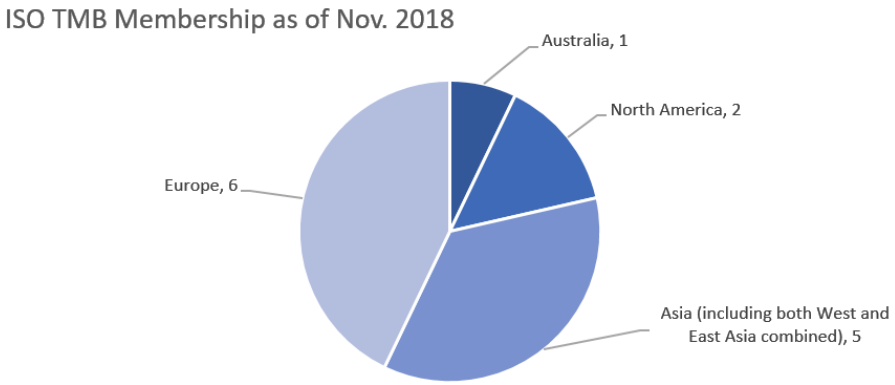
First, ISO has redefined the term "consensus" to mean "*the absence of sustained opposition*," a subtle bit of wordplay that actually contradicts the widely accepted definition that consensus is achieved through general agreement of the parties. Instead, ISO's definition allows a preliminary draft standard, often written by just one or two individuals, to be treated as an official product that only undergoes voting by delegates, and can only be edited when opponents raise "sustained opposition." ISO then reserves the right to determine what constitutes "opposition," and when such opposition may be considered

"sustained." In some cases, a majority of international delegates opposed or abstained from voting on controversial documents, but

Then, official ISO procedures require that a committee Chair gets to determine what constitutes "opposition," and then when such opposition may be considered "sustained." These determinations are left up to the personal whims and politics of the Chair, and usually any concerns are merely tossed aside as not having met the arbitrary threshold of "sustained opposition." As a result, as soon as a given author writes words on paper as part of the standards development process, those words are granted immediate authority as the international standard, unless someone can raise "sustained opposition" and surpass the hurdles put forth by the Chair and his leadership team.

The Orwellian redefinition of the term thus allows ISO to release standards without due process of member feedback or criticism, while being able to claim the documents were released with "consensus." The average person has no idea that ISO had redefined "consensus" to mean the opposite.

Next, ISO is more and more offloading the standards development to its internal Technical Management Board, comprised of ISO staffers and a limited number of representatives from only 15 "permanent member" nations; the entire continents of South America and Africa have no members whatsoever on the TMB, which is dominated instead by Europe. Only one developing nation is included in the TMB.



In recent years, the TMB has demanded that all ISO management system standards include text written by itself, through its controversial "Annex SL High Level Structure" mandate. This requires mandatory "common text" to be included in every such standard, thus allowing the TMB to usurp the role of standards development away from the Technical Committees (TCs) and industry subject matter experts entirely. ISO's procedures allow TCs to complain, but the TMB reserves the sole authority to ignore such complaints. TCs who refuse the TMB mandated language in their standards run the risk of being disbanded by the TMB. In the case of ISO's flagship product, the quality management system standard ISO 9001, the Technical Committee 176 responsible for that standard is particularly deferential to ISO and the TMB, refusing to touch the Annex SL text, and openly rejecting all comments on its language.

As a result of the TMB's power grab, ISO can no longer claim with any level of honesty that its standards are developed by "industry experts" nor that ISO standards represent "when the world agrees," as ISO claims on its website.

ISO also relies on a standards development model that was used by European barons in the 13th century to draft the Magna Carta: holding physical meetings in far-flung locales, relying on texts written by individuals being passed by hand for editing by other individuals. ISO's use of this model ensures low participation by TC member nations as well as industry experts, allowing it to ensure speedy release of documents without much objection.

ISO ***can*** correct these deficiencies in a manner that would, ironically, result in an increase to its annual revenue while freeing itself from any criticism of its underhanded tactics to date.

A COLLABORATIVE MODEL

This White Paper proposes ISO adopt a "Collaborative Model" for standards development, increasing stakeholder participation and activity, while utilizing modern technology to ensure a speedy, efficient overall process.

This requires, however, ISO to reboot its understanding of the term "consensus" into one that returns to its roots as a "general agreement among parties." ISO would also have to reverse the recent decision to allow the TMB to draft standards, and return that authority back to the Technical Committees, per its own procedures.

With those minimal returns to common sense in hand, the following steps would ensure that ISO's final products match the organization's marketing claims, as they would truly be developed by the world's industry experts, and result in a product of actual international consensus.

The proposed Collaborative Standards Development Model, or "Collab Model," relies on two major components: (1) the use of collaboration software to democratically control the process so that it does not descent into chaos, and (2) the division of standards development activities by three tiers of contributors, including the general public.

DIGITAL BACKBONE

ISO must abandon the use of physical locations for the hosting of standards development activities. ISO must thus embrace 21st century technology, and specifically online collaboration tools. While Google Docs provides a free and robust platform for this, a more secure and customizable environment could be had by utilizing products such as Confluence, by Atlassian. Other options include Microsoft Sharepoint, Bit.ai, Quip and Zoho Docs.

Using a platform such as Confluence, ISO would set up online portals where documents could be worked on simultaneously by thousands and thousands of ISO member delegates and industry experts, all in a controlled manner and without the chaos one imagines of such an endeavor.

Participants in the portal would formally register, and such registration would require "real person" verification such as that used by LinkedIn, whereby users would have to verify they were real through a two-factor authentication method, or through submission of identification documentation. This – along with other structural rules proposed herein – would eliminate the risk of trolls or bad actors potentially corrupting the work.

For truly superior security and control, a blockchain implementation could be adopted as well; developers have, for example, released blockchain "plugins" for Confluence. Such a method would ensure

transparency in membership and all resulting development activities. ISO is attempting to involve itself in standardization of blockchain; utilizing the technology itself would help burnish ISO's credentials in this area.

The costs of such an implementation are often priced at a "per user" model, but ISO would benefit from its name recognition and massive scale to negotiate a reduced overall rate; the fact that such standards are critical for both educational and professional purposes (e.g., international trade), would also allow ISO to obtain reduced overall pricing. But no matter what, the final costs would be far lower than the current ISO model, which requires member nations to pay exorbitant fees to host catered meetings in expensive hotels, forcing participants to absorb the costs of airfare, rental cars, etc.

ISO could then recoup its costs by charging ISO member nations a nominal fee for participation across the board, rather than the current model which relies on a single "host nation" to pick up the entire tab for development events. A lower flat fee would also increase participation by developing nations, who typically cannot afford to host ISO drafting events in their countries; such nations would be freed up to participate equally alongside the US, UK and Germany, since their participation would not be linked to their ability to host or travel.

The rest of this White Paper assumes such a "digital backbone" is implemented. As will be discussed herein, using such a backbone ensure document changes would be processed formally, voted upon, with decisions made in a way that are traceable back to those making them. The result would be increased collaboration, increased visibility of the process, increased democratic thinking, and increased quality of the end product.

COLLABORATIVE ROLE DEFINITIONS

Beyond the digital backbone, the Collab Model then relies on clearly-defined roles for the standards development participants.

Currently, ISO has only one official participant group: the TC delegates. These are, as mentioned earlier, representatives sent by their home nation to participate in a given Technical Committee (such as TC 176 for ISO 9001).

Unofficially, there are tiers within this group. Individuals are hand-picked to draft the initial document which later becomes the basis for all subsequent edits and voting. These "authors" are subject to no vetting or any controls on their selection, and are often simply the TC Chair and his/her selected colleagues, who give the role to themselves. Nearly always, this is done in secret, and few TC delegates actually know who the original author of a given document was. This "secrecy" then allows the actual authors of ISO standards to hide in anonymity should the result be controversial, such as we have seen for ISO 9001:2015. Only the original authors themselves know who actually drafted the document.

The second tier is everyone else in the TC, who then comments and votes on the document. A final tier has now arisen, which is the TMB, which (as mentioned earlier) inserts mandatory text outside using powers far beyond those of the actual TC members and delegates.

The Collab Model proposes to formalize the roles, defining the methods for assignation and the duties for each tier. Structurally, little would change – there would still be original authors and delegates to comment and vote – but the roles would be hardcoded into ISO procedures. The TMB would be ousted

entirely from developing any content, and restricted only to developing a "Style Guide" for ISO standards, limited to mandatory documentation format, fonts, line spacing, header styles, etc.

As a result, except for the impact on the TMB itself, the role changes would not be dramatic. They would only codify what is already being done, while opening up the process for more transparency and accountability.

Illustration 1 presents the overall development flow for the Collab Model. Under this Model, ISO can retain its multiple stage draft development process (DIS/FDIS/IS) if it so chooses, but would have flexibility to skip drafts if the voting of the participants supported it.

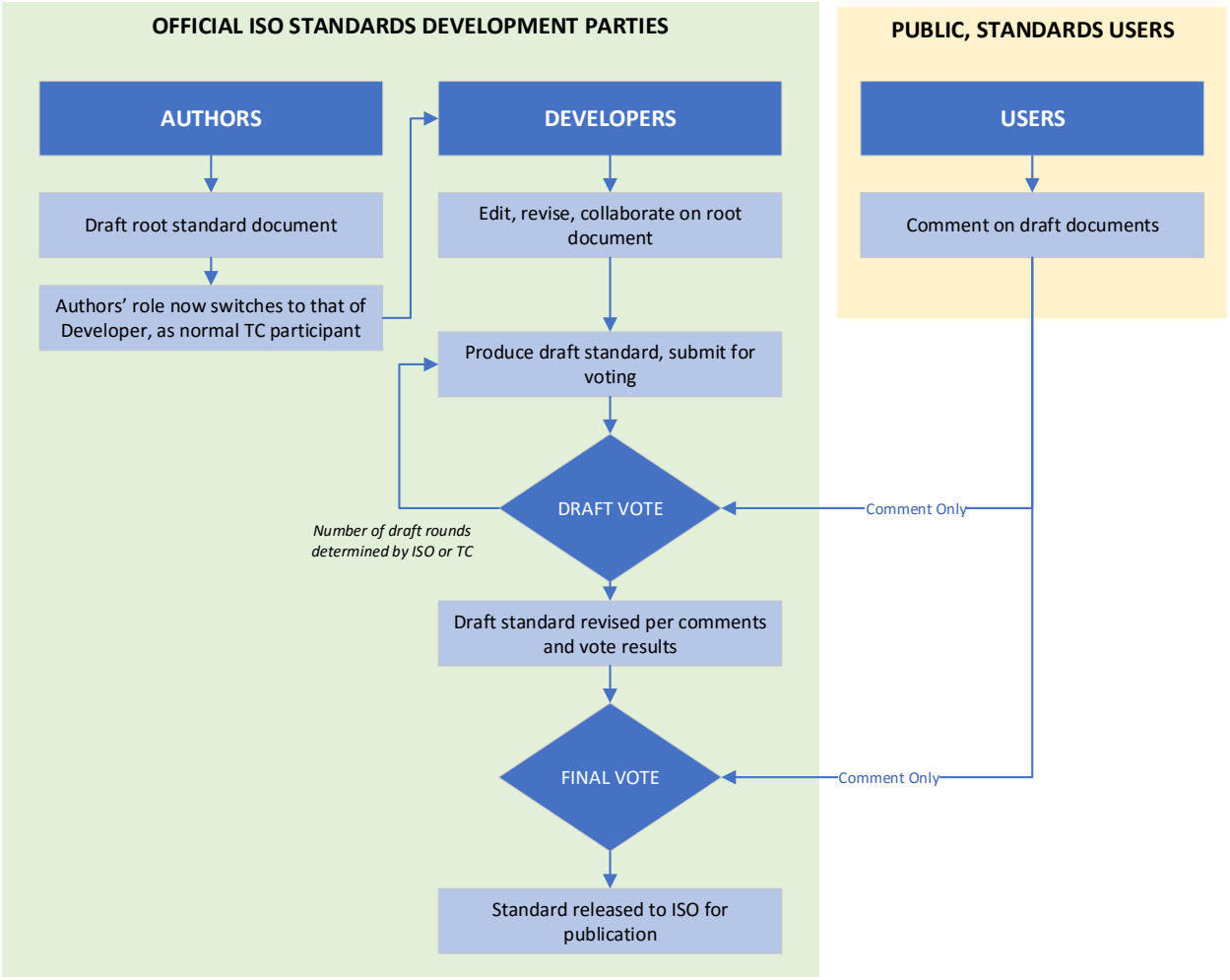


Illustration 1: Collaborative Standards Development Model

As illustrated above, this model relies on three tiers of participants: Authors, Developers and the Public.

AUTHORS

The first tier of participants would be "Authors," a group of standards writers tasked with writing the first draft of a given document, which would become the root document upon which collaboration could start. Without this root document, the standards development process could never even launch with any modicum of order.

As mentioned earlier, the concept of the "author" is already a part of ISO standards development, but the assignation of such authors is obscured and done without any vetting. TC Chairs often grant the role to themselves or to their personal friends or consulting colleagues.

Under the Collab Model, assigning individuals as "Authors" would be performed through a transparent and official process. ISO's procedures would be written to hardcode requirements for this position, all of which would be verifiable. Authors would have to meet three levels of professional and technical ability.

First, an "Author" would have to be an industry expert on the subject matter at hand, and have demonstrable employment history in that industry; not as a consultant nor auditor nor prior standards committee member, but as an employee within a company operating in that industry. Their CV would have to be submitted, with verifiable references included. Any misrepresentation of the CV would be grounds for immediate disbarment.

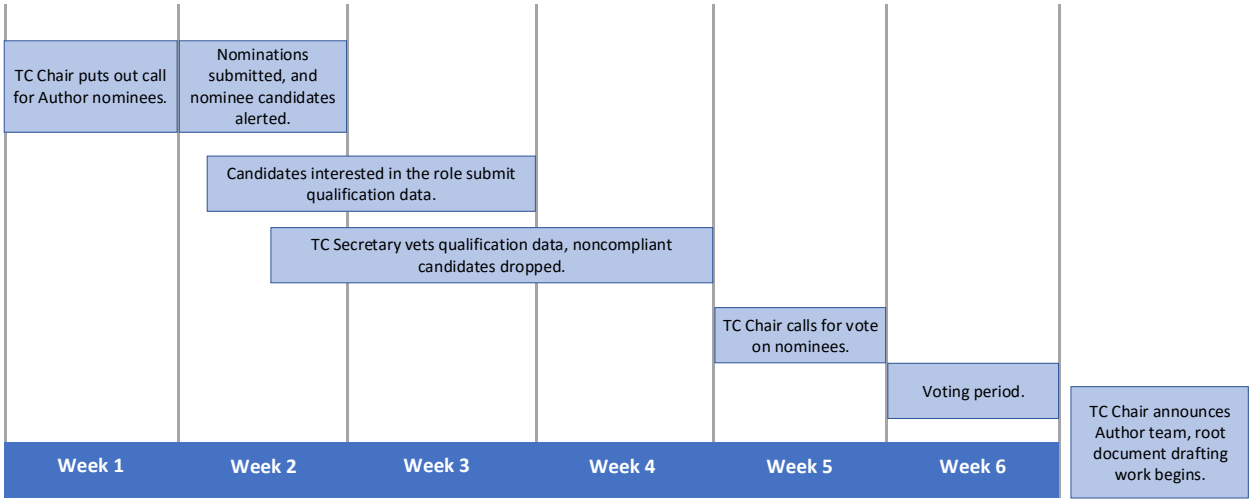
Second, an Author would have to have verifiable writing abilities; this wouldn't necessary mean they need to have been published (although having been published in peer reviewed journals would be looked at favorably), but would have to show samples of original technical writing that proved they were up to the task and could generate drafts without the help of editors or proofreaders.

Finally, an Author would have to have reasonable technical skills to manage the collaboration platform (Confluence, etc.) and produce and submit documentation electronically. Those without sufficient computer skills would not be allowed to participate, unless special accommodations were made, such as in the case of those with a physical disability. Such accommodations would have to be transparently documented.

Authors could nominate themselves, or be nominated by others; only those who submit documentation related to the three qualifications above would be considered as official nominees.

Authors would be added to the ballot only after proper vetting, and their election voted on by the TC participants. Authors would not be assigned by a TC Chair without due consideration and voting by the TC membership as a whole.

The entire process should be targeted for 6 weeks, so that if it goes slightly awry, a full two months could be utilized to determine Authors and begin drafting. While this may seem like a long time, as compared to the near-instantaneous consideration currently given to Authors when hand-picked by TC Chairs, the time spend on this activity is made up for later during the reduced drafting cycles.



Rules would allow additional Authors to be added, under the same process, at a later date should an Author drop out, become sick, or otherwise be removed from the process.

An Author would be granted certain rights in the collaboration platform software, akin to a document "owner" or "manager." All activities within the platform would be logged and timestamped (a feature these platforms typically have), so no single actor could play tricks with the system without it being logged; an Author could not steal the work of someone else, for example, without it being logged back to that person.

Authors would generate the initial "root document" which would be submitted for subsequent collaboration and editing. For this reason, it's critical the Authors are industry experts, and not fly-by-night career committee bureaucrats or Certification Body representatives with hidden agendas.

Once their root document was submitted, the Authors' role ends, and their status converts to that of a normal TC participant, a "Developer," as defined next.

DEVELOPERS

The second tier of participants would be standards "Developers." This assignation would be granted to the regular participants and delegates of each TC's national member body (or "mirror committee"); any member of a TC would automatically be granted this title. The US members of TC 176 would be granted Developer status alongside those of the UK, Ghana and Brazil. All such members would be equal. The TC Chair, in fact, would be granted this status alongside every other member, and have no special rights other than the Chair's administrative duties.

While this tier would include consultants and registrar representatives, they would be operating next to everyone else; ISO would be asked to finally enforce long-standing, existing rules limiting the domination of the process by any interest category such as consultant or registrar. If domination by consultants or registrars is noted, then either recruitment efforts must be made to bring in additional participates from other interest categories, or a selection of consultants/registrars dropped from the group to restore balance.

Each nation's domestic mirror committee could also end its reliance on physical meetings, allowing them to open their rolls to industry experts and volunteers who might not otherwise join such a group, given

the physical and financial constraints. This would also open up participation to those who can't travel, due to physical handicaps, financial status or other limitations. Developing nations could participate as equals, provided they had internet access.

Developers would then work to edit the root document through a controlled editing process described below. Changes would be voted on, incorporated, and timed.

USERS (AND PUBLIC)

The final tier of participants would be actual "Users" of the particular standard, and members of the public. ISO might recoil at this notion, as would some national mirror committees, but nothing bad can come from this. In fact, ISO would finally be living up to its claims that its standards represent the will of both experts and the public.

Any member of the public could register in the collaboration portal as a "User," as simply as joining a web forum. All Users would be validated through a "real person" validation method, to ensure they represented real people, using their own names, and were not anonymous trolls or bots. Phone number or other two-factor authentication would be utilized. ISO could leverage API hooks to LinkedIn, for example, in order to ensure that only real persons joined the group.

Under this role, Users would provide comments throughout the process, at the comment-level as well as prior to final international voting. Developers would be held to review comments and take them into consideration when editing, updating or voting on the standards themselves. Users would have upvoting privileges to rank edits, as discussed below, but would not have voting rights on the drafts themselves. Users would not have write access to draft documents, and so could not alter the texts, but would have read access, to ensure ongoing and total transparency. During comment upvoting/downvoting, a threshold would be set so that if a given edit was overwhelmingly downvoted by the User tier, Developers would be forced to abandon or alter course on that particular edit.

EDITING & UPVOTING/DOWNVOTING

As I indicated, an initial "root document" would be drafted by the Authors, and then released on the portal for editing by the Developer tier. Here is where the collaboration platform software would be utilized to its full potential, with changes being added and tracked, traceable back to those suggesting them, and then subjected to voting.

The "voting" tools with platforms like Confluence allow edits to be "upvoted" or "downvoted," similar to posts on Reddit or other such websites, with the voting determining whether they will be incorporated or not. ISO procedures would be written so that an edit receiving a majority of upvotes would have to be addressed by the Authors; any refusal on their part would be logged and force a justification as to why the upvoted change was not incorporated. In almost all cases, this would be prohibited, and an Author would be removed from the process entirely for such violations.

This "upvoting/downvoting" should be distinguished from final standard voting, which entails the official collection of ISO member nation votes on a given standard. The "upvoting/downvoting" feature is only intended to gage general acceptance (consensus) of individual additions or edits to documents.

COMMENTING

Apart from editing, each line of a standard would also be subject to commenting. Comments could be posted by anyone registered into the document collaboration portal: any Developer and any registered User or member of the public. A "flag comment" feature would allow for inappropriate comments to be moderated, to eliminate trolling.

These comments would also be subject to upvoting/downvoting, in the same manner as document edits. If a given comment reached a certain threshold of upvotes, would have to be addressed by the Authors, and any decision to reject the comment be justified. Thus, rejections would be fully transparent.

By engaging actual members of the public this way, actual standards Users would be granted the same influence as committee members, but only if their comments reached a certain level of support.

The changes made by Authors in response to both edits and comments would, themselves, be subject to additional edits and comments entered by the Developers. A strict timeline would prevent this from becoming an out-of-control, neverending process. Editing and commenting periods would be closed at a certain point, and the document locked from editing.

It's conceivable an egotistical Author or Developer could want his or her text to remain unmolested, and merely "run the clock out" on edits or comments. Again, the system would flag this behavior and such individuals would be removed from the process if they failed to act on upvoted edits or comments in a timely manner. A "rest" period would be implemented where editing and voting were turned off, allowing the Developers time to make changes according to the upvoted feedback.

FINAL VOTING

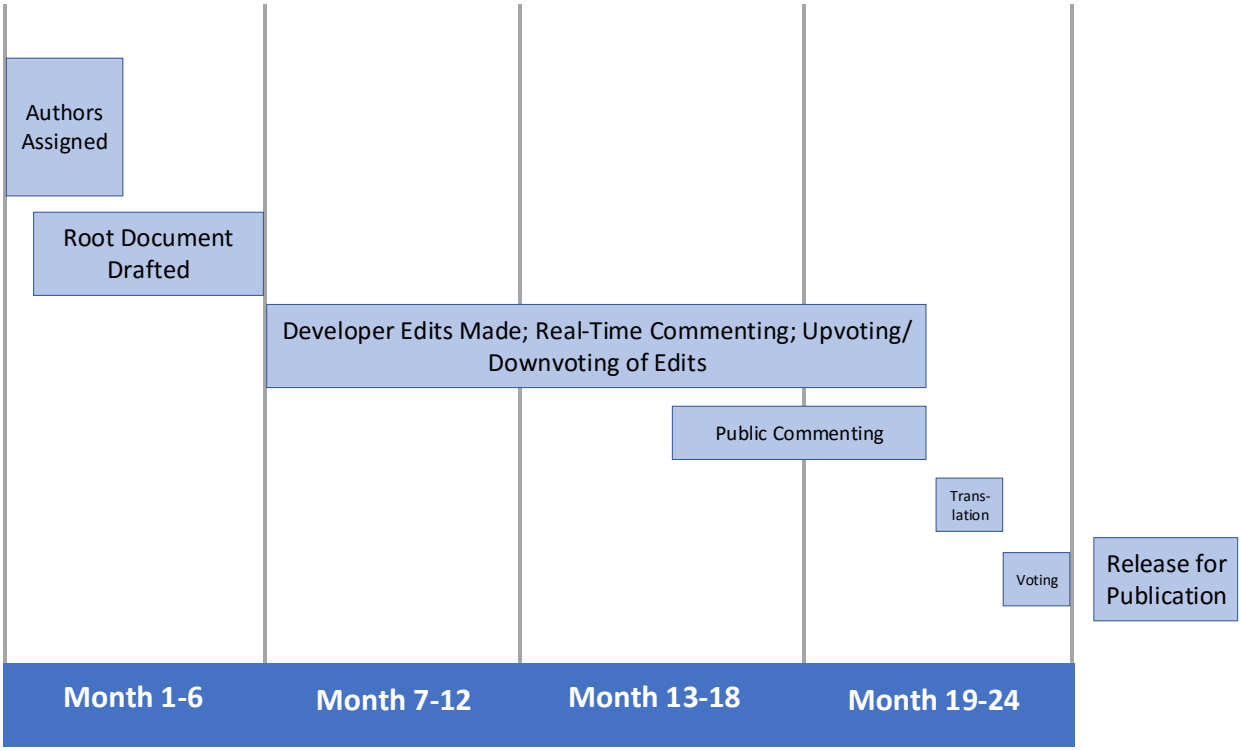
The voting mechanism could then be used to collect, tally and report on the official votes of TCs on draft documents, as opposed to the current method which relies on national committee Chairs reporting data to the TC Chair, without actual evidence that the vote reflected the accurate wishes of the members. In short, current methods allow domestic committees, like the US TAG, to pass on entirely fake voting results, without any way to verify the data. Using the collaboration platform's voting tools would allow the votes to be transparent and fully accountable.

OVERALL TIMELINE

Currently, ISO utilizes a model whereby standards are developed in stages: Working Draft (WD), Committee Draft (CD), Draft International Standard (DIS), Final Draft International Standard (FDIS) and International Standard (IS). At times, multiple WDs and/or CDs are necessary, further delaying the work.

In general, ISO pushes for a three-year development cycle; at times this is met, and other times it is exceeded. ISO has gotten tougher on enforcing the cycle, at the expense of the quality of the final product, as seen in the development activities surrounding ISO 9001:2015. Long before work began on the updated standard, ISO set a September 2015 publication deadline for the new ISO 9001 product, and all TC 176 work was tailored around that deadline. Key periods for translating the document were skirted entirely, crippling the ability of non-English speaking countries to properly understand and vote on the various drafts. Resounding criticism and comments from delegates were rejected en masse, under the excuse that the final deadline would be impacted if TC 176 were forced to address them. The final product was rushed to print, and then widely panned.

The Collab Model would streamline this activity, targeting a two-year completion date, although acknowledging that a three-year timeline may be necessary in some cases. The graphic below shows the target two-year proposal.



Following this path, the first draft "root document" would be completed by the sixth month, and then editing and commenting being pursued for the next 12-18 months. Because individual edits are being commented and upvoted/downvoted in real time, there is no need for any specific draft stage, and the artificially-fixed "WD/CD/DIS/FDIS" stages would no longer be necessary. Instead, the process would ensure the final document submitted for international voting is "fully ready" and already represents the overall consensus of the three participant groups: Authors, Developers and the Users (Public).

Only in extraordinary circumstances should a document reaching that stage ever be rejected during the final voting; in such cases, the document would be sent back to the appropriate step, and the timeline extended. However, given that the process would be transparent, and all stakeholders granted the ability to comment throughout, such a failure at that stage is unlikely to occur.

FUNDING AND EXPENSES

As it stands now, ISO spends nearly nothing on standards development activities, per its own annual financial reports. Its primary expenses are salaries, operating expenses, and publishing costs. ISO would have to shoulder the costs of implementing the collaboration platform software, the surrounding hosting and server costs, and database maintenance.

However, ISO would be able to offload portions of this expense onto the member nations. This would still be less expensive than the costs of hosting physical events and paying for travel, and would be shared

equally among the 160+ member nations, ensuring the costs for each nation was low. If the operating costs for such a platform were $2M per year, and if ISO shared the costs equally between 163 bodies (ISO itself plus 162 members), the costs to each would only be $12,000 per year. A domestic mirror committee would have to come up with that amount of money to fund its ability to participate, while knowing that there'd be no expenses at all for physical hosting of events or travel anymore. Overall, mirror committees would spend less, not more, to participate in a process that was more democratic and allowed them a greater voice than the current methods.

Developing nations would then petition ISO itself for assistance in funding this, if necessary. ISO already has budgetary set-asides for such assistance, and could roll that into those funds.

THE ANNEX SL CONUNDRUM

Currently, Annex SL imposes content on TC authors written not by industry experts, but by TMB functionaries and their apologists. The concept of Annex SL's "high level structure," however, was a good one. The original purpose was to ensure that ISO management system standards followed a basic structural template, meaning paragraph numbering and formatting. This was the original mandate of the team that was tasked to develop the HLS: to create a universal structure. However, the HLS team quickly wanted more authority, and petitioned the TMB to grant them authority to develop content, not just a structural template. They argued that "common core text" was necessary, and the TMB approved this power-grab. Overnight, the TMB's committee was writing text that would circumvent the rules put forth by ISO and WTO saying that text was to be written by TC members and industry experts.

But under a collaboration model, the idea of a high-level structure would be of greater importance than ever. The HLS concept, however, would have to be retrograded to its original intent, however, and the TMB tasked only with developing a structural template. This could be, quite literally, a Microsoft Word ™ template, which would then be used by Authors to construct their root document.

Alternatively, the HLS would be as it was originally envisioned: a style guide. The TMB mandate would be limited to formatting styles, fonts, line spacing, margins, and an overall numbering scheme. On this latter point, TMB would have to tread carefully to avoid the problems of the past. Where TMB fell into developing content was its original struggle with numbering paragraphs. TMB determined, initially, that every standard should start with paragraph 1 on "Scope" and then paragraph 2 on "Normative References." That was innocent enough.

Where TMB went astray was developing content, not structure. This power would be withdrawn from the TMB entirely.

Instead, the new HLS would be limited to generic concepts like "Scope" and "Introduction," without then insisting on content or even hinting at it by imposing section titles. The authority of developing content would rightfully be returned to the TCs and their delegates, and stripped from the nonelected TMB entirely.

BENEFITS TO ISO

ISO would benefit from such a model in multiple ways. First, it would quickly and permanently silence critics who rightly point out that ISO's current development model is in violation of its own procedures and the regulations put forth by the WTO's Technical Barriers to Trade (TBT) Agreement. This is because

ISO could say, with all honesty, that now its standards were developed under a true consensus model with the actual participation of industry experts.

Next, the entire development process would be streamlined, and could be conducted faster, allowing ISO to issue a finished product sooner rather than later. Without the need to organize physical events with hotels, catering, entertainment, travel and printing of physical documents, that time would be used to develop the standard.

Finally, the process would be much less costly to ISO and the member nations collectively, resulting in a process that created an improved product at a lower cost.

ABOUT THE AUTHOR

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