Taming The Thousand-faced Beast:
A Very Practical Implementation
of Language Quality Assurance
service (LQS)

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The program for today

- Language quality in business
- The science of language quality
- Manual implementations
- LQA OnDemand: Practical implementation
- Results and advantages
- LQA as Business Process Reengineering tool
Language quality in business
Purchasing, project costing business decision factor

Business Decision Metrics = \( \frac{\text{Quality}}{\text{Cost} \times \text{Time}} \)
Client Business Problems and Needs

- Want more content translated for less $$$
- Want lower vendor costs and faster turnaround
- Want shorter and simpler service job placement cycle and vendor management costs
- Don’t want to debate on language quality – need developed LQ metrics
- Want access to clearly defined, measurable and transparent linguistic services
- Don’t want to spend money on building high internal fixed cost of language services
- Want roadmap to continued productivity increase through automation and technology – MT is seen as part of future translation architecture
- Bored of labeling MT output quality as unusable
Huge volumes are not tackled due to lack of uniform quality / usability definition and measurement.
Language Quality Standard Is Essential facilitator of Automation Deployment

- Varying quality metrics **make translation BP vulnerable, volatile, expensive, complex, immeasurable** (different perceptions and interpretations = high process friction (delays, miscommunication, misunderstanding, project overhaul, valuation errors, disconnect between consumers, clients, vendors and LPs).
- Lack of LQ standard **degrades LPs labor value, lowers entry barrier to unacceptably low quality, causes noise.**
- Lack of LQ standard **prevents from distinguishing between language service levels**, is an **obstacle measuring product quality.**
- Inability to compare apples vs oranges **makes project costing difficult -> inhibits outsourcing.**
- Lack of LQ standard **prevents BPO development** (e.g. on-demand standardized QA service).
- Lack of LQ standard **slows down adoption of language technology** and **inhibits productivity increase.**
Language Quality Assessment (LQA) is required – what is it?

- LQA refers to assessing **Linguistic Quality** of [translated] materials based on:
  - International & industry-wide standards
  - Client’s standards, requirements & guidelines, including
    - Approved Terminology & Style Guides
    - Agreed Metrics & Quality Criteria
- LQA is expected to measure

  *exactly how* good or bad final materials are:

**GRADE THE SAMPLE**
Why LQA is required?

• **Reference point**
  – Implementation of quality metrics vs $\$\$ and effort
  – Independent, third-party examination of materials
  – Doesn’t take too long, is not too expensive
  – Avoiding costly errors at a fraction of the price

• **Business Tool**
  – Consistent failures might mean something is wrong with the vendor or the process
  – Ability to grade samples reliably may be used as essential process element (PES)
  – Ability to grade samples reliably is important process reengineering tool (seeking more economical vendors)

• **Offsetting/preventing negative effect on quality produced by latest trends in translation**

*Getting a “Well-Disguised Less” for Less*

  – Declining rates
  – Wider MT Application without due process
  – Vendor consolidation
  – Work fragmentation
  – Extensive mark-up language usage
  – Unlimited recycling
What LQA Is NOT

- LQA is NOT editing
- “Hybrid” approaches do not work well:
  - LQA & Editing
    - Feedback not getting through, improvements unlikely
  - LQA & Functional Testing
    - Linguists are typically not too good at spotting or analyzing technical bugs, let alone SW configurations
    - Dedicated testers do this better and faster across all languages
  - Translation & LQA in one box (at one vendor)
    - High probability of artificial adjustment or incomplete logging of LQA results
The science of language quality
The good and Evil of Subjectivity

- There is an infinite number of “perfect” translations
- Usable translation can be less than perfect
- Quality is intrinsically subjective = The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.
- We MUST have LQA grading ruler
Every company has its own LQA metrics
Subjective metrics are essential, >80% of the weight
BUT they make the grading system unstable!
The solution is to ascend to a higher level of abstraction

• We **cannot** define single language quality standard of “perfect translation”
• We **can** define a methodology to define one language quality standard approach
Quality = Compound, Perceptual Usability

Spelling, Omissions, Terminology, Grammar, NLS, Adequacy, Readability, Consistency

Objective, Quantitative DEFECTS

Expert rating

USABILITY

Rudimentary Practical Superior

BLEU

0.75 0.8 0.9 >0.99
Usability cut-off

Minimum, threshold levels are required for EVERY dimension.

Objective Dimensions

5 Dimensions
- Country Standards
- Spelling
- Grammar
- Terminology
- Omissions

80% of the Final Score

Subjective dimensions

3 Dimensions
- Readability (2/3 of the weight)
- Adequacy (1/3 of the weight)
- Style (1/8 of the weight)

20% of the Final Score

Way to the compound grade.
How much should be reviewed?

- Do we need to check everything?
- If a certain % is sufficient,
  - Is there a scientific approach to selecting the overall volume to be QA-d?
  - What is the “magic” sampling scope that would guarantee peace of mind?
- How can we produce reliable and representative QA results?
LQA and opinion polls

- We can only poll a limited number of people
  - OR Review a limited number of words

- After polling N people (58% said "YES")
  - OR Reviewing N words ("PASS" for 85% of all segments) we need to assess the CREDIBILITY of the result

(Or find N that guarantees reasonable credibility)

- We have to use the so-called
  Confidence Level (CL) & Confidence Interval (CI):

  "... We can assert with 95% confidence (Confidence Level) that 58% of the population will vote for X. The margin of error (Confidence Interval) is 5% for this survey..."
LQA Specifics: Setting CL & CI

- LOW Error Levels expected
  (Typically less than 1 error is allowed per 100 words)
- HIGH Precision Required. Opinion Poll Analogy:
  - Will a marginal “United Incompetence Party” get parliament representation given the 1% Election Threshold?
- Margin of error (CI) must fall WELL BELOW the allowed/expected Translation Error Levels, i.e. below 1%
- Required Sample Size (QA-d Volume) depends on:
  - Overall Volume (Population)
  - Confidence Interval (Margin of Error): << 1%
  - Confidence Level (Reliability): Typically set at 90-95%
How Fastidious Are You?

95% Confidence Level
% to Be Checked

Total Volume, Words

Sample Size (Words)

Sample Size - 0.25% CI
Sample Size - 0.5% CI
Sample Size - 0.125% CI

% of Total - 0.25% CI
% of Total - 0.5% CI
% of Total - 0.125% CI
## LQA Sampling Summary

<table>
<thead>
<tr>
<th>Volume</th>
<th>Sample Size / Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 K words</td>
<td>100%</td>
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<td>20 -&gt; 200 K words</td>
<td>85% -&gt; 45% (+/- 25%)</td>
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<td>&gt; 300 K words</td>
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- Not applicable to crowdsourcing-type projects
- Optimal Sampling: Random Selection, No Exclusions!
  Recommended: One-page (250 words) pieces
  - Size convenient for reviewers
  - Big enough to make conclusions about adequacy, fluency, etc.
  - Small enough to provide representative stats (10-30 pages/person)
- ALWAYS Check ALL Priority/Exposed Pieces in Full
- MUCH LESS effort required to check for a LEMON:
  CI = 1%, Sample Size = 10 K words
Manual implementation
Metrics is implemented on Excel spreadsheet

<table>
<thead>
<tr>
<th>Source text</th>
<th>Target text (original translation)</th>
<th>Target text (reviewers suggestion)</th>
<th>Description</th>
<th>Error classification</th>
<th>Error severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase your system’s performance and response time with up to 8 GB DDR3 1333 MHz dual-channel memory.</td>
<td>Verbesser mit bis zu 8 GB DDR3-Dual-Channel-Speicher bei 1333 MHz die Systemleistung und Reaktionszeit. Dank der Solid-State-Festplatte (SSD) werden System und Anwendungen deutlich schneller gestartet.</td>
<td>Verbesser mit bis zu 8 GB DDR3-Dual-Channel-Speicher bei 1333 MHz die Systemleistung und Reaktionszeit.</td>
<td>The following phrase not found in source: “Dank der Solid-State-Festplatte (SSD) werden System und Anwendungen deutlich schneller gestartet.”</td>
<td>N/A</td>
<td>Low</td>
</tr>
<tr>
<td>Performance you need. When you need it.</td>
<td>Stark Leistung und genau zum richtigen Zeitpunkt.</td>
<td>Stark Leistung und genau zum richtigen Zeitpunkt.</td>
<td>The term “und” requires lower case; and no ending punctuation is used in headings (country standards). Check the following headings as well.</td>
<td>Linguistic</td>
<td>Low</td>
</tr>
<tr>
<td>After setup, it can automatically back up data and help protect against software, hardware and catastrophic failure.</td>
<td>Nach der Einrichtung werden Ihre Daten automatisch gesichert, sodass sie beim Ausfall von Software und Hardware oder in Notfällen geschützt sind.</td>
<td>Nach der Einrichtung werden Ihre Daten automatisch gesichert, sodass sie beim Ausfall von Software und Hardware oder in Notfällen geschützt sind.</td>
<td>Typos: “sie” requires lower case because it refers to data and not the reader.</td>
<td>Linguistic</td>
<td>Low</td>
</tr>
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</table>
LQA: Major Challenges (I)

- Productivity expectations and “The Big Disappointment”
  - Average productivities based on GOOD translation quality
  - In the case of poor quality it drops, and more time is needed
  - What’s to be done if allocated time has been spent
    - Stoppage flags in case of poor quality
    - Stopping QA when the agreed hourly limit is reached

- Potential conflicts and never-ending disputes between parties
  - Vendors tend to dispute EVERYTHING, even if there’s no chance to change final QA results
    - Lengthy, time-consuming discussions without any results
    - Huge and costly increase in PM time/overhead
  - Eliminating inconsistencies in file versions, reference materials and guidelines
  - Limiting the number of LQA dispute iterations is a must
    - There should be a formal way to break the vicious circle
  - Vendors should not dispute results unless
    - LQA feedback contains serious mistakes
    - Ratings might be seriously changed as a result
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LQA: Major Challenges: (III)

- Objectivity and adequacy of reviews
  - Reviewers need to undergo general LQA training & custom training for each client
  - LQA review quality itself has to be checked on a regular basis

- Choice of balanced evaluation criteria
  - Avoiding sharp dependencies on any particular factors
  - Limiting subjectivity: PASS/FAIL approach to Expert Opinions

- Mismatching expectations of parties involved

- Scheduling & timing problems
  - LQA follows translation, almost always on a critical path
Who are The Linguists?

- Translation Experience = 3+ years
- Technical Knowledge
- Special training:
  - General principles for QA & Terminology work
  - Client-specific requirements & guidelines
  - QA forms & processes
LQA OnDemand: Practical implementation
Logrus LQA Service is:

- Methodology
- Technology
- Organization
- Network of LQA linguists
- Skilled Project Management
Only five IE screens to place QA job and get results
LQA Service Portal Technology

- .NET Web Portal with automated workflow features
- SQL Server for rates, contacts, project data
- Middleware LQS subject matter area formulas and calculations
- LQA Methodology is the KEY
- PM service solution is the vehicle
## Service features

- Automated user registration
- Automated project costing
- Automated service time prediction
- Automated service step notifications
- Automated progress and result screen
- Human-assisted communication, setup and project management
- Human linguistic QA service and usability evaluation
Limited customization is required

- QA defect metrics
- Rates
- Productivity expectations
No Corpus Requirements

- QA Portal Service can QA anything, from human to MT output, with no usability limits: clients are NOT interested what is specific vendor technology in producing usable translation.
• One and only precondition is to have uniform LQS requirements across organization
What is LQA Service On Demand?

- Standardized LQA Methodology supported by subject matter area formulas and calculations.
- QA requirements may be customized for different clients.
- QA Model & Defect Metrics: what’s to be measured/evaluated; what are tolerance levels; Style Guides/Guidelines, glossaries, etc.
- Service can QA anything from human translation to MT output; no dependence on tools or technology used; it makes it possible to COMPARE how each language is doing relative to the others.
• Results and advantages
Major Quality Improvement:
We CAN measure product quality now

- Easy and simple
- Immediate costing of small pieces within responsibility of any PM: no budgetary approvals required
- Quick
- Universal and un-debatable
- LQS becomes practical, instrumental and essential PM tool: quickly make PM-level decision regarding unknown language
LQA OnDemand: Advantages

- Multilingual: QA service covers 57+ languages. Logrus is able to quickly and independently develop solutions for new languages.

- Universal: All types of content including Web content, documentation, user assistance, templates, wizards, CD booklets, Readme files, software, setup, audio files, scripts, etc.

- Objective: Impersonal QA is linguistically provided by companies rather than freelance reviewers. The result is measurable and quantifiable on an objective predefined scale, not personal opinion.

- Scalable: The service can handle small QA tasks with fast turnaround times on short notice and is highly scalable at peak hours.

- Customizable: the QA model can be modified to fit a customer’s practices and requirements.

- Accountable: the competitive and transparently priced solution (based on formula with transparent parameters clear to LQA customer).

- Machine Translation-ready: the service can easily be modified to meet the less stringent quality criteria used in an MT-based business process.
Measuring Productivity Increases And Economic Benefits

- **Granular PM time saving** on the client side is immediate productivity increase and benefit. It takes about 120 hours to set up manual LQA process from scratch, 80 hours to carry out manually average QA project and process and interpret results, not to mention process friction and disconnect.

- **Project optimization savings** for the entire project flow in terms of time, number of activities, etc., can be a huge saving.

- It is economical and practical to centralize LQA and **remove redundant and inconsistent LQA effort**.

- As outsourced, standardized LQA service develops, they will become **more economical than in-house LQA services** (it already is - centralized outsourced LQA project placement only takes 4 hours to read portal instructions and place LQA job online).
Business process reengineering tool
Integration into the process

- LQS is a separate, granulated language service suitable to be built into any part of language process
- In several workflow scenarios
Linguistic Quality Assurance is not “just” a quality assurance tool. It is a powerful business tool used by our clients to implement the following initiatives:

- PRODUCT QUALITY CONTROL
- VENDOR EVALUATION:
- COST REDUCTION MECHANISM:
Past performance of translation vendor is not a guarantee of future results.

No certification can guarantee the quality of every deliverable.

Build ready quality control into your translation processes (on qualified, proven and ready to be rendered SERVICE ON DEMAND).

Vendor ratings can be assessed, collected and analyzed based on constant spot-check product quality control.

How Much Should be checked on conveyor belt?

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Spot-check quality of your vendors without costly internal efforts;

Historical data is a basis for vendor Performance Evaluation Score (e.g. if vendor receives a FAIL, his score is decreased weighted to the total volume he has translated since the most recent FAIL).
Clients use our LQS service to seek vendors with the same quality and service level, but lower price.
Why outsource QA service?

Why do clients need dedicated QA vendor?

• LQA is usually performed on randomly selected, statistically representative samples that consists of 5-8% of the total volume of materials with short turnaround time and long gaps between QA jobs.

• Each LQA expert must have a best knowledge of all relevant instructions, glossaries, supporting information and other reference materials pertaining to given subject matter and customer-defined variations from standard rules and terminology.

• All in-country reviewers must be preselected, trained (including proprietary tools and TMs), available on a moment’s notice, manage during LQA, and provided with all necessary materials.

• You need significant LQA volumes to load your own LQA linguistic staff, not to mention development of specialized tools and project management on your side.

All of the above makes it quite costly to organize and maintain an in-house QA service.

Fortunately, there is a professional ON DEMAND LQA service out there for you.
Thank you!

Questions?