



Internationalization

As our global business world gets more connected and we work in an big data environment one topic gets more important over time: internationalization of big data projects.



Key Take-Aways

Checklist with Practical Examples

Challenges to Glocalization

Process of Standardization from Local to Global

National Conventions

Internet Links

Abbreviations

We are datamics...

...providing end-to-end machine intelligence consulting services in the area of big data, data science and data engineering. Our mission is to solve complex business problems by planning, developing, analysing and predicting business improvements.

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Checklist for international data onboarding and standardization

Overview

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Internet links:

<https://en.wikipedia.org/wiki/Glocalization>

https://en.wikipedia.org/wiki/Internationalization_and_localization

Checklist with Practical Examples:

- ✓ Use different the different time zone if you enrol international project.
 - As the data analysis and import often takes several hours the jobs are often started in the evenings after a working day in Germany. If the team in another country(China) has the knowledge to review the job result and make some minor changes, then they can resubmit the job in case of failures. This can save one working day.
- ✓ Set the systems, databases and working stations to the same country configuration.
 - Example: (a ' can be interpreted in a Mac in another country as `)
- ✓ Take strict meeting disciplines
 - (Examples 11 pm would be 12 pm in Germany and the team might have lunch meetings)
- ✓ Install an international holiday calendar with the holidays of each country.
 - Example: Schedule a release on a local holiday could cause big problems in case of failures)
- ✓ Use decapitalization and removing of special characters in order to reduce the complexity. Also agree on default values such as na or empty strings at the beginning
- ✓ Use international and easy Tools:
 - For example, wiki or confluence for project management
 - Communication tools Skype or Lync
- ✓ Provide address book with the contact information, position and role of the team members
- ✓ Let the local team approve the results (also in intermediate steps, the earlier bugs are found the less cost they cause)
 - (e.g. there are many names for NA in languages which only fluent or native speakers can detect such as ("Keine antwort", "ohne Angaben", "nicht verfügbar", "unbekannt", "Fehler", "keine Aussage". Moreover, with decapitalization or removing special character no dictionary can translate (e.g. nicht_verfgbar)
- ✓ Time zones vary across the world, and this must be taken into account if a product originally only interacted with people in a single time zone.
 - For internationalization, UTC is often used internally and then converted into a local time zone for display purposes.
- ✓ If possible plan personal meetings. Plan these in head in order to use optimal the time and travel expenses. Also choose the right team member.

Challenges to Glocalization

To expand into new markets, you need to successfully understand and adapt to the existing local environment. Each culture is different due to their customs and history, one of the hardest part of glocalisation is understanding your new market and how to be successful in it. A major part of succeeding in this is to be aware which of the four categories of society your target market falls into, is it a

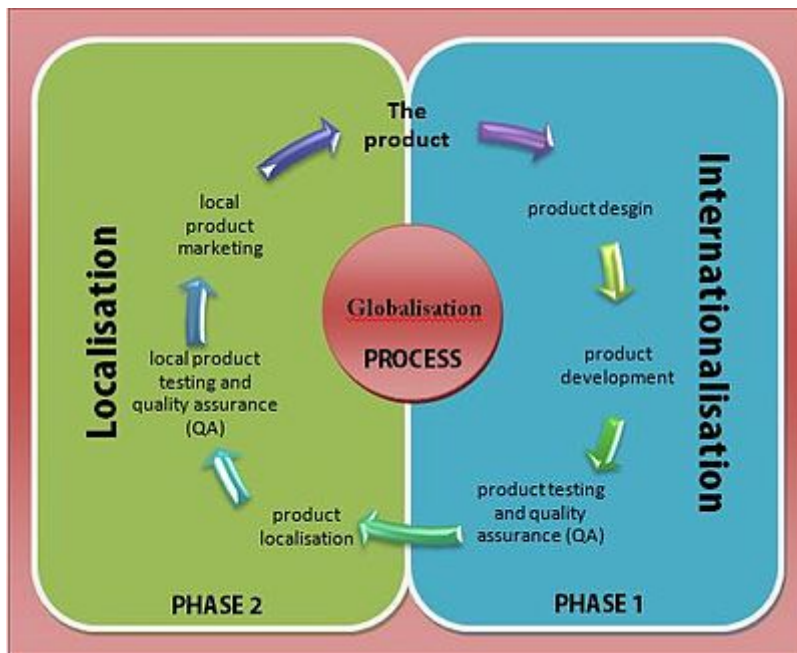
1. Traditional society such as Arab countries and Japan- these societies value collectivism, religion, tradition and heritage ^[15] This means that there is a large emphasis on hirachy and centralised power. This makes it hard for the management in the new country to make decisions and changes effectively and efficiently as they have to go through multiple levels of management before they are approved. In a traditional society it is also very important to network as there is pre-existing channels. ^[15]
2. Rational society like Germany- these countries have individualistic values rather than collectivistic but their ideology is still shaped by their past history ^[15] In these countries the needs of the individual come first which makes it easy to adapt to which creates a welcoming market for new products and companies.
3. A materialistic society which is commonly characterised as ex-communist countries. ^[15] This category is relatively new and was created due to the shift in culture caused by an increase in economic opportunity and mainly consists of emerging markets which makes it a perfect market place for businesses to break into as they have no existing channels. ^[15]
4. Or a post modern society, this is the largest category of society which consists of countries such as New Zealand and most of western Europe. These countries are defined by having a mix of everything, they are individualists, tolerant to change and multicultural which makes their market welcoming to new products and companies. ^[15]
5. It is important to note and understand that countries are constantly evolving and may switch societies, for example the Chinese culture has changed from being a strictly traditional society to being a materialistic society, this is a result of emerging economic opportunities. ^[15]
6. Glocalisation works best for companies which have decentralised authority. ^[15] This means that countries like Japan where the hierarchal system is reinforced into their culture find it a lot harder to adapt to new markets compared to countries like
7. Netherlands as the Dutch have a low power distance which means they only use hierarchy for and mainly prefer to have a coaching leadership style where the superiors are easily accessible. ^[15] This means that decisions and necessary chances are able to be made effectively and efficiently compared to going through various layers of management before a decision is made. ^[15]
8. Decentralised authority is also important as there may be disagreements between management in new destinations who deal with the day to day running of the business and executive management at the companies headquarters, if power is not decentralised the wrong decisions may be made.

The cost to the companies increases as they cannot standardise products and projects, different cultures have different needs and wants which is highlighted in this challenge. An example of a company succeeding in creating new products for their emerging market is McDonald's new rice meals in India and China ^[16] This shows that McDonald's has done research on and understands their new market's requirements for a successful takeaway food. This however can be very costly and time-consuming. ^[16]

Although there are many challenges to globalisation when done right it has many benefits, allowing companies to reach a larger target market is just one of them. Society also benefits when globalisation occurs as an increase in market competition generally pushes the price of products down which means the consumers benefit by gaining a lower price point. ^[17] This decreases the inequality gap as people who couldn't previously afford products when the market was controlled by local monopolies are able to purchase the product for cheaper.

Although globalisation has benefits to the consumer it does not always benefit the producer with newer and smaller companies struggling to keep up with the low production costs of the multi-national competitors. This results in either a higher price and loss of consumers or a lower profit margin which in turn results in less competition within the market. ^[18]

Process of standardization from local to international



National conventions

Different countries have different economic conventions, including variations in:

- Paper sizes
- Broadcast television systems and popular storage media
- Telephone number format
- Postal address format, postal codes, and choice of delivery services
- Currency (symbols, positions of currency markers, and reasonable amounts due to different inflation history) - ISO 4217 codes are often used for internationalization
- System of measurement
- Battery sizes
- Voltage and current standards

In particular, the United States and Europe differ in most of these cases. Other areas often follow one of these.

Specific third-party services, such as online maps, weather reports, or payment service providers, might not be available worldwide from the same carriers, or at all.

Different countries have different legal requirements, meaning for example:

- Regulatory compliance may require customization for a particular jurisdiction, or a change to the product as a whole, such as:
 - Privacy law compliance
 - Additional disclaimers on a web site or packaging
 - Different consumer labelling requirements
 - Compliance with export restrictions and regulations on encryption
 - Compliance with an Internet censorship regime or subpoena procedures
 - Requirements for accessibility
 - Collecting different taxes, such as sales tax, value added tax, or customs duties
 - Sensitivity to different political issues, like geographical naming disputes and disputed borders shown on maps (e.g. failing to show Kashmir as Indian is a crime in India)
- Government assigned numbers have different formats (such as passports, the Social Security number and other national identification numbers)

Localization also may take into account differences in culture, such as:

- Local holidays
- Personal name and title conventions
- Aesthetics
- Comprehensibility and cultural appropriateness of images and color symbolism
- Ethnicity, clothing, and socioeconomic status of people and architecture of locations pictured

- Local customs and conventions, such as social taboos, popular local religions, or superstitions such as blood types in Japanese culture vs. astrological sign in other cultures

Abbreviations:

- ✓ **i18n** (where 18 stands for the number of letters between the first *i* and the last *n* in the word “*internationalization*,” a usage coined at DEC in the 1970s or 80s)
- ✓ **L10n** for “*localization*,” due to the length of the words.
- ✓ “globalization”, **g11n**, for the combination of internationalization and localization.^[6] Also known as “glocalization” (a portmanteau of globalization and localization).
- ✓ **L12y** (abbreviation for localizability) Microsoft^[7] defines Internationalization as a combination of World-Readiness and localization. World-Readiness is a developer task, which enables a product to be used with multiple scripts and cultures (globalization) and separating user interface resources in a localizable format.
- ✓ **NLS** (National Language Support or Native Language Support) to produce localizable software.^[1]