

Localisation in the Stream: Assessing GILT Strategies in Relation to Online Services—The Case of JAL Web Site in Japanese and English

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Abstract

It is a fact that e-commerce has become a major trend, foregrounding such issues as GUI design, usability, security concerns and digital divides, where English is usually taken for granted as the lingua franca. However, recent figures show that the Internet users scenario is much varied, and localisation confirms itself as the major business strategy of multinational companies offering online services and products. This paper focuses on the GILT dynamics (Globalisation, Internationalisation, Localisation and Translation) and aims to shed light on their impact at the level of access to and usability of digital contents. In particular, an accurate globalisation strategy and software internationalisation are discussed as the key factors to global effectiveness. The proposed pilot study analyses the contents of two commercial web sites provided by JAL (Japan Airlines) for purchasing a domestic flight in Japan, contrasting the Japanese and English versions. The results will be discussed in terms of the main localisation, internationalisation and usability features. The primary research question is if the English user can receive the same service from the self-service ticketing web site originally designed for the Japanese user. Furthermore, the results of JAL case study carried out from downstream localisation to upstream GILT strategies will help illustrate the initial premises on the importance of planning a truly global communication strategy. Keywords: globalisation, internationalisation, localisation, usability, self-service ticketing, requirements, GILT.

Introduction

Personalised shopping has arguably become a mainstream trend on the Internet. Books, DVDs, CDs, and tickets are among popular items purchased via online shops. The improvement of infrastructures (high speed Internet, affordable personal digital equipments like laptops, game machines, and mobile phones), and gov-

ernment policies facilitate this trend. Yet, there are a number of issues surrounding Internet shopping, in particular the usability of the online shops, not less than security concerns. The fusion of World Wide Web and business objectives to attract more customers blurs locality and personal boundaries. This implies a diversification of web sites requirements (linguistic/cultural, physical disability, generation and gender requirements).

Personalised preferences also pose greater challenges to the adaptation of services for international markets and web site localisation. While English is considered to be the lingua franca of global commerce and software, official Internet statistics on the regional distribution of Internet users offer a different picture:

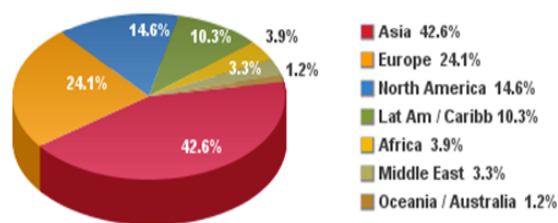


Figure 1. World internet users distribution by world region [1]

The present contribution focuses specifically on the GILT processes that underlie the provision of digital content on a global scale, proposing a comparative case study on a major linguistic pair: Japanese and English.

First, we will introduce the GILT modus operandi, outlining the main processes involved in localisation, internationalisation and globalisation. We will make the case that the globalisation and internationalisation of digital contents are the crucial keys to foreign markets.

Next, we will move to the Japanese digital landscape and outline the methodology of analysis of the parallel Japanese and English versions of the JAL web site for purchasing a ticket online. The self-service operations will be described in succession in a comparative analysis

and then the data will be systematised according to significant GILT parameters. The final results will illustrate the major inconsistencies between the two web sites, and will provide a basis for assessing JAL globalisation/internationalisation strategy and its impact on the level of localisation.

1 The GILT *modus operandi* in a nutshell

Once, digital publishers conceived electronic content in their own language first, and then translated it into x number of foreign languages. It has been reported that the first Microsoft products in the 80s were developed with a U.S. English user in mind, while tentative localisations into European languages were supposed to require a bare replacement of text strings. Thus, translators involuntarily deleted parts of the source code, while engineers deleted "funny characters" like umlauts, and did not consider what was left outside the ASCII code [2]. Software localisation progressively turned out to be something more than plain translation, in that it required the support of foreign characters, double-byte and right to left languages, the adaptation to different keyboard inputs, the creation of local support services, and complying with foreign legal regulations as well as upstream planning of a global assembly line of specialised activities and human resources.

Nowadays, digital editors increasingly resort to globalisation strategies and develop source content with an international audience in mind, in order to obtain cost effective and timely localisations. In fact, expert estimates show that "the globalization services that make it possible for companies to sell and support their products and services outside of their home markets – internationalization engineering, software localization, website globalization, international QA & testing – are moving upstream" [3]. The GILT *modus operandi* is therefore not to be seen simply in terms of a set of separate and consequent activities, but as an integrated production model.

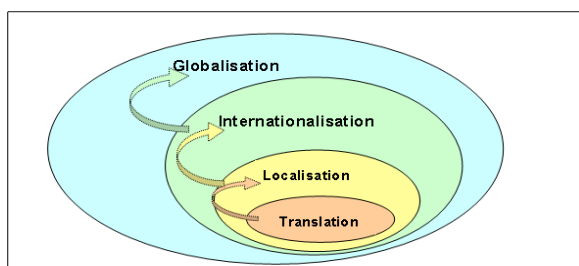


Figure 2. The GILT model: totality and interdependencies.

Figure 2 illustrates how the GILT processes are strictly interdependent and bound by causal relationships, like a Chinese box. While the ovals represent the scope of inclusion and the time sequence of the activities – internationalisation precedes localisation – the arrows refer to the

essential feedback provided by subordinate and following processes – assessing localisations improves internationalisation and globalisation awareness. This reverse pathway can be considered as a major contribution to research and development.

In the next sections, we will address the merits of the matter by outlining what internationalisation and localisation entail as far as software applications and especially websites are concerned, in the light of the literature on best practices.

1.1 Localisation (L10N)

Software localisation entails "the linguistic and cultural adaptation of digital contents to the requirements and the locale of a foreign market, and the provision of services and technologies for the management of multilingualism across the global digital information flow" [2]. In this definition, the concept of *locale* encompasses a complete set of linguistic, cultural and technical specifications that differentiate one (digital) target market from another: character sets, keyboard inputs, servers, date formats, currencies and so forth. In addition, the concept of localisation covers services (management, translation, engineering, desktop publishing) and technologies (CAT tools¹, content management systems, and so forth), and refers to "global information, which is accessible anytime anywhere by anybody" [2]. In the case of web sites, services like updates, commercial transactions and assistance to the end user are therefore crucial.

Linguistic issues regard the support of right to left (Hebrew, Arabic) or double-byte (Chinese, Japanese) languages, but also the recognition of foreign character inputs. The web sites JAL/jp and JAL/jp/en do not support diacritics like (é, ä) in foreign names and prompt with an error message the unfortunate online customer whose name might be José Gonzàles or Müller².

Cultural localisation involves important legal regulations on marketing, online service terms and conditions, legal notices, unfair business practices and the like. Furthermore, online self-service transactions involve exchanging highly culturally-bound information, like addresses, dates, currencies, and even names, which format must be culturally suitable. Other cultural factors involve the adaptation of icons and figures. More generally, digital publishers should be aware of political and business conventions, aiming to satisfy the cultural expectations of the target user: "e-commerce solutions must account for local payment preferences and methods, that is, they cannot assume that credit cards will be available everywhere or universally accepted. These issues vary by country and region, so the importance of local market knowledge cannot be overstated" [4].

¹ Computer Aided Translation tools

² See section 5

Technical issues clearly cut across all these linguistic and cultural factors, and include keyboard inputs, local service providers, page/button resizing and foreign scripts. Whether localisation is carried out in-house, in foreign corporate departments, or outsourced to specialised localisation service providers (LSP, or Language Vendors, LV), the best practice is to design a source product capable of supporting foreign locales with minor revision, or, in other words, the key is internationalisation.

1.2 Internationalisation (I18N)

Internationalisation turns out to be the other side of the coin of localisation, and, indeed, it has been developed and enhanced in response to it. The main purpose of internationalisation is to abstract functionality from any linguistic, cultural and technical specificity, so that localisation will require minor engineering and desktop publishing work. For example, GUI interfaces and buttons should be easily resizable in order to accommodate text expansion, and Unicode is indicated as the most suitable standard for international character sets. In this respect, pre-arranging character sets might not be enough: the Chinese languages also require certified fonts by law, as GB 1830-2000 states its compulsory compliance [5].

Experts recommend that internationalisation is implemented during the software development life cycle: "the temptation is always to put off internationalization and to pass the resulting costs onto the localization team (which usually operates under a different cost center) to save time and money up front" [6]. It is reported that costs and schedules are doubled if software is not properly internationalized to start with (ibid.).

Cultural and linguistic internationalisation is more often implemented through simplification, automation and terminology management. Leveraging, or recycling, is a basic principle both in technical writing (authoring) and translation: "changes to the original product have to be limited to an absolute minimum, because each modification of the original will have to be implemented in each of the localised versions (x20, 30 or 40). [2]. In the end, internationalisation requires localisation awareness, through the feedback of previous projects and the formalisation of best practices. The key decisional factors are however to be found in the scope and management of the globalisation policy.

2 Globalisation strategies

In its commercial acceptance, the term globalisation refers to "a business strategy addressing the issues associated with taking a product to the global market, including world-wide marketing, sales and support" [2]. To the extent that major digital publishers earn 50% up to 70% from international sales, globalisation entails changing the way a company does business and integrating localisa-

tions into the source product life cycle, rather than re-designing and investing further resources and time afterwards [7].

According to the methodology proposed by Reinhard Schäler, planning a prototypical globalisation policy requires a precise set of steps, including strategic considerations on marketing, studies on the target markets, choosing an appropriate resource model for localisation and planning (see [2] for further details). In particular, a globalisation policy should be supported by data and empirical studies carried out on foreign markets, assessing in particular three key factors:

- portability
- penetration
- cultural conventions

These interwoven factors are crucial both for products and for the offered services, like online purchase. Portability refers to the product readiness or adequacy to enter foreign markets and requires the optimisation of online services to international requirements, payments methods and the provision of further assistance to the target language customers. The worldwide portal of JAL³, for instance, groups the main destinations into 27 countries or larger regions, offering a diversified booking service for each one of them, either in Japanese or in one or more target languages. While most European countries are managed separately, Middle East & Africa are grouped together in the same web site, partly due to reasons of online service portability.

Penetration regards the size of the target markets under evaluation, their currency and language. The size of the target market does not correspond to the size of the population of a nation or language group. The Dutch locale - excluding Belgian Flemish - will be more appealing for online merchandising rather than the Turkish locale, although its population is twelve times smaller, due to Internet penetration and marketability. Assessing the potential reception of the target market is conducive to determine the scope of localisation: in the case of JAL target web sites, the America and the UK & Ireland web sites are localised into English, while the French and Italian web sites are only partially localised, respectively into bilingual English/French and English/Italian versions.

Cultural conventions are one of the most sensitive factors to consider in planning globalisation, and include legal regulations, cultural specificities and religious beliefs. For example, two major global locales like Chinese and Japanese require specific fonts, or may require the adaptation of online purchase terms and conditions. Such aspects cannot be overlooked and must be assessed in advance.

³ <http://www.jal.com/>

3 Going global: Japan and the online market

The statistics report “Communications Usage Trend Survey 2008 Compiled” by the Japanese Ministry of Internal Affairs and Communications (MIC) shows that the “Purchasing trade of merchandise or services (except financial trading)” is the major trend of Internet use via Personal Computers (PCs) or mobile phones [8]. A standard guideline issued by the Japan Industrial Standard (JIS) X 8341-3, regarding the accessible information using browser services (including electronic documentation) sets a guideline to design web sites and digital content to accommodate all members of the society including minorities. JIS X 8341-3 is based on JIS X8341 which is basically a translated version of the ISO/IEC Guide 71 [9]. The standardisation of this area is inevitable as the use of web sites pervades society.

The 2005 Japanese census reports the increasing number and varying nationalities of foreign residents in Japan. Foreign residents amount to 1.56 million people (1.2 % of the total population), of which the Koreans and the Chinese dominate (a little more than half, at 53.1%) followed by Brazilians, 13.0%, Filipinos 8.1%, Peruvians 2.6%, and others 19.8%. In contrast, the U.S.A. nationals are reported at the mere 2.5%[10]. These statistics generally indicate that a wide range of locale compatibility is necessary for a successful self-service web site in Japan, although nationality does not necessarily correspond to language ability. Indeed, an emerging trend of online self-service is to accommodate non-Japanese speakers of different nationalities⁴, as shown by a number public service web sites⁵.

The importance of localisation planning in the designing stage becomes critical for a successful self-service web site, that is, internationalisation for globalisation. A successful localisation consists of these three phases.

4 Methodology

Our main research hypothesis is to verify how interdependent GILT issues affect the results of web site localisation, with particular reference to online services. To this purpose, we will compare the contents of two parallel web sites (English and Japanese) provided by Japan Airlines for purchasing a domestic flight in Japan, keeping in mind that: "localisation is successful when a services or a product has been linguistically and culturally adapted to the point that users do not notice that they are using something that was originally devel-

oped in a different context (e.g. a country or a locale) for a different target group" [2].

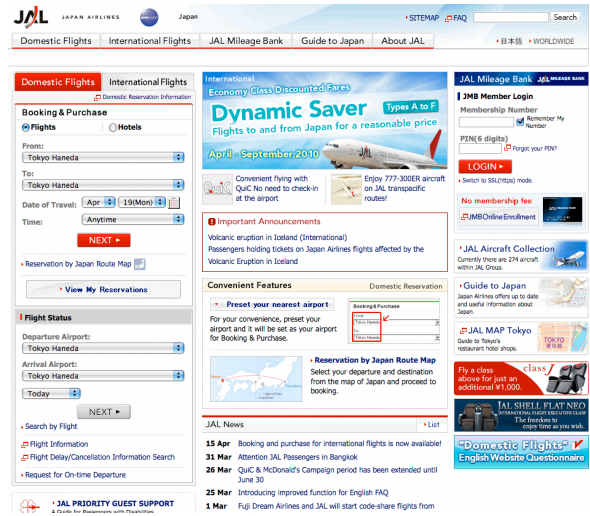


Figure 3. The homepage of JAL/jp .



Figure 4. The homepage of JAL/jp/en⁶ in English, the Japanese equivalent of Figure 3.

Among the range of English versions of JAL web site (for the America, Ireland & UK, Australia, and even Benelux & Scandinavia), we will focus specifically on the English version of JAL/jp (Figure 3) for domestic flights, since it is the best place to examine how JAL addressed GILT issues from the conception of a source Japanese web site also targeted at all the users of the international market. In fact, JAL provides domestic flight ticketing in Japan with JAL/jp in Japanese (Figure 4) and JAL/jp/en in English only, therefore the latter effectively targets all

⁴ It is interesting to note that, as will be shown in the next section, the domestic self-service ticketing offered by JAL to non-Japanese speakers is in English, considering the Korean and Chinese dominance in numbers and their closeness to characteristics of the source Japanese locale.

⁵ <http://www.city.hamamatsu.shizuoka.jp/foreign/index.htm>
<http://www.city.shinjuku.lg.jp/foreign/english/index.html>

⁶ <http://www.jal.co.jp/>

those who do not use the service in Japanese, including foreign residents.

Firstly, we will simulate the purchase of a domestic flight in Japanese and English, making relevant but generic observations about the main functional and visual differences. Secondly, we will systematize and discuss the results according to specific GILT parameters, which can be preliminarily located at the following levels:

- Globalisation - missing information
- Internationalisation – abstract functionality
- Localisation – locale specific adaptation

This intuitive list of categories is designed to shed light on the major constraints and issues concerning website localisation, internationalisation and globalisation, highlighted in the initial sections, and is adapted in particular to assess relevant variations in the usability of online services across different locales. Previous comparative studies on web sites tend to describe localisation features without further inferences on the preceding processes. An exception to this trend is represented by the case study on the web site of a Finnish company, conducted by Hilikka Yli-Jokipii [11], which will serve us as a major methodological reference.

5 Buying a ticket for domestic flight online from JAL: Japanese vs. English locales

We move on to simulate the purchase of a domestic ticket with JAL/jp and JAL/jp/en, describing and contrasting the two versions step by step in 5 steps from the booking page to the confirmation page. Both web sites are accessed via the Microsoft search engine “bing”⁷. The simulated itinerary involves a one way journey leaving Haneda airport for Sapporo Kushiro in first class. All conditions are identical between the two web sites under evaluation.

Firstly, on the level of the site map, it is appropriate to compare briefly the availability of information in both web sites. Even though the JAL/jp/en effectively envisages all non-Japanese speakers for the domestic flight services, it is very much simplified in the provision of core service information regarding ticketing and flying with JAL. By contrast, JAL/jp/ appears to be the portal for a domestic tour with JAL, as it offers detailed information regarding payment methods, flight cancellation, links to hotel reservation sites, rent-a-car companies, sightseeing spots and events in Japan as well as related information including aircrafts, saving scheme for tours, regional information on Japan, and . Moreover, JAL/jp provides information on current flight cancellation, and delay and weather forecast.

As a result, the two home pages show a number of differences due to missing information in the target version. The English GUI is considerably simplified in buttons, boxes, dropdown lists, links and other options, although

these are resizable, which is an essential technical feature for internationalisation purposes (section 1.2). For example, the “JAL card” tab is not present in the localised page. The JAL card is a royalty scheme with credit card functions, allegedly presented as an offer in the source version. Side information regarding extra or external service providers is also reduced, such as taxi booking, train tickets and insurance offers. Moreover, while the source JAL web site offers local news about destinations, this information is not fully available in the English web site and is not as regularly updated. Other relevant differences concerning the GUIs are the dropdown lists of locations and return journey. It can also be noted that the purchase function boxes, including the selection of the number of passengers, the choice of the return date and all date formats take the U.S. style. Finally, the QR code⁸, the two dimensional barcode that captures information through mobile phones is not available.

In the next page, the customer selects the flight. The first difference is that JAL/jp/en opens a separate web page, while JAL/jp refreshes the current browser page. Again, information related graphics is missing from JAL/jp/en. The offers from extended business partners of JAL, such as offers for discounted hotel rooms, are not present in the localised version, and the number and type of travellers are not asked in the JAL/jp/en version. The information under the “Attention” heading is not as comprehensive as in the original one, which presents nine items instead of six. The label of a promotional offer is assigned to the phonetic transcription of a Japanese word in JAL/jp/en. This may not convey the meaning to foreign users unless they understand the local language usage (Business KIPPU). At this point, JAL/jp/en users are not yet prompted to select a return flight, but need to voluntarily select a button for it.

The third page after selecting the return journey shows the details of the selected flight. The most relevant differences are similar to the differences encountered in the previous two pages. There is not as much information provided under “Attention” in the international version as in the original one, therefore missing important information explaining possible fare increases. The total amount is only presented in the JAL/jp version.

The fourth page where the user provides personal information entails crucial GILT issues, as noted in section 1.2. The original Japanese page offers extra guidance relating to the input method of Japanese ideograms. In both versions diacritics are not supported. The JAL/jp site is supposed to support user inputs in Hiragana and Katakana and convert them into Romanic alphabet. Instead, the site does not support Hiragana or Katakana inputs. Surprisingly, the English version does not ask for an email address of the purchaser.

⁷ <http://www.bing.com/?mkt=en-us>

⁸ <http://www.denso-wave.com/qrcode/qrcode-standard-e.html>

The final Confirmation page, (payment and confirmation) shows considerably different features in the two versions, affecting usability. The localised version does not offer the same service to the target user, cutting down the payment options to two.

6 Results

The JAL/jp/en web site targets all non-Japanese speaking customers in the world as an international version of JAL/jp. This web site functions properly as a self-service ticketing service, but does not reveal a consistent application of the best practices of GILT, outlined in the initial sections. A number of issues arise in relation to the main GILT parameters of analysis (Globalisation - missing information, Internationalisation - abstract functionality and Localisation - locale specific adaptation, as specified in section 4).

Under the internationalisation label, user interfaces showed slight variations, without hindering in the end the functionality for purchasing a ticket. Buttons and boxes were resizable and generated no text cut-off or overlap. A functionality disadvantage of this web site is that even though the internationalised version targets effectively a wide world market, it does not support diacritics unique to a number of languages. This greatly affects the usability potential for those customers who require diacritics to spell their names. The fact that neither Japanese nor English versions supported a number of foreign characters may be symptomatic to assess the scope of globalisation and internationalisation of the project. Although JAL/jp states that the web site accepts inputs in hiragana and katakana (double byte) characters, it failed in our experiments. This fact can seriously limit the usability of the web site in Japanese.

Cultural conventions related to localisation issues were not a major issue in the analysis. Date formats were recorded as an issue, but were not critical in view of a self-service business transaction. They can be considered as a matter of preference and did not hinder functionality. Finally, the available payment methods can be considered a kind of cultural/legal issue, and represented a limitation to the target user, who could pay by credit card or by cash only in a convenience store, excluding banks and post office payments that were instead available to JAL/jp users.

The omission of relevant information (promotional offers, Help and Q&A, Refund information, etc.) in JAL/jp/en was obvious from the site map. A follow up study would be necessary to indicate whether this is due to a lack of GILT awareness in the design stage of the web site or to a voluntary decision in JAL strategy. For the time being, we could not get in contact with company informants. The current research suggests that the commercial web site assumingly localised for an international audience presents limitations of information, related func-

tionalties, and consequently limitations of service, although GILT activities are generally considered to benefit “a plethora of marketing enterprises behind the localisation concept”[12].

The results of the present study are further supported by the fact that JAL proposes a questionnaire ⁹to JAL/jp/en users, explicitly asking for feedback on unsolved GILT issues.

Conclusions

The results of the pilot study seem to suggest that the JAL web site requires further efforts in internationalising its contents. This indicates the necessity and importance of understanding the interdependency of GILT processes and globalisation management from the very start of a project. A web site designed specifically for a culture is not easy to apply globally. JAL seems to be in the process of optimising the globalisation policy of its web business model. In fact, the company — allegedly aware of current shortcomings— is taking measures to improve its localised online services proposing surveys to the users of the international English web site. The questionnaire asks about the usability of the internationalised web site as well as the user nationality and language.

The proposed pilot study is an experimental attempt in its methodology, in particular in the application of GILT parameters to online transactions, and is therefore open to further testing and improvements. In addition, quality metrics and the evaluation of successful localisations have not been fully standardised in corporate and academic studies. A valuable method for global companies in planning GILT could be identified in the application of the requirement analysis technique, consisting in specifying what the main functionality requirements are and how they can be satisfied from the product conception [13], since localisation requirements are “moving upstream” [3]. In the future, we hope that further studies will develop the state of the art and help sensitize the academic and professional community to the best practices.

In conclusion, cultural and linguistic preferences and usability emerge as interrelated key factors for effective online communication and transactions, representing at the same time the aim of successful localisation in a global self-service society.

⁹ JAL questionnaire reads: “Thank you for taking the time to visit our “Domestic Flights” English website and complete our questionnaire ! Please help us to make this site even more user-friendly for non-Japanese speakers like yourself by taking a few moments to answer the following questions.”

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