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## | RESEARCH ARTICLE

### Orthographic Errors in Localization websites

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#### | ABSTRACT

This study argues that medical localization requires a multidisciplinary approach involving linguists, medical experts, and software engineers in order to achieve a consistent and appropriate translation of medical words into Arabic. It also highlights how important it is to understand the linguistic aspects of the target language in order to properly comprehend medical terminology. The current study focuses only on orthographic errors when localizing English medical websites into Arabic. In order to properly translate medical websites from English to Arabic, the study highlights the significance of meticulous planning, organization, and stakeholder collaboration. The methodologies section of this study will examine the linguistic features and specifically orthographic errors suggested by Olvera Lobo & Castillo-Rodríguez (2019). When translating the introduction pages from English to Arabic, this study discovers numerous orthographic problems in every website that was looked.

#### | KEYWORDS

Arabic, Localization, websites, Orthographic errors, health information

#### | ARTICLE INFORMATION

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#### 1. Introduction

Localizing medical websites from English to Arabic has a number of advantages. First off, it makes health information more accessible to communities who do not know English. Health information is made available to a huge number of people who would not otherwise be able to access it owing to language obstacles by localizing medical websites into Arabic. Second, translating medical websites into Arabic can benefit patients' health. In order to promote healthy habits and disease prevention, access to accurate and trustworthy health information is essential. Individuals are given the power to govern their own health by providing them with accurate, timely, and culturally appropriate health information. Thirdly, it promotes pleasant interactions and trust between patients who do not speak English and healthcare professionals. When healthcare personnel deliver medical information in the patient's native language, patients are more likely to feel at ease and confident when seeking medical care.

Despite the advantages of localizing medical websites, there are still a number of issues that must be resolved when localizing such medical websites into Arabic. First off, there is a dearth of proficient Arabic-to-English medical translators who are able to accurately translate medical phrases from English. Because medical language is so complex, it takes a highly knowledgeable translator to convey medical concepts correctly. Second, localizing medical websites might be extremely difficult due to cultural differences. Localized medical websites must conform to the target audience's cultural conventions and values. If these disparities are not addressed, people may have a bad impression of the website and the project as a whole. Thirdly, the translation of medical words via machine translation may not be correct. The ability of machine translation to faithfully translate highly specialized medical language is still in its infancy.

## **2. Literature Review**

Undoubtedly, there are various levels of localization that may be applied to a website. A fundamental distinction between monolingual, bilingual, and multilingual sites is put forth by Schewe (2001). He makes the point that the decision between these possibilities is based on the organization's language policy or marketing plan when using the website to communicate. However, localization goes beyond just linguistic concerns. A multilingual website may decide to maintain the same format and content across all of its language versions without any of the modifications mentioned above, just as an English-language site may be localized for the various markets where English is used (Bob the Builder changes accent as he crosses the Atlantic). Major websites frequently choose this option to project their stability and dependability. Thus, levels of localization take into account the existence of many languages as well as the cultural implications of marketing methods.

The body of research highlights the importance of localizing websites for the healthcare industry, where effective patient communication with patients from many cultural backgrounds and cultural awareness are critical. Important factors for a good website translation include language, user experience, trustworthiness, and the choice of culturally relevant IDs, avatars, and graphics. A combination of localization strategies, such as translation, copywriting, and UI element adaptation, is recommended for the best localization of websites. This study focuses on translation errors, in contrast to other research that examined cultural issues. Depending on the nature of material, different translators employ different translation strategies (Jing et al., 2023; Sayahen et al., 2024).

Byrne, J. (2019) claims that technology both starts and facilitates localization, a sophisticated fusion of intercultural, visual, and textual communication. Zhong (2010) studies the usage of cultural avatars in localizing websites. According to the writers, localizing a website involves more than just translating the text to fit regional norms. Several cultural and linguistic factors influence design and content adaptation, according to Gao and Wang (2018), who investigate website localization for the Chinese market.

In their investigation of corporate website localization, Massey and Khatri (2011) stress the need of effective stakeholder communication and cross-team cooperation. In order to boost website engagement, Moura, F. T., Singh, & Chun (2016) state that a website's design should take into account the cultural beliefs, values, and norms of the target audience.

Five levels of localization are identified by Singh & Pereira (2005): "standardized" (one website for all countries), "semi-localized" (one site provides information on many countries), "localized" (a fully translated site for each country), "highly localized" (translations plus country-specific adaptations), and "culturally customized" (a new site completely immersed in the target culture). Only the 'localized' and 'very localized' options include any translation in the conventional sense. Singh & Pereira discovered that most businesses have one of the three levels of "localized" sites, with 17% having "standardized" sites (i.e., no translation) and none scoring as "culturally customized" (i.e., total re-generation). Their study included 307 US corporations.

Between these kinds, there are numerous transitional phases. For instance, one might discover that while generic material is translated, detailed technical information meant for specialized users is not. This solution could be referred to as a "standardization" mode.

Translation alone is not localization. Based on Olvera Lobo & Castillo-Rodríguez Localization is the process of changing goods or services to take into account variations in various markets. This definition entails a variety of commercial and technological challenges, as well as the customization of a number of a product's and service's features. Important non-textual components of a product are tied to localization, which affects the following issues. First, linguistic issues. A product needs linguistic adaptation, especially if it is intended for users or installers who do not speak the language in which the product was developed. It is also advisable to translate websites, support materials, training manuals, and internal service bulletins. Second, physical issues. The physical change of a product that should benefit the local market is another aspect of localization. For instance, cars in Australia, the United Kingdom, India, or Japan have steering wheels on the right. Third, business and cultural issues. The target market should be able to understand the format of names, local addresses, and phone numbers. Additionally, colors and images are altered. Forth, technical issues. These kinds of problems are related to the engineering phase. Because they demand specific consideration and preparation, technical concerns should be carefully considered early on in the creation of a product. For instance, languages like Arabic, which are written from right to left, require unique text handling Olvera Lobo & Castillo-Rodríguez (2019).

Commercial computer solutions for machine translation are also available, as well as free, Web-based software. The majority of machine translations are text-based and offer instant translations between numerous languages; occasionally, audio output is also an option. There are sometimes keyboards available in a variety of languages. By switching an onscreen keyboard, users of Google Translate, for instance, can access several language scripts. The significance of English as an international language is obvious given the world's continued expansion. However, translating into English is challenging for us. This is due to the fact that

not only do we live in different ways, but also speak in different ways. According to Das, P., Kuznetsova, A., Zhu, M. O., & Milanaik, R. (2019), the vocabulary and translation of business English letters will be improved based on the study of functional equivalence theory and the computation of a genetic algorithm. This can improve our ability to interact with one another and allow us to benefit from China's advanced Western expertise. The computational benefits of the method are demonstrated by analysis of the algorithm. The examination of this English translation model will advance and promote current translation technology.

Even though they are still the gold standard for interpretation in clinical practice, professionally trained medical interpreters are frequently not offered in community-based practices. As a result, doctors are starting to use machine translation to enhance their communication. Machine translation was initially created to make simple text-to-text translations easier, but in recent years, it has developed to make more complicated translations easier by using more advanced algorithmic techniques Randhawa, G., Ferreyra, M., Ahmed, R., Ezzat, O., & Pottie, K. (2013). According to Ozolins, U., Hale, S., Cheng, X., Hyatt, A., & Schofield, P. (2020), the sophisticated translation process of back translation is frequently not described in the research literature, despite the fact that it has been routinely employed in medical research surveying linguistically varied groups. Hyatt, A., Lipson-Smith, R., Gough, K., Butow, P., Jefford, M., Hack, T. F., ... & Schofield, P. (2018) mentioned that communication issues are regarded as the main access obstacle, which leads to differences in cancer burden and survival depending on ethnicity and immigration status. For cancer patients who speak little English, our research team examined a communication intervention package that included consultation audio-recordings (ARs) and question prompt lists (QPLs). This study investigated the opinions, preferences, and suggestions of LES patients in relation to the communication package.

### **3. Methodology**

The methodology section of this work will concentrate on one of the four basic localization components described by Olvera Lobo & Castillo-Rodríguez (2019). According to Olvera Lobo & Castillo-Rodríguez, localization is the process of modifying goods or services to account for variations in various markets. Key non-textual components of a product are impacted by localization, which solves orthographic errors.

This study focuses only on the linguistic issues and in order to discover any linguistic differences that can interfere with the localization process; the linguistic component will be addressed by doing a linguistic analysis of the source content and comparing it with the target language. To ensure the correctness and efficacy of the translated material, website localization entails a number of linguistic considerations that demand close attention. Specifically, Orthographic Aspects will be included in this study.

Pfizer, AbbVie, Johnson & Johnson, Novartis, Merck & Co., Roche, Bristol-Myers Squibb, AstraZeneca, Sanofi, GSK, Takeda, Gilead Sciences, Eli Lilly, Novo Nordisk, Amgen, Boehringer Ingelheim, Bayer, Moderna, Viatriis, and CSL Behring are the top 20 pharmaceutical companies by sales in 2022. This implies that any pharmaceutical business not on this list is not covered by this research. Arabic language choices are available on the websites of only six of the pharmaceutical businesses mentioned. You can select the Arabic language after choosing the region in each of these six pharmaceutical firms. These companies are, Bristol-Myers Squibb, AstraZeneca, Gilead Sciences, Amgen, Viatriis and CSL Behring.

### **4. Results**

To ensure the accuracy and effectiveness of the translated material, website localization requires careful attention to all orthographic errors. Obey the rules of the target language: Follow the target language's orthographic conventions, making sure to capitalize words correctly, punctuate sentences properly, and use quotation marks as needed. Incorrect Spelling (Cacography): To avoid spelling mistakes throughout the reviewing phase, use a spell checker. For this category, we noticed many orthographic errors in almost all paragraphs. Please see the below examples.

#### **Example 1**

The correct translation is "يرجى النقر هنا"

#### **Example 2**

فرقًا should be written as التي and فرق should be written as الفرق

#### **Example 3**

The word في should be written as في as we need to add two dots under the last letter.

#### **Example 4**

وَأَنْ should be written as وَأَنْ and وَأَنْ should be written without space as وَأَنْ

#### Example 5

The space before the comma should be deleted.

#### Example 6

This should be with the glottal stop "HAMZA" الإبلأ عن أعرأض ءانبية

#### Example 7

The word المءالء should be written as المءالاء and العالءية should be written as العالءية

#### Example 8

The word الالءءروني should be written as البريد الإلءءروني with adding the glottal stop "HAMZA" under the third liter.

Example 9 In the Arabic sentence the comma should not be exist before منذ.

#### Example 10

There is a typo error in the translation of the word we. The pronoun we supposed to be "نحن" but the first letter in Arabic "ن" has been deleted. This deletion for this letter was just committed on the Saudi Arabia page but not on the United Arab Emirates page.

#### Example 11

This sentence in Arabic should be without comma as اكتشاف وءءوير وءءءءم. In Arabic language, the "و" is used instead of the comma.

#### Example 12

The word "ملءزمه" should be written as ملءزمة

#### Example 13

The word إلءءروني should be written as الإلءءروني

#### Example 14

The is an extra space between المءعلقة and ءوءة

#### Example 15

The use of the "Tanween" in words such as مءءبأ and سعياً was in two ways. We need to keep consistency and use the "Tanween" on the last letter or on the letter before the last.

#### Example 16

This is a complete sentence and the corresponding one in Arabic should be ended with a full stop as in the source text.

#### Example 17

We need to add a full stop at the end of the Arabic sentence, as it is a full sentence and the end of a complete paragraph.

#### Example 18

The is an extra space between the comma and the word "عقوء"

#### Example 19

The is an extra space between the question mark and the word "الءانبى"

#### Example 20

The word ان has been written wrongly. It should be written with "HAMZA" Under the first letter إن.

Example 21

There are many errors in this string. First, there is an extra space between the word شخص and the comma. Second, no need to add a comma after the word جانبي. Third, there is an extra comma after the word جلياد. Fourth, there is an extra colon before the word جلياد. Fifth, the word بالتواصل should be written without the first letter "التواصل"

Example 22

An extra full stop at the end of the sentence should be deleted.

Example 23

تقدم فياتريس مجموعة متنوعة من الأدوية ، بما في ذلك العلامات التجارية والأدوية والبدائل الحيوية والمنتجات التي لا تستلزم وصفة طبية.

There is an extra space between الأدوية and the comma.

## 5. Discussion

These pharmaceutical companies provide Arabic websites tailored to Arabic-speaking areas. Amgen has a whole page devoted to Saudi Arabia. AstraZeneca offers Arabic pages for Algeria, Saudi Arabia, Egypt, and the United Arab Emirates, with the exception of the Saudi Arabian page, which is primarily in English. Saudi Arabia and the United Arab Emirates receive Arabic content from Bristol Myers Squibb. The United Arab Emirates page is primarily in English, however both Saudi Arabia and the United Arab Emirates have Gilead pages in Arabic. On VIATRIS, Saudi Arabia has its own page. CSL Behring has Arabic content for both Saudi Arabia and the United Arab Emirates, however the United Arab Emirates website is primarily in English. The documentation of pharmaceutical firms like Bristol Myers Squibb and Amgen's docs had Morphosyntactic and Grammar Aspects issues. All six pharmaceutical firms—Amgen, AstraZeneca, CSL Behring, Bristol Myers Squibb, GILEAD, and VIATRIS—found orthographic problems.

## 6. Conclusion

When localizing websites, it is crucial to consider many pertinent factors as early as the website development phase. This proactive approach helps prevent unnecessary expenses and defects in the finished product. Ideally, localizers, clients, and web developers—among the other stakeholders engaged in product creation—should collaborate closely. In order to guaranty that the finished product meets expectations and is of high quality, collaboration is essential. By taking these linguistic issues into account during website localization, businesses can build a more seamless and successful user experience for their foreign audience while avoiding linguistic risks that may hamper comprehension or turn away potential visitors.

In order to guaranty that the finished product is acceptable and successful in the target market, the localization procedure becomes essential. It is an essential step for pharmaceutical firms wishing to publish information, products, or services online in order to enhance their market share in other countries. It covers all linguistic aspects of website adaptation and particularly orthographic errors. Assigning this task to competent experts not only facilitates successful communication with clients from diverse sociocultural backgrounds, but it also enhances the website's usability, enhances the company's reputation, and makes a favorable first impression on users and potential clients.

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