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An exploratory survey of localization and translation in Zimbabwe's agricultural and pharmaceutical industries in the Fourth Industrial Revolution (4IR)

Paul Svongoro[1*], Farai Chigora[2], Chipo Katsande[3]
Department of Humanities, College of Social Sciences, Theology, Humanities and Education, Africa University, Mutare, Zimbabwe[1*]
Department of Business Studies, College of Business, Peace, Leadership and Governance, Africa University, Mutare, Zimbabwe[2]
Department of Computer Science, Manicaland State University of Applied Sciences, Mutare, Zimbabwe[3]
svongorop@africau.edu[1*], chigoraf@africau.edu[2], katsandec@gmail.com[3]

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Abstract
Purpose: This study aims to explore the elements of localization and translation for the pharmaceutical and agricultural industries in Zimbabwe to ensure that the localization of pharmaceutical and agricultural products is made available.
Research methodology: This study applied an exploratory research approach to answer the key questions that emerge from the deficit of research and application of localization in Zimbabwe.
Results: The time has come for language specialists and others in the areas of medicine, pharmacy, agriculture, and information communication technology (ICT) to work together to ensure that product packaging, instructions of use, and other related product information for both locally produced and imported products are in the languages spoken by local communities in which these products are used.
Limitations: Localization and translation are still in their infancy in Africa in general and Zimbabwe in particular. As such, research and literature about this emerging area of applied language studies are still scarce. While the researchers would have liked to engage literature on the subject in greater detail, the paucity of literature on the subject only afforded the researchers an exploratory kind of study. The current study was conducted with the hope of stimulating further research on this promising area of research.
Contribution: By answering the above questions, this exploratory study hopes to contribute to localization and translation as language industries to ensure that pharmaceutical and agricultural products are localized for the benefit of end-users.
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1. Introduction

One emerging area of Applied Linguistics that has a huge potential of making a contribution to the language industry is that of product and website localization. Localization is broadly considered as a process of changing a product's label and packaging to fit a particular market regardless of the market's socio-cultural background (Beckmann, 2017: 11). While some language practitioners (e.g. Oldfield, 2014; McNulty, 2012), view localization as the same as translation, translation is only part of the process of localization. In other words, localization is a much broader process that includes

other elements involved in the creative modification of a product for a specific market. Some of the elements of localization listed by Oldfield (2014) include an adaptation of graphic aspects of a text to fit a certain market and changing the content of a text, among other aspects.

While localization is fast being embraced as a viable language industry in some parts of the world, in Africa in general, and Zimbabwe in particular, research and application in this critical area still lags behind. This lack of effort in such a lucrative field runs contrary to the dictates of globalization typical of the modern world and the compelling need to assist organizations in communicating effectively with wider local and international audiences. In light of this development, the 4IR has developed to be an impactful experienced by human beings in the last three centuries (Stearns, 2018). It has enabled individuals, societies, and businesses to freely interact using digital platforms with a limited human interface (David & Kim, 2018). The 4IR tools might, therefore, be enablers of an effective localisation and translation of instructions and attributes of the aforementioned products. To accomplish this end, localization ensures that the content of products responds to socio-cultural realities obtaining in target market communities, including the languages spoken in those localities. The impact of globalisation in the pharmaceutical and agricultural industries is far more enormous than in other sectors. This is so because these two sectors house global corporations involved in large-scale manufacturing, retail, and distribution of pharmaceutical and agricultural products onto the global markets.

In the context of the above, one key question that emerges is: How far do producers of pharmaceutical and agricultural products localize their products for the Zimbabwean market? As regards producers of pharmaceutical products, for instance, apart from other issues, they must ensure that they meet requirements expected by responsible medical authorities in connection with the translation of medical products. According to McNulty (2012: 112), one huge mistake organizations make in growing markets is failing to ensure an adequate adaptation of products for specific markets. In light of this, for local and global producers of pharmaceutical and agricultural products to ensure success on the local market, it is of paramount importance for them to consider the benefits of product localization through translation to reap maximum gains from their target markets. When producers market their products in communities whose first language is not English or Chinese, for instance, companies should be edged to package their products in indigenous languages spoken in different regions of Zimbabwe.

This study aims to explore the elements of localization and translation for the pharmaceutical and agricultural industries in Zimbabwe so as to ensure that localization of pharmaceutical and agricultural products is made available. The premise for this investigation is to reduce any language barriers which may pose threats to human, crop, and animal life.

Language specialists and other specialists in the areas of medical, pharmaceutical, and agricultural industries can thus, work together to ensure that product packaging, instructions of use, and other related product materials for both locally produced and imported products are in the languages spoken by local communities in which these products are used.

1.1. Research questions

To explore the above, the study answers the following research questions:

(a) How far have local pharmaceutical and agricultural industries localised their products and services?
(b) How can the 4IR help in improving localisation and translation of pharmaceutical and agricultural products?
(c) How do pharmaceutical and agricultural industries stand to benefit from increased localisation of their products and services?
(d) What could local pharmaceutical and agricultural industries do to enhance the localisation of their products and services?

1.2. Justification of the study

While tourism and mining are some of its biggest foreign currency earners, the country largely remains an agriculture based economy (Chigora, Ndlovu & Zvavahera, 2021). According to Mudimu et al. (2004), Zimbabwe is largely an agro-based economy with 60-70% of its population dependent on agriculture for a living. Because agriculture is the main source of livelihood for the majority of the population, the performance of agriculture is a key determinant of rural livelihoods and poverty reduction. Increased performance and productivity on the farms is achieved by, among other factors, through proper use of agricultural chemicals such as fertilisers, pesticides, herbicides, fungicides and others. As a result of its strategic importance, the agricultural industry attracts attention from the public and private sectors.

Internationally, governments and the majority of private-owned businesses invest in agro-based industries. Due to the nature of their business and the ever-increasing demand for products from agro-based industries, many businesses have become global in outlook. As agro-based industries continue to expand and penetrate international markets, an equal communication demand is placed on them so as to ensure that they communicate their products and services to diverse markets. One such means for facilitating communication is translating product information from one language into another i.e., translation.

However, when adapting agricultural products to specific markets, translators have to deal with the burden of technical translation as agricultural language is generally scientific in nature. This is so because agricultural texts use language rich in industry-specific terms, which do not occur in general language. Translators will, therefore, need to be competent so that they can adequately deal with scientific terms and agricultural conventions in specific countries. They will also need to work closely with specialists in the area so that they find ways of repackaging product information in languages understood by end-users of the concerned products.

Furthermore, in recent years, the agricultural sector has been changing fast in its methods and innovations owing to huge investments in research. Various experts are working tirelessly towards the development of high-yielding crop varieties, effective herbicides and pesticides. To ensure that these new innovations reach the rest of the world, information sharing is required for the benefit of humanity the world over. In situations like this, language specialists (like specialised translators) render their services to ensure that the new agricultural technologies, methods, and innovations are widely available to different end-users across the globe.

Finally, by its nature, agriculture poses severe dangers to human beings, animals, and the environment (McNulty, 2012). The hazards are usually catastrophic to workers, many of whom have limited English language skills, for example, in which most agrochemicals appear, for instance. Some of the common accidents and dangers encountered by those working in the agricultural sector include environmental hazards due to long hours of exposure to the sun and other sources of heat, exposure to harmful chemical substances, and dangers posed by farm equipment, among other dangers. Even living animals and plants can also pose dangers in the form of diseases and physical attacks.

However, what is interesting about the dangers mentioned above is that most of them result from the wrong use of chemical substances due to language-related barriers which stretch from the point of purchase, handling, storage, and to the application of these substances, most of which are labelled and prescribed in languages not spoken or understood by the farming communities. Because the workforce in the agricultural sector is generally heterogeneous, there is also a need to ensure that innovative approaches are adopted in issues related to health and safety training. The diversity of language, culture, and education of agricultural workers requires that creative approaches to safety and health training be employed. Within this context, the project, therefore, hopes to make a contribution to improved safety and production in the agricultural sector through the localisation of packaging labels and instruction manuals for linguistically disadvantaged local communities. For Zimbabwe, however, at a cursory glance, most packaging labels and instructions of use by most local

producers of agricultural chemicals such as the Zimbabwe Fertiliser Company (ZFC), Agricura, Windmill, and Sprayquip appear in the English language save for a few such as *Shumba* and *Chirindamatura* dust meant for protecting grain against weevils.

As regards the pharmaceutical industry in Zimbabwe and beyond, challenges may be experienced with patients with Limited English Proficiency (LEP). Even for those with very good English proficiency, the technicality of medical and pharmaceutical terms will pose challenges in understanding prescription labels and instructions on pharmaceutical products. Pharmacists and patients sometimes face a difficult situation, especially with patients who cannot understand English or who cannot read the labels on their medications. In this case, such language barriers to effective and equitable healthcare could be minimized if the labels were translated for such patients. Therefore, it is vital that healthcare providers offer or at least seek translation services to respond to patients' concerns and needs more effectively.

According to Phiri's article, which appeared in the Daily News of 14 April 2018, Zimbabwe's pharmaceutical market is currently estimated to be between $200 million to $500 million. Regardless of the industry's huge potential, the country continues to face an acute shortage of critical drugs and medicines to the extent that over $400 million worth of drugs is imported into the country annually. Ironically, while local manufacturers have the ability to import imported drugs, a huge chuck of the drugs that continue to be imported are very basic drugs that could be produced locally. India, South Africa, Germany, the United Kingdom, the USA, and a few other countries continue to reap huge profits from their Zimbabwe drug market.

When drugs are imported from other countries, as explained above, the packaging and prescription labels and instructions are generally written in English, or other languages spoken in the countries these drugs originate. This situation can potentially pose challenges for Shona or Ndebele end-users, for instance, who do not speak or understand those languages. Unfortunately, a preliminary survey of prescription labels and labels from both state and private entities like NatPharm, Varichem, Plus Five, CAPS, Datlabs, and Pharmanova reveals that even locally produced drugs have their packages, labels, and instructions of use written in technical English which can be a potential barrier to local end-users.

2. Literature Review

In the sections below, the researchers present a critical review of the state of the literature regarding localization and translation in Zimbabwe and other parts of the world. First, the researchers present a critical review of the state of the literature regarding translation and localization in various parts of the world. This is meant to evaluate the extent to which different countries, including Zimbabwe, have embraced translation and localization as viable language industries which have the potential to contribute to the development of the countries in general, and more importantly, to health and agriculture. Secondly, the researchers explore some of the key players in the translation and localization industry. By so doing, the researchers will attempt to show the potential the industry holds and the benefits that may accrue to countries that embrace translation and localization as viable industries.

2.1. The state of translation and localization in various parts of the world

Computer technologies and the internet were developed in English-speaking countries and continued to expand in predominantly English-speaking countries rapidly. Rapid development in these two sectors was recorded in the USA, Europe, Canada, and Japan. Recently, India and China have joined the race and are keeping abreast of these innovations. One major area of localization has been in the gaming industry in the technology sector, which has allowed gamers to play various games in their native languages. In the same countries, company websites have also been localized, allowing local consumers to browse company websites in the languages of their choice.

A study by the University of the Witwatersrand (2013) reports that, while localization is now a huge industry in Europe, Asia, and the Americas, in Africa, localization is still regarded as an industry in its

infancy. This slow growth has been attributed to a number of factors. The first is the low levels of information communication technology (ICT) literacy in Africa. The second reason proffered was that the spoken languages of most African countries are deemed not technology-friendly. The last reason was that investment levels were so low, and the economy was feeble. For these reasons, Africa's position in the industry has remained unclaimed, with very few translations and localization agencies.

As a result, investors and economic leader organizations in the world are looking at Africa as their near-future niche to expand their businesses. The population, filled with potential buyers and employees, is a major pull for businesses, companies, and organizations. According to the Trade and Investment Minister of the UK, Sub-Saharan Africa is not only a trillion-dollar market, but the IMF forecasts it will have seven of the world's ten fastest-growing economies over the next five years.

Translation and localization are no different. They facilitate more investments. More specifically, document translation services play a great role in attracting foreign investors. One translation and one localization example from Ethiopia can be cited in this case. One of the world's largest brewery companies, the British based Diageo, has bought a local brewery company and had to buy translation services, and a local company, Khaabba, was one of the service providers to fit into local laws, rules and regulations, market systems, etc. while increasing its international market share.

Similarly, the Chinese telecom company, Techno Telecom taped into the Ethiopian market by localizing its mobile operator software and applications into the three major local languages – Amharic, Oromiffaa, and Tigirgna. Techno is now producing exclusively for the African market. They are present in 12 African countries, including Ethiopia and closed their Asian factories.

Some African countries, such as South Africa and Egypt, have been able to nurture prominent companies that provide language services locally. The two countries have also been able to house multinational LSP's that are capable of providing translation and localization services into tens and hundreds of African languages. (Star Group, one of the world's top 10 LSP's, represented in over 50 locations across the world, is present in Africa only in Egypt.)

The population of Africa is growing (over 1.1bn, according to World Population Review of 2014) to have constituted over a 7^{th} of the world's population. As globalization is a looming reality, this massive population needs to have access to information, buy and sell products from and to the world market, allow professional mobility, and so forth. This means translation and localization are vital.

According to the University of Witwatersrand (2013), various browsers (Chrome, Firefox/Mozilla for instance), software/applications (Android, Windows for example), hardware (keyboards, cash register machines, mobile phones among others) are all supplied in English from China, Europe and the US, and yet nearly the entire African population does not understand English quite well. Therefore, we could say that not much has been done and everything is there to consider.

2.2. Key market players in the translation and localization industry

Although there are numerous market players in the translation and localization industry, most of them are not of concern for this article. The immediate players are the global actors in the translation and localization industry as well as the ICT sector. For example, some of them, Google and Microsoft, have already started penetrating the African market, though the extent and market share are still very low. One good example (from personal experience as well as public information that anyone could access) is that Google is localizing its products into over a dozen African languages.

Similarly, Microsoft has localized Windows 7, for example, into 10 African languages, including Amharic and Kiswahili. IBM, HP, Toshiba, Ericsson, Siemens, ZTE, and many more multinational ICT companies are the players who have entered (or are considering to enter) the African market and essentially need translation and localization. Toshiba once started out with translations in three languages. Nowadays, this number has grown to 24.

South Africa is one of the most linguistically diverse countries in Africa and the world and should therefore be a hotbed for localized digital content (Wallmach, 2006; Statistics South Africa, 2012). However, through localization, many thousands of South Africans access the Web and produce content in their native languages. Although patriotic localizers have done much to reduce the cultural divide in South Africa, which continues to be divided along racial and linguistic lines, the benefits of localization in the South African context are obvious. More localized content from the ICT sector can also be produced from different Southern African countries, including Zimbabwe.

Incorporate South Africa and large companies have long been aware of the benefits of localization. According to Henderson (2013), in South Africa, major companies such as Vodacom, MTN, Checkers , and Nandos, have already started localizing their websites for speakers of indigenous African languages. These companies are doing so in a bid to gain access to lucrative emerging markets in other African countries.

3. Research methodology

This study was purely qualitative research. The study's broad aim was to explore the state of translation and localization in Zimbabwe's agricultural and pharmaceutical industries. Thus, like Munyawarara (2019), the study's design was descriptive in nature. According to Munyawarara (2019: 17), research that utilizes a descriptive design aims to describe the state of affairs in a particular research context without manipulating variables. In the context of this study, the researchers aimed at describing the state of localization in Zimbabwe's agricultural and pharmaceutical industries. As such, data for the study were collected by conducting a snap survey of products and services provided by three key agricultural chemical manufactures in Zimbabwe, namely the Zimbabwe Fertiliser Company (ZFC), Agricura, Windmill, and the five main local drug manufacturers which are Varichem, Plus Five, CAPS, Datlabs and Pharmanova.

Because some of the products produced by these companies fall under over-the-counter medicines, they were readily available on the shelves of pharmacies and some supermarkets. The snap survey focused on identifying (i) the products and the producers, (ii) the labels and packages and (ii) the enclosed instructions of use, which generally explain the composition of the products, how the product can be identified, dosage amounts and contraindications and or side effects among other things. Apart from this, the researchers visited the websites of these major companies. These products and services provided by these companies are mainly shown on the companies' websites. Apart from this, some of the products often appear as commercial adverts in both print and electronic media. Finally, some products, especially for cough relief, are advertised in health magazines and appear on roadside billboards. When conducting the snap survey, the researchers were guided by the following questions, which formed the basis of their survey:

(a) Which pharmaceutical products are available for use by different end-users?
(b) In which language(s) are the products labeled?
(c) Do the products have any enclosed instructions of use? If so, in which language(s) are those instructions?

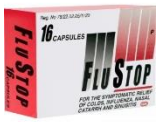
As regards agrochemicals, a similar approach was adopted. However, most of these agrochemicals and agricultural products like seeds are found in hardware shops and some major supermarkets. The survey focused on identifying (i) the products and the producers, (ii) the labels and packages and (ii) the enclosed instructions of use. Apart from this, the researchers visited the websites of these major companies. These products and services provided by these companies are mainly shown on the companies' websites.

Apart from the above, some products often appear as commercial adverts in print and electronic media. Finally, some of the products, especially pesticides for grain and seeds for different crops, are advertised in farming magazines and appear on roadside and demonstration fields billboards. When conducting the survey, the researchers were guided by the questions presented above under pharmaceutical products.

Table 1 below presents some of the pharmaceutical and agrochemicals we sampled for analysis and discussion.

3.1. Pharmaceutical products

Table 1. Pharmaceutical products sampled from different manufacturers

Product's name	**Product image**	**Product's use, identification, dosage and contraindications**	**Manufacturer**
4Cs		• One of the most trusted cough medicines in the country. • For the treatments of the 4 most common challenges with infants 4Cs stands for coughs, colds, chills and congestion	CAPS
Antalgic syrup		• A product ideal for infants • Lowers temperature in infants • Relieves pain in infants • Relieves fever	CAPS
Flustop		• Fast acting capsule form • Stops flu by overcoming its symptomatic effects • Relieves allergic reactions such as sneezing	CAPS
Flumed		• A pink syrup with a pleasant raspberry flavor • A potent antihistamine with mild sedative effects • Reduces the allergic side effects of cold and influenza such as sneezing, runny nose and itchy eyes • Side effects are rare but may include skin rash, dizziness and gastric disturbances such as nausea and diarrhea	VARICHEM
Dolex		• Fast-acting pain killer capsules • Relieves headaches, fever • Dental pain • Muscular pain • Suitable for adults and children above 12 years	CAPS
Flumel Tablets		• Combats all symptoms of flu • Decongestant • Anti-allergy • Specifically for adults	CAPS

Biotet		• Oxytetracycline topical ointment. • Anti-biotic for wounds and cuts. • Can be used for the treatment of nappy rash in babies.	CAPS

3.2. Agricultural products

In Table 2 below, we present some of the agricultural products we sampled.

Table 2. Agricultural products sampled from different manufacturers

Product's name	**Product image**	**Product's use, identification, dosage and contraindications**	**Manufacturer**
Dusting sulphur		• A powder widely used in insecticides and fungicides in the dust form or in the form of a wettable sulphur in spray mixture • Sulphur powder is applied as an insecticide in crops like tobacco, rubber, groundnuts, chillies, cumin seeds and also as a fungicide to control powdery mildew in cucurbits	Agricura
Malathion		• Insecticide in the chemical family known as organophosphates • Controls a wide variety of insects	Agricura
Halosulfuron		• Organic chemical compound that belongs in the alkyl aryl ethers • Is a post-emergent herbicide for controlling broad-leaf weeds and as spot treatment for purple nutsedge near ornamental trees and shrubs • It works by interfering with the acetolactate synthase enzyme in targeted plants, which quickly slows cell division	Agricura
Carbaryl dust		• Is a white crystalline solid which belongs in the carbamate family • Carbaryl is a pesticide that is toxic to insects • Controls aphids, fire ants, fleas, ticks, spiders, and other outdoor pests	Agricura

4. Results and analysis

As explained in the methodology section above, data for the study were collected by conducting a snap survey of different pharmaceutical and agricultural products produced by the major manufacturers of agricultural chemicals and pharmaceutical products in Zimbabwe, as indicated in Tables 1 and 2 above.

When conducting the survey, the collected and analyzed samples yielded the results summarised below. These results were based on our observations guided by the questions that guided our survey explained in the methodology section above. While Table 3 below summarizes our findings from the products we sampled, our analysis focuses on the two categories of products we sampled. First, we analyze the pharmaceutical products we sampled, followed by the agricultural products we sampled.

Table 3. Summary of findings from the products sampled

	Question	**Results from the survey**
1	Which products are available for different end-users?	**Pharmaceutical products:** A wide range of products for different purposes were widely available for different end-users, including painkillers, antalgic and cough syrups, and ointments. While most of them were locally manufactured, others were imported from South Africa
		Agricultural products: A wide range of agricultural chemicals, fertilizers, and seeds were readily available for farmers. There was a good balance between locally manufactured products and imports
2	In which language(s) are the products labeled?	**Pharmaceutical products:** Almost all of the sampled products had English names and labels with the exception of just one which had the name *Kosorex*, a derivate name that uses indigenous languages spoken in Zimbabwe
		Agricultural products: Almost all the products sampled had English names and packages with the exception of few grain protection powders that had Shona names which were used metaphorically like *Shumba* (lion), *Chirindamatura* (the one that guards granaries), and *Chikwapuro* (the one that kills) and maize seeds that use names of animals metaphorically to show the sizes of the varieties like *Tsoko* (monkey for very early maturity maize variety), *Mbizi* (zebra for medium maturity maize variety) and *Nzou* (elephant for the late maturity maize variety)
3	Do the products have any enclosed instructions of use?	**Pharmaceutical products:** Yes, instructions were either enclosed or written on the outside cover of the packaging or container of the product
		Agricultural products: Yes, instructions were either enclosed or written on the outside cover of the packaging or container of the product
4	In which language(s) do the instructions occur?	**Pharmaceutical products:** All the sampled products had English instructions of use. Dosage instructions and contraindications were also in English
		Agricultural products: Almost all the sampled products had English instructions of use in English. Dosage instructions and contraindications were also in English save for a few products like maize seeds and grain protection powders

4.1. Analysis of results from pharmaceutical products sampled

While Zimbabwe is not as linguistically diverse as other African countries such as South Africa, DR Congo, and Nigeria, it still boggles why the local pharmaceutical industry has not embraced current trends regarding product localization in other parts of the world. It is disheartening to note that labels,

packaging, and instructions for locally produced pharmaceutical products are English, similar to those imported from external pharmaceutical companies.

Although all the products sampled above are locally produced, all their names are English. Apart from this, descriptions about their composition, how the product can be identified, dosage amounts, and contraindications and/or side effects are also in English. This is in spite of the fact that the products' names and descriptions could be localized through translation for the benefit of the end-users.

While some may argue that localizing pharmaceutical products through translation is difficult to achieve considering the technical nature of scientific language, one locally produced cough syrup made significant efforts to localize through the name of the product. The cough syrup was named Kosorex. The cough syrup is manufactured in Zimbabwe by Harare's Varichem Pharmaceutical (Pvt) LTD. The name of the syrup is a derivative from the two major indigenous languages spoken in Zimbabwe, which are Shona and Ndebele. In Shona, the word for coughing is *kukosora*, and in Ndebele, it is *ukukhwehlela.* When the syrup was introduced on the market, it was very popular with many Zimbabweans as they related well with the name derived from the languages they spoke. The Kosorex example hints at the possibility of localization provided policymakers are keen to implement it as in other countries. For instance, in South Africa, even imported technology for automated teller machines is localized, and customers can freely transact on automated teller machines in the language of their choice. The state of affairs in Zimbabwe indicates that pharmaceutical companies in Zimbabwe have failed to develop, among other things, localized digital content for their products and services, ignoring the value that product localization can bring to their industry.

At a glance, any competent translator can easily translate all the descriptions about the pharmaceutical products sampled above. The only words that may pose challenges for translators identified in the descriptions are perhaps *antihistamine* and *oxytetracycline.* When users of the above-mentioned pharmaceutical are not proficient in English, they will only depend on oral instructions of use from pharmacy staff, yet they can also benefit from their own reading if these descriptions were written in the languages they speak.

This is in spite of developments in other countries in the region where large companies have started to localize their products and services. According to Henderson cited in Beckmann (2017), in South Africa, large companies such as Vodacom, MTN, Checkers, and Nandos have long been aware of the benefits of localization and have started localizing their websites for speakers of indigenous African languages. This effort has enabled these companies to enter emerging lucrative markets in Africa.

The situation that obtains in Zimbabwe to date is similar to that reported by Oldfield (2014) in the USA. According to Oldfield (2014), in the state of California, pharmacists, and patients often faced a catch-22 situation when patients who did not speak English failed to read labels on their medications. Such patients benefited from the translation of those labels into the languages they understood. This is after the California Board of Pharmacy required the translation of both prescription labels and instructions offered by pharmacy staff or a call-in-hotline. This effort was part of the board's broad policy aimed at proving the highest level of patient-centered care in a culturally competent manner as possible. Apart from this, pharmacists in California are also required to display posters that inform patients of their right to no-cost translation if they need the service.

In the case of Zimbabwe, localization of pharmaceutical products would require not only translating product labels and instructions of use. It would also require making sure that patients understand everything about the medication they take. This includes such information about the medication's side effects and what to look for in an adverse reaction. This information may not be on the label but is generally shared by the pharmacists during conversations about the medicine one takes. In such situations, it may require using an interpreter if the pharmacist does not speak the language of the patient. This means both translation and interpreting are critical language services for ensuring that medication is taken correctly and hence, ensuring safe and quality medication.

Nevertheless, whether Zimbabwe will embrace localization or not, localization stakeholders should always maintain the highest levels of accuracy, clarity, and consistency during their work in the pharmaceutical industry. This is so because patients and pharmacists alike depend on product packaging to guide them in making products and using pharmaceutical products correctly. Any errors in prescription and use can result in injury, death, and lawsuits.

To ensure that localization is of the highest quality possible in this sensitive industry, localization experts should ensure, among other things that, the translator is a native speaker of the target language into which products are being localized, the translator has adequate pharmaceutical or medical experience and that the translations are always proofread for their quality. Where necessary, a lawyer may be required to ensure that local regulatory requirements have also been localized correctly.

4.2. Analysis of results from agricultural products sampled

Like localization in the pharmaceutical industry, translation of labels and instructions on agricultural chemicals, processes, and services is highly technical in nature and hence, different from everyday language. What makes agriculture an interesting industry is that it is constantly evolving with new innovations, research, and development in pest and disease control, crop varieties, new farming, and conservation methods. When localizing products and services in such a dynamic industry, translators should fully understand agricultural texts before rendering their content into another language. This means that translators working in this industry need to understand such subjects as biology, chemistry, geography, and other related fields.

Apart from the above, translators will also need to have a clear understanding of country-specific agricultural norms to translate product labels and instructions of use, technical manuals, leaflets, and brochures accurately. These texts will certainly require years of experience in the sector. While this study explored the localization of agricultural products such as those illustrated above, the translation of agricultural material is can also be extended to the translation of lab reports, protocols, animal care, production unit manuals, nutritional labeling, and leaflets etc.

In all the above areas, an agricultural translation expert should have knowledge and experience in technical translations, be aware of emerging agricultural trends in the industry, and be knowledgeable about agro products and terminologies.

4.3. Discussion

The issues raised in this study regarding localization of Zimbabwe's agricultural and pharmaceutical industries demonstrate that, although these two industries are critical in the life sciences sector, how they brand, package, and market their products and services ought to be approached with utmost care. This is so because their products and services are meant for heterogeneous customers who have different cultures, levels of education, and different needs and desires.

This study has shown that, because different people are always searching for agricultural and pharmaceutical products and services that meet their needs, both agricultural and pharmaceutical industries need to pay special attention to product localization, not only in terms of the target language and culture but also in terms of the specific needs of the target audiences. This is particularly important because labeling, packaging, and marketing agricultural chemicals and drugs can always have implications on customers' productivity, death, and survival. This reality means that customers do need not only product and service information that is aesthetically appealing and catchy but also information that is accurate and accessible by different groups of customers.

The researchers have shown how different stakeholders can work together to ensure products and services are packaged in accurate and accessible information in the sections above. This means that the study has a bearing on such stakeholders as agricultural and pharmaceutical companies who manufacture and develop different products and services, respectively. These companies also have the technical expertise about how these products and services work.

However, on their own, agricultural and pharmaceutical companies will not achieve the desired results. They will need to work together with external or resident linguists or language service providers to help localize the products and services, bearing in mind the different markets the companies target. The role of the linguists or language service providers is to ensure that labels and instructions for using different products have been translated accurately in the different languages of the targeted markets. These linguists will also proofread the translated material and engage with the product manufacturers where necessary before the products are launched into the market.

When providing the above essential language services, the linguists should always remember that agricultural and pharmaceutical products are primarily produced for farmers and patients and not the agricultural and pharmaceutical experts. Thus, the linguist should provide all the relevant information about a product or service in a language and terminology that specific people can understand. This may mean adapting the meaning of source language through a careful process of trans-creation (Mantino and Vanni, 2018) so as to bring the product closer to the target market.

Finally, agricultural and pharmaceutical companies, together with linguists, can also work together with information technology experts to ensure that adequate product and service information is available online. In the modern world, companies can do better by utilizing both traditional channels of communication such as printed leaflets and brochures and electronic channels of communication such as company websites, Facebook pages, and others. However, while it is important to note that product and service quality are important, due consideration should also be paid to ensure that it is always careful and high-quality localization both utilizing traditional and electronic channels of communication.

5. Conclusions

From the above analyses and discussion, it is clear that while translation and localization can make huge contributions to increased productivity and reduced risk in the agricultural sector and improved health and treatment of patients, these two areas of applied language studies are still overlooked in Zimbabwe. Also, it is indisputable that many changes have happened in the translation and localization industries through technological advances embraced in the 4th Industrial Revolution. This entails the application of various 4IR tools in order to come up with digitalized ways of localizing translations through technology.

Many people believe that future business is in Africa because of its cheap and abundant human resources; the land is vast with an unexploited wealth of resources, again in relative terms, and a growing market. Translation and localization should claim their position and help accelerate the development of Africa's agricultural and pharmaceutical industries in general and Zimbabwe in particular. This description of Africa applies to all sectors and industries, including the translation and localization industry which is more uniquely strategic. It is one of the means to propel other businesses and innovation by making information communication accessible to most. A technological approach should be necessitated through 4IR digitalized barcoded language translators and the application of the Internet of Things.

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