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Localization and Its Place in Translation Studies

Marián Kabát and Mária Koscelníková

Comenius University in Bratislava, Constantine the Philosopher University in Nitra

marian.kabat@uniba.sk – mkoscelnikova@ukf.sk

Translation: Zuzana Hudáková

Abstract

This article deals with localization theory in Slovakia and elsewhere. It opens with an introduction to localization and the basic concepts used in localization research (based on Jiménez-Crespo 2019). It then presents several prominent theories and definitions of localization before summarizing them into one general theory. Following that, the article investigates localization research in Slovakia starting from the 1990s. Here, more than twenty years of research are divided into four major periods. It is clear that localization research in Slovakia has gained traction since 2017. The article aims to address the boundaries of localization, contribute to the discussion on general localization theory, and present the situation concerning localization and research in Slovakia. It works with current and older sources on localization and translation theory.

Keywords: localization, software, video games, websites, localization theory

Introduction

Digital technologies in the 1980s and 1990s had a significant impact on translation theory and practice. Computers and the internet, and their impact on social interactions, resulted in the emergence of various new technologies that attracted researchers from the field of translation studies. Phenomena such as human–computer interaction and the influence of technology on the work of translators gradually became the focus of translation studies, resulting in the development of new theoretical approaches and methodologies that confirmed the interdisciplinary nature of the field (Snell-Hornby 1994). Applying new "computer" technologies led to a "technological turn" (Cronin 2010; O'Hagan 2013). Indeed, "[t]ranslation theories began to incorporate the

increasingly evident impact of technology [on the work of translators], in turn providing a relevant theoretical framework to language and translation technology research" (O'Hagan 2013).

In these contributions to the *L10N Journal*, we want to address the impact of interactive digital texts on translation; these began to appear in the 1980s. The focus is on localization – a complex, communicative, contextual, text-forming, and cognitive process in which source interactive digital texts (i.e., websites and non-game and game software) are modified so that they can be received in the target language and sociocultural contexts (Jiménez-Crespo 2013). This is a fundamental pillar of the journal, and its future will be based on the spirit of localization and technology in translation.

Localization is an invisible part of modern life. Every day, a multitude of digital texts are created which users access via computers, game consoles, and mobile devices. "Localization" is an umbrella term for two theoretical trends:

1. Translation processes related to digital texts, such as software (Dunne 2006, Roturier 2015), websites (Jiménez-Crespo, 2013), video games (O'Hagan and Mangiron 2013), and applications for smartphones and other mobile devices (Serón-Ordoñez 2017)
2. Approaches that apply localization models to non-digital texts, such as news reports (Bielsa and Bassnet 2008), advertising texts (Declercq 2011), and comics (Zanettin 2008)

We ask the following questions: What is localization? When, how, and why did localization arise? What is the relationship between localization and translation studies? What processes take place during localization? How does technological progress affect localization? Similarly to Jiménez-Crespo (2013) and Munday (2016), we ask whether we can talk about localization as an independent discipline with its own theoretical models and research.

This article addresses the origin and development of localization, the emergence and evolution of definitions of localization, and the relationship between localization and translation studies. It tries to point out that the absence of a generally accepted definition of translation (Hermans 2013) leads to various approaches in localization that may not always relate to translation as such. It also examines the relationship between localization and audiovisual translation (Gambier 2003 and 2014). It then moves to the Central European context and presents thinking about localization in Slovakia from a diachronic perspective, dividing it into four main periods. To compare and illustrate,

we will supplement these periods with significant international publications. The article has a primarily descriptive character, presenting various theorists' views on localization while also trying to define localization as a separate type of translation with its own specificities. For this purpose, various sources are analyzed from which we offer comprehensive conclusions.

1 The origins of localization

Localization can be identified as a result of the digital revolution of the second half of the twentieth century, which engulfed the whole world and created digital communication across sociocultural and sociolinguistic communities. It is a "lucrative, dynamic, and inter-professional field, often involving marketing, design, software engineering, as well as linguistic processes" (Pym and Windle 2011). Its roots can be traced back to the late 1970s and early 1980s, when personal computers broke through in the American market and computer companies decided to offer their products and services to international users without programming skills (Esselink 2006). The initial focus was on the FIGS (France, Italy, Germany, and Spain) countries and Japan and their languages. Localization initially facilitated communication from English into these languages, but, with the advent of video games and the internet, the trend changed and extensive localization between different languages began. Localization derives from the concept of the "locale," which the localization industry started using to denote the combination of a sociocultural domain and a language (Jiménez-Crespo 2013). The locale encompasses all the information related to a specific geographical area, including cultural, legal, ethical, technical (e.g., keyboard layout), ideological, and political elements (Pym 2004a). It should be noted, however, that in the field of translation studies, the term "localization" was already used, for example, to refer to the transfer of theatrical plays into a domestic environment (Reiss 1971).

The original issue of the difference between localization and translation arose from the initial approach of programmers toward localization. After completing a software product (such as user software, a video game, or a website), developers would add translation as an addendum. They viewed translation as a straightforward linguistic process in which textual strings extracted from the computer code were processed (Dunne 2006; Dunne 2014; Jiménez-Crespo 2013). Translation, which they considered to be a regular process of interlingual equivalence, was perceived as a secondary step in the overall product development. Once completed, developers integrated the translation into the software product; however, soon all involved parties (business partners,

developers, localization managers, and translators) realized that separating localization from development was impractical. (For example, translated text segments were often longer and did not fit within the space, and the text contained code parts – so-called hard-coded strings – that could not be translated.) They began to recognize that localization had to be part of the development from the beginning, leading to the emergence of the GILT (globalization, internationalization, localization, and translation) process (Dunne 2006; Esselink 2006; Pym 2010; Jiménez-Crespo 2013). Globalization refers to the process in which a company adapts to various international standards in order to even consider localization. Internationalization, on the other hand, refers to the changes in the software product or its development that facilitate subsequent localization. Localization itself involves the translation of textual strings as well as their integration into the software product and linguistic testing. In the context of the GILT process, translation continued to refer solely to the process of interlingual equivalence. By default, developers, managers, localization engineers, and translators should collaborate in this process to ensure smooth product localization (Gouadec 2007). The individual steps of the GILT process are represented as concentric circles, which led to the assumption that translation is a simpler step compared to other technologically oriented tasks.

This perspective on translation (where translation is seen as merely a lexical operation) gave rise to the "translation plus" model (Jiménez-Crespo 2013), which considers translation to be the processing of text parts or isolated textual segments, while localization encompasses additional processes (Pym 2004a). These processes primarily include adaptation, collaboration, multimodality, and user-focused considerations. The inclusion of these elements in translation sparked debates about whether they were specific to localization or part of every translation. (Is collaboration a specific characteristic of localization? No – because translators and editors also collaborate in literary translation.)

The localization industry began to discuss localization from the perspective of programming, software development, and economics. Publications emerged that also laid the foundation for translation studies (Dunne 2006; Esselink 2000; Reineke 2005a, 2005b). These publications initially approached localization from a "technocentric" viewpoint (O'Hagan and Mangiron 2013). The first publications that focused on integrating localization into translation studies came from the field of audiovisual translation (Gambier and Gottlieb 2004).

In 1998 Esselink published the first book on localization from the perspective of the localization industry, while Pym addressed localization from a theoretical perspective in

2004(a). This was followed by the first compilations (in Spanish by Reineke 2005a; in German by Reineke 2005b; in English by Dunne 2006). The first issue of a journal dedicated to localization, *Tradumàtica*, was published in 2002. Based on various publications, we can now talk about the following types of localization (Jiménez-Crespo 2019): software localization (Esselink 2000; Pym 2004a), website localization (Jiménez-Crespo 2013), video game localization (Bernal-Merino 2015; O'Hagan and Mangiron 2013), and mobile application localization (Roturier 2015; Serón-Ordoñez 2017).

As interest in localization expanded, terminology also evolved and adapted. The term "localizer" (used by Esselink in his 1998 monograph) emerged but is problematic because it is not clear who is referred to by this term. In the narrowest sense, it can be considered synonymous with being a translator, but, in a broader sense, it encompasses roles such as localization engineer, localization manager, editor, tester, and essentially anyone involved in the localization process.

As localization expanded, new processes and practices began to be utilized within the field. In addition to traditional translation, machine translation and post-editing started to play a significant role in localization along with transcreation and copywriting (TAUS 2019).

We now have an understanding of the origins of localization, and we hope that it is firmly established in current research and practice; however, a precise theoretical definition of localization, especially considering its boundaries and intersections with other disciplines, is still not fully developed. In the next section, we will reflect on basic definitions and models of localization.

2 The relationship between localization and translation

Localization is often discussed in theory and practice, but the understanding of this term is still not uniform (as indicated by the aforementioned streams of thought). It should be noted that there is a certain ambiguity between localization and translation as both terms "are currently used, often interchangeably even within the industry" (O'Hagan and Mangiron 2013). A clear definition of localization in relation to translation is still lacking. The main problem arises from there being still no universally accepted definition of translation (Halverson 2010; Hermans 2013).

Halverson (2010) presents at least five perspectives on translation. For localization, two "contradictory" views on translation are of interest. On one hand (Chesterman 2009; Hatim and Munday 2004; Pym 2010), "translation" is seen as an umbrella term that

also includes publishing practices, the ethics of translation, and political and ideological issues. On the other hand, certain models of localization (Dunne 2006; Gouadec 2007; LISA 2003) consider translation to be part of the entire process, while other aspects (such as internationalization and technical text processing) fall outside their understanding of what constitutes translation. The paradox is that without translation, the other parts cannot come into existence.

Similarly to Remael (2010), we can likely assume that the development of further attempts to define translation and localization will mainly be influenced by the socioeconomic situation and practical developments, given that the latter usually outpace the publication of academic works.

Some definitions of localization have been outlined above (translation plus). We do not intend to list the various definitions of localization here; they have already been compiled by Jiménez-Crespo (2013). Instead, we will focus only on the most influential ones. The first definition of localization, offered by the Localization Industry Standard Association, was as follows: "taking a product and making it linguistically and culturally appropriate to the target locale (country/region and language) where it will be used and sold" (LISA 2003). Definitions from the perspective of industry experts often rely on simplistic notions that equate translation to a simple and almost mechanical process of transferring words from one language to another. These definitions often use metaphors to justify the added value (and cost) of localization (Pym 2004a).

One of the earliest and most widely adopted concepts of localization was the "translation plus" adaptation model, which likely originated from Esselink's publication (1998). This model defined localization as the translation and adaptation of a software product. Due to the association of localization with adaptation, localization became applied to almost any process of transforming text. We can find examples such as the localization of news (Clausen 2004) and the localization of comics (Zanettin 2008); however, Pym and Windle (2011) differentiate between such types of localization and add that they do not require any technical adaptation (e.g., code modification) and were performed even before the advent of localization.

Some scholars have tried to identify specific features of localization that distinguish it from other types of translation and adaptation – such as its connection to technologies, the involvement of translation management, text processing, text programming, testing, and quality management (Achkasov 2017; Jiménez-Crespo 2013; Pym 2004a, 2010). Nevertheless, given that the majority of texts are now processed digitally, it cannot be definitively argued that management and technological processes and adaptations

separate localization from translation as such, as these aspects are somewhat present in other types of translation as well (particularly in specialized and audiovisual translation).

We might make progress by analyzing localization from an interdisciplinary perspective. Localization in games brings together collaboration with fields and disciplines such as linguistics, computational linguistics, computer science, graphic design, desktop publishing, documentation creation, information management, accessibility and the simplification of access, game studies, media studies, and areas like crowdsourcing and fan translation. Thanks to these interdisciplinary connections, along with specific disciplines, the question arises as to whether we could consider localization to be a separate discipline (localization studies) (Munday 2016), even though Jiménez-Crespo (2013) originally proposed localization to be a subdiscipline of translation studies.

Opinions on the position of localization in relation to translation studies differ:

- Mazurová (2007) and Sandrini (2005) consider localization to be an external discipline and recommend that translation studies addresses it. O'Hagan and Mangiron (2013) perceive localization in a similar way, adding that translators mainly view localization as a business model rather than as a type of translation.
- On the other hand, Remael (2010), Munday (2008), Jiménez-Crespo (2013), Kabát (2021a), and Koscelníková (2022) view localization as a subdiscipline of translation studies, whose scope varies depending on the context (e.g., the project, number of people involved, and budget).

This divergence of opinions may stem from the fact that while the first group sees localization as a separate step in the GILT process, and translation as another (independent) step within this process, the second group does not separate localization and translation because both steps often occur simultaneously and are performed by those same individuals who are commonly referred to as translators. In localization, the term "localizers" has been adopted – in a narrower sense as a synonym for translator and in a broader sense as anyone involved in localization, including programmers who modify the program and graphic designers who adapt a visual aspect to fit the target locale.

Regardless of the position of localization in relation to translation studies, localization nonetheless receives little scientific attention (especially compared to other areas of translation such as literary, specialized, and audiovisual translation). Conferences dedicated to localization (e.g., GALA and Localization World) primarily focus on technological aspects and have little translation theory. So far, only two journals – *Journal of*

Internationalization and Localization and *Localisation Focus: The International Journal of Localisation* (the last issue being published in 2015) – have been exclusively devoted to localization. The *L10N Journal: Translation in Software, Software in Translation* aims to fill this gap in dedicated media.

Let's return to the relationship between localization and translation studies. Even from this brief overview, it is evident that the distinction between localization and translation is still unclear (Munday 2008). Perhaps that is why opinions have emerged suggesting that localization is part of audiovisual translation. There are two reasons for this integration: both forms of translation have a limited length, and translated content is often multimodal (Schäler 2010). Terms such as "DVD localization," "film localization," "audiovisual localization," and "screen translation" have all been coined (Gambier & Gottlieb 2004; Gambier 2003). The idea of screen translation was particularly problematic; Gambier (2013) states that "screen translation also involves localization […] although it is not a type of AVT." Gambier (ibid.) further argues that both forms of translation involve teamwork and working with more than just the source and target texts and that quality is measured by adequacy as well as comprehensibility, accessibility, and usability. Due to streaming platforms, it seems that localization is practically used as a synonym for audiovisual translation. In the academic field, it appears that both forms of translation are clearly distinguished from each other (Jiménez-Crespo 2019).

The latest attempts to differentiate translation from localization introduced concepts such as "translation proper" and "localization proper." Achkasov (2017) states that localization is often used for processes that do not involve digital texts, while "localization proper" refers to processes that include digital texts such as software and video games – but not comics, news, or theatrical plays.

From the idea of "localization proper," we can directly move to the prototype of localization. Following the model of Halverson (1999), Jiménez-Crespo (2016) identifies three characteristics of localization (to which we can add a fourth):

1. Localization works with digital genres, such as software products, operating systems, websites, video games, and communication applications.
2. Localization cannot do without digitally mediated communication because the client and the localizer (in a broader sense) can be located anywhere in the world.
3. Texts are interactive and are stored in a digital format.
4. The localization process broadly involves the intervention of technology (often at the code level).

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Anything else – such as management issues, adaptation, and internationalization – is not a prototypical feature of localization and falls under a broader understanding of this concept. If we wanted to arrive at a single general definition of localization based on these prototypical features, we could expand on Jiménez-Crespo's (2013) definition and define localization as the translation of interactive digital texts that cannot be done without the intervention of technology.

3 Localization in Slovakia

As a subdiscipline of translation studies, localization in Slovakia is still perceived as a relatively young field of inquiry. The first books by international practitioners and academics began to emerge in the second half of the 1990s, naturally coinciding with the rise of the internet and computer software, which manufacturers wanted to make accessible to a broader international audience. Slovak academics did not react to these initiatives at all. The boom of localization was hardly recognized, and, for many years, research in Slovakia focused on literary translation and specialized and audiovisual translation. Compared to literary, specialized, and audiovisual translation, localization faced a rocky road because the academic community did not have a clear understanding of the terminology or a suitable nomenclature for translating software products. Discussions often raised questions and doubts as to whether it was a form of naturalization and adaptation in disguise. Even now, the term "localization" can seem problematic; however, given its active use in practice and abroad, it is not easy to break free from established conventions. The Slovak translation studies community encountered the term "localization" for the first time in Popovič's *Theory of Literary Translation* (Teória umeleckého prekladu, 1975), where it is briefly mentioned in relation to the style of a text. Popovič adopted this concept from Reiss (Ortbezug) and characterized localization as a change in the setting or theme. Perhaps this definition motivated other researchers to adopt and apply it to any changes in setting within translation; however, this understanding of the term is not sufficient for naming the process of translating interactive digital texts (e.g., software, websites, applications, and video games), and we must view it in a more comprehensive manner. The absence of localization research and its specific characteristics following the widespread use of computers and the internet has meant that localization in Slovakia began to be thoroughly and systematically studied only in recent years. In reference to Ferenčík's *Three Fruitful Decades* (Tri plodné desaťročia, 1982), the following section will present the genesis of localization in Slovakia in comparison to international developments.

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3.1 The early period of localization research in Slovakia

The localization of software began to gain momentum in Slovakia with the entry of Microsoft into the market in 1996.[1] Translation service providers in Slovakia started using the term "lokalizácia" (localization) following the international model, which gained acceptance in the market but not in academic sources. The first mention of the "localization of software products" can be found in a 1998 article by Benko and Rajčanová, where they jointly described their practical experiences with software localization.

Research and discussion on translation trends are reflected in a series of conference proceedings from the Summer School of Translation (formerly the Summer School of Interpreting Original and Translated Texts); this is a significant event that has shaped many academics and practitioners in Slovakia. The proceedings only started to be published from 2002 onwards, with the first volume containing contributions from the event's twenty-fourth edition. In the accessible records of lectures from 1975 to 2002, it is possible to find intersecting topics concerning localization. There was a lecture by Piťha on machine translation in 1986, Piaček's lecture in 1991 on the use of computer technology in translation, Rakšányiová's lecture in 1992 on localization/transcreation and the translation of advertising, and Tomášik's lecture in 2000 on the use of computers as aids in translation (Keníž 2003). As can be observed, during the period when the first books and articles on localization were being published abroad, such as Uren's, Howard's, and Perinotti's *Software Internationalization and Localization: an Introduction*" (1993), Esselink's *A Practical Guide to Software Localization*[2] (1998), Hickey*'s The Guide to Product Translation and Localization* (1999), and Sprung's *Translating Into Success: Cutting-edge Strategies for Going Multilingual in a Global Age* (2000), localization in Slovakia was only discussed in an article by Benko and Rajčanová (1998). If we compare the extensive research and discussion on literary translation and the gradual integration of specialized translation and interpreting into the discourse (Keníž 2003), and take note of the references to international authors in monographs and articles by Slovak academics, it is as if the translation of software products did not exist despite the fact that academics abroad began to learn about localization precisely from practitioners.

It is likely that localization was still the subject of discussions and articles, but, within discussions about translation, we can only rely on the first compilation from the Summer School of Translation (Keníž 2003). Since the chronology of earlier summer schools

[1] Interview with Radoslav Tihlárik, Director of Slovak Localization Agency, 2002, available at: https://zive.aktuality.sk/clanok/10383/chcete-vediet-ako-sa-preklada-windows-do-slovenciny/. Last access date: May 2022

[2] Later redacted in 2000 as *A Practical Guide to Localization.*

only contains a list of speakers with the titles of their lectures and not their full content, it is difficult to determine from the lecture titles whether there was any debate on software translation (i.e., localization) in the 1990s, when software began to be widely used in Slovakia. The lectures focused on the translation of specialized or pragmatic texts, and some were titled too vaguely to discern their specific subject (e.g., Tomášik – The Internet). This represents a significant impoverishment in Slovak thinking about localization in the technical sense as it was not considered in today's context.

There was no specialized journal dedicated implicitly or explicitly to localization during this period. In contrast to international academics and practitioners, who built upon the first publications on localization, Slovak academics only sporadically reflected on localization in their research in the following decade. From the perspective of the Slovak academic community, localization hardly seemed to exist. Localization was mentioned implicitly in discussions about new trends or challenges in translation but never in detail, and thus research on localization in Slovakia practically remained out of reach.

3.2 Research beginnings (2001–2009)

In the field of localization research, especially in the localization of video games, it is not uncommon for final thesis works to serve as a starting point and incentive for research by many domestic and international researchers. Indeed, in the area of video game localization, Frasca's *Videogames of the Oppressed: Videogames as a Means for Critical Thinking and Debate* (2001) has been cited in 848 publications.[3] Many academics have built upon it, particularly because it explains the concept of video games, which is crucial for subsequent research on their localization, despite not focusing on translation aspects in that particular work. Another noteworthy work from that period is Fernández's *Web Site Localisation and Internationalisation: A Case Study* (2001), in which she presents various aspects of localizing a specific website. Such works can serve as theoretical foundations for further research and inspire research in general; however, in Slovakia there do not appear to have been any final thesis works on this issue during this specific period that would clarify the work of academics with resources and the circulation of these resources in research. It is quite challenging to locate such works due to the absence of a comprehensive register of final theses, which only started to exist from 2009 onwards. University libraries ought to have records of final theses before 2008 in their

[3] Profile of Gonzalo Frasca's works and their quotes on Google Scholar: https://scholar.google.com/citations?user=2Ft-PyUAAAAJ&hl=en Last access date: November 2022

catalogs, but, in the case of non-existing institutions and universities, it can be very much a case of detective work that requires further in-depth research.

In 2001 the Summer School of Translation took place and focused on the topic of "Globalization and Translation into National Languages" (Keníž 2003). Unfortunately, we only have access to a list of lectures without further specification of the discussed topics. For example, Tomášik gave a lecture on the internet, but it is difficult to determine whether he spoke about research in translation or about website translation and so on. Tomášik confirmed that he did not discuss localization, but this is an isolated case. It is not always possible to contact all participants and ascertain their specific thoughts on a given topic during the event as the information about the Summer Schools of Translation until 2002 was limited to a list of authors and the titles of their contributions (Keníž 2003). Nonetheless, valuable information in the first conference proceedings and subsequent ones demonstrate a changing interest in the following period. Unfortunately, in the first half of the 2000s, localization was not a topic extensively explored in scientific research in Slovakia.

During this period, an increasing number of articles discussing the role of localization in translation studies emerged abroad. For example, Pym's *Localization from the Perspective of Translation Studies: Overlaps in the Digital Divide?* (2004b), O'Hagan's *Conceptualising the Future of Translation with Localization* (2005), and Ketzan's *Rebuilding Babel: Copyright and the Future of Machine Translation Online* (2007) explored the position of localization in translation studies. Additionally, publications specifically focusing on localization appeared, such as Lommel's edited volume *The Localization Industry Primer* (2003, second edition), Chandler's *The Game Localization Handbook* (2005),[4] Pereiro's and Singh's *The Culturally Customized Web Site* (2005), and Dunne's edited volume *Perspectives on Localization* (2006). In addition to these publications, specialized journals dedicated to localization and translation technologies began to flourish; these included *Localization Focus* (since 1996), *Revista Tradumàtica* (since 2001), *The Journal of Specialised Translation* (since 2004), and *The Journal of Internationalization and Localization* (since 2009). By contrast, in Slovakia it is hardly possible to speak of specialized publications or journals. Indeed, localization was not adequately reflected upon within the academic community. Discussions about localization and its place in translation studies sparked little interest, and any discussion tended to be brief. Software localization as a new dynamic field was mentioned by Gromová and Preložníková in 2007. The term

[4] It was published for the second time in 2012 as *The Game Localization Handbook,* this time co-authored with Stephanie Deming.

"lokalizácia prekladu" (localization of translation) appeared, but it primarily referred to advertising (Rakšányiová 2007)[5] and "glokalizácia" (glocalization) (Rakšányiová 2011; Bohušová 2012).

In 2005, seven years after Benko and Rajčanová's article, an article by Motyková and Škrlantová titled *Intercultural Communication in Translation Practice: A Case Study of Localization* (Interkultúrna komunikácia v prekladateľskej praxi na príklade lokalizácie) was published; it directly addressed localization as a type of translation. It provides an initial exploration of localization applied to websites but only briefly touches on the issues and does not comprehensively delve into localization. In 2006 Dudová published an article directly focused on localization titled *Translation versus Localization* (Preklad versus lokalizácia 2006). This work takes a more comprehensive look at software localization, although it also lacks many relevant sources on localization; these are compensated by the author's practical experience. In addition to these two articles, three more articles were published in 2009 by practitioners (Dudová, Smolík, and Tihlárik) in the conference proceedings of *Specialized Translation 4: Information Technologies and Their Terminology* (Odborný preklad 4: Informačné technológie a ich terminológia). Unfortunately, Dudová and Tihlárik do not provide academic studies but rather a collection of PowerPoint presentations with text that is not so easily readable. Only Smolík (2009) transformed his presentation into a significant article; however, even in this case, the article lacks verifiable and usable sources and does not meet the requirements for a scientific study. Similarly, references to localization are not found in relevant textbooks as part of the teaching of translation and interpreting. Despite a certain resonance abroad and a clear distinctiveness from other types of translation, *Chapters from an Introduction to Translation* (Kapitoly z úvodu do prekladateľstva) (Gromová 2000) and *Selected Chapters from the Theory of Translation of Literary and Artistic Texts* (Vybrané kapitoly z teórie prekladu literárno-umeleckých textov) (Huťková 2003) do not really reflect on localization and emphasize literary and specialized texts instead. Apart from the aforementioned articles, the available sources and various translation proceedings, such as *Translation and Interpreting* (Preklad a tlmočenie, Matej Bel University 2000–2009) and *Translation and Culture* (Preklad a kultúra, Constantine the Philosopher University 2000–2009), do not further explore localization from a scientific perspective. By contrast, the collections of departments of media studies, such as the *Media and Text* (Médiá a text) proceedings from the University of Prešov from 2005 to 2009, offered the

[5] Jana Rakšányiová uses this term in this context in her other articles as well, such as her article from 2011.

necessary interdisciplinary insight into the world of digital texts and their behavior in software form, thus presenting an ideal opportunity for interdisciplinary collaboration that had not yet been established in the local academic environment in the field of localization.

There was also a significant discussion about the impact of globalization on translation, but scientific studies focused more on literary and specialized translation in the traditional sense (i.e., textual translation concerning non-software texts). While globalization resonated within the translation community, the academic community did not discuss the rise of the internet, software, and related translation and understanding within the GILT process. This remained unchanged in the following period.

In Slovakia, practitioners had more knowledge about the localization process than theorists did. After the amendment of the Higher Education Act in 2009, access to final papers on localization opened up, allowing us to verify the circulation of used sources in initial research by students; however, even with better access to information and digitized publications on translation, this did not contribute to more frequent research on localization.

3.3 An impoverished period (2010–2017)

While there was debate about localization abroad in the mid-2010s, localization was still not properly discussed in Slovakia. Researchers mentioned it only sporadically, mostly in relation to audiovisual translation, or they addressed it only marginally, as can be seen in works by Želonka (2012), Dlhošová (2012), and Janecová (2014). Nevertheless, even before 2010, academics explicitly or implicitly called for more thorough research on localization, as mentioned by Gromová and Preložníková (2007) and Rakšányiová (2009). Gromová (2012) briefly mentions software localization, while Rakšányiová (2012) discusses localization in slightly different contexts, using the term "lokalizácia prekladu" (localization of translation) in relation to advertising texts, referring to what we understand today as transcreation. No researcher continued to focus on localization or built upon the works of Motyková and Škrlantová (2005), Dudová (2006, 2009), Smolík (2009), and Tihlárik (2009).

Localization was also absent from the curriculum, although in her textbook *Introduction to Translatology* (Úvod do translatológie) Gromová (2009) implicitly defines it within the field of translation studies (*Teória prekladu pre audiovizuálne a elektronické médiá*). In other textbooks, such as *Selected Chapters of Translatology* I and II (Vybrané kapitoly z

translatológie I. a II., Biloveský and Djovčoš 2010 and 2013) and *Communication, Interpreting, Translation*[6] (Komunikácia, tlmočenie, preklad, Müglová 2009), there is no implicit or explicit mention of localization.

Since the establishment of the Central Register of Final and Qualification Theses (Centrálny register záverečných a kvalifikačných prác) in 2009,[7] access to the final theses of translation students as potential sources and stimuli for further research has become much easier.[8] Despite often being partial and incomplete student theses with improperly cited sources, some of them are worth mentioning as they are valuable contributions to localization research. The works of Feldsamová (2012), Takáčová (2013), Gáll (2013), and Donoval (2015) are all notional steps toward localization research, although at that time they did not fully reflect the current state and practice of localization. In addition to the international publications mentioned in the previous section, we can also mention Yunker's *The Art of the Global Gateway: Strategies for Successful Multilingual Navigation* (2010) and Dunne's *Translation and Localization Project Management* (2011).

Elsewhere there was a flourishing of publications dedicated to localization in general and to specific types of localization. Notable works include Jiménez-Crespo's *Translation and Web Localization* (2013), O'Hagan's and Mangiron's *Game Localization* (2013), Bernal-Merino's *Translation and Localization of Video Games* (2015), and Roturier's *Localizing Apps: A Practical Guide for Translators and Translation Students* (2015). In Slovakia, discussions about localization began to take place directly and in more detail, thanks in part to articles by Jožio on the translation of WordPress software (2015) and diploma theses by Foltanovičová (2017) and Koscelníková (2017); Koscelníková perceived localization within audiovisual translation, which was typical for that period and approaches to localization in the education of translation and interpreting students. In 2014, the publication *Thinking about Translation in Slovakia* (Myslenie o preklade na Slovensku, Vajdová 2014) was released, but despite the efforts of some researchers, localization seemed to be nonexistent. (Similarly, audiovisual translation appears to be in the same situation within that publication, although it began to be directly discussed in comprehensive monographs from 2014 onwards.) Translation had long been exclusively used to refer to literary and specialized texts; however, researchers in Slovakia

[6] The selected chapters from translation studies were published in an expanded form in the third edition in 2019. *Komunikácia, tlmočenie, preklad* (Communication, Interpreting, Translation) was published in the second edition in 2018. Despite the shift in thinking about localization, at least in terms of research, these works did not really reflect on the existence of this subdiscipline.

[7] https://crzp.cvtisr.sk/

[8] https://www.postoj.sk/57542/s-kontrolou-starsich-prac-moze-byt-problem-tvrdia-vysoke-skoly?page=3490.

started focusing on localization after 2017, and thus it finally got the attention it deserved.

3.4 A productive period and a new era (2017–present)

Localization research in Slovakia has experienced significant growth since 2017 during a new era of thinking. Despite the lack of localization in translation textbooks, discussions about localization have become more frequent, including in bachelor's, diploma, and doctoral theses. Examples of this include works by Marčanová (2018), Bartoš (2018), Cabajová (2019), Ľubocká (2020), Ferenczová (2021), Daňová (2021), Diamant (2021), Litviková (2021), and Koscelníková (2022).

Koželová and Kuľbak (2019) discuss the localization process in the context of audiovisual translation. There is now systematic research on localization by Koscelníková (2018, 2020, 2021) and Kabát (2019, 2020a, 2020b, 2021b), with both authors contributing a chapter on *Training Localization* regarding didactics (2021). The first comprehensive university textbook focusing on the stylistics of Slovak localization, *A General Stylistic Guide for Software Localization* (Všeobecná štylistická príručka pre lokalizáciu softvérových produktov, Kabát 2022) was published, and localization began to be taught at Comenius University in Bratislava.[9]

Although there are no specialized discussion panels dedicated directly to localization in Slovakia as there are abroad (e.g., video games – panels at *Media for All9*[10] and *Languages and the Media* 10[11] as well as conferences specifically focused on localization, such as Barcelona's *Fun for All*[12] and the *Translation and Localization Conference*),[13] we hope this may change at the upcoming *Translating, Interpreting, and Culture* international conference, which will be organized in Slovakia, if the organizers include localization as a topic.

The culmination of our research efforts can also be seen in this journal, which is meant to be a platform encouraging contributions on localization and related topics and which aims to educate a new generation of researchers who will continuously and consistently

[9] The Localization of Websites and its Cycle (Lokalizácia webových lokalít a jej cyklus) and the Localization of Non-Gaming and Gaming Software (Lokalizácia neherných a herných softvérov) are subjects taught by Marián Kabát.

[10] The program of the Media for All conference has a panel dedicated to video games (and their localization): https://jornades.uab.cat/media4all9/content/main-conference-%E2%80%93-day-1

[11] Languages and the Media 2022 conference topics are here: https://www.languages-media.com/conference_themes.php

[12] https://jornades.uab.cat/videogamesaccess/

[13] https://translation-conference.com/

devote themselves to this subject. We hope that localization will "see better times" and that it will find a well-deserved place in Slovak translation studies.

Conclusion

In this article, we attempted to concisely present thinking about localization in Slovakia and internationally. Localization involves t he translation of digital interactive texts, which cannot be done without the involvement of technology. While this field has been receiving attention internationally since its early days, in Slovakia localization has primarily been the subject of sporadic contributions by practitioners and then by theorists. A significant change occurred only after 2017. Over the last five or so years, quite a lot has been written about localization in Slovakia, and we believe that, thanks to the *L10N Journal*, there is much more yet to be written.

These first two issues of the journal are the beginning of an open discussion on localization, through which we aim to contribute to international discourse. We believe that our journal has something to offer in this field. The first issue focuses thematically on various areas of localization. Veronika Litviková addresses the absence of general software terminology, which is largely influenced by corporate culture and language. Through a sociological survey, she explores how the unification of at least basic terminology could be achieved. Diana Pavlíková delves into machine translation and its post-editing. Using the evaluation template of the TAUS expert group, she examines how it could contribute to the objectification of translation evaluation, while also highlighting the need for post-editing training. Finally, Nikola Ácsová presents the process of transcreation from its beginnings to the present day. She seeks to define it in relation to translation and localization, demonstrating its practical application through selected advertising slogans.

Video game localization is enjoying great popularity, and the second issue of the journal is dedicated to this topic. Linda Janíková focuses on the localization of the MMORPG genre from a general perspective and addresses the localization issues of a selected video game into Slovak. She also provides potential necessary resources that could help potential localizers. Katarína Bodišová's contribution explores intertextuality in video games. Alongside many international examples, she examines intertextuality in the Slovak localizations of video games and she touches on transcreation in video game localization. Finally, Nikol Daňová presents gamification in the translation of web content with video game elements. Gamification has gained interest as video games as well

as in applications involving task lists and daily physical activities. The issue concludes with an interview by Milan Velecký with Mário Csaplár on the fan localization of video games in Slovakia and with the Final Variable (Záverečná premenná) section, where new interesting and inspiring works in localization and translation technologies are presented.

Localization can be studied from various angles and approaches, as indicated by the contributions in these two issues. We sincerely believe that this is an optimistic beginning for the journal and that it will create a space for open professional (academic and practical) discussions, shifts in thinking, and inspiration for researchers and practitioners in localization and translation technologies.

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Terminological Variability in Localization Projects

Veronika Litviková

Comenius University in Bratislava

cholevova.veronika@gmail.com

Translation: Jana Bidovská

Abstract

This article deals with terminological variability and usage inconsistency in software localization projects. The theoretical part of the article aims to compare local and international studies discussing the processes of globalization, internalization, localization, and translation, and it primarily discusses theoretical knowledge about terminological variability and inconsistency connected with the new phenomena of corporate language and corporate identity and their enforcement by software companies. The empirical part of the article presents research covering the terminology databases of three software companies (Microsoft, Google, and Apple) and the isolation of variable terms. Based on a survey of 376 respondents, this article tries to determine users' preferences of variable terms when put in context. It also tries to highlight variability in software terminology, determine its impact on localization, and explain its presence in terminology databases and the glossaries of software companies.

Keywords: terminological variability, inconsistency, software terminology, terminology databases, terminology

Introduction

The digital revolution at the turn of the 1970s and 1980s significantly changed several aspects of human life, including the form of texts and their distribution, transmission, and reception. It was precisely in connection with its dissemination through translation and interpretation that pragmatism has gradually come to the fore; translation studies naturally responded to this by moving away from the study of the primary linguistic aspect of texts and inclining toward "the dominance of purpose, differentiation of texts, and intercultural aspects" (Rakšányiová 2014). This change and the higher demand for

dissemination of text in the form and accompaniment of audio and graphic content is linked to the processes of globalization, internationalization, localization, and translation, and, in the context of localization, specifically with multinational companies producing digital content and software. The aim of this article is to point out the existing variability in software terminology and the preferences of software users regarding specific terms and their application which is related to the need for localization to work in translations with current and correct terminology, which meets not only the naming function but also the needs of the user.

The first part of this article deals with the theoretical foundations of globalization, internationalization, localization, and translation processes in order to point out their interconnection and more specifically the position of translation within localization. Subsequently, it focuses on the role of terminological culture, terminological literacy, and socioterminology in localization and their impact on the terminological side of translation, i.e., the intersection of GILT processes, terminology, and the recipients of localized text. Using the example of Microsoft, there is a close look at the form of existing terminology databases, their meaning, and the very process of terminology management; there is a consistency of databases, an occurrence of variable terms, and a level of customization for users (linguists). The article also analyzes the concept of translators' terminological competence, which, in the Slovak and Polish translation environment, is not defined separately but is rather part of other translation competences (Sikora 2014; Štefková 2018). Finally, the article presents the theoretical aspect of the initial problem on which it focused, namely the problem of terminological inconsistency and variability, which in software localization is ultimately linked to the existence of corporate language, i.e., "regulation of language in a corporate context" (Sanden 2015, 1097) and companies' effort to use language as a tool to differentiate themselves from the competition, which also affects the existence, quality, and the way translators use the terminology databases of these companies, given that translation and interpretation are influenced by company rules. The theoretical background of the article concludes with the issue of terminographic work and the need to create a unified terminology database in software in order to simplify and speed up the work of linguists.

The second part of the article analyzes the variability of the terminology of software companies. There is an occurrence of the same terms in different databases. It is worthwhile noting whether their definitions match or name other software elements. Indeed, there are meaning nuances in variable terms and subsequently in the preference for specific terms among ordinary users when looking at the most common and well-

known terms used by Apple, Google, and Microsoft. The article analyzes the possible causes of a preference or rejection of individual variants by users who participated in a survey, taking into account the characteristics of the terms, their possible application in the context, and the software element they name. Based on this information, the article evaluates which terminology database is the most natural for users, it compares the results from the survey regarding the theoretical information on variable terms, and it takes a specific stand on the causes of the development of variable terms, their meaning, and their impact on localization and the user.

1 Globalization, internationalization, localization, and translation

The process of globalization is linked to an introduction of products on the global market. In the 1990s, the Localization Industry Standards Association (LISA) was established in Switzerland, enabling expanding companies to deal with several problems associated with globalization. In 2011 it was followed up by the Globalization and Localization Association (GALA). In marketing terms, globalization can be defined as "the transformation of business and processes to support customers around the world, in whatever language, country, or culture they require" (Lommel 2007, 1). GALA (ibid.) describes globalization as a process at a global level which clearly shows the importance of language in the introduction of products on the global market; attention is drawn to the customer and to the need to meet their specific cultural and linguistic requirements (Kabát 2021a).

The process of internationalization, which is often confused with globalization, is important for localized products. Internationalization is focused on the technical side of modifying the product so that it can be localized. This means modifying various elements "such as international character sets, keyboard layouts, date and time formats, and currencies" (Esselink 2000). Esselink (2000) mentions the need to avoid the use of jargon, slang, and specific references to culture in technical documentation.

Trade-oriented globalization and the internationalization of the technical side of the product is followed by the localization process, which often automatically mentions the fourth GILT process and thus translation. Localization as a process is closely related to translation, but primarily it is a process of adapting the content to the needs of the recipient, i.e., adapting the appearance, color spectrum, and other locality-specific elements. LISA defines localization as "the process of modifying products or services to

account for differences in distinct markets" (Lommel 2007). This means that in the process we face three main categories of problems (linguistic, content-cultural, and technical) (Lommel 2007).

The position of translation within localization is still not clearly defined. O'Hagan places translation "as the core of both localization and globalization," arguing that "from the point of view of traditional translation, localization was initially considered an extension of software engineering. Now it is treated as a new form of translation" (O'Hagan 2006, 39). Drouin, on the other hand, perceives translation and localization as "parallel domains" that complement each other; according to him, translators in the localization process "have to pay special attention to the consistency of terminology, phraseology, style, etc. between very different products" (Drouin 2006, 50). Based on these statements, as well as experience, one cannot deny the importance and significance of translation in the whole process of globalization (not just localization), because its success depends largely on successfully implementing software in the target market, in which quality translation also plays an important role. Having said that, localization as such "has not brought conceptual changes to translation but has instead broadened the concept whereby traditional translation skills must now be combined with technical ability" (Mullamaa and Piñeiro 2006, 61).

2 Terminological culture, literacy, and socioterminology

The media boom that occurred in the second half of the twentieth century also had a significant impact on the formation of terminology. Until then, terminological work – i.e., the creation and verification of terms, the processing of terminology into graphic form, and the care of terminological culture and terminological literacy (Masár 1986) – were primarily dealt with by linguists. In this period, however, many completely new concepts began to emerge which required Slovak counterparts to meet the needs of software and hardware users (not only experts in a particular scientific field, as used to be customary) and form the basic prerequisites of established software terminology in the Slovak environment.

The current situation is comparatively dynamic, so the cultivation of terminological culture seems to be a difficult task. Stoffa defines it as "an adequate use of terms in accordance with the rules and system of grammatically correct language, scientific or technical style, professional, national and international standards and customs of the professional community" (2008, 170). He acknowledges that when designing and

assessing the appropriateness of a term, we must also consider "the processes of deepening international cooperation, integration and globalisation" (Stoffa 2008, 171).

In terms of terminological literacy, Stoffa says that it is "the ability of the user of the term to use the correct terms and solve terminological problems of their field" (2008, 168), which directly applies to translators and is an essential quality. The cultivation of terminological culture is more challenging and depends on the entire community of professional language users, but several of its manifestations, such as the creation of professional glossaries and the use of the same terms to name the same ideas, are also applied at many levels of the localization process.

In the context of the relationship between language (or terminology) and users, it is worthwhile mentioning socioterminology. Terminology is undoubtedly "the primary means of communication and knowledge transfer between software developers and end-users" (Schmitz 2009, 4), as evidenced by documents accompanying the arrival of software to a new locality that are used to introduce the product to users (e.g., user manuals and instructional videos). In the process of the localization of a given product, the translator must take care of the appropriate use of terms and consider their choice based on the requirements of appropriate motivation, systematicity, and novelty, especially in the context of software terminology and its rapid development (Schmitz 2009). At the same time, the established terminology must be respected by anyone who enters the globalization process in order to adequately implement the product, since "avoiding indeterminate, incorrect and inconsistent use of terms and icons must be one of the major goals of software development, quality assurance, and usability testing" (Schmitz 2009, 4). When translating software, sociolinguistic factors must be taken into account. This means that localization can be practically considered as an application of sociolinguistic knowledge at the level of translation. The idea of the locale on which the very concept of localization is based, is perceived as a group of certain cultural preferences (Pym 2001) that enter localization as one of the primary factors. At the same time, when translating, we must consider the differences and cultural features of individual localities which are important from a social point of view as they influence the choice of words and terms. As an applied science, socioterminology is directly oriented towards society, and "it unites the specialized concepts with a community of speakers. In this way, socioterminology enables terminological practices to be adapted to the target languages and linguistic communities…" (ISO/TR 22134 2007, 12).

Based on this justification, the empirical part of the article will largely deal with how users perceive the terms of software companies and examine their preferences for

individual terms using a questionnaire method. According to Cíbiková, the translator automatically includes a future user into the terminological work when considering which term to prefer in the translation. Terminology should therefore be "developed together with users and linked to their requirements" (Cíbiková 2008, 29).

3 Terminology management and the terminological competence of a translator

The enormous rise of new ideas resulting from the development of the IT field and the speed at which the development has taken place since the early 1990s have prompted the emergence of new reflections on the need for the increasingly rapid dissemination of products around the world. At the same time, certain consequences arose from this need that had to be considered right from the outset. In The End of Translation as we Know It, Esselink (1999) anticipated the possible termination of independent localization projects and an increasing volume of texts requiring localization, and he pointed out the need for continuous and regular terminological work and the increasing importance of the use of translation tools. This section of the article elaborates on the need for terminology management.

At first, terminology was only developed at an advanced stage of localization. It initially took the form of lists of terms conceived by the translators themselves, and later the lists were turned into glossaries with definitions which were formed at the beginning of the localization process. Since they were adapted for specific products and product teams did not work with them, this often resulted in the emergence of different terms naming the same concepts, different glossary formats, and the emergence of undesirable inconsistency in terminology (Corbolante 2009).

Terminology management is thus inevitable, with companies often reaching individual solutions. The course of terminology management at Microsoft will serve as an example. Corbolante (2009) describes Microsoft's terminology management model as proactive. The identification of new terms takes place even before the start of the localization process. The terms are then made available to localization teams and other users in the form of a multilingual terminology database. This approach also reduces the occurrence of inconsistencies. Term mining is primarily carried out by English terminologists together with developers, copywriters, and editors. They work on identifying new concepts and terms, verifying their possible existence in glossaries and terminology databases. After verification, definitions are finalized and headwords are created in

the terminology database. The database is prepared for other languages, while concepts and source terms are subject to analysis by the target terminologists. Finally, they choose the appropriate approach for the specific target language, conduct the research, and evaluate the results. In the case of the Microsoft terminology management model, the prerequisite for localization is to insert the term into the terminology database in the target language.

The terminology management process described in this way is actually much more dynamic and depends more or less on automated tools for searching and managing terminology. Tools for detecting the occurrence of inconsistent terminology and approving terms which are captured additionally during the localization itself are also of great importance. Although we can consider this model of terminology management to be sophisticated and of good quality, there are multiple weaknesses. A translator may encounter a term that has not yet been localized in the target language and may either know or not know its definition in the source language. In order to ensure the continuity of the entire localization process, they must propose a suitable term themselves. There may also be cases where the translator has a choice of several terms in the target language that have not yet been approved by the terminologist for the given concept (variability), or it may happen that the localized term already names another idea in the source language (inconsistency). All these situations require the increased attention of the translator; their ability to search, compare, and evaluate terms from several points of view; and the ability to create a new term that meets the requirements of a suitably formulated term.

Corbolante states that the key factor in successful localization is quality terminology management; she defines it as "investigation, documentation, and consistent reuse of terms and their associated concepts" (2009, 1). Knowledge of terminology management shows the interconnection of this process with the work of a translator in the localization process and the increased demands on several of their competences.

Translation competences differ in terms of the type of translation (e.g., artistic, technical, and audiovisual), but their differences are often based on different names of the same competences in specialized articles. A summary of translation competences and the information connected with them can be found in several publications, including *Translation Competences in the Context of Domestic Translation Studies* (Prekladateľské kompetencie v kontexte domácej translatológie) (Koželová 2018) and *Selected Translation Problems: Translation Competences and Audiovisual Translation* (Vybrané problémy prekladu: prekladateľské kompetencie a audiovizuálny preklad) (Koželová and Kuľbak

2019). In the context of localization, translation competences have been addressed by Kabát (2020) and Kabát and Koscelníková (2021).

Terminological competence in Slovakia has so far been dealt with almost exclusively by Štefková (2014) and only in connection with administrative translation. She places it on a par with the theoretical knowledge and practical skills of the translator and speaks of the need and importance of practical experience in "processing terminology, which is necessary for the systematic preservation and consistent use of translation equivalents in the same contexts" (Štefková 2014, 167).

Kraviarová also talks about working with terminological resources in the context of technical translation; according to her, "the responsibility for managing, searching and updating terminological resources" in smaller companies lies with the translator (2014, 74). In addition, she argues that insufficient training in working with terminology causes the tendency among "translators to leave outstanding places in translation" and rely on terminologists, although they could find and use adequate terminological solutions themselves (Kraviarová 2014, 75). The ability to work independently with terminology and search for suitable solutions is all the more urgent in the localization process, where several translators often work on one project or when new clients have no database or only a very limited one.

International sources are a little more specific about terminological competence and basically agree that the quality of translation depends primarily on the adequate selection and use of terminology in the text, and so "[t]his signifies that the translator must successfully deal with terminological problems during the analysis of the source text and the production of the target text" (Montero and Faber 2009, 92). Sikora (2014) also dealt with the definition of terminological competence; in her study, she chose two models of translation competence as a starting point. This was a model that is part of the European Master's in Translation project (2017), and she worked with the ISO 17100 – Translation Services – Requirements for Translation Services standard. In both of these sources, terminological competence is considered to be the accumulation of several subcompetences of a translator. The ISO 17100 standard states that it is the intersection of competence in research, information acquisition and processing as well as technical competence and domain competence. Based on this knowledge, Sikora also defines terminological competence as a combination of the abovementioned subcompetences; indeed, "to obtain terminological information and manage it for translation purposes, translators have to develop and use certain terminology (and information) research skills and be able to use a variety of technical tools which enable efficient

storage and management of terminology" (Sikora 2014, 504). In the context of localization, we can highlight the technical dimension of this competence; however, a translator cannot rely solely on translation tools or on their ability to correctly recognize the terminological unit, assign it a corresponding equivalent in the target language, and compare its use in other discourses and localities. In the context of terminological competence, the significant contribution of the translator to the management of terminology is evident.

4 Inconsistency, the variability of terminology, and the impact of corporate identity on terminology

The availability of a quality glossary of terms or an extensive terminology database, ideally with examples of the use of terms in a real context, their regular updating, and the presence of notes on the specifics of the term are the most ideal prerequisites for maintaining the consistent use of terms in the context of localization, copywriting processes, and the creation of advertising texts; however, inconsistency and variability may occur in such texts and in the glossary or database itself.

In the process of localization, there is the need to achieve a terminological consistency and to use a single term to refer to the same concept, especially when different developers, product teams, and software companies are working with "their own" terminology at different times and in different places. Emphasizing the need for terminological consistency is also important for consumers as it helps in "decreasing indeterminacy caused when a single concept is associated with more than one term and enables associative learning" (Schmitz 2009); it is important for software developers to strive for this as much as possible. In the intuitive software environment, and through the use of known and consistent terms across products, the user can navigate familiar and new phenomena according to already adopted interaction patterns and repeatedly follow them (Byrne 2006).

Terminological variability reflects the fact that systems of concepts and definitions are subject to dynamic development. Using variants is associated mainly with sociolinguistic factors and various social and situational aspects of communication in professional language. Since variability arises most often from the professional sphere and from a non-uniform approach to the formation of terms, its occurrence in the process of localization is not exceptional. It is also related to the diversity of marketed products and the different preferences of users.

An interesting idea in the context of localization is presented in a terminometric[1] survey by Quirion from the University of Ottawa, which intended to "measure the degree of implantation of all designations referring to a single concept or to a set of concepts" (2003, 30). The significance of this idea lies in the possibility of quantitively measuring the actual use of competing or consonant terms in practice (using corpora). Translators could therefore choose a term while considering its further features, such as its level of use.

When talking about the variability and inconsistency of terms in localization, it is important to mention the impact of a company's corporate identity and, within it, the impact of the enforcement of the use of corporate language by software companies such as Google (Cook, Jarvis, and Lee 2015). In addition to the fact that corporate identity is generally perceived as a company's philosophy, ethical values, and history, it is increasingly viewed in connection with multinational companies because "globalization must be dealt with in not only domestic but also foreign culture in order to be able to communicate accordingly" (Vysekalová and Mikeš 2009, 17); this inevitably also manifests itself in the localization process.

Corporate language is the result of a language policy which is typically created for companies by business managers and communication professionals within the company (Sanden 2015). It covers all communications of the company, both internal and external, and reflects the nature of the company using it and the type of end user of the product. This fact requires the increased attention of translators during the localization of the software and all other documents associated with it.

This kind of corporate policy has a definite influence on the creation of variants of terms naming the same concept. The translator, however, often notices the existence of the variability of a particular term only when translating for another company which uses its own glossary, or when translating for a company that does not yet have its own glossary of terms. In such a case, a "comprehensive localization terminology database, which is currently absent [in Slovakia]" would be invaluable (Kabát 2021b, 1). In addition to the need for a comprehensive terminology database, the quality of the available glossaries and databases is questionable. As Gromová (2011) points out, terminological dictionaries are not a valuable source of information for the translator as they do not respect their specific needs and do not contain contextual factors. Given these facts, this

[1] Suggested translation in Slovak – *termínometria*: an analysis of the use of consonant terms naming the concept (see Public Works and Government Services Canada 2007).

article will now deal with the creation of terminology databases and the essence of terminographic work in the process of localization.

5 A terminology database and terminographic work

From practical experience, one of the essential conditions for the smooth process of software localization is having a properly processed terminology file in a universally usable format offering access to all members of the localization team. Compared to encyclopedias and general and specialist dictionaries, a terminology database is preferable in the translation environment due to its comprehensiveness, easy accessibility, and applicable formats in various translation tools. Levická lists other advantages of terminology databases, including the centralization of the information of available terms, the possibility for popularization, and the dissemination of standardized terminology alongside flexibility and the fact that that they are a suitable space for creating a consensus between an expert and a linguist or translator in the process of creating a terminological record (2005).

The creation of a terminology database is a complex process and cannot arise only as a by-product of translation. The parallel to the relationship between lexicology and lexicography is formed precisely by terminology and terminography. Indeed, "[t]erminography involves gathering, systematizing, and presenting terms from a specific branch of knowledge or human activity" (Cabré 1999, 115); however, terms must not be artificially created or invented by terminologists, because their contextual anchoring is an important signal that the term is actually used in practice. Additionally, the terminological record in the database should be detailed and comprehensive, taking into account the needs of the translator.

Gromová (2011, 8–17) describes terminology databases in *Terminological Research in Slovakia: the Past, Present, and Future* (Terminologický výskum na Slovensku – minulosť, prítomnosť, budúcnosť). She speaks of initiatives that relate to the terminological perspective and terminographic work. The theoretical part of the creation of terminology databases in the localization of software products in Slovakia is being actively dealt with by Kabát in works such as the *Model of Localization Terminology Database* (Model lokalizačnej terminologickej databázy) (2021b). He proposes a terminology database that would consist of cards (the equivalent of a terminological record) and fields that should be part of these cards: "[i]f necessary, individual cards could be interconnected, making it easier to search" (2021, 3). The proposed terminology database should be

based on the specifics of software terminology. Depending on the language of the database, individual fields, which should be included in the cards or the terminological record, should include information on the definition and grammatical categories and reference synonymous terms and context. Several sources describing the basic fields in the terminology database records correspond to this (Cabré 1999; Levická 2006; Kabát 2021b).

Comprehensive terminology databases are the most suitable sources of information for translators in the localization process. Online terminology databases include the Slovak Terminology Database and Microsoft's Language Portal. Although this portal has a reduced range of fields, its online form and .tbx format allow wide use of the database. Most often, however, terminology databases are created by the companies themselves and are made available only to translators involved in the localization of specific company products.

The importance of one comprehensive database pooling information about terms from different areas of software and different companies would be seen in the significant simplification of the work of translators working, for example, on the localization of a new product. The need to create such a comprehensive terminology database oriented to the needs of the translator and taking into account the software localization specifications is also confirmed by the fact that "the fundamental prerequisites of localization of software products are accuracy and consistency across all parts of the software product" (Kabát 2021b, 5), which ultimately refers also to the need for the management of such a database and a reassessment of traditional models of terminology databases.

6 An analysis of variant terms regarding user preferences

This part of the article analyzes the terminologies of Apple, Google, and Microsoft regarding the variability of terms that define approximately the same software and hardware concepts. Personal experience as a localizer in software translation for these (and other) companies has made it clear that their terminology is very similar. In investigating variability and the inconsistent use of terms, Slovak terms that name the same ideas are analyzed in all the mentioned companies; at least two out of three companies use a different term (variant) to name the same concept. The choice of given terms, which are intended to illustrate the variability of terminology related to corporate identity, was preceded by extensive research, obtaining information about terminology databases and glossaries, and the actual use of the terms in practice.

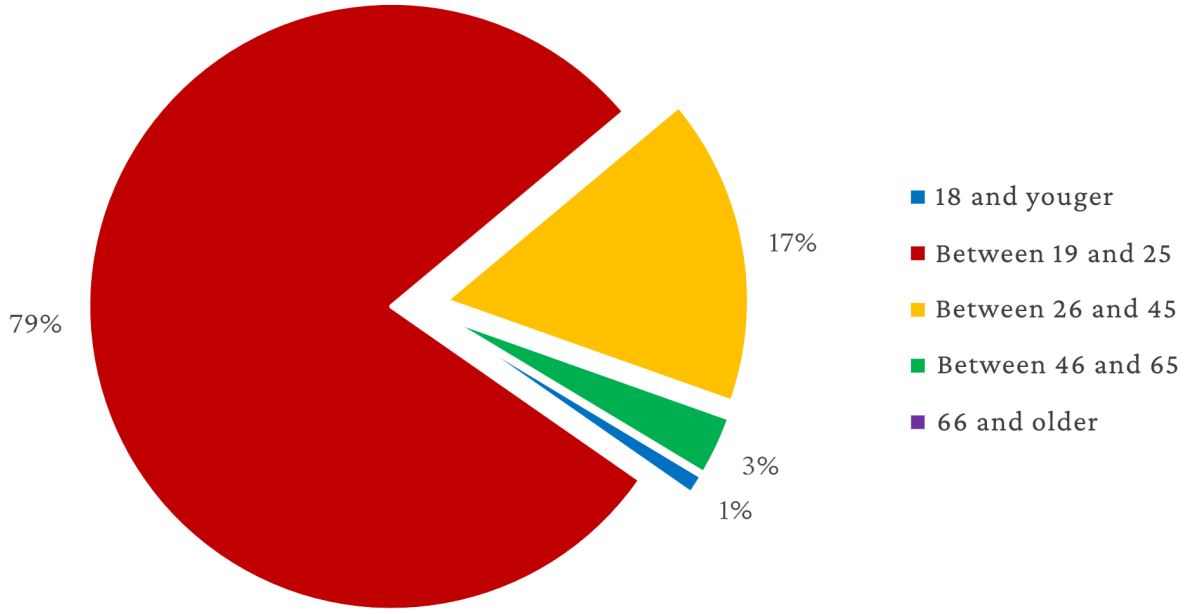
Parallel texts on Apple websites that let the user view articles in the desired language by simply rewriting the language code in the hypertext address of the page were accessed. In the case of Google, terms were acquired through Glossary Manager, which the present author could access due to being a professional translator. As for Microsoft's terminology, the freely available Language Portal was used. In the case of any ambiguities in the pragmatic use of individual terms, their currency and use was verified in the parallel texts of the individual companies.

From these sources, fifty English terms were extracted for the purposes of research, with at least two variant equivalents (but not more than five) in Slovak terminology whose definition and pragmatic function coincided. The selected terms were also used in the survey, which was employed to examine the preferences of individual variants from the viewpoint of an ordinary user of the software and which was based, among other things, on Cíbiková's claim that "[t]erminology should be prepared together with users and associated with their requirements" (Cíbiková 2008, 29). The task of users was to select an option with a sentence which, according to their linguistic feeling, sounded the most natural; there was an attempt to prevent the user from setting their own criteria when choosing the answer (e.g., correct grammar). The final survey had two sections of ten questions (items) each and a choice of answers; a third section was used to collect additional information about the respondent, including their age and the software and hardware products that they use because these factors are important in the subsequent evaluation of users' preferences. After collecting responses from 376 respondents, the survey was evaluated based on the quantitative ratio of the respondents' answers. The distribution and collection of answers took place electronically between February 3 and April 3 in 2020. The overall ratio of the preferred terms of individual companies are possible aspects that could have influenced the choice of preferential terms; although the sample of respondents is seen to be random and not representative, there was an attempt to generalize the results and explore different forms of variability, which can be seen in the specific groups of terms.

6.1 The age of respondents and software usage

Information from the questionnaire regarding the age of respondents and the use of the software served as supplementary information as it was important to obtain answers from a diverse sample of users. Given the number of respondents, more or less every age group of users is represented in the sample, with most being up to the age of sixty-five years. The age representation of users is shown in Graph 1.

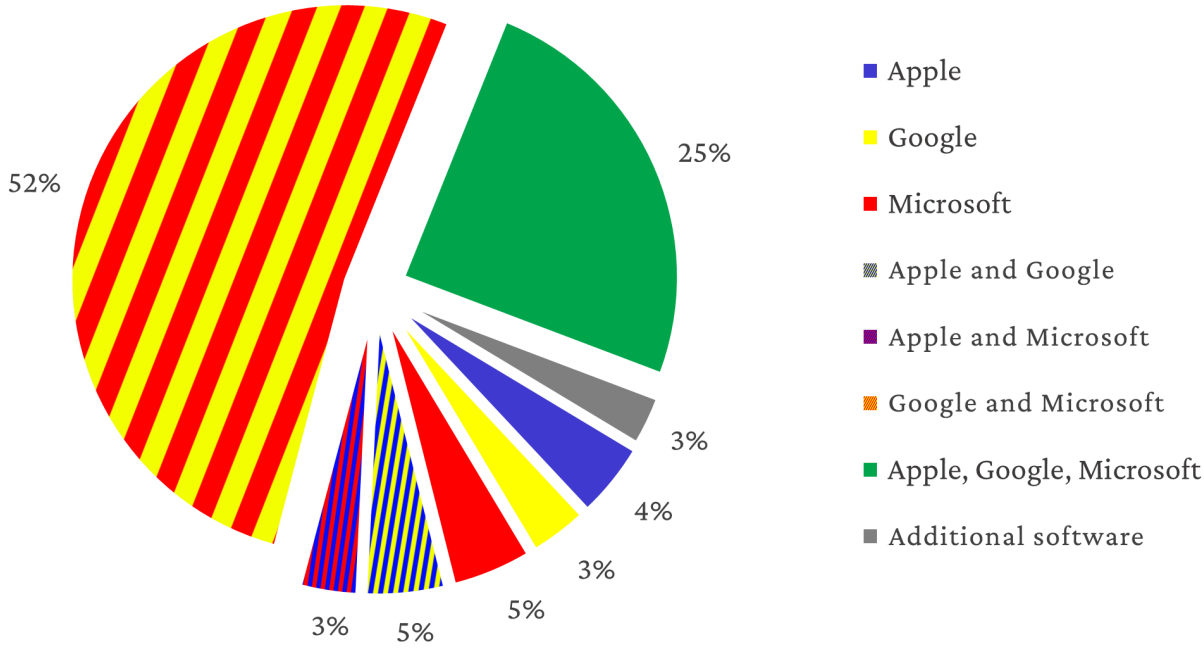
Graph 1 – ***The age of respondents***



The group of respondents aged from nineteen to twenty-five years had the highest representation, but this is most likely due to the electronic administration of the survey. The age of respondents, especially with regard to respondents under the age of eighteen, could consider even relatively recently established terms as obsolete; on the other hand, respondents aged sixty-six years and over might tend to prefer terms that, while they are familiar with them, are now not sufficient to name a particular denotation. As respondents of one age category predominate, the results of the questionnaire cannot be generalized, but they can serve as an incentive source for further investigation.

The aim of an additional question was to discover what types of software users use most often in their private or working life. When choosing the answer in the questionnaire, the respondent could mark the terms they encounter most often. It was necessary to address enough respondents using different software in order to ensure the objectivity of the research. An overview of the types of software used is presented in Graph 2.

Graph 2 – ***The use of different software by respondents expressed as a percentage***

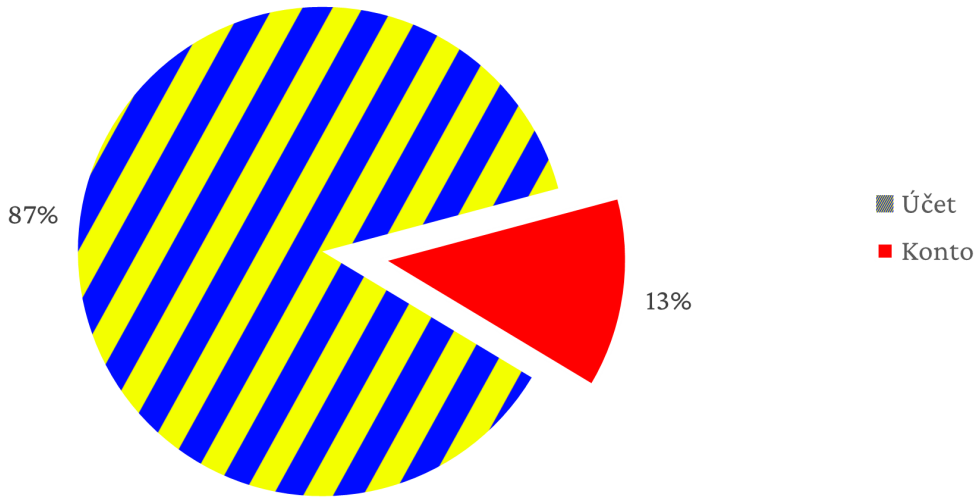


The results shown in Graph 2 show that the variability of the software used among users is sufficiently high, with many respondents using two or three types of software from different software companies at the same time.

6.2 "Account," "app," and "publish"

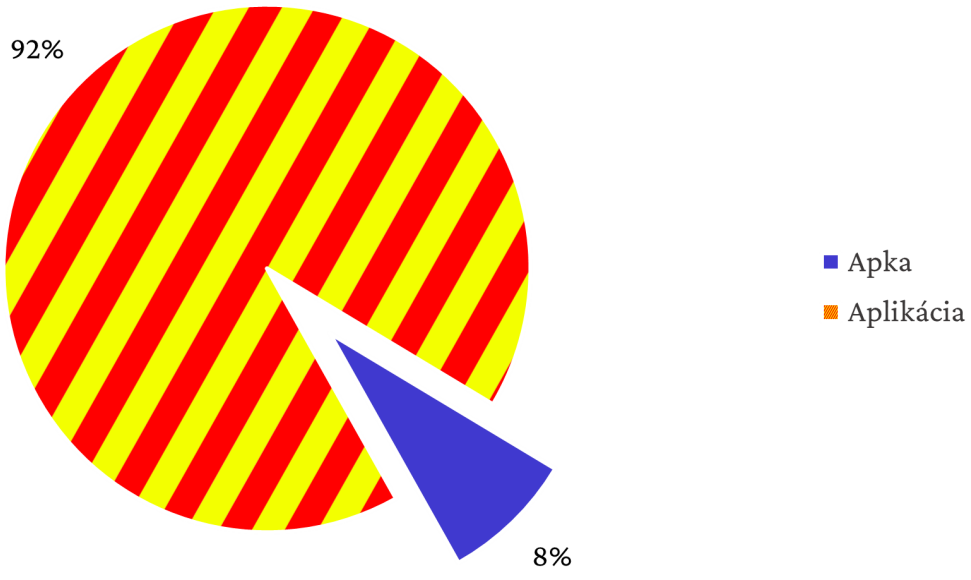
The evaluation of the survey begins with terms which users decided the most unequivocally on. This situation occurred in the case of a pair of variant terms *účet* (Apple, Google) and *konto* (Microsoft), which are Slovak translations of the term "account," shown in Graph 3. There is no fundamental difference between these terms. Both are grammatically correct, short, and well-motivated, so it can be assumed that Microsoft is also trying to distinguish itself from other companies that use the same concept; however, Microsoft has some of the most original software terminology, which has been used in the Slovak environment since the 1990s (Miková 2015). The term *konto* does not seem to have caught on, and Apple and Google prefer to use the *účet* variant alongside the majority of respondents.

Graph 3 – ***The percentage of the terms účet (Apple and Google) and konto (Microsoft) in respondents' answers***



The strategy of enforcing the company's corporate language can also be traced on the example of the variants *apka* (Apple) and *aplikácia* (Google and Microsoft), which are Slovak variants of the term "app."

Graph 4 – ***The percentage of the terms apka (Apple) and aplikácia (Microsoft and Google) in respondents'* answers**

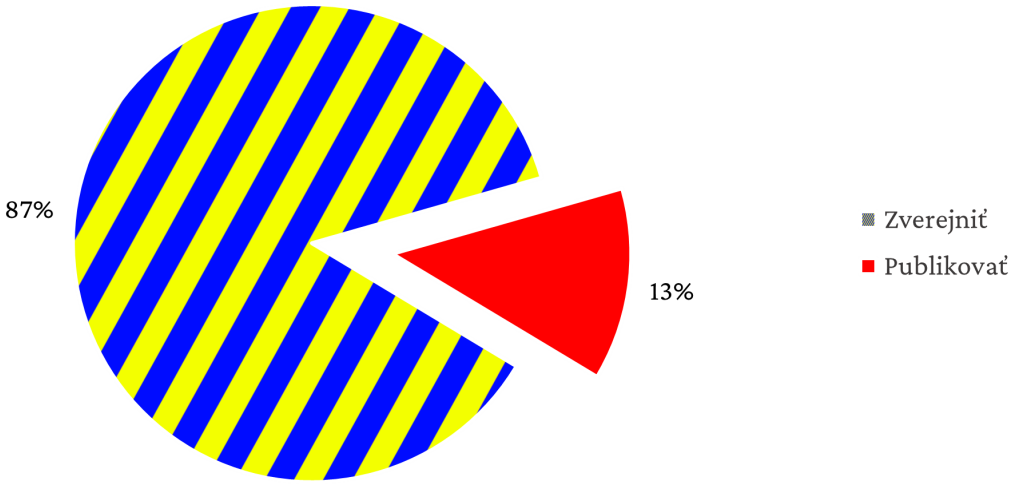


Considering the data shown in Graph 4, the term *aplikácia* is significantly preferred by users compared to *apka*; in addition to being grammatically correct and unambiguous, it is well established in Slovakia. The *apka* variant was created in order to differentiate the company from the competition; although it is shorter, it is assumed that

respondents perceived it to be grammatically incorrect and a slang term, and therefore they most likely do not feel the need to use this "newer" expression.

The assumption that not every variant of the term is explicitly necessary can also be verified in the case of the pair of terms *zverejniť* (Apple and Google) and *publikovať* (Microsoft), which are variants for the translation of "publish."

Graph 5 – ***The percentage of the terms zverejniť (Apple and Google) and publikovať (Microsoft) in respondents'*** **answers**



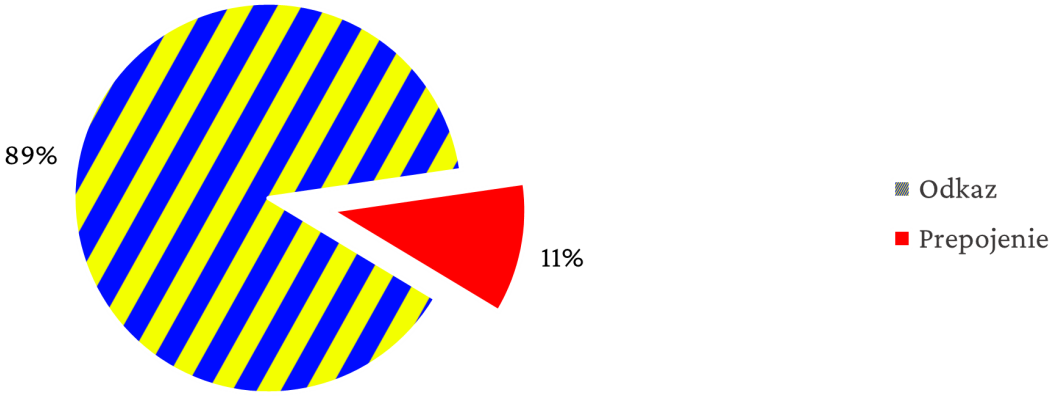
From Graph 5, it can be seen that preferred term *zverejniť* names the given concept appropriately and that it is grammatically correct and systemic. The term *publikovať* meets the requirements, but users may consider it to be a literal translation of "publish." The term *publikovať* did not take the same path as *konto* in the example above, and again one can see the efforts of companies to distinguish themselves from the competition.

From the above, there is a noticeable tendency among companies to use their own corporate language when localizing; it is not about creating terms with the need to name a new concept or replace an outdated expression with a newer, more suitable option. At the same time, the emergence of terms that are solely the product of companies' corporate strategy encourages the emergence of unwanted variability in terminology.

6.3 "Link," "tap," "notification," and "feedback"

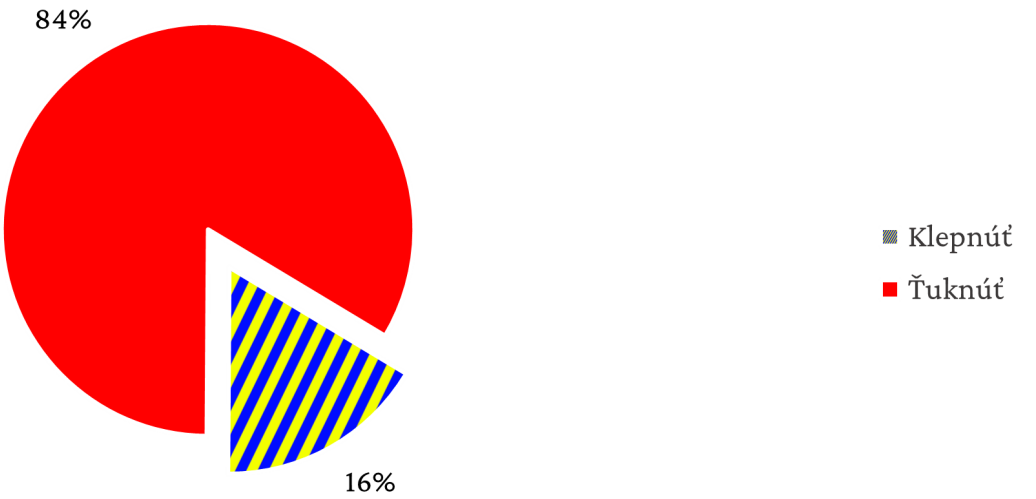
While the previous trio of terms saw efforts by companies to differentiate themselves from the competition by using their own company language, when preferring the following variants of terms, the preference appears to be based on better motivation.

Graph 6 – *The percentage of the terms odkaz (Apple and Google) and prepojenie (Microsoft) in respondents'* answers



Graph 6 shows the preference of the terms *odkaz* (Apple and Google) and *prepojenie* (Microsoft) as translations of "link" in the respondents' answers. The preferred term *odkaz* is shorter and, given the concept it names, also more appropriately motivated. Most often it is a hypertext address of another site or it refers to another source of information. The *prepojenie* variant, on the other hand, could connote a physical connection in the user in the creation of a link to another site. The preference of the term *odkaz* can be explained by the better motivation of the term.

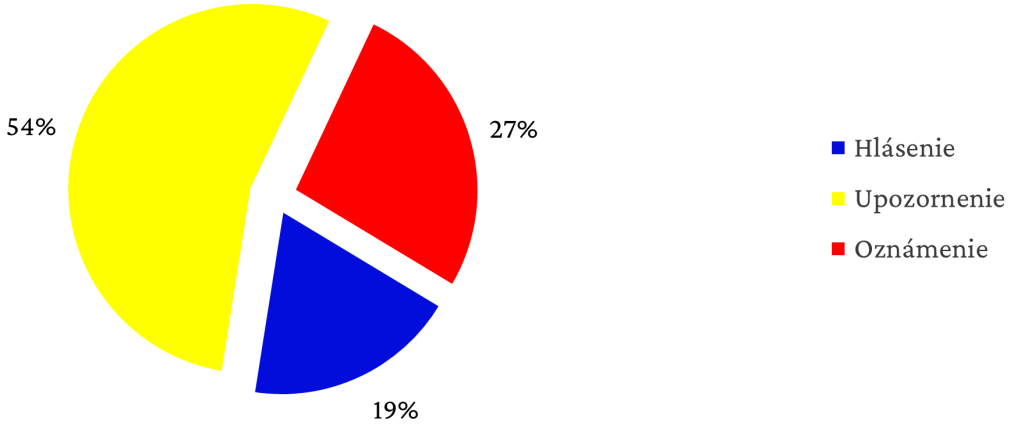
Graph 7 – The percentage of the terms klepnúť (Apple and Google) and ťuknúť (Microsoft) in respondents' answers



There is a similar instance in the pair of terms *klepnúť* (Apple and Google) and *ťuknúť* (Microsoft), which are Slovak variants of "tap." They are shown in Graph 7. Both terms meet the condition of correct grammar and brevity, and they are synonyms of naming the activity of touching the screen (of a mobile device or tablet) with the user's finger; it is the equivalent of a mouse click. The motivation of the gesture of *ťuknutie* and the

significantly softening attribute attached to the term (KSSJ 2003), as opposed to the term *klepnúť*, may have contributed to the tendency of users to prefer the term *ťuknúť*.

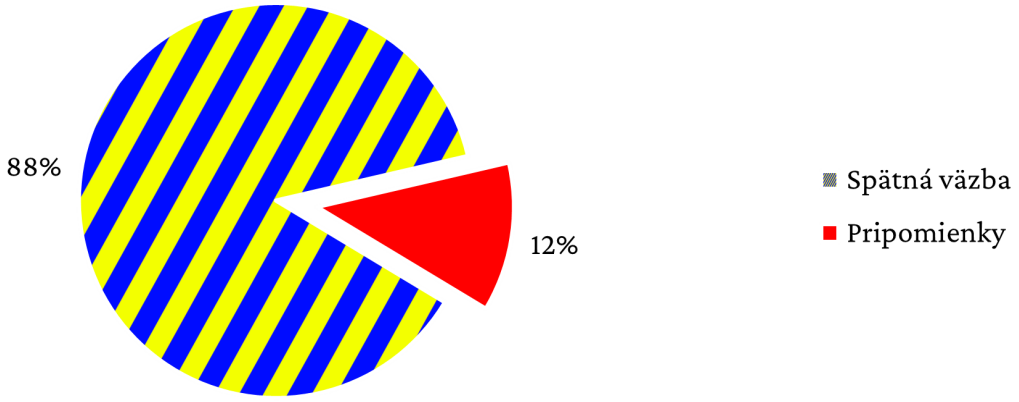
Graph 8 – *The percentage of the terms hlásenie (Apple), upozornenie (Google), and oznámenie (Microsoft) in respondents'* answers



As for the variants of the term "notification" in Graph 8, *hlásenie* and *oznámenie* did not receive very substantial support from respondents. On the other hand, *upozornenie* is considered by users as the most appropriate equivalent, which may be related to its most adequate motivation since it directly points to the very essence and function of the software element that aims to warn the user about the latest activity of the application and the receiving of a new message.

Customer feedback, and their opinions and ideas, are an invaluable asset for any company expanding with its product. The Slovak equivalents of the term "feedback," namely *spätná väzba* (Apple and Google) and *pripomienky* (Microsoft), were therefore included. Graph 9 shows an unambiguous preference for *spätná väzba*. Although both terms are strongly motivated, their motivation varies significantly. *Pripomienky* has a strong connotation and is not neutral (a condition of a well-formed terminological unit) since it gives the user the impression that the response to the product should consist only of noticing shortcomings, errors, and bottlenecks. On the other hand, *spätná väzba* refers to the reciprocal relationship between the user and the software developer and to the developers' interest in the users' own knowledge. The potential use of *pripomienky* could also have a negative impact on obtaining incentives from customers, or even on successfully completing the entire globalization process, as a prerequisite of this is the implementation of feedback.

Graph 9 – ***The percentage of the terms spätná väzba (Apple and Google) and pripomienky (Microsoft) in respondents'*** **answers**

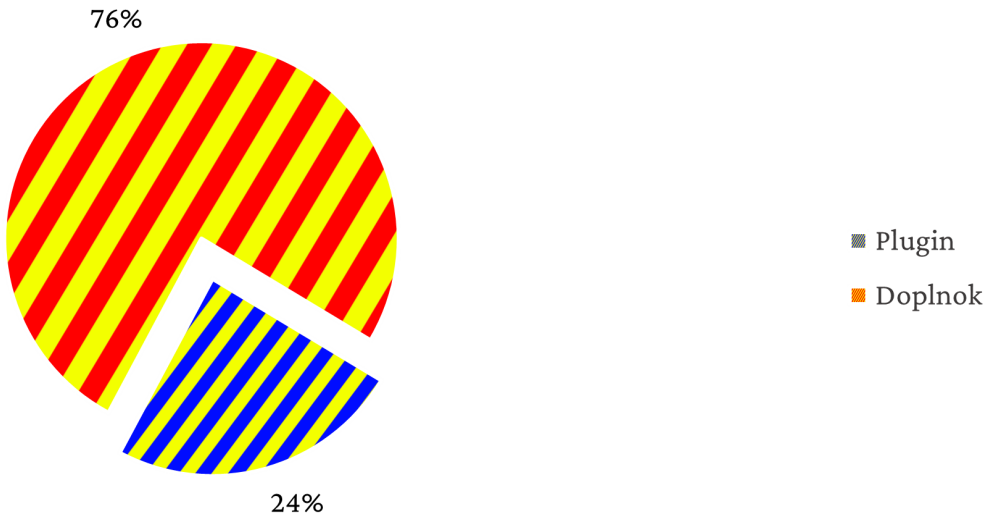


Motivation can thus clearly be a decisive factor in choosing the proper equivalent of the term, since, with its help, users can infer the meaning or function of the concept that the term denotes and they need not familiarize themselves with the definition. Suitably motivated terminology is therefore advantageous for both users and software distributors, who bring the software to the attention of a wider group of recipients.

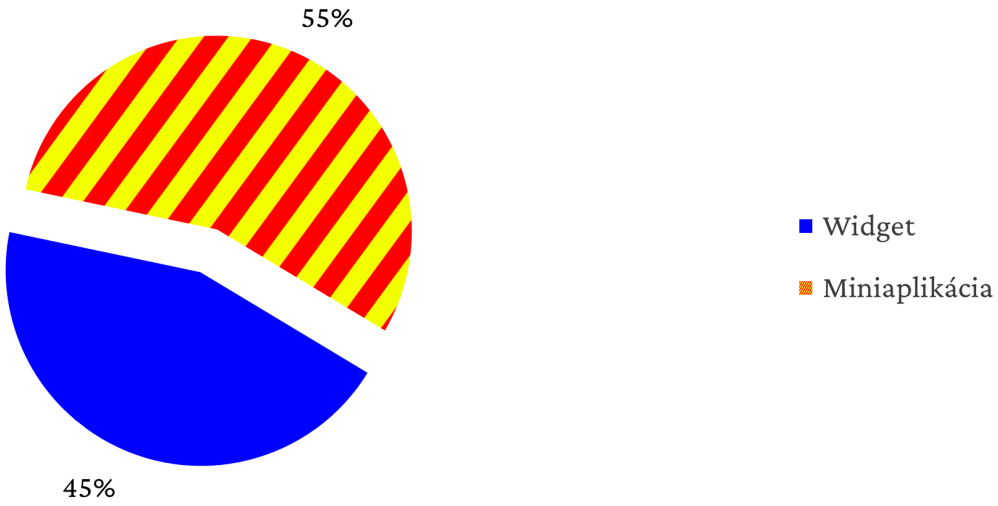
6.4 "Plug-in," "widget," "chat," "downgrade," and "upgrade"

In terms of terminological variability, there are variants of terms that arise in Slovak by the appropriation of the original term, thus making it a linguistic or extralinguistic borrowing. Depending on their prevalence and level of adaptation (orthoepic, orthographic, and morphological), there are unadapted, partially adapted, and fully adapted terms. Software terminology has a higher presence of such types of borrowings, as can be seen in the Slovak terms *plug-in*, *widget*, *chat*, *downgrade*, and *upgrade*. Graph 10 shows respondents' answers regarding the preferences for the terms *plug-in* (Apple and Google) and *doplnok* (Google and Microsoft), with Google listing both variants as correct and suitable for use depending on the type of software and context. The graph clearly shows the preference of the localized term *doplnok*, which is also grammatically correct, unique, and well-motivated compared to the variant *plug-in*, which is a morphological adaptation.

Graph 10 – *The percentage of the terms plug-in (Apple and Google) and doplnok (Google and Microsoft) in respondents'* answers



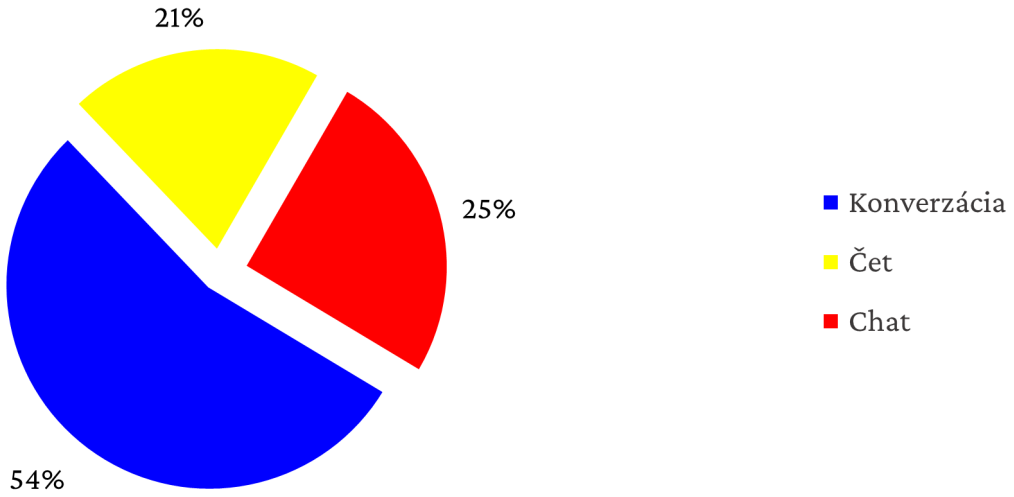
Graph 11 – *The percentage of the terms widget (Apple) and miniaplikácia (Google and Microsoft) in respondents'* answers



An interesting situation is shown in Graph 11 with the terms *widget* (Apple) and *miniaplikácia* (Google and Microsoft), where there is no longer such a significant difference in users' preferences, even though most prefer *miniaplikácia*. From the available sources, it is known that "plug-in" has been used in software since at least the 1970s (Ionos 2020), whereas "widget" is relatively new, only coming into use after 2000 alongside the concept behind it (Lowensohn 2014). Despite the relative novelty of this idea, users prefer the localized term *miniaplikácia* despite it being a compound descriptive noun.

There is also a tendency to use linguistic borrowings in the case of Microsoft.

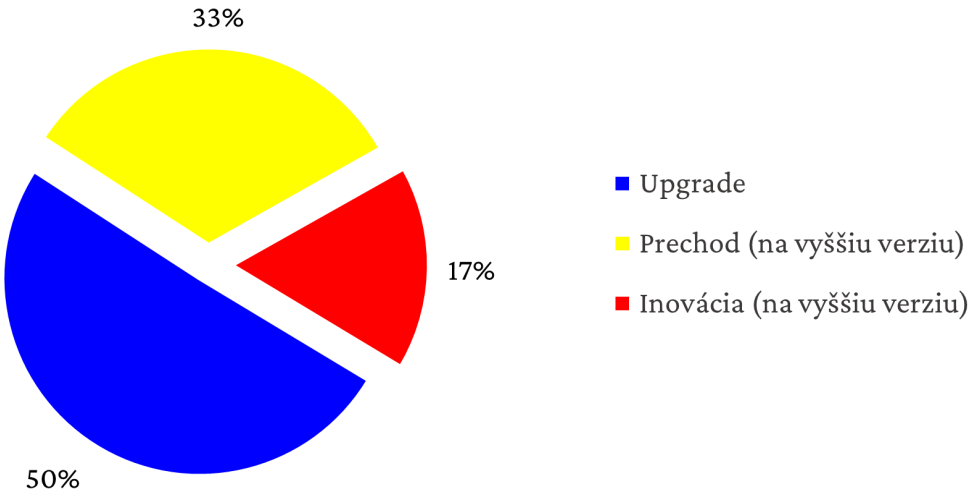
Graph 12 – *The percentage of the terms konverzácia (Apple), čet (Google), and chat (Microsoft) in respondents'* answers



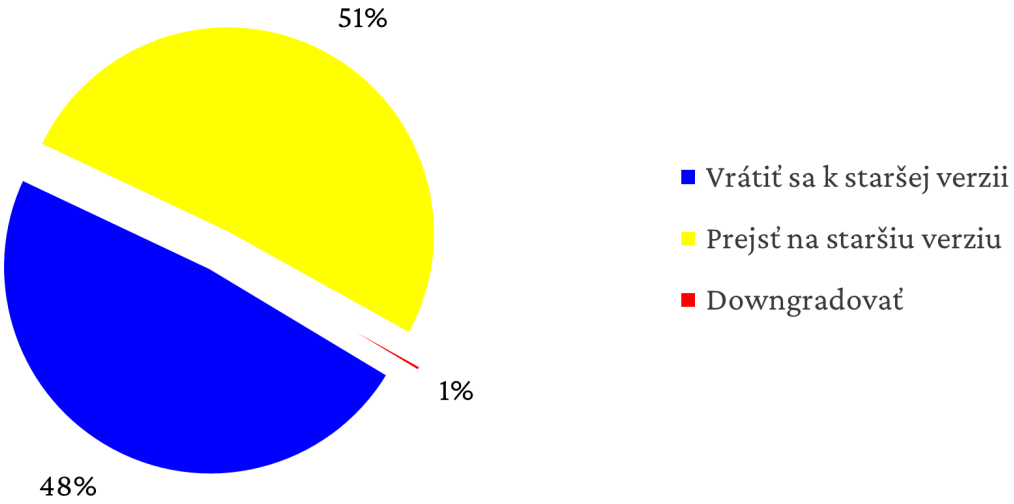
Graph 12 shows the percentage of the preferences of the variant terms *konverzácia* (Apple), *čet* (Google), and *chat* (Microsoft). Users perceive *konverzácia* as the most appropriate term, which is equivalent to the term "conversation" in several terminologies. The concept of the term *chat* is not identical to "conversation," since *chat* is exclusively linked to the online environment and written forms of communication. The orthoepically, orthographically, and morphologically adapted variant *čet* has the potential to be used precisely because of its high level of adaptation, in contrast to the term *chat*, which is used in Microsoft terminology, such as in the cases of *chatovať* (to chat), *okno chatu* (chat window), and *chatovacie centrum* (chat center). Despite the results of the survey, *konverzácia* is not an appropriate variant; in view of personal experience, the term *čet* is preferable and is an effort by Google to meet the needs and requirements of users.

When looking at the preferences of extralinguistic borrowings by users, it is particularly interesting to compare preferences for the terms "upgrade" and "downgrade."

Graph 13 – ***The percentage of the terms upgrade (Apple), prechod (Google), and inovácia (Microsoft) in respondents'*** **answers**



Graph 14 – ***The percentage of the terms vrátiť sa k staršej verzii (Apple), prejsť na staršiu verziu (Google), and downgradovať (Microsoft) in respondents'*** **answers**



An interesting paradox is apparent at first glance from Graphs 13 and 14. Users have not been consistent in their choice of answers, as they have ruled out a preference for borrowed terms and linguistic borrowings. They consider the term *downgradovať* (like other linguistic borrowings adapted at the morphological level) as unacceptable. Paradoxically, they consider *upgrade* to be preferable compared to the other two Slovak equivalents (*prechod* and *inovácia*). Using the example of "upgrade" and "downgrade," one can also observe an inconsistency and non-systemicity within the terminologies of Apple and Microsoft. The exception is Google, which prefers localized, appropriately motivated, systemic, and oppositional terms in the database, which are also deemed appropriate by a reasonable number of respondents. The requirements of systemicity

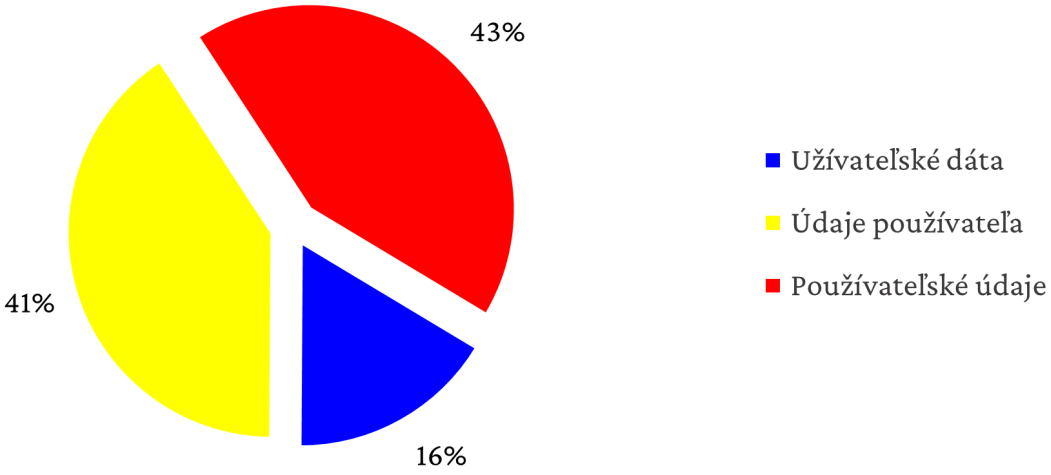
and consistency are more important than users' preferences, and so Google's terms are the most appropriate.

The above shows there has been a more or less unequivocal rejection of extralinguistic preferences by users regardless of whether they were adapted completely, partially, or not at all. This means that many concepts cannot yet be considered to be well enough known for their localization not to be seen as necessary; however, if there is a situation where it is not possible to find a suitable equivalent, an interesting solution is the gradual adaptation of the linguistic borrowing and finally its full acquisition into Slovak.

6.5 "User data," "slider," and "scroll"

The survey also focused on grammatically incorrect or meaningfully incorrect terminological units and examined the preference of users based on the fact that these units are part of some terminology databases.

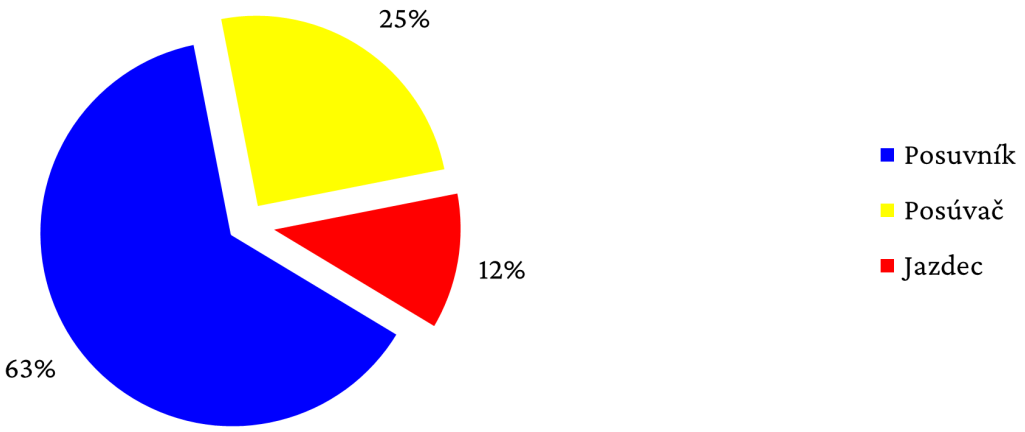
Graph 15 – ***The percentage of the terms užívateľské dáta (Apple), údaje používateľa (Google), and používateľské údaje (Microsoft) in respondents'*** **answers**



Graph 15 shows users' preferences for the variants *užívateľské dáta* (Google), *údaje používateľa* (Google), and *používateľské údaje* (Microsoft), which are translations of the term "user data"; there was a particular interest herein in the preference of the grammatically incorrect variant *užívateľské dáta*. In addition to the fact that the used equivalent of "data" in the Slovak locality is the term *údaje* (the Slovak term *dáta* is associated exclusively with the data transfer of mobile operators), according to the Short Dictionary of Slovak (KSSJ) (2003), *užívateľ* (user) is someone "who has something in use: a user of the apartment". This means the translator must follow the database and take care of semantic correctness, especially if there is no database available. Here the users'

preferred term *používateľské údaje* seems to be the most appropriate of the equivalents given its systemicity and correctness.

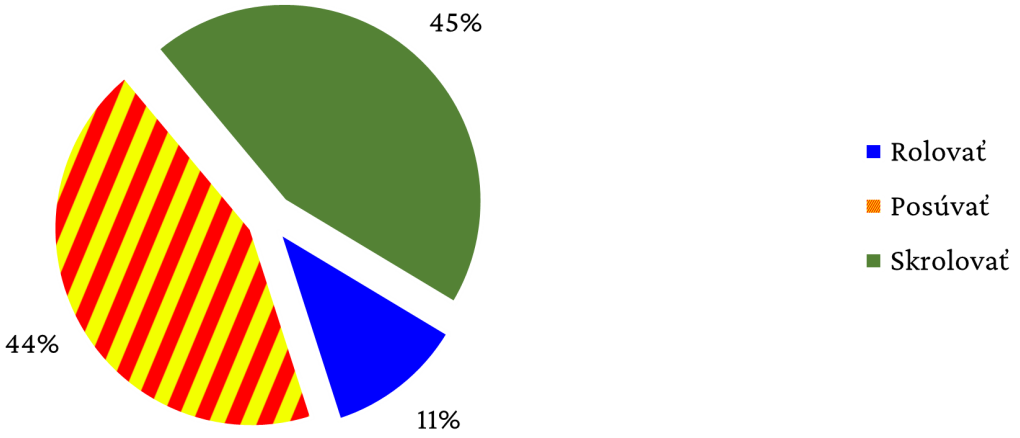
Graph 16 – *The percentage of the terms posuvník (Apple), posúvač (Google), and jazdec (Microsoft) in respondents'* answers



The data processed in Graph 16 indicate the preference of the grammatically incorrect and slang term *posuvník* (with the typically Czech suffix *-ík*), which is part of Apple's terminology. Although the equivalents of Google and Microsoft are grammatically correct and equally short, users have clearly leaned towards *posuvník*. In the case of this term, there was an attempt to exclude unfamiliarity with the concept of the term "slider" with the inclusion of a picture in the survey. The preference of *posuvník* can be explained by the lack of motivation of the remaining two terms. The term *posúvač* is defined in the KSSJ (2003) as a "tech. device or its component used for sliding," and the motivation of the term *jazdec* is not completely clear in meaning. The definition of this term in Microsoft's terminology states that a "slider" is used to refer to a bar designed to scroll a page as well as to a control function for adjusting brightness, zooming, and so on. That is why the need for a better motivated and grammatically correct term becomes apparent. The term *posuvník* can therefore be considered suitable for denoting this concept in Slovakia; this has been confirmed by the Jazyková poradňa JÚĽŠ language counseling center (2017), which stated that the term *posuvník* corresponds to the rules of Slovak grammar.

When examining the potential preference for grammatically incorrect terms, the assumption that there is a certain tendency to adopt and use incorrect terms was verified. Among the Slovak equivalents of the term "scroll," one grammatically incorrect term which is significantly preferred among users in both spoken and written communication was included in the survey.

Graph 17 – *The percentage of the terms rolovať (Apple), posúvať (Google and Microsoft), and skrolovať in respondents'* answers



Graph 17 shows the percentage of user preferences in the equivalents *rolovať (*Apple), *posúvať* (Google and Microsoft), and *skrolovať*. *Posúvať* and *skrolovať* have almost the same percentages of responses. Users most likely made decisions based on their own experience and the frequency of the use of the term in their area. This would explain the preference for the grammatically incorrect *skrolovať*. Maybe this term was formed from the original expression even before the localization of this term into Slovak. This means that users have adopted it as being appropriate due to their need to communicate.

Considering the above examples, it can be said that the terminological culture in the localization terminology databases of software companies is diverse as they often include grammatically (or otherwise) incorrect terms. Translators in the localization process should approach the choice of equivalent terms critically and verify the existence of all equivalents and synonyms.

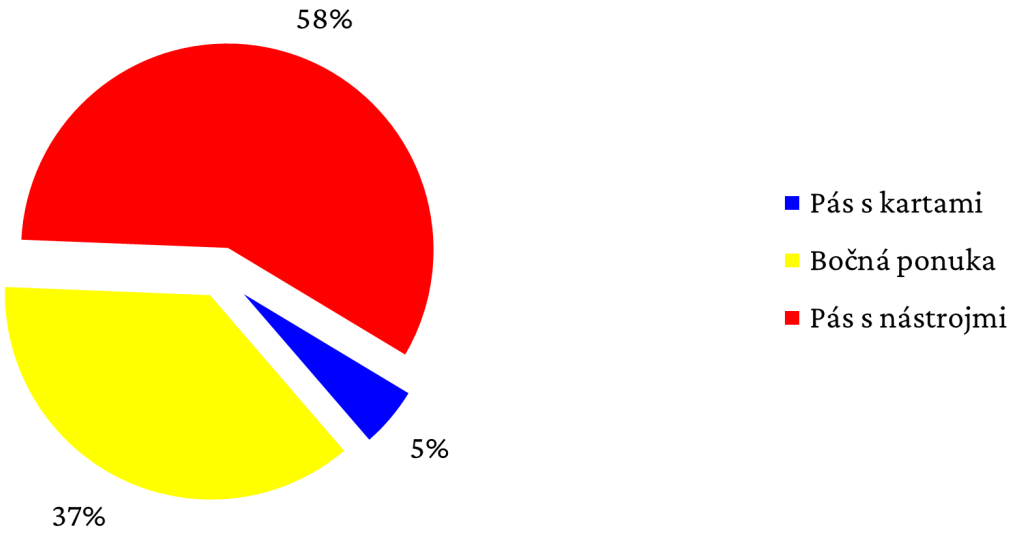
6.6 "Ribbon," "label," and "pop-up"

The localization of software of a particular company and its progress are often influenced by the quality of that company's terminology database. If the translator does not have a database available, this poses a considerable problem because known equivalents suitable for naming a particular concept are often very different from each other. Information about the preferred term from the user's point of view could help the translator.

Graph 18 shows the preference for the equivalents of the term "ribbon." The Slovak equivalents of the three companies are significantly heterogeneous. From the feedback in the survey, it was found that users do not perceive these terms as variants but as

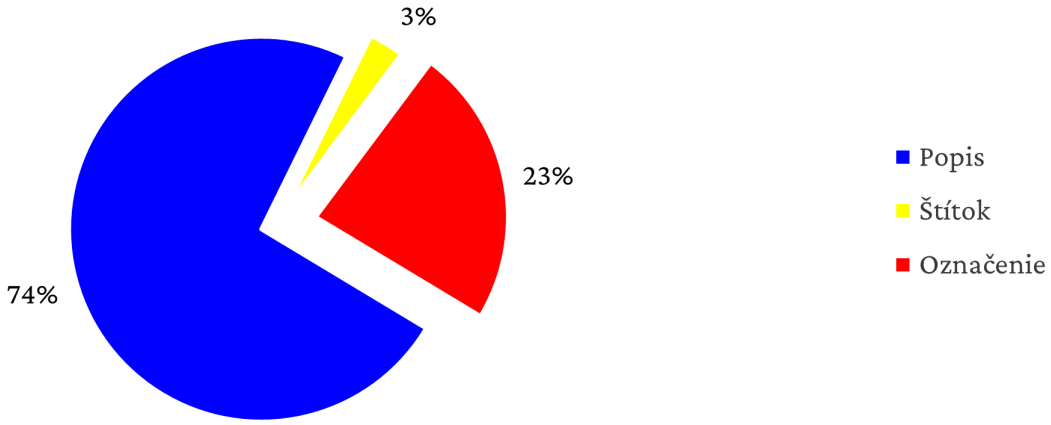
terms naming different ideas. The terms *pás s nástrojmi* and *bočná ponuka* could be particularly confusing for users using multiple software programs since the terms *karta* ("tab") and *ponuka* ("menu") name different concepts in these terminologies. The question was therefore supplemented with a picture. From personal experience with localization, it is known that there is an increasing tendency to use the variant *pás s nástrojmi* due to adequate motivation and user preference.

Graph 18 – ***The percentage of the terms pás s kartami (Apple), bočná ponuka (Google), and pás s nástrojmi (Microsoft) in respondents' answers***



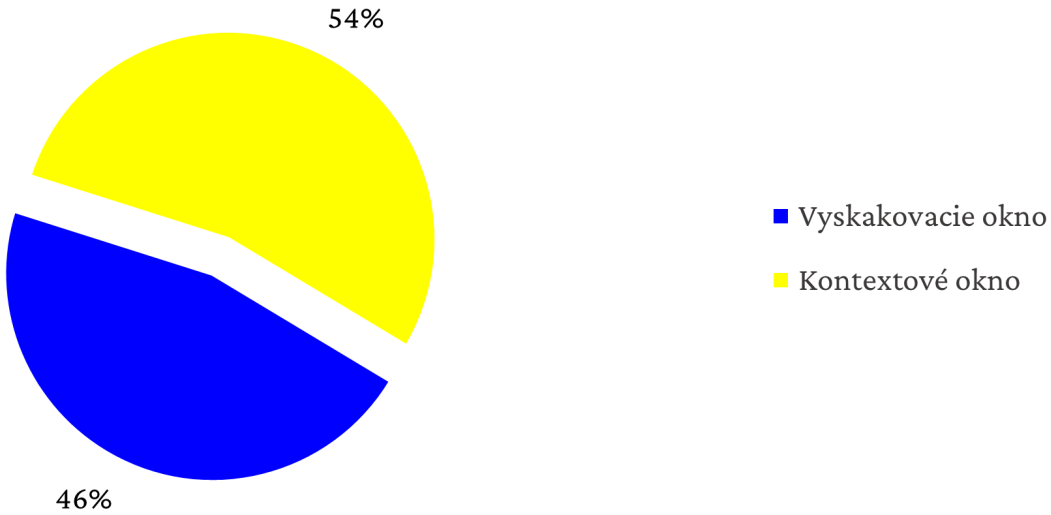
Graph 19 shows another trio of variant terms and an unambiguous preference for the term *popis* (Apple). At the same time, these terms can be seen as synonyms and as terms naming different concepts. In Microsoft's terminology, the term *popis* (description) represents the Slovak equivalent of "caption," and *štítok* (label) is the Slovak equivalent of "badge." Such a high level of inconsistency across the terminology of companies is inappropriate as the translator could simply confuse the terms in the assumption that they are synonymous. Again, the user preference factor appears to be an appropriate guideline for the translator.

Graph 19 – ***The percentage of the terms popis (Apple), štítok (Google), and označenie (Microsoft) in respondents'*** **answers**



Unlike the previous two graphs, where the preference for one of the offered equivalents strongly dominated, Graph 20 shows a more or less equal preference for the terms *vyskakovacie okno* (Apple) and *kontextové okno* (Google), which are both translations of "pop-up window." Both terms could denote distinct and separate ideas. Given the more explicit motivation of *vyskakovacie okno* compared to its equivalent, and due to its ability to capture the essence of this software element (a certain level of metaphoricity arising from the original "pop-up"), this term seems to be more appropriate.

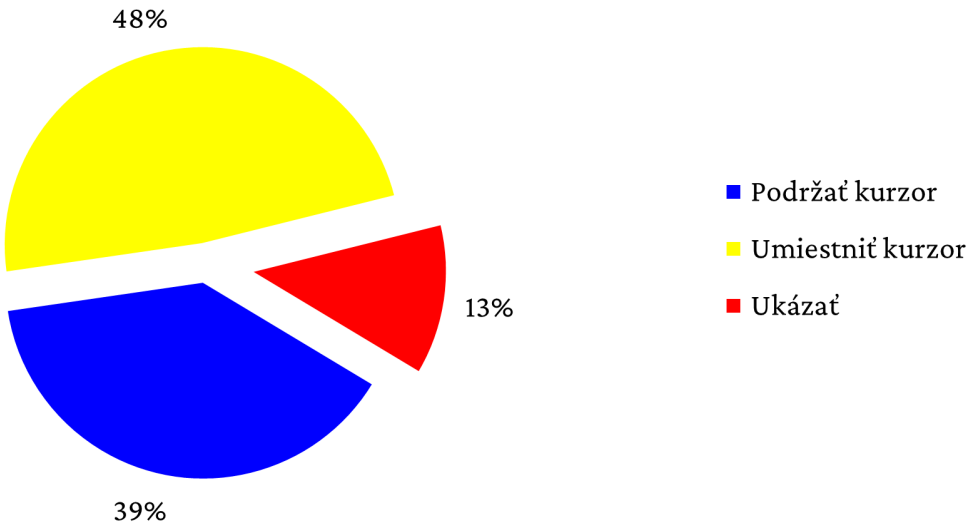
Graph 20 – ***The percentage of the terms vyskakovacie okno (Apple and Google) and kontextové okno (Microsoft) in respondents'*** **answers**



6.7 "Hover" and "preview"

The examples of the following terms illustrate another problem contributing to the variability of terminology, namely the existence of relatively identical terms naming the same concept which have no significant impact on the (mis)understanding of the idea.

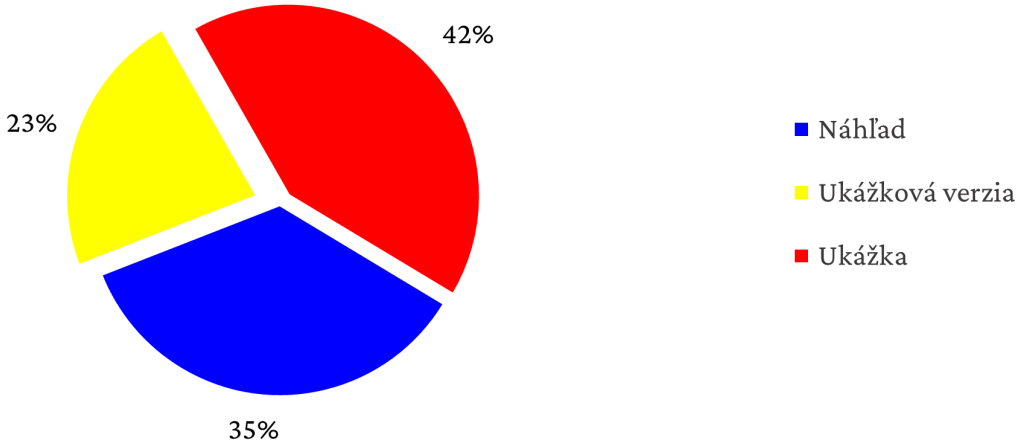
Graph 21 – ***The percentage of the terms podržať kurzor (Apple), umiestniť kurzor (Google), and ukázať (Microsoft) in respondents'*** **answers**



Graph 21 shows the preference of users with respect to the equivalents of the term "hover" which differ primarily in the verb carrying the action. *Podržať* (to hold) evokes a longer period, *umiestniť* (to place) carries the indication of place, referring to direction and movement, and *ukázať* could be interpreted as pointing out or referring to something. All terms are grammatically correct and suitable as terminological units. Their distinctiveness does not affect the reader's understanding. Given the precise nature of the term and the preference of users, the two-word term *umiestniť kurzor* is suitable for use. The existence of the remaining terms is considered redundant since they only contribute to the variability of the use of terminology.

Similarly, there is a unsubstantiated variability in the trio of terms shown in Graph 22. The Slovak equivalents of "preview," i.e., *náhľad, ukážková verzia*, and *ukážka*, have a similar motivation. *Ukážková verzia* has a more precise character but is longer, which affects the possibilities of its declension. *Náhľad* and *ukážka* are synonyms, so their preference by users may be based to a degree on the type of software they use. Given that Microsoft terminology is more common and older, *ukážka* appears to be the best choice of term.

Graph 22 – The percentage of the terms náhľad (Apple), ukážková verzia (Google), and ukážka (Microsoft) in respondents' answers



Both of the above examples of terminological variability indicate the existence of redundant terms that do not affect the understanding of the concept, nor do they serve as a substitute for a non-functional term, so their origin and existence seems unjustified. In addition, they adversely affect the consistency of terminologies and translations.

7 A summary of research results

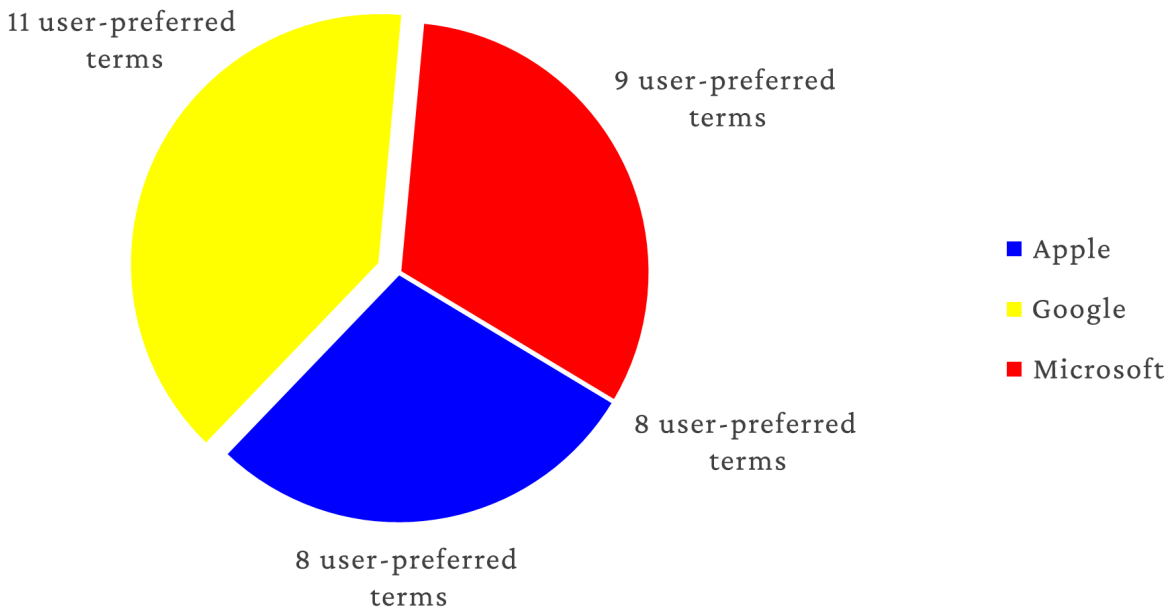
The aim of this research was to find existing variant terms in the terminology databases of companies, identify preferential terms from the point of view of users by means of a survey, highlight different forms of terminological variability, and identify possible causes of occurrence of variable terms with regard to the existence of the phenomenon of corporate language. The choice of variant terms was preceded by extensive research across the terminologies used by Google, Apple, and Microsoft; based on this, variant terms were determined. By searching for definitions in the company databases, and by verifying the placement of terms in context, it was determined that they refer to approximately the same ideas. Based on this, a survey was made which aimed to track the software elements users' preferences of the terms. The survey sought to obtain a picture of variability and highlight the need to unify terminology, as is the case, for example, with medical nomenclature, where one cannot speak of variations of terms.

The limitations of the research can be seen in several aspects. First, the databases of companies whose terms were analyzed were not freely available or appropriately processed for this research (with the exception of Microsoft), which is an example of a lack of terminology management by companies. This is the reason why it was time consuming to process a survey based on the assumption of the existence of variant terms

naming an identical denotate. In addition, due to the COVID-19 pandemic, it was difficult to distribute the survey by other than electronic means, which affected the resulting sample of respondents and thus the prevailing age category of nineteen to twenty-five years. This ultimately made it impossible to generalize the research results as such. Nonetheless, since the respondents are software and language users of working age, there was a true picture of the vocabulary of the current generation of young people who have worked with technologies since childhood or at least used them at primary school.

Besides working with terminology databases, we also discussed the possibility that the translator would have no source of terminology available and that their task would be to create the terminology or choose appropriate equivalents for naming ideas in software. The data processed in Graph 23 illustrate the overall preference for the terminology used by each company which came from the survey and the terms that were identified by users as preferred ones. Google's terms appeared most often among them, which to some extent is because the first ten questions compared two terms, one of which was always part of Google's terminology.

Graph 23 – The preference for each terminology according to the number of user-preferred terms



The terminology used by Google seems to form a bridge between Microsoft as the oldest Slovak software terminology and Apple, whose terminology showed the highest tendency to use unlocalized terms or linguistic borrowings from English. These two terminologies differ considerably from each other, and there is no significant preference for

one or another terminology from the results of the research; if anything, there is a mutual variability, which is also largely based on Apple's promotion of its corporate identity. It seeks to reach users through more informal language, using non-linguistic borrowings with the potential to gain favor with users at a younger age. Microsoft's terminology, on the other hand, could be described as formal or descriptive. At the intersection of these two distinct terminologies, we could place Google as the "golden mean" of software terminology, which could also guide a translator when localizing software. In its favor is also the fact that, in the case of an ambiguous preference for a term by users, personal experience has largely leaned towards Google's terms. Only the Google terminology maintained the internal consistency of the terminology database in the case of equivalents of "upgrade" and "downgrade," which may also indicate its proper compilation and good management.

Interesting observations on terminological variability emerged from the research carried out. When observing variants of individual terms, there was a focus on whether these terminological units met the basic requirements of a suitably formed term, such as correct grammar, systemicity, and motivation. The research revealed also found grammatically incorrect and non-systemic terms in the terminology databases, and several of them were not sufficiently motivated. At the same time, even the users themselves were most likely subconsciously guided by these features when choosing preferred terms. The survey respondents generally preferred grammatically correct terms and perceived motivation as a decisive factor and a prerequisite for understanding the meaning of the terminological unit without knowing the definition of the idea.

Another aspect is the influence of corporate language on the form of companies' software terminology and the presence of non-linguistic borrowings or their preference by users. As for non-linguistic borrowings, users are almost unequivocally inclined to use localized professional units and refuse to use language lending at any level of adaptation; however, adaptation is a way of naturally expanding terminology and enriching it with new equivalents, as the development of software as such is too dynamic. This would be one option of how to naturally cultivate terminological culture while maintaining the systemic terms; however, terminology management is to some extent distorted by the use of corporate language and terms that have been coined in order to differentiate the company from its competitors, i.e., not because of a real need to replace a non-functional, incorrect, or otherwise inappropriate term. This creation of terms or use of synonyms of already existing functional terms is impractical and has a negative impact on the emergence of terminological variability. The translator should, where

possible, consider the superiority of the requirements of systematicity and consistency of terminology.

Based on the obtained results, we can therefore conclude that the existence of variability is not unique in software terminology; there is even an inconsistency of terms within the same terminology database. This is undesirable, especially when it comes to unjustifiably created variants of terms, which then affects the adequate understanding of specific meanings. If the creation of a new variant is necessary (e.g., due to the poor motivation of other variants or the emergence of a new concept), this is most often done through a linguistic borrowing, which can be adapted into Slovak on several levels over time, but this process can be lengthy and result in the inconsistent use of these two terms. In addition, there is a certain influence of users who usually do not wait for the release of a localized version of the software and work with its English version. This may result in the emergence of grammatically incorrect or slang terms, which, however, become so established in the language that users use the term as if it was correct.

The aforementioned aspects affect the daily work of translators in the localization process; they face the difficult task of using grammatically correct and appropriate terms set in an adequate context, avoiding their inconsistent use and using only a single variant of the term. One solution is the creation of a universal localization terminology database that would provide the translator with all the necessary information to meet the requirements of the localization process.

Conclusion

This article dealt with theoretical aspects of the occurrence of terminological variability in localization processes and used a selected sample of variable terms from Google, Apple, and Microsoft. Theoretical information about GILT processes were presented and compared with respect to the theoretical work and research of Esselink (2000). In the context of terminological culture, literacy, and knowledge (Stoffa, 2008), the article addressed the impact of socioterminological factors on terminology as such. In addition, it analyzed the terminology management process using the example of Microsoft, which was described by Corbolante (2009), and it looked at the existence and definition of the terminological competence of a translator. In the theoretical part, the article described the specifics of terminological inconsistency and variability, especially the impact of corporate language on localization and on the variability of terminology,

alluding also to the need for a comprehensive localization terminology database, which is highlighted by Gromová (2011) and Kabát (2021b).

In the empirical part of the article, respondents' answers were analyzed regarding variable terms and their preferences. The results showed a high incidence of variable terms across the terminologies used by Apple, Google, and Microsoft, and there are multiple sources of terminological variability and causes of variable terms. As already mentioned, the inconsistent use of software terminology in localization processes is directly connected to the existence of undesirable variable terms, inadequate management of individual databases, the absence of a unified and comprehensive localization database, and the rapid development of the IT field and the constant need for new term equivalents.

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Pavlíková, Diana. 2022. Comparing Human Translation and Machine Translation Post-Editing. In: L10N Journal. 1(1), pp. 65–100.

Comparing Human Translation and Machine Translation Post-Editing

Diana Pavlíková

Comenius University in Bratislava

dianapavlikova@protonmail.com

Translation: Alex Barák

Abstract

As machine translation becomes a part of the translation market around the world, post-editing appears to be an increasingly used alternative to human translation. The aim of this article is to compare human translation with the post-editing of machine translation through an experiment on students at master's level in the specialization of Translating and Interpreting in a language combination with English at Comenius University and to discover which process provides better and more time-efficient translations. The results acquired through a quality assessment of the submitted translations were analyzed based on a temporal aspect of effort and quality. The findings of the analyses are interpreted and the results are explained to reveal the strengths and weaknesses of human translation and the post-editing of machine translation.

Keywords: machine translations, post-editing of machine translations, human translations, post-editing, LQA

Introduction

Machine translation has become a part of the translation market worldwide. Combined with post-editing, machine translation can be an alternative to human translation in certain language combinations and particularly in branches of specialized translation (Tatsumi 2009; Plitt & Masselot 2010; Green et al. 2013). This article will compare human translation with machine translation post-editing and find out which of the two processes is better in terms of the speed of work and the quality of the final translation.

It will summarize the basic theoretical foundations of machine translation and machine translation post-editing before introducing Memsource Translate, Memsource's feature[1] for managing machine translation tools, and translation quality assessment. The main part of the article will focus on an experiment conducted with students from Comenius University enrolled in the master's degree program in Philology with a focus on translation and interpreting in English in combination with another language and on a qualitative and temporal analysis of the results.

1 Machine translation

Nowadays, we can no longer imagine a translator who does not work on a computer. Technologies such as CAT tools, terminology databases, and memories facilitate the translation process; indeed, machine translation, "the mechanical and automatic process of translating a text from one natural language to another" (Munková 2013, 16), is being increasingly mentioned. The main objective of the complete computer automation of the translation process is to speed up translators' work and meet the growing demand in the translation market (Hutchins & Somers 1992). Over the last ten years, the demand for translation services has grown so significantly that it exceeds the supply of translation service providers (Hudecová et al. 2021). Machine translation is generally considered fast, cheap (Google Translate is even free for ordinary users), and accessible; in addition to online translators such as Google Translate, machine translation can also be found in unpaid versions of some CAT tools.

Despite these advantages, machine translation is not perfect and cannot always be relied upon. The present author compared human translation and Google Translate's neural machine translation in four areas of expertise; although positive results were recorded, there was also an error rate (10.5% on average), especially when translating polysemous terms (Pavlíková 2021). The conclusion was that in order to achieve high quality translation using machine translation, post-editing is a necessary process (Pavlíková 2021).

[1] Memsource is currently called Phrase, and the Memsource Translate tool is called Phrase Translate. Since the renaming occurred only shortly before the article was published, the old names are still used.

Pavlíková, Diana. 2022. Comparing Human Translation and Machine Translation Post-Editing. In: L10N Journal. 1(1), pp. 65–100.

1.1 Neural machine translation

Neural machine translation has the most potential in the translation market, as it is a technology that, compared to older types of machine translation, has the "ability to learn directly, in an end-to-end fashion, the mapping from input text to associated output text" (Wu et al. 2016, 1). Gene (2019) presented several reasons why neural machine translation is more efficient compared to other types of machine translation. A neural machine translation system:

- is able to learn about the complex relationships between the two languages it works with
- consider whole sentences, understanding the relationships between words despite the greater distance within the sentence unit
- assess fluency at the level of the whole sentence

Despite its efficiency, neural machine translation has some shortcomings, such as the incompleteness of translations for longer texts, the slow training of the system on a large corpus, and problems when translating less frequent words (Wu et al. 2016).

1.1.1 Neural machine translation and machine translation post-editing

Machine translation is often combined with machine translation post-editing. Indeed, "MT output today still needs to be post-edited by humans in order to produce publishing quality translation" (Tatsumi 2010, 3). Machine translation post-editing has been used with neural machine translation, and recent studies have demonstrated productivity gains for post-editors using neural machine translation post-editing compared to those just using translation memory (Sánchez-Gijón, Moorkens, & Way 2019; Läubli et al. 2019).

Nonetheless, the post-editing of neural machine translation can create problems. As the output of neural machine translation becomes more fluent and natural, the post-editor needs to be more careful in properly identifying and correcting errors. In addition, the neural machine translation system works within the context of a single sentence. When working on a longer text, post-editors must look for and edit for consistency across the entire work (Gene 2019). Despite these problems, the combination of post-editing with neural machine translation seems to be advantageous since neural machine translation has significant advantages over older types of machine translation. Post-editing will help to raise the output text to a publishable level comparable to human translation.

2 Machine translation tools

Translators encounter machine translation when using CAT tools. In addition to the built-in translators in CAT tools, there are also freely available translators for ordinary language users. The experiment discussed here used two machine translation tools: Memsource Translate (Memsource's tool that helps the user to select the most suitable translator for a particular project) and Google Translate as a neural machine translation tool set for the language combination of English and Slovak.

2.1 Memsource Translate

Memsource Translate is used to manage machine translation tools. Memsource runs an online cloud-based CAT tool, which is one of the top three most used translation systems, mainly due to its accessibility via a web browser and its simple user interface (Dengová 2020). The goal of Memsource Translate is to make it easier for users to choose from the large number of machine translation tools available on the market. Memsource Translate selects from three online translators: Amazon Translate, Microsoft Translator, and Google Translate. The Memsource Translate algorithm selects the most suitable of these three tools primarily based on the language pair; thanks to updates in 2020, it can also distinguish between several specialized fields based on keywords and thus select the appropriate translator according to whether the text is a legal, technical, or medical one (Frívaldský 2020; Pavlíková 2021).

For projects with English as the source language and Slovak as the target language with texts from multiple fields, Memsource Translate primarily chooses Google Translate, which works on the basis of neural machine translation, meaning that it primarily evaluates it as the most suitable for this language combination.

3 Machine translation post-editing

Machine translation post-editing is one process used to edit the output of a machine translation. In Slovak, Absolon (2018) identifies three terms associated with this process: *posteditácia* (post-editing) represents the final product, *posteditovanie* (post-editing) is the actual process of using machine translation to produce a suitable translation in the target language, and *posteditácia strojového prekladu* (machine translation post-editing) is a unifying term for the product and the process of post-editing. This terminology is often not used, as the term "machine translation post-editing" is lengthy. "Post-editing" will therefore be used in the sense of "machine translation post-editing"

in the rest of this article. Machine translation post-editing has several possible terms as well as definitions. Generally speaking, machine translation post-editing is the inspection of a pre-translated text by a machine translator, after which the post-editor corrects possible errors in order to meet specified quality criteria with the fewest possible edits (Mesa-Lao 2013). The establishment of adequate quality criteria and the adherence to principles (such as the aforementioned insistence on as few edits as possible) mentioned in the definition are crucial in post-editing but are still inconsistent in the translation world (Hu & Cadwell 2016).

3.1 The advantages and disadvantages of machine translation post-editing

Machine translation post-editing appeared on the translation market as a faster, cheaper, and more efficient substitute for human translation. The effectiveness of post-editing versus translation has been confirmed in several studies. According to Robert (2013), post-editing can increase the average number of words translated per day from 2,000 to 3,500 words. Guerberof Arenas (2010) even reports an increase up to 5,000 words; however, she adds that the increase in word count can vary depending on the type of text and the experience of the post-editor. Faster post-editing is also in demand due to the growth of the localization industry and globalization, and many businesses are now moving towards a multilingual expansion. Thanks to this, localization service agencies are experiencing a 30% to 50% annual increase in the number of orders (Allen 2003). This growing demand for post-editing was confirmed by the Common Sense Advisory research agency in 2016, when it predicted that demand for post-editing services would grow faster than any other segment of the language industry. Through previous research, they found that language service providers who used machine translation between 2013 and 2015 grew almost 3.5 times faster (Common Sense Advisory 2016). Last but not least, the growth of post-editing is helped by the change in requirements for the target text from clients. Nowadays, translation quality requirements have relaxed and many companies commission translations for internal purposes; these are not published anywhere and do not require high quality human translation (Bubnic 2022).

Despite the advantages and popularity of machine translation post-editing, it is still a new process in the translation industry, and it has its shortcomings. According to Gene (2019), there are several challenges that are yet to be resolved in machine translation post-editing:

- the absence of general principles and rules for post-editing
- the inconsistent competences and requirements for the post-editor
- payment for post-editors

In addition, Doherty and Gaspari (2013) mention the lack of teaching and training materials for post-editors as another drawback. As machine translation post-editing is rarely taught as a separate discipline, there is a lack of teaching materials and general principles for post-editing that could better establish uniform competences and requirements for post-editors and address the issue of how much to pay them.

3.2 Types of post-editing

Post-editing is generally faster than human translation; however, there are several types of post-editing that can be influenced by factors other than speed, such as the number of edits or price. Two basic types of post-editing are usually mentioned. Allen (2003), however, introduced three types:

1. **Light post-editing** (also known as Light/Rapid/Fast MTPE) is used for texts written for internal purposes. The main task of the post-editor is to make as few edits as possible and preserve the meaning of the text without having to notice stylistic imperfections.
2. **Full post-editing** (also known as Full/Conventional MTPE) is used when translating texts that will be published. It requires a target text of high quality comparable to human translation. Several changes are therefore expected, and, in addition to preserving the meaning of the text, it is important to achieve correct syntax, grammar, and punctuation.
3. **Minimal post-editing** is like light post-editing, where the post-editor tries to make as few edits as possible, but it works with texts that are also used for external communication.

The experiment in this article worked with full machine translation post-editing. The respondent sample tried to produce an output translation of comparable quality to a human translation.

3.3 The post-editing process

Doherty and Gaspari (2013) state that post-editing, specifically full machine translation post-editing, works with three texts:

1. A source text
2. A raw machine translation output
3. A post-edited machine translation output/target text

As this involves working with three texts, the overall post-editing process involves up to five steps according to the TAUS (2010) model:

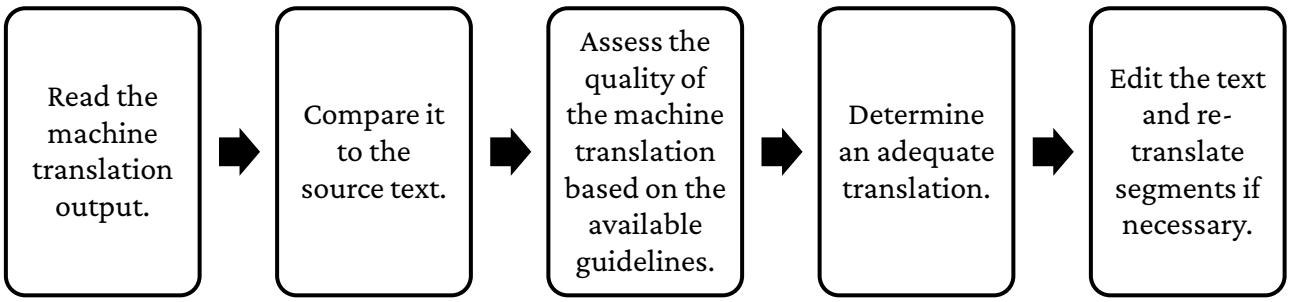

Figure 1 – ***A model of the post-editing process***

According to this model, a post-editor must complete four steps before editing the text itself. The whole process takes place at the level of segments. Post-editors usually work with CAT tools, which segment the text based on predefined rules. Although segmentation helps to keep the text clear, the post-editor must be careful to perceive the text as a whole and adjust for any inconsistencies at the segment level and throughout the text.

According to Krings (2001), a post-editor performs several types of tasks, such as those related to the source text (reading the source text and noticing its elements), machine translation, working with sources, and typing on a computer. Most of the tasks are related to the production of the target text, where the post-editor works with the available post-editing guidelines in order to produce an adequate target text. Gene (2019, 10) summarized the most common changes a post-editor makes to the output of machine translation: "correcting punctuation, adding capital initial letters, changing word order, adjusting grammatical gender and number correspondences, formatting changes, adding omitted words or removing redundant words, and re-translating words or phrases unsuitable for the target text."

3.4 The post-editor

Machine translation post-editing has created new jobs on the translation market within the group of language service providers. Mesa-Lao (2013) reports that several translation agencies still use freelance translators for post-editing; however, not every translator can handle the job of a post-editor. This is because experienced translators find it more difficult to get used to producing a target text with a lower level of quality compared to translation (Allen 2003). The post-editing and translation processes are different from each other since in translation one works with only two texts instead of three; post-editors need different competences and put a different level of effort into their work. This is because post-editors need to have knowledge about machine translation and be able to identify the errors that machine translation makes. Compared to translators, they also need to be more decisive and more easily overcome uncertainty in order to be able to produce the target text more quickly and according to the client's requirements and expectations (Torrejón & Rico 2012).

3.5 Post-editing guidelines

Post-editing guidelines help post-editors meet clients' expectations and create a target text of adequate quality. There is an inconsistency in these guidelines on the market, as each agency and organization tends to create their own guidelines for internal use (Hu & Cadwell 2016). As part of the experiment discussed in this article, the freely available full machine translation post-editing guidelines of the TAUS organization were used.

TAUS Machine Translation Post-editing Guidelines (2016)[2]

- Aim for grammatically, syntactically, and semantically correct translation.
- Ensure that key terminology is correctly translated and that untranslated terms belong to the client's list of "Do Not Translate" terms.
- Ensure that no information has been accidentally added or omitted.
- Edit any offensive, inappropriate, or culturally unacceptable content.
- Use as much of the raw MT output as possible.
- Basic rules regarding spelling, punctuation and hyphenation apply.
- Ensure that formatting is correct.

[2] The post-editing guidelines from TAUS were translated into Slovak by the author of the paper. The original TAUS Machine Translation Post-editing Guidelines are available at: https://www.taus.net/academy/best-practices/postedit-best-practices/machine-translation-post-editing-guidelines.

These guidelines include several categories that the post-editor must know about. In addition to creating a grammatically, syntactically, and semantically adequate text, they include the choice of appropriate terminology, the use of proper punctuation, and correct formatting.

3.6 Teaching and the current use of machine translation post-editing in Slovakia

Machine translation post-editing is becoming increasingly popular in the world of translation. O'Brien (2002) states that studying machine translation post-editing allows students to learn how to work with machine translations and acquire post-editing skills and competences. In addition, teaching machine translation post-editing helps meet the growing demand for translation services by presenting a quicker alternative and helping standardize post-editing guidelines.

Universities are beginning to offer post-editing instruction in courses devoted to computer-assisted translation, machine translation, and localization (e.g., Kabát 2022). In Slovakia, however, only the University of Constantine the Philosopher in Nitra specifically mentions post-editing on its web pages. As for the use of machine translation post-editing, and despite the high demand for machine translation globally, in Slovakia "machine translation post-editing as a product still represents only a small percentage of the market" (Absolon 2018, 95).

Absolon (2018) foresees an increase in demand for post-editing in the domestic market, but he expects that this practice will not be openly presented as machine translation is still perceived negatively by many clients. This assumption is being seen in the services offered by translation agencies. Only a small percentage of them explicitly mention post-editing in their machine translation services, using instead terms such as "revision," which clients are more familiar with.

4 Translation quality assessment

Translation quality assessment (also known as linguistic quality assessment) is "the process of evaluating the overall quality of a completed translation by using a model with pre-determined values which can be assigned to a number of parameters used for scoring purposes" (Korkas n.d.). This quality assessment system is being increasingly used by translation agencies and large companies to assess the quality of translations and machine translation post-editing. This assessment is done by revisers or

proofreaders using a template (usually in an Excel document) where they enter translation errors, possible corrections, and comments (Kabát 2022). The main goal of translation quality assessment is to "identify quality gaps and propose solutions for translators to ensure that the translation meets the qualitative needs and expectations of the client" (Finnegan 2018).

4.1 The TAUS quality assessment template

The TAUS quality assessment template is used to evaluate human or machine translation and machine translation post-editing of any type of input text. This template helps the user to count, identify, and categorize errors in the translation; rate the quality of the translation with a grade; suggest possible solutions in the comments; and improve the overall quality of the translation (TAUS n.d.). It includes an introductory sheet that includes basic project information, instructions on how to use the template, a description of the error typology and error severity levels, and a space for listing errors in each segment. In this space, the reviser or proofreader lists the source segment and its translation, suggests a corrected segment, and categorizes the type of error and the severity level. If necessary, it is possible to leave a comment for the translator. Different error severities have different scores, which add up to penalty points. After completing the template, the proofreader sees the final score, which can be used to evaluate whether the translation was adequate (according to the number of errors and the resulting percentage of correctness) or whether it had numerous failings.

The typology of errors in the TAUS template contains eight categories in which thirty-three types of errors are included; they cover morphological, lexical, stylistic, syntactic, terminological, formatting, localization, and cultural issues.

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Table 1: ***Categories and the typology of errors in the TAUS quality assessment template*** [3]

Category	**Typology of errors**
Accuracy	Addition Omission Mistranslation Over-translation Under-translation Untranslated text Improper exact TM match
Fluency	Punctuation Spelling Grammar Grammatical register Inconsistency Link/cross-reference Character encoding
Terminology	Inconsistent with termbase Inconsistent use of terminology
Style	Awkward Company style Inconsistent style Third-party style Unidiomatic
Design	Length Local formatting Markup Missing text Truncation/text expansion
Locale convention	Address format Date format Currency format Measurement format Shortcut key Telephone format
Verity	Culturally specific references
Other	Other

The severity of quality assessment interventions is indicated by five levels:

[3] The typology of errors was translated into Slovak by the author of the paper.

1. **Critical:** errors that may carry health, safety, legal, or financial implications; violate geopolitical usage guidelines; damage the company's reputation; cause the application to crash or negatively modify/misrepresent the functionality of a product or service; or that could be seen as offensive
2. **Major:** errors that may confuse or mislead the user or hinder proper use of the product/service due to a significant change in meaning or because errors appear in a visible or important part of the content
3. **Minor:** errors that do not cause a loss of meaning and would not confuse or mislead the user, but which would be noticed; would decrease stylistic quality, fluency, or clarity; or would make the content less appealing
4. **Neutral:** used to log additional information, problems, or changes to be made that do not count as errors (a reviewer's choice or preferred style, repeated errors or instructions/glossary changes not yet implemented, or a change to be made that the translator is not aware of)
5. **Kudos:** used to praise an exceptional achievement

The TAUS template is one example of what a quality assessment template looks like. Some translation agencies customize their templates based on the types of texts they translate most often or on the type of provided language service (e.g., translation, machine translation post-editing, or localization).

5 A comparison of human translation and machine translation post-editing

To compare human translation and machine translation post-editing, there was an experiment where twenty translation and interpreting students were divided into two groups. One group translated the text and the other post-edited it, and both groups were familiarized in advance with the machine translation post-editing process.

5.1 Methodology

Twenty students from the first and second years of the master's program in Philology with a specialization in translation and interpreting in a language combination with English took part in the experiment. They already had experience with translation, so the focus was on machine translation post-editing when preparing students for the experiment.

The experiment took place in the Localization of Game and Non-game Software course at the Department of British and American Studies, Faculty of Arts, Comenius University in Bratislava, under the supervision of the present author via MS Teams. (This was due to the pandemic situation during the summer semester of the 2020/2021 academic year.) Students had studied the translation and post-editing guidelines that had been provided in advance to become more familiar with the translation and post-editing requirements. In addition, they were given general instructions describing the procedure of the experiment.

On the day of the experiment, the twenty students were divided into two groups of ten students based on alphabetical order by last name. The first group translated the text and followed the translation instructions. The second group post-edited the text and followed the post-editing instructions. For the machine translation post-editing, students performed full post-editing and followed the 2016 post-editing guidelines from TAUS.

Both groups were provided with files via the school's Moodle platform, which they uploaded to Memsource after starting the experiment. The first group received a .docx file for translation and the second group received an .xliff file for post-editing, which contained the raw machine translation extracted from Memsource using the selected Google Translate tool. In addition to the translation and post-editing files, the students were provided with terminology in .tbx format, which they had to upload to their own terminology database. The terminology included basic terms for the chosen topic to make the students' work of searching easier.

The translation/post-editing text was an excerpt from an American brochure on composting; specifically, it was a manual on how to build a home vermicomposter. It was a specialized marketing text, and it addressed the reader directly. The manual had 262 words, and the Memsource tool divided it into twenty-six segments. After uploading the files to Memsource, students worked on post-editing or translation. When finished, they exported the file and uploaded it back as a bilingual file via the Moodle platform. Students were also advised that their time would be measured, so they were encouraged to hand in the final file as soon as possible to avoid further distortion of the time results.

5.2 The objective and the research questions

The objective of the research was to compare human translation with machine translation post-editing on a given sample of students, and to find out which process was better in terms of speed of work and the quality of the final translation. During quality assessment, the following questions were looked into:

- Which group was more correct based on the average error rate?
- Which group was more correct based on the average number of penalty points?
- What types of errors were predominantly made by translators, and what types of errors were made by post-editors?

In addition to the qualitative analysis, the temporal aspect of effort for both groups was also examined:

- Which group did the translation faster?

Answering these questions in a qualitative and temporal analysis would indicate how human translation and machine translation post-editing differ from each other and what their strengths and weaknesses are.

5.3 Qualitative analysis

The quality of the translations submitted by the students was assessed using the TAUS translation quality assessment template. As part of the penalization process, a scoring system from the template was used.

Table 2: ***The penalty point system based on the TAUS template***

Severity level	Number of penalty points
Critical error	10
Major error	5
Minor error	1

The correctness of the submitted translation was evaluated by the number of penalty points the translator/post-editor received. The qualitative analysis focused on how correct the translators and post-editors were based on the penalty points, how many and what types of errors were made (and at what levels of severity), and how they differed from each other in these categories, while also giving specific examples of the most common errors made by the two groups.

5.3.1 The translation error rate

As part of the qualitative analysis, the error rate of the translators and post-editors was examined. The errors were then categorized according to their severity level. The critical errors were mainly errors in numerical data and unit conversion which could lead to the failure of the manual. Major errors included those errors that changed the meaning of the source text and could also lead to the non-functionality of the manual. (These were mainly in the categories of accuracy and fluency of translation, terminology, and localization.) Minor errors were mostly related to the categories of style, design, and fluency of translation, which also included errors in the use of punctuation and mathematical symbols.

Table 3: ***The average error rate based on error severity level***

	Average error rate	
Severity level	**Translators**	**Post-editors**
Critical error	0.4	0
Major error	4.7	7.2
Minor error	2.7	2.8
Total	**7.8**	**10**

After counting the errors for each translator and post-editor and creating an average, there was a higher error rate for post-editors, who made an average of ten errors. Translators had an average error rate of 7.8. A closer analysis of these results revealed that in the critical error category, which influences the correctness of the translation the most, the post-editors had an average error rate of 0 whereas the translators had an average error rate of 0.4. The translators made more serious errors compared to the post-editors, which could have negatively affected the quality of the translated manual. However, post-editors made significantly more major errors, averaging 7.2, while translators had an average error rate of 4.7. The post-editors also made errors that negatively affected the functionality of the vermicomposter manual. In the minor error category, which mostly evaluated inconsistencies in tags, punctuation, and mathematical symbols, post-editors and translators performed similarly.

5.3.2 Translation correctness

We evaluated the translation correctness in both groups based on the number of penalty points.

Table 4: ***The average number of penalty points***

Group	Average number of penalty points
Translators	30.2
Post-editors	38.8

An average in the two groups was created for comparison. Since the penalty points were closely related to the translation error rate, the translators were also better off in terms of translation correctness. They had an average of 30.2 penalty points, and the post-editors had an average of 38.8 penalty points.

5.3.3 Error typology

The last part of the qualitative analysis is the evaluation of the number of errors based on the TAUS error typology template along with the error subcategories and individual examples. The TAUS template contains eight basic error categories; however, there were no errors in the verity and "other" categories, so only the six main categories of errors shall be looked into.

Table 5: ***The average error rate based on error typology***

	Average error rate	
Error typology	**Translators**	**Post-editors**
Accuracy	2.8	3.5
Fluency	3.4	4.4
Terminology	0.7	0.9
Style	0.1	0
Design	0.2	0.9
Locale convention	0.6	0.3
Verity	0	0
Other	0	0

Of the six analyzed categories, post-editors showed higher error rates in four of them: accuracy, fluency, terminology, and design. The biggest difference was seen in the category of fluency, where translators had an average error rate of 3.4 and post-editors had an average error rate of 4.4. This category encompassed a wide range of errors represented by each subcategory, so the evaluation of specific errors will be analyzed in more depth; however, it appears that the translators' work proved to be more fluent.

In the remaining two categories, translators showed a higher average error rate. In the style category, there was an average error rate of 0.1 for the translators and no errors for the post-editors. The post-editors also did better in the locale convention category, with an average error rate of 0.3, while translators had an average error rate of 0.6. To see how and in what ways the errors made by post-editors and translators differed, the next section of the article looks at the subcategories of each error category and specific examples.

5.3.3.1 Accuracy

Accuracy draws attention to cases in which the translation does not reflect the source text and does not correctly transfer its meaning or purpose. This category encompasses seven types of error: addition, omission, mistranslation, over-translation, under-translation, untranslated text, and improperly exact TM matches.

Table 6: ***The average error rate in the accuracy category***

	Average error rate	
Typology of errors	**Translators**	**Post-editors**
Addition	0.1	0
Omission	0.4	0.3
Mistranslation	1.7	3.2
Over-translation	0	0
Under-translation	0.3	0
Untranslated text	0.3	0
Improperly exact TM match	0	0

A closer analysis of the accuracy category reveals that although the overall average error rate for this category is higher for post-editors, in the individual error types this is only the case for mistranslation, where post-editors had an average error rate of 3.2 and

translators had one of 1.7. Translators reported higher average error rates in four subcategories: addition, omission, under-translation, and untranslated text. The post-editors made errors only in the subcategories of omission and mistranslation. In the accuracy category, the translators showed a more varied error rate.

5.3.3.1.1 Addition

Table 7: ***Examples of errors from the text in the addition subcategory***

Group	**Translators**	**Segment**	**3**
Source	You can compost food scraps indoors using a worm bin!		
Target	Pomocou vermikompostéru môžete kompostovať zvyšky z jedál môžete aj v interiéri!		
Suggested target	Pomocou vermikompostéru môžete kompostovať zvyšky z jedál aj v interiéri!		

When assessing the quality of the translation, there was only one addition error. It was made by a translator in the third segment, and it was a duplication of a word in one sentence rather than added information. The translator had the word *môžete* present twice in the translation when it should have been present only once. This error was presumably made out of carelessness, when the translator changed the word order and forgot to delete the previously used word. This type of error was not observed with the post-editors.

5.3.3.1.2 Omission

Table 8: ***Examples of errors from the text in the omission subcategory***

Group	**Translators**	**Segment**	**8**
Source	Dimensions should be approximately 12 x 12 x 12 inches (one cubic foot) but do not have to be precise.		
Target	Rozmery by mali byť približne 30 x 30 x 30 cm, no nemusí sa to presne zhodovať.		
Suggested target	Rozmery by mali byť približne 30 x 30 x 30 cm (s objemom zhruba 28 litrov), no nemusí sa to presne zhodovať. (Dimensions should be approximately 30 x 30 x 30 cm (with a volume of roughly 28 liters), but do not have to be precise.)		
Group	**Post-editors**	**Segment**	**15**
Source	These holes will provide oxygen to the worms and other decomposer organisms in the bin.		

Target	Tieto otvory poskytnú kyslík dážďovkám a iným organizmom v koši.
Suggested target	Tieto otvory poskytnú kyslík dážďovkám a rozkladacím organizmom v nádobe.

When assessing the quality of the translation, there were four errors in this subcategory that the translators made; three of them are shown in the selected examples. Some translators omitted the information in the parenthesis in the eighth segment. Since the dimensions were already listed, they probably figured that the volume was redundant information. One must be careful with numbers in manuals; it is not advisable to remove, for example, the volume of the container (as happened in this case) without consulting the client. For post-editors, there were three errors in this subcategory; in addition to the same errors made by the translators, one post-editor omitted the translation of the term "decomposer," which was an error also made by some of the translators. In the omission category, the translators and post-editors differed little from each other and made the same errors.

5.3.3.1.3 Mistranslation

Table 9: ***Examples of errors in the mistranslation subcategory***

Group	**Translators**	**Segment**	**10**
Source	Fine screen to keep out pests (optional)		
Target	Jemné sito proti škodcom (nepovinné)		
Suggested target	Jemná sieťka proti škodcom (nepovinné)		
Group	**Post-editors**	**Segment**	**12**
Source	\{b\>Tray (optional)\<b\}		
Target	\{b\>Zásobník (voliteľný)\<b\}		
Suggested target	\{b\>Podnos (voliteľný)\<b\}		

In the accuracy category, translators made the most errors of the mistranslation type. Most errors were mainly related to the mistranslation of the term "screen" in the context of the vermicomposter manual. Many translators translated it as *sito* (sieve), and others translated it as *plocha* (surface), *triedič* (sorter), or *filter* (filter); it was supposed to be *sieťka* (screen) to refer to an insect screen that is meant to serve as a protection against pests. The post-editors also had problems translating some of the terms. While

translators could not deal with "screen," there was a more widespread problem among post-editors. Many words were mistranslated in context; "bin" was translated as *kôš* (basket), but the meaning was *nádoba* (bin) or *vermikompostér* (vermicomposter, depending on the context). "Directions" was translated as *smer* (meaning "direction" but referring to the orientational meaning of the word) when it was meant to be "instructions" or a procedure on how to make a vermicomposter. Last but not least, the example above shows that "tray" was translated as *zásobník* (bin) when it was supposed to be *tácka* or *podnos* (meaning "tray") as something used to catch worm tea from the vermicomposter. Most of these mistranslations were caused by raw machine translations that were not corrected by the post-editors.

5.3.3.1.4 Under-translation

Table 10: ***Examples of errors in the under-translation subcategory***

Group	**Translators**	**Segment**	**26**
Source	Worms can tolerate temperatures a bit beyond this range, but they will be less active.		
Target	Dážďovky dokážu znášať aj teploty mierne pod 13°C, no v tom prípade nebudú také aktívne.		
Suggested target	Dážďovky dokážu znášať aj teploty mierne mimo tento rozsah, no v tom prípade nebudú také aktívne.		

Errors in the under-translation category were only made by the translators. This is because the post-editors worked with a machine translation that translated every piece of information in the text. In the above example, the translator erroneously only pointed out that earthworms can tolerate lower temperatures than recommended, omitting the information that earthworms can also tolerate temperatures slightly above the highest recommended value.

5.3.3.1.5 Untranslated text

Table 11: ***Examples of errors in the untranslated text subcategory***

Group	**Translators**	**Segment**	**24**
Source	Worms prefer temperatures between 55°F and 80°F (13°C and 27°C).		
Target	Dážďovky uprednostňujú teplotu medzi 55 °F a 80 °F (13 °C and 27 °C).		

Suggested target	Dážďovky uprednostňujú teplotu medzi 55 °F a 80 °F (13 °C a 27 °C).

In this subcategory, only the translators made errors because the post-editors were working with a machine translation which translated all the information in the text. It was impossible to find an untranslated part of the text without manually inserting it in. Some translators left untranslated text in the translation, and it was the same error in every case. In the twenty-fourth segment, they did not translate the text that was in parentheses. It is likely that they copied it from the source text without noticing that there was an "and" conjunction. In the final translation, the conjunction remained in the original language.

5.3.3.2 Fluency

The fluency category highlights problems with both the content and the form of the translation. This category encompasses seven subcategories: punctuation, spelling, grammar, grammatical register, inconsistency, link/cross-reference, and character encoding.

Table 12: ***The average error rate in the fluency category***

	Average error rate	
Typology of errors	**Translators**	**Post-editors**
Punctuation	1.9	1.7
Spelling	0.4	0.1
Grammar	0.9	2.5
Grammatical register	0.2	0.1
Inconsistency	0	0
Link/cross-reference	0	0
Character encoding	0	0

The average error rate in the fluency category is higher for post-editors. Looking at the subcategories, only the grammar subcategory showed a higher average error rate for post-editors. Post-editors had an average error rate of 2.4, while translators had an average error rate of only 0.9. In the subcategories of punctuation, spelling, and grammar, translators made more errors. In this category, translators also showed a greater variety of errors.

5.3.3.2.1 Punctuation

Table 13: ***Examples of errors in the punctuation subcategory***

Group	**Translators**	**Segment**	**22**
Source	If you drilled holes in the bottom on the bin, place a tray under the bin to catch any "leachate"—this is a waste product of the composting process made of excess moisture.		
Target	Ak ste do dna nádoby vyvŕtali otvory, umiestnite pod nádobu podnos, aby ste zachytili dážďovkový čaj – odpadový produkt kompostovacieho procesu, ktorý je výsledkom prebytočnej vlhkosti.		
Suggested target	Ak ste do dna nádoby vyvŕtali otvory, umiestnite pod nádobu podnos, aby zachytil dážďovkový čaj – odpadový produkt kompostovacieho procesu, ktorý je výsledkom prebytočnej vlhkosti.		
Group	**Post-editors**	**Segment**	**24**
Source	Worms prefer temperatures between 55°F and 80°F (13°C and 27°C).		
Target	Dážďovky dávajú prednosť teplotám medzi 13 ° C a 27 ° C.		
Suggested target	Dážďovky preferujú teploty medzi 13 °C a 27 °C.		

In addition to the usual problems with commas, the translators also made errors in writing units and hyphens. In the example above, the translator incorrectly used a hyphen instead of a dash. Indeed, every translator who wrote this sentence in the same order as the original text used a hyphen instead of a dash. This error may also have been due to students not being used to checking for dashes. This is because if you type a hyphen in a Word document with spaces around the hyphen, the hyphen automatically changes to a dash; however, this is not how it works in CAT tools.

Both the post-editors and translators had problems with typing commas and dashes. No one from the post-editors group used the dash correctly either. Clearly punctuation is a problem for students, but this is something a proofreader can fix when revising. In addition to the correct writing of hyphens, the post-editors had a problem with the correct writing of units. In the example above, there is an incorrect notation of the Celsius unit which was caused by the machine translation and was not corrected.

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5.3.3.2.2 Spelling

Table 14: ***Examples of errors in the spelling subcategory***

Group	**Translators**	**Segment**	**10**
Source	Fine screen to keep out pests (optional)		
Target	Tekná plocha, ktorá zabráni prístupu škodcom (nepovinné)		
Suggested target	Jemná sieťka, ktorá zabráni prístupu škodcom (nepovinné)		
Group	**Post-editors**	**Segment**	**15**
Source	These holes will provide oxygen to the worms and other decomposer organisms in the bin.		
Target	Tieto otvory poskytnú kyslík dážďovkám a iným heteretrofným organizmom vo vermikompostéri.		
Suggested target	Tieto otvory poskytnú kyslík dážďovkám a iným heterotrofným organizmom vo vermikompostéri.		

The spelling subcategory included errors related to the incorrect spelling of words, such as typos, the incorrect spelling of i/y, and the incorrect change of prepositions in assimilation. In this case, it was mainly related to typos, which were more often made by translators. In the example above, there is the misspelled word *tenká* (thin), which could have been corrected by a spellcheck. Post-editors made only one typo since the raw machine translation did not contain any. The word *heterotrofný* (decomposer) was misspelled by a post-editor when transcribing the machine translation.

5.3.3.2.3 Grammar

Grammar encompasses syntax and morphology. Grammatical errors include the incorrect use of cases, a wrong inflectional form, and incorrect sentence construction. Within this subcategory, there was a check to see if the words were from the standardized variety of the language. Grammatical errors were mainly associated with incorrect prepositional phrases and the use of non-standard words or expressions. In the given example, there is the non-standardized form of the word *zohnať* (purchase). In other cases, translators used phrases that are considered to be Czechisms in Slovak, such as the phrase *o veľkosti* instead of the phrase *s veľkosťou*.

Pavlíková, Diana. 2022. Comparing Human Translation and Machine Translation Post-Editing. In: L10N Journal. 1(1), pp. 65–100.

Table 15: ***Examples of errors in the grammar subcategory***

Group	**Translators**	**Segment**	**11**
Source	Purchase at a hardware store.		
Target	Zohnáte ho v železiarstve.		
Suggested target	Zoženiete ho v železiarstve.		
Group	**Post-editors**	**Segment**	**22**
Source	If you drilled holes in the bottom on the bin, place a tray under the bin to catch any "leachate"—this is a waste product of the composting process made of excess moisture.		
Target	Ak ste do spodnej časti koša vyvŕtali otvory, umiestnite pod kôš podnos, aby zachytili všetok „dážďovkový čaj" – ide o odpadový produkt z procesu kompostovania vyrobený z prebytočnej vlhkosti.		
Suggested target	Ak ste do dna nádoby vyvŕtali otvory, umiestnite pod nádobu podnos, aby zachytil dážďovkový čaj – odpadový produkt kompostovacieho procesu, ktorý je výsledkom prebytočnej vlhkosti.		

Post-editors made more grammatical errors compared to translators; however, most of them were related to the raw machine translations, which had to be edited to correct the grammatical errors.

5.3.3.2.4 Grammatical register

Table 16: ***Examples of errors in the grammatical register subcategory***

Group	**Translators**	**Segment**	**14**
Source	Drill at least 10 quarter-inch holes in the lid.		
Target	Do veka vyvŕtajte minimálne 10 otvorov s rozmermi 0,6 centimetra.		
Suggested target	Do veka vyvŕtajte minimálne 10 otvorov s priemerom 0,6 centimetra.		
Group	**Post-editors**	**Segment**	**14**
Source	Drill at least 10 quarter-inch holes in the lid.		
Target	Do veka vyvŕtajte najmenej 10 otvorov s rozmerom približne 6mm.		
Suggested target	Do veka vyvŕtajte najmenej 10 otvorov s priemerom približne 6 mm.		

In the grammatical register subcategory, translators and post-editors made the same error. Instead of the term *priemer* (diameter), they chose the term *rozmer* (dimension) to express the diameter of the openings; this could confuse the reader of the manual.

5.3.3.3 Terminology

The terminology category encompasses two types of errors: inconsistency with the termbase and an inconsistent use of terminology.

Table 17: ***The average error rate in the terminology category***

	Average error rate	
Typology of errors	**Translators**	**Post-editors**
Inconsistent with termbase	0	0.2
Inconsistent use of terminology	0.7	0.7

Based on the table of error types in the terminology category, it can be seen that in the inconsistent use of terminology, translators and post-editors performed similarly with an average error rate of 0.7. In terms of being inconsistent with the termbase, there were only errors in the group of post-editors, meaning that they did not sufficiently correct the machine translation to make the terminology match the provided termbase.

5.3.3.3.1 Inconsistencies with the termbase

Table 18: ***Examples of errors in the inconsistent with termbase subcategory***

Group	**Post-editors**	**Segment**	**24**
Source	Worms prefer temperatures between 55°F and 80°F (13°C and 27°C).		
Target	Červy dávajú prednosť teplotám medzi 13 °C a 27 °C.		
Suggested target	Dážďovky dávajú prednosť teplotám medzi 13 °C a 27 °C.		

Only the post-editors had inconsistencies with the termbase. The two errors noted concerned the term "worm," which was incorrectly left as *červ* when, according to the termbase, it should have been translated as *dážďovka*. Again, this was an error caused by machine translation which was not corrected by the post-editors, who either allowed themselves to be influenced by it or did not correct the error out of inattention or a lack of final proofing.

5.3.3.3.2 An inconsistent use of terminology

Table 19: ***Examples of errors in the inconsistent use of terminology subcategory***

Group	**Translators**	**Segment**	**23**
Source	After you make or buy a bin, store it in a good location for both you and the worms.		
Target	Keď už ste hrdým majiteľom zakúpeného alebo vyrobeného domáceho kompostéra, umiestnite ho na miesto, ktoré vyhovuje vám ale je vhodné aj pre dážďovky.		
Suggested target	Keď už ste hrdým majiteľom zakúpeného alebo vyrobeného domáceho vermikompostéra, umiestnite ho na miesto, ktoré vyhovuje vám, ale je vhodné aj pre dážďovky.		
Group	**Post-editors**	**Segment**	**20**
Source	Use non-toxic glue to attach fine screen over holes (optional).		
Target	Pomocou netoxického lepidla pripevnite jemné sito cez otvory (voliteľné).		
Suggested target	Pomocou netoxického lepidla pripevnite jemnú sieťku cez otvory (voliteľné).		

In the inconsistent use of terminology subcategory, the translators had a particular problem with the term *vermikompostér* (vermicomposter), where they incorrectly used the term *kompostér* (composter) instead. In addition to the same inconsistencies the translators made, the post-editors also had problems with the terms "screen" and "tray." In the example above, the post-editor translated "screen" as *sito* even though in previous segments it had been translated as *obrazovka*. This inconsistency was already present in the machine translation and was not corrected by the post-editor.

5.3.3.4 Style

The style category highlights stylistic problems. This category encompasses five types of errors: awkward, company style, inconsistent style, third-party style, and unidiomatic. It was found that the only error was in the inconsistent style subcategory and had been made by a translator.

Pavlíková, Diana. 2022. Comparing Human Translation and Machine Translation Post-Editing. In: L10N Journal. 1(1), pp. 65–100.

Table 20: ***The average error rate in the style category***

	Average error rate	
Typology of errors	**Translators**	**Post-editors**
Awkward	0	0
Company style	0	0
Inconsistent style	0.1	0
Third-party style	0	0
Unidiomatic	0	0

5.3.3.4.1 Inconsistent style

Table 21: ***Examples of errors in the inconsistent style subcategory***

Group	**Translators**	**Segment**	**20**
Source	Use non-toxic glue to attach fine screen over holes (optional).		
Target	Jemný triedič prelepíte cez diery netoxickým lepidlom (nepovinné).		
Suggested target	Jemnú sieťku prelepte cez diery netoxickým lepidlom (nepovinné).		

In this subcategory, there was one error. The translator had written the verb *prelepiť* in the indicative form and not in the imperative form as is used in the rest of the translation and as would be appropriate in a text with instructions.

5.3.3.5 Design

The design category highlights problems with formatting. This category encompasses five subcategories: length, local formatting, markup, missing text, and truncation/text expansion. Post-editors had a higher average error rate, but only made errors in the markup subcategory; translators again varied more in error types, and, in addition to the markup subcategory, they also made errors in the local formatting subcategory.

Pavlíková, Diana. 2022. Comparing Human Translation and Machine Translation Post-Editing. In: L10N Journal. 1(1), pp. 65–100.

Table 22: ***The average error rate in the design category***

	Average error rate	
Typology of errors	**Translators**	**Post-editors**
Length	0	0
Local formatting	0.1	0
Markup	0.1	0.9
Missing text	0	0
Truncation/text expansion	0	0

5.3.3.5.1 Local formatting

Table 23: ***Examples of errors in the local formatting subcategory***

Group	**Translators**	**Segment**	**1**
Source	{1>INDOOR COMPOSTING<1} with a worm bin		
Target	Interiérové kompostovanie s vermikompostérom		
Suggested target	{1>INTERIÉROVÉ KOMPOSTOVANIE<1} s vermikompostérom		

Within the local formatting subcategory, only the translators made errors. One translator did not follow the formatting of the source text and wrote the term *interiérové kompostovanie* in the lower case even though it was originally written in the upper case.

5.3.3.5.2 Markup

In the markup subcategory, there was only one error that the translators made; one translator omitted tags in the first segment altogether. Post-editors had a bigger problem with tags. In addition to omitting tags altogether, there was incorrect tag notation with redundant spaces. For the post-editors, these errors in tags were already present in the machine translation.

Table 24: ***Examples of errors in the markup subcategory***

Group	**Translators**	**Segment**	**1**
Source	{1>INDOOR COMPOSTING<1} with a worm bin		
Target	Interiérové kompostovanie s vermikompostérom		
Suggested target	{1>INTERIÉROVÉ KOMPOSTOVANIE<1} s vermikompostérom		
Group	**Post-editors**	**Segment**	**1**
Source	\{1\>INDOOR COMPOSTING\<1\} with a worm bin		
Target	\{1\> VNÚTORNÉ KOMPOSTOVANIE \<1\} s vermikompostérom		
Suggested target	\{1\>VNÚTORNÉ KOMPOSTOVANIE\<1\} s vermikompostérom		

5.3.3.6 Locale convention

The locale convention category highlights cases where the translation does not conform to country-specific conventions. This category encompasses six subcategories: address format, date format, currency format, measurement format, shortcut key, and telephone format.

Table 25: ***The average error rate in the locale convention category***

Typology of errors	**Average error rate**	
	Translators	**Post-editors**
Address format	0	0
Date format	0	0
Currency format	0	0
Measurement format	0.6	0.3
Shortcut key	0	0
Telephone format	0	0

In the locale convention category, translators and post-editors only made errors in the subcategory of measurement format; translators showed a higher error rate.

5.3.3.6.1 Measurement format

The translators had more trouble with the localization of units than the post-editors. Sometimes they decided not to localize the units, which meant that readers of the

manual in the Slovak market would have to convert the units themselves in order to assemble the vermicomposter. In addition, the translators made errors in the actual conversion of the units. This was also the case in the given example, where the translator converted the data but, probably due to inattention, used the wrong unit prefix to the numeric value, thus using centimeters instead of millimeters.

Table 26: ***Examples of errors in the measurement format subcategory***

Group	**Translators**	**Segment**	**14**
Source	Drill at least 10 quarter-inch holes in the lid.		
Target	Do veka vyvŕtajte najmenej desať 6 centimetrových otvorov.		
Suggested target	Do veka vyvŕtajte najmenej desať 6-milimetrových otvorov.		
Group	**Post-editors**	**Segment**	**8**
Source	Dimensions should be approximately 12 x 12 x 12 inches (one cubic foot) but do not have to be precise.		
Target	\{i\>Rozmery by mali byť približne 12 x 12 x 12 palcov (jedna kubická stopa), ale nemusia byť presné.\<i\}		
Suggested target	\{i\>Rozmery by mali byť približne 30 x 30 x 30 cm (s objemom zhruba 28 litrov), ale nemusia byť presné.\<i\}		

Although post-editors had a lower average error rate in this subcategory, some in this group chose not to convert units at all.

To conclude the qualitative analysis, there are three research questions that need to be answered. Within the translation error rate, there was an average error rate of 10 for post-editors and 7.8 for translators. The second question asked which group produced more correct translations. Since the average error rate was directly related to penalty points, more correct translations were produced by the translators. On average, translators had 30.2 penalty points and post-editors had 38.8. The last research question asked what types of errors were made by the translators and what types of errors were made by the post-editors. After a closer analysis of each error category, the post-editors on average made more errors in the categories of accuracy, fluency, terminology, and design. Translators performed worse in the style and locale convention categories. When analyzing the subcategories, the translators also made errors in subcategories where the post-editors did not make any.

5.4 Temporal analysis

In addition to the number and types of errors, the temporal aspect of the translation and post-editing effort was looked at. This aspect can be easily measured and compared. Translators and post-editors were informed in advance that the time spent on the translation would be measured and that they should therefore only work on this activity and hand in the final document once they were satisfied with it.

Table 27: ***The average time spent on translation and post-editing***

Group	***Average time spent on translation/post-editing***
Translators	36.8 minutes
Post-editors	25.9 minutes

Looking at the average times of the translator and post-editors, it is clear that the post-editors generally performed the post-editing faster. Compared to the translators, they had raw machine translation; this probably sped up their work and made them more efficient with an average time of 25.9 minutes; however, it should be noted that the translators' speed for the length of the text was also good, given that they were able to translate it in 36.8 minutes on average. In conclusion, the given sample showed that the post-editors were faster. This finding also answers the last research question regarding the temporal analysis. By analyzing the measured times, it seems that the post-editors were more time-efficient compared to the translators.

5.5 Discussion

After presenting the results, it is important to consider why they occurred and whether they could have been predicted. A qualitative analysis first looked at the average error rate and translation correctness in both groups. Since the error rate was directly related to translation correctness through the penalty point system, it seems that in both cases the post-editors performed worse. To find out why this was the case, it was necessary to look at the error rate analysis within the typology of errors. This revealed which errors were made most often by post-editors and by translators and what might have been the reason for this. When analyzing the typology of errors, there were six main categories: accuracy, fluency, terminology, style, design, and locale convention. In four of the six categories, the post-editors had a higher average error rate; these were in the categories of accuracy, fluency, terminology, and design. This means that the translators performed worse only in the categories of style and locale convention. Each

category also had subcategories of error types, which further revealed that although the post-editors made errors more frequently, translators showed a greater variety of errors.

Of the five analyzed subcategories concerning accuracy, the post-editors on average were more likely to make errors only in the subcategory of mistranslation. The post-editors made errors in one subcategory, and so they made the same errors which were influenced by the machine translation. Many of these were because the post-editors did not correct the errors created by the machine translation. Either they relied on the machine translation more than they should have, or they simply did not notice them there. The biggest problem they had was with mistranslated words, which, according to the context, did not fit the text. In terms of under-translation or untranslated text, only the translators made errors because the machine translation had all the words translated and omitted no information in the output. In the first category alone, the machine translation had a clear impact on the types of errors that the post-editors made; in some ways, it may even have confused them or they may have trusted it too much and thus not delivered a translation of the highest quality.

The same analysis of the results could be applied to the fluency category, where the post-editors also showed a higher average error rate; they appear to have been influenced by the machine translation. The biggest difference can be seen between the spelling and grammar subcategories. In the spelling subcategory, there was a higher error rate for translators because machine translation does not produce typos in the text. This is a purely human error which occurred for translators as well as for post-editors who decided to overwrite a certain segment in the raw output of the machine translation; however, the post-editors showed a higher average error rate in the grammar subcategory and there was the largest difference between the groups. The raw machine translation had a few grammatical errors which several post-editors did not identify. They either did not notice them or trusted the machine translation more than they should have; importantly, grammatical correctness is one of the most important aspects of a good translation.

Within the terminology category, the largest difference in error rates was in the inconsistent with termbase subcategory. Only the post-editors made any errors. This was influenced by the machine translation, which translated the terms incorrectly or differently from the terms in the glossary; the post-editors had to unify these mistranslations with the termbase. In the final translation, there was an inconsistent use of terminology, which the post-editors did not correct in the output of the machine translation, as

well as inconsistencies with the termbase, which were not present at all in the translators' texts. There was only one error in the style category, and this was in the translators' group. This was probably an error that the translator did not check. The post-editors had no problem with the style; apparently the output of the machine translation was stylistically acceptable.

Within the design subcategory, translators again showed a more varied error rate; however, the post-editors had a higher overall error rate, especially for the tags (markup) subcategory. The post-editors had more trouble with the tags because the machine translation caused the output to have multiple gaps in the tags and even omitted tags altogether in some segments. Several post-editors did not notice these changes and did not correct them. They were again affected by the output of the machine translation, and so the average error rate increased. In the locale convention category, there was only one subcategory (measurement format) where translators and post-editors both made errors. Some translators chose not to localize the units of measurement and used them in foreign values; by contrast, this happened only once in the post-editors' group. The machine translation in one segment chose not to give temperatures in both Fahrenheit and Celsius, only using the Celsius units. This segment may have prompted the post-editors to localize the units in other segments as well, thus unifying the final translation. The translators had a choice whether to localize the units or not, and this choice resulted in cases where the translators did not localize them.

To summarize the qualitative analysis, it seems that the post-editors had a higher average error rate and thus less accurate translations; however, based on the specific examples of errors, they were significantly influenced by the machine translation. It had certain types of errors, which the post-editors had to watch out for, but it did not have other types of errors. After all, machine translation rarely omits parts of a text, adds information to a translation, or makes typos. It can be said that post-editors should mainly focus on correcting tags, inconsistencies in the text (especially the terms and words used), grammatical errors, and mistranslations of words and terms produced by the machine translation.

The temporal analysis aimed to determine which group produced the translation faster. With an average time of 25.9 minutes, the post-editors were faster. Translators had an average time of 36.8 minutes. This result was predictable, and several articles (Krings 2001; Tatsumi 2010) have reported that machine translation post-editing is faster and thus more efficient than human translation. This experiment confirmed this statement.

It should be added, however, that this research has some limitations, especially regarding the evaluation of the quality of the translation, which was carried out only by the present author. Despite efforts at objectivity, subjectivity must have been reflected in the results to some extent for obvious reasons. To achieve greater objectivity in future research, it would be advisable to use more than one person to evaluate the quality of the translation, or at least a person who is not directly involved in the research, has not prepared the text in advance, and who is unaware of the knowledge of the translators and post-editors involved.

Conclusion

This article has discussed the comparison between human translation and machine translation post-editing. The objective of the research was to compare human translation with machine translation post-editing on a given sample of students and to find out which process was better in terms of speed of work and quality of the final translation. To meet this goal, a qualitative and temporal analysis was conducted. Based on the results of both analyses, it can be evaluated that machine translation post-editing has its advantages. It has been shown to be more time-efficient and useful in eliminating some types of errors such as typos, omissions, and additions of information. On the other hand, the machine translation still contains errors and so post-editing is essential. Errors are often repeated, and a trained post-editor should be able to correct errors such as inconsistent terminology.

Students without in-depth training in machine translation post-editing produce lower quality post-edited translations than students who have had several years of experience with human translation during their studies. The error rate is directly linked to the unfamiliarity of working with machine translation. Teaching post-editing could eliminate unnecessary errors in the categories of grammatical correctness, inconsistency, and the translation of terms. Students could also learn how to approach the output of the machine translation correctly and how to perform post-editing more efficiently, so that it is not only useful in terms of time but also in terms of quality.

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The Transcreation of Advertisements

Nikola Ácsová

Comenius University in Bratislava

acsova5@uniba.sk

Translation: Matúš Nemergut

Abstract

This article deals with advertising slogans transcreated from English into Slovak. The first part focuses on a definition of transcreation and discusses related terms such as translation and localization. By synthetizing concepts like dynamic equivalence, Skopos theory, and the translation of principle, the article explains what transcreation could be in terms of translation studies. The second part of the article deals with the definition of advertising and its features. It also discusses the features of advertising slogans and briefly discusses specific linguistic and stylistic devices used in advertising production. The third part deals with an analysis of eight selected slogans which have undergone the process of transcreation. The analysis is based on the stylistic figures of speech in slogans. The aim of the article is to elaborate on theoretical knowledge concerning transcreation and related concepts, describe these terms to the reader, and analyze individual slogans which have been transcreated from English into Slovak from the translator's point of view.

Keywords: transcreation, advertising, advertising slogans, translation, localization

Introduction

Translation is constantly evolving; it is helping define other disciplines such as localization, which is still a relatively new idea. Another relatively new discipline is transcreation.[1] But what is the difference between translation and transcreation? How is transcreation specifically different from translation? What exactly is its area of interest? And what are the requirements for the transcreator – linguistic skills or creative creativity? Transcreation does not have strict boundaries by which it can be separated, for example, from marketing translation.

[1] Transcreation was probably first used as a term by Lal in 1964.

The first part of the article deals with the concept of transcreation and where it is used. It also deals with the features of advertising slogans. The second part of the article analyzes eight selected slogans from English into Slovak (the condition for their selection was the availability of both language versions). The aim of this article is to present transcreation in translation in the Slovak context and to point out how individual advertising slogans change under its influence.

1 Transcreation

This section discusses the concept of transcreation in order to clarify its characteristics and applications. It also discusses the issues of translation, marketing translation and localization compared to transcreation, and their common and different features, because often there is confusion when trying to distinguish between them.[2] Transcreation mainly focuses on marketing texts, advertising spots, slogans, jingles, and logos that need not adhere strictly to the source text. This means it is a recreation of the text to act as the source, but in fact it is the target text (Pedersen 2016; Risku 2017). O'Hagan and Mangiron (2013) single out transcreation as a separate translation procedure that can occur during video game localization. As a result, two branches of understanding transcreation arise. While one focuses explicitly on the translation (or transcreation) of marketing texts (Sattle-Hovdar 2019), the other perceives transcreation as a translation procedure or method that can be used during the translation or localization of a given product (O'Hagan and Mangiron 2013). This article tries to show that while the first approach is theoretically well elaborated, transcreation can still be seen as a translation procedure that combines aspects of dynamic equivalence, Skopos theory, and the translation of principle.

1.1 Characteristics and applications

Is transcreation just an idea that is popular and is being used by translation agencies to increase their turnover? This section discusses definitions to help in understanding transcreation. According to Gaballo (2012), transcreation is an "intra-/interlingual reinterpretation of the original work suited to the readers/audience of the target language which requires the translator to come up with new conceptual, linguistic and cultural constructs to make up for the lack (or inadequacy) of existing ones" (Gaballo 2012, 111). Transcreation is similar in function to the concepts of dynamic equivalence (Nida 1964)

[2] This article draws heavily on Pedersen (2016) and Risku (2017).

and the translation of principle (Feldek 1977).[3] At the same time, there is also the palpable influence of Skopos theory (Nord 1991). It is important to note that transcreation emphasizes the priority of the whole over the part; this means the resulting effect on the target group is more important than the faithful translation of the individual parts of a text. The transcreator must be able to create a continuous stream of new thoughts and ideas, continuously changing them in the process, preserving the unusualness and originality in the creation, and then developing them. Indeed, "[i]t requires the translator not only to conceive new words, but also to imagine new worlds" (Gaballo 2012, 111).

Benetello (2016, 9:20) defines transcreation as "writing advertising or marketing copy for a specific market, starting from copy written in a source language, as if the target text had originated in the target language and culture." She further explains that this specific type of service requires knowledge exceeding the usual linguistic skills possessed by a copywriter; this knowledge includes a cultural understanding and an understanding of the market in question, thus making it similar to translation competences (EMT, 2022). As a result, "[a] transcreator is a professional that combines four figures: the translator, the copywriter, the cultural anthropologist and the marketer" (Spinzi, Rizzo, & Zummo 2018, 6). The creative approach does not guarantee the accuracy of the translation, but it should guarantee the fulfillment of the client's idea. It is in this aspect that transcreation indirectly refers to Skopos theory (Nord 1991). Even more important than meeting the client's requirements is satisfying the target group, and so in this case invariance is irrelevant (ibid.).

According to Sattle-Hovdar (2019, 21), transcreation can be defined as "a unique type of service in the field of multilingual communication that actually merges two services that are normally sold and provided separately." Transcreation combines translation and copywriting, and "[t]he magic formula essentially looks like this: Transcreation = Translation + Copywriting" (ibid.). The word "creation" may give the impression of an activity that is random and free, without any constraints, but transcreation is closely tied to various rules and norms. It is mainly about creating a thoughtful translation that relies on the brand's business strategy and uses wordplay and various other creative aspects of advertising. (This part is best seen in the transcreation of the slogan for Vanish which is discussed later.) The most important aspect is the impact of the produced target text on the target group, which is ensured by the transcreator upon the basis of a detailed characterization from the client. It is important to understand that the

[3] Feldek understands the translation of principle to be an attempt to make the same appeal to the addressee through translation as the original.

transcreator must be an expert in both spheres, i.e., in the sphere of translation and copywriting, which is why their financial remuneration is higher and is often charged by the hour.

The TAUS resource center for the global language and translation industries (2019, 8) states that "transcreation can be defined as a translation that is enhanced by creativity and focus on style, register, and emotive impact, and modified to suit a new audience which can be a group of users, a country, a region, etc. Typically it covers advertising, banners, slogans, word logos […]."[4] Transcreation is therefore primarily about creating an appealing text (Reiss 1971). A text that undergoes transcreation becomes the more subjective work of the transcreator because they have chosen the way to transform the text to capture all the facts and information provided by the client, and they have determined what they believe will have the best emotional effect on the target group. It goes without saying, however, that the client also has a say when it comes to the final product — which is why there are usually at least two variants to choose from. The goal (*skopos*) is important, since in this sphere the focus is mainly on selling products, which is achieved by good advertising or a slogan. This activity is more complex because the transcriber cannot fully use the various CAT tools, mainly due to the segmentation of the text in these tools, which can be limiting and make it difficult to translate several idioms or other elements typical of a given culture, such as traditions, beliefs, values, and socioeconomic context (TAUS 2019).

Other definitions are also provided by translation agencies. According to Branded Translation (2011), transcreation can be defined as "the creative adaptation of marketing, sales and advertising copy in the target language. It involves changing both words and meaning of the original copy while keeping the attitude and desired persuasive effect." Adaptation, however, cannot be considered synonymous with transcreation, because adaptation is only part of the entire transcreation process. There is much more effort behind the final text than just undergoing the adaptation, which is a necessary element. For transcreation, instructions from the client are also required. This is because they influence the process of text production which undergoes transcreation (Lamrani 2022).

As can be seen from the above, the definitions are inconsistent and have changed since Lal's 1964 definition. Perhaps the most important thing is that the focus has shifted

[4] TAUS understands translation as a lexical operation because it is based on the definition of the GILT (Globalization, Internationalization, Localization, and Translation) model. Such a limited understanding of translation has now been overcome (Jiménez-Crespo 2019; Kabát 2021).

from art texts to marketing texts, but there are common features among them and they coincide in the main idea: creativity is one aspect found in each definition, and its presence is crucial in this process. In its essence, transcreation falls under translation services and is becoming increasingly popular. It has been mentioned in connection with several areas (including video games, literature, and films), but it has achieved its greatest success and application in marketing and advertising. Simultaneously with linguistic aspects, it is necessary to pay attention to the emotionality of the text because it is mainly about making a positive impression on the consumer (Pedersen 2014). Transcreation is done with the target culture in mind, and consideration must be given to whether certain words are inappropriate or offensive in that culture.

The client must provide the transcreator with a detailed description of their product, whether it be an advertising slogan, a jingle, or a logo; they must also clarify their idea of the final product. The information from the client also includes what they would like to achieve. Primarily, this is about raising awareness of the company, impressing the target group, customer loyalty, and increasing sales. The client must also explicitly state whether they want the final product to be formal or informal (Carreira 2020). Communication between the client and the transcreator, and the purpose of the transcreation itself, is very important. Transcreation is subordinate to the purpose of the text (the Skopos theory). The transcreator can use any degree of freedom in translation, even rewriting the source text (dynamic equivalence and the translation of principle) to fulfill this purpose. As a translation procedure or translation method, transcreation combines the principles of the Skopos theory, dynamic equivalence, and the translation of principle.

Creativity, copywriting skills, and writing skills in general are all important in transcreation. When choosing a transcreator, it is also important that their mother tongue match the language into which they are transforming the source text. While someone may be an expert in a foreign language, communication will never be as immediate as with a native speaker. They should know how to attract consumers, and this will only happen by being a true expert in the culture. The transcreator has the difficult task of perfectly capturing what the company or client represents and aligning the final product with the target culture.

1.2 Transcreation vs. Translation

Translation is meant to convey information, such as laws, contracts, manuals, and art literature. It is pragmatic and is communication where the translator solves problems.

The translator's task is to understand the semantics of the source text and then transform the text into the target language. They must possess linguistic, analytical, interpretive, text-forming, and strategic competences. The most important aspect is the mediation of information between individual cultures (Levý 1963; Fišer 2009; Bassnett, Venuti, Pedersen, & Hostová 2022). Translation focuses on meaning, not just the words themselves, because it is not the primary goal to create a literal translation from one language into another.

The first difference between translation and transcreation is their history. Whereas the concept of transcreation was not coined until the middle of the twentieth century, translation dates back to the third millennium BCE and to the Assyrian king Sargon, who recorded his armed raids in several languages (Vilikovský 1984). Transcreation also involves several elements that are absent in translation. Its task is to point out a fact, mostly to highlight a brand or draw attention to a particular product, and then create an emotional effect. In the case of transcreation, it is perhaps necessary to preserve the hint of manipulation present in the original marketing text. Transcreation and translation are used to achieve different goals. Most importantly, they require different approaches and different skills from those performing the activity.

Another difference is cultural adaptation, which is commonly used in both processes. In literary translation, the adaptation of the work is important. This means using various idioms, word plays, and cultural facts which are important for completing the translation and the understanding by the target group. A specific feature of a literary translation can also be the attempt to preserve the unique and subjective style of the author of the source text when the translator tries to present it to readers in a believable way. Cultural adaptation is also important in transcreation, but it is used to a much greater extent because it is not just about adapting idioms and so on. The role of the transcreator is to translate and adapt the text so it that seems to have been primarily created for the target culture; it is as if the source text never existed. When transcreating a text, the consideration of the subjective style of the author of the source text is lost. It loses its essence because the uniqueness of the author's linguistic style is not necessary as opposed to capturing the main ideas in the process of cultural adaptation with a certain set goal, which again brings us to the Skopos theory. Losing the original style and the original author is one of the main distinctions between translation and transcreation.

When comparing translation and transcreation, the question of the difference between marketing translation and transcreation also arises. Experts' opinions (Pedersen 2016; Risku 2017) coincide concerning certain differences between these services, but there is

no strict boundary between them. In marketing translation, the focus is solely on translation, which is supplemented with certain cultural elements in order to be accepted by the target group. Transcreation does not focus only on translation but rather on the adaptation of the main idea. Adaptation and localization are closely related to transcreation, emphasizing its interlingual aspect and the need to adapt the main idea of the source text to the target group (Risku, Pichler, & Wiesser 2017).

Views on the sphere of application also differ. As stated by TAUS (2019), marketing translation focuses on the translation of websites, advertising brochures, banners, and newsletters. It uses the services of a translator who specializes in presentation texts and uses promotional terminology. Transcreation focuses on advertising spots, slogans, jingles, and logos. Unlike marketing texts, it does not need to strictly adhere to the source text. The intention of transcreation is to amaze and arouse interest, which is why it is often said to be something more than just translation. Pedersen (2016, 78) agrees: "While marketing translations can help you express your marketing content in a different language, they might not hold the same creative style needed to 'wow' your audience in another country. As you can imagine, this requires something more than just translation – it's known as transcreation." As he goes on to say, to achieve client goals, satisfaction, and the potential of a marketing text, marketing translation on its own is not sufficient because its capabilities are limited. Transcreation offers the client a different perspective and a different approach to translating marketing texts. Among experts, there is a debate as to whether marketing translation is an independent activity or whether it is completely contained within transcreation (and vice versa). A translator of marketing texts may not always have enough knowledge in the advertising sphere or may lack a high level of creativity, which is a particularly important skill for these texts and must not be lacking in the transcreator (Risku, Pichler, & Wieser 2017). It is difficult to draw a strict line between these concepts. Their sphere of application (advertising and marketing) is basically the same. The difference arises in the requirements of the client, who has to decide what type of service they are interested in and what they need for it.

Transcreation and translation are services where experts express diverse views, mainly because it is difficult to point out how the two services differ from each other. When summarizing their distinct features, it is necessary to focus on the main goal of both services. During translation, the translator focuses on the reader and their perception of the final text. The transcreator focuses on the proper presentation of the company (or client) and their brand, which involves incorporating an emotional effect into their work alongside the original intention of the author. This view is shared by Pedersen

(2014, 62), who states that "translation is transferring words from one language to another. Transcreation is transferring brands and messages from one culture to another." The frequent reference to transcreation as something beyond translation means that that there is some kind of added value in this service. This approach casts a bad light on translation itself, which may thus seem inefficient and less valuable as translation agencies present transcreation as an exclusive service; however, the quality of the work, be it in transcreation or translation, remains unchanged and neither should be labeled as of a higher quality or more valuable. Nonetheless, transcreation is a translation method that a translator or transcreator can use to transform the ideas of the source text into the ideas of the target text.

1.3 Transcreation vs. Localization

The demand for localization emerged in the early 1980s as a result of the international expansion of the services of computer technology companies, such as Microsoft. The need to make technology and software products, especially computer programs, available to the general public in different parts of the world increased the interest in translation and localization services. Today, localization is no longer necessarily bound by the sphere of information technology. Various companies have implemented it in their services primarily to attract new clients (Thawdar 2018).

The Localization Industry Standards Association (Fry 2003) defines localization as "the process of modifying products or services to account for differences in distinct markets." This definition implies that it is an adaptation of the product to the local market, again with the aim of increasing sales. This is also suggested by Esselink (2003, 4), who states that "localization revolves around combining language and technology to produce a product that can cross cultural and language barriers. No more, no less." From a linguistic point of view, localization is the translation of a text or the translation of a certain section of characters. From a technical point of view, it is various changes to application software. As already pointed out, cultural adaptation, which is important in order to adapt the content appropriately to the target group, also plays a role in this service. In cultural adaptation, localization focuses on the graphic editing of a text or the modification of abbreviations and elements such as time, dates, units of measurement, and currency, all according to the conventions of a given locality (Mazur 2007).

There is an incorrect assumption that localization can be used in the same way as transcreation and thus be used to localize advertisements, slogans, or jingles. While the sphere of marketing and advertising is an area of interest for localization, this is only

the case to a certain extent. Localization primarily focuses on application software, specifically this can be a variety of programs that are helpful to the user and computer games (ibid.). The sphere of the application of localization and transcreation can be seen as the first difference between the two services, but there is room for disagreement here as well. The previous section pointed out that marketing translation is used to tailor websites, advertising brochures, banners, and newsletters to the target group. Antonucci (2017) says that localization is used when working with promotional material and texts as well as when translating websites. Once again, there is an inconsistency of definitions and theories.

In the advertising sphere, the idea of localization is often used. This is probably due to a lack of awareness of transcreation, given that it is not a widespread phenomenon. Cultural adaptation of the product and the need for translation combine localization and transcreation. They also share the same purpose, which is to make the final text at least as functional as the source text was in its target group. They are also linked by the sphere of marketing and advertising, in particular the process of website development, in which it is necessary for these two services to be compatible, as both are used in product adaptation. Localization focuses on the technical part of the website adaptation and does not depart from its focus on software. It is mainly about redesigning the site so that it is easy to understand and easy for users to navigate. Transcreation deals with the creative part of this process, focusing on the emotional effect, such as the graphic adaptation of images and the translation of product descriptions (Niki's Int'l Ltd. 2017). Esselink (2000) made another distinction, presenting specific localization; this process usually takes place simultaneously with product development so that all language versions of the final product can be released at the same time. Transcreation is mostly carried out only on a finished product that has already been released in the past for a certain target group.

Transcreation and localization share many common features, but they are not identical services. Their main difference lies in their field of application. For localization, this is the focus on software; for transcreation, it is advertising, which can form a part of the software product (either at the level of the promotion of the product or of the separate texts that the product contains). The intersection of these services in the sphere of marketing does not mean that they are interchangeable. Indeed, both are dedicated to different tasks in the process of adaptation, and it can be said that transcreation is used as a translation method within localization to deal with specific types of texts (Kabát 2022).

2 Advertising

Communication as an exchange of information between people is an integral part of every individual's life. Advertising can also be considered a type of communication. Communication takes place between the seller and the consumer. Advertising is part of marketing, which, according to Kotler et al. (2007, 40), is "a social and managerial process through which individuals and groups satisfy their needs and wants in the process of producing and changing products and values." There are many definitions of advertising, but the law is one of the best choices to follow. Act 147/2001 on advertising states in Section 2(1)(a) that "advertising is a demonstration, presentation or other communication in any form related to commercial, entrepreneurial, or other gainful activity with the aim of employing products on the market."

Many factors influence the success of advertising. One of them is the creative processing of the advertisement and its originality and the effort to differentiate it from the already available advertisements. This creative aspect of advertising involves creativity, but it is important to also empathize with the customer's feelings and thoughts and imagine what could help draw their attention to the product. Creativity is present and essential in creating a promotional medium, such as an advertising spot, logo, or slogan, and in all other phases of creating a successful advertisement (Světlík 2018).

2.1 Advertising slogans

Advertising content, or the complex of ideas that evokes an emotional effect on the potential consumer and directly affects them, is realized by advertising text. The difficult task of an advertising copywriter is to put themselves in the customer's shoes and think like them. Almost every advertisement has a textual component, which can be considered its core. This article will focus on slogans as a special form of advertising text (Tvrdoň 1999; Orgoňová & Maliková 2005).

Slogans have a high frequency of occurrence in advertising texts and perhaps can be seen as an integral part of advertising expression. They are one of the best means to attract attention and arouse interest. Slogans are easily remembered phrases, but it is not as easy to create a slogan as it might seem. As Dubovičiene and Skorupa (2014, 63) state, a slogan is "a short catchy phrase related to a specific brand, which defines, presents, and helps customers remember the key concepts of a brand or advertising campaign itself." Slogans create various connotations in relation to a particular product, service, or brand.

Křížek and Crha (2012, 117) state that a slogan is "a specific form of advertising message. It has the same function as any other advertising message: its main function is not to entertain, shock, make one laugh, make one emotional, or anything else — but to remind, offer, and sell." Slogans become part of the companies they represent and they reflect the unified style presented by the company, which is also unique. Their main role is to remind people of products, services, or a particular brand. Sometimes, because of a change in the overall style, a company changes its long-term slogan. There are also short-term slogans which are used for only one advertising campaign or which are linked to only one advertising event or product presentation. In addition, there are corporate slogans, which are tied to one specific company and which usually fall into the category of long-term slogans. Another type are product slogans, which promote only one product or service and are not bound to a whole company (ibid.).

When creating a slogan, several linguistic and stylistic aspects are used which affect both its form and content. It is difficult to create a good one, and so one can divide slogans into those that are appropriate and those that are not. The predispositions of an appropriate slogan include easy memorability, conciseness, originality, and attractiveness. The length of the slogan is linked to the aspect of memorability. Short texts are more memorable, so it is important not to create slogans that are too long as that could be counterproductive. Creating a good slogan is not that simple; indeed, capturing the main idea of a company or product in a short text so that it meets other important aspects is a complex process. An important factor in creating a concise slogan is also the entirety of the information provided by the client to the advertising copywriter which states their ideas about the slogan (e.g., whether it is the creation of a slogan that will represent the entire company or brand, a range of products, or a particular product). It is also necessary to mention the importance of the originality of the slogan, which not only distinguishes the company from the competition but also has a better effect on the customer, as the company does not rely only on uninteresting and overused clichés (Horňáková 2012; Křížek & Crha 2012). Originality is directly proportional to attractiveness, and, since humans are eternally curious creatures, something new and unknown is a much bigger attention-grabber than something already familiar. An appropriate element in creating a slogan is the use of humor, but this is not always necessary; it also depends on the company (whether it wants to appear formal and serious or allow itself to lighten the situation).

Apart from being too long, slogans can also suffer from sounding monotonous or clichéd, which will affect a slogan's overall attractiveness. Also, without enough knowledge of the target culture, a transcreator may use a word or phrase that offends

the target group; this may affect both the company's reputation and product sales. Such a mistake can trigger negative reactions that will stick with this company. Some international companies require their original slogans to be retained in countries where they are expanding their products. It is also preferable not to use foreign and complex words in slogans and to choose simpler words which are easier to remember (Horňáková 2012). One of the other shortcomings of slogans seems to be their mistranslation or literal translation, which may not work in the given market and does not convey the main idea of the company or product. Instead of translating slogans, it is important to transcreate them.

2.1.1 Stylistic aspects of advertising slogans

An important aspect in the creation of an advertising slogan is the use of various figures of speech that influence its overall impact. With their help, there is a better effectiveness in attracting attention, the application of advertising's appeal function, and an increase in sales, although the success of a slogan does not rest on these pillars alone. A monotonous text will never produce the same effect as a text with added figures of speech to enliven it and give it a subtle touch of the unusual. The aspect of originality in the creation of an advertising slogan is filled by various forms of word play. According to Tvrdoň (1999, 197), stylistic devices are divided into "phonetic devices, repetition devices, coordinative devices, and syntactic devices." Phonetic devices are often found in slogans; they can be in versified or unversified form and include the following characteristics (Vopálenská 2011; Tvrdoň 1999; Horňáková 2012; Křížek & Crha 2012):

- **Rhythm** uses the deliberate regular repetition of certain elements. The process is based on a certain sequence and regularity. The result is a rhythmic impulse that leads to an arousing of attention and a better fixation of the slogan.
- **Rhyme** is one tool of rhythmization which also creates the melodiousness of the text. It is the sound correspondence of the syllables of the end words. The advantage of a rhyming advertising slogan is better memorability provided that the proper length is maintained. Incorporating rhyme into an advertising slogan can also have drawbacks; for instance, the slogan may contain verbiage that only makes it longer, but it is essential to use it to achieve the appropriate rhyme. Another disadvantage in trying to achieve a rhyme in an advertising slogan is the wrong word order, which can seem very distracting.
- A **pun** is based on the use of sound-alike or identical names, but which are different in meaning (e.g., "Denial is a river in Egypt").

The most common repetition devices are characterized by the repetition of sounds, syllables, words, and groups of words, mostly for the purpose of emphasizing a keyword (Tvrdoň 1999; Vopálenská 2011):

- **Anaphora** uses the repetition of the same words/phrases at the beginning of a sentence. The repetitive word represents the core of an idea or a particular brand name, and the goal is to emphasize it; it can also be used as a gradation device, where adjectives are mainly repeated (e.g., "Good car, good price.")
- **Epistrophe** is the opposite of anaphora and is based on the repetition of words or groups of words at the end of a sentence (e.g., "I'll have Mentos, you'll have Mentos.")
- **Anadiplosis** uses the repetition of words/phrases at the end of one sentence and at the beginning of the next one (e.g., "We ordered a pizza pie. A pizza pie that changed our lives.")

Coordinative stylistic devices are another group used in the creation of a slogan; they are based on the accumulation of semantically related or different words, often connected by a main idea (Tvrdoň 1999; Vopálenská 2011):

- A **tautology** is based on the repetition of words with the same root morpheme which do not have to be of the same word class (e.g., "Live while alive.")
- A **dilogy** is distinguished within a tautology. It consists in the repetition of the same word in the same grammatical form, and its occurrence in advertising slogans is frequent (e.g., "Certainty is certainty.")
- **Polysyndeton** uses a significant repetition of conjunctions and is used in advertising at coordinating words and phrases, but it can seem stylistically clumsy ("Nor rain nor heat nor gloom.")
- **Asyndeton** has the opposite tendency. They are coordinating words and phrases without conjunctions, which increases the dynamics of the text (e.g., "I came, I saw, I conquered.")
- An **oxymoron** combines words that are mutually exclusive or mutually contradictory in meaning, thus increasing the dramatic character of the text (e.g., "A poor rich man.")
- A **paradox** is similar to an oxymoron and may seem nonsensical at first glance. It is not just a combination of two contradictory words but an entire expression that is characterized by a causal relationship between the expressions; however, unlike an oxymoron, the contrasting expressions make sense (e.g., "Big taste, small price.")

The last group is syntactic devices and constructions, which mostly have an expressive function (Tvrdoň 1999; Vopálenská 2011):

- **Aposiopesis**, also known as an unfinished utterance, is usually characterized by three dots. This creates space for the consumer to complement the advertising's dominant feature (the specific product or service being promoted) (e.g., "Buying at the right time ...")
- **Prosiopesis** is the opposite of aposiopesis, where, on the contrary, the beginning of the utterance is absent (e.g., "... without false tones")
- An **isolated constituent** emphasizes the part of the advertising slogan that is considered the most important (usually the brand), but it is still connected in meaning to the following clause (e.g., "Philips — Let's do things better") even though it has the function of a separate addition to the clause.
- A **singled-out constituent** uses a demonstrative pronoun and a predicate noun, thereby emphasizing the given statement (e.g., "Frolo, this is ice cream.")
- An **ellipsis** is based on the omission of informationally irrelevant parts of the sentence and helps to make the text more concise and dynamic. Usually a predicate is omitted from advertising slogans (e.g., "A healthy mind in a healthy body.")

Figurative stylistic devices used in the creation of advertising slogans include metaphors, which have a frequent occurrence in this sphere. Devices such as metonymy, personification, simile, and epithet are also used; other stylistic devices are used to a much lesser extent (ibid.).

3 Analysis of advertising slogans

This article analyzes selected well-known advertising slogans with a focus on slogans transcreated from English into Slovak. Different linguistic and stylistic aspects of individual slogans in Slovak and English are examined and their effectiveness is evaluated upon the basis of stylistic devices. The translation process of transcreation, combined with the use of figures of speech, is also highlighted.

3.1 Vanish

Vanish is a brand owned by the British company Reckitt Benckiser (2021), which is engaged in the production of cleaning and hygiene products. Vanish focuses on safe and effective stain removal and is one of the leading brands on the market. Looking at this issue from a stereotypical point of view, the advertisements, slogans, and even the

bright pink packaging of the product suggest a primary focus on a female audience. Since 2011, the following slogan has been part of Vanish's international marketing campaign:

Table 1: ***Vanish***

Vanish. Trust pink. Forget stains.[5]	Vanish. Škvŕn a špiny sa zbavíš![6] (Vanish. Get rid of stains and grime!)

The original slogan and its transcreated form both use a singled-out constituent, which is the name of the brand. This is an attempt to emphasize the brand as the most important thing in the advertising slogan. Defining the brand by a separate, simple sentence word in both languages also provides better memorability. The English original is a simple statement, and various stylistic devices are absent. However, the brevity and conciseness of this slogan is the reason it is so simple and easy to remember. The process of transcreation of the slogan into Slovak required various changes in its form. Memorability is mainly influenced by the rhythmic impulse and the melodicity of the text, which is formed by the sound correspondence of the syllables of the words (Vanish — *zbavíš*). The inversion used in transcreation helps to create rhythmicity.

In the original slogan, the emphasis is placed first on the brand presented in the slogan, then on the physical appearance of the product (a pink color), which is intended to attract attention and ultimately the function of the product. The result of transcreation into Slovak also places the emphasis first on the brand and then on the function of the product, while its appearance is neglected. Another interesting feature is the change of the mood, as the slogan changes from the original declarative statement to an exclamation statement, which enhances the emotional effect. The transcreated slogan is suitably reinterpreted; it ultimately may even seem better than the original, especially because of its melodicity and catchiness.

3.2 Garnier

Garnier is owned by L'Oréal, one of the largest cosmetics and hair care companies in the world. The products of this brand are largely aimed at females, as can be seen in the advertisements and the following slogan:

[5] https://www.youtube.com/watch?v=KD8iyHd-uh8
[6] https://youtu.be/Mh6I-EFAO6g?t=164

Table 2: ***Garnier***

Slogan in English	Transcreation of the slogan into Slovak
Take care. Garnier.[7]	Staraj sa o seba. Garnier.[8] (Take care of yourself. Garnier.)

In this case, an isolated constituent is used in both slogans, but it is placed at the end of the utterance, which may be intentional because it is the brand name and not the statement that will resonate in the consumer's mind. There is a rhythmic pulse in the original slogan due to the same number of syllables and a hint of rhyme (care — Garnier). Both slogans take the form of a declarative sentence and have a recommendatory character, but the Slovak equivalent shows an increased emphasis on the execution of this activity. Interestingly, this statement is polysemous, and this attribute is visible in the transcreated statement. *Staraj sa o seba* can have two meanings:

- to take care of your appearance, skin, and hair (with the help of this brand's products)
- not to pay attention to or meddle in other people's lives

The second meaning was obviously not the intention of the transcreator, but it can act as a humorous addition to the statement, which will promote memorability but sometimes also risk evoking negative connotations. Here, the transcreation can be considered a literal translation, but it has no negative impact on the overall impression of the slogan; it is simple, concise, and sufficiently representative.

3.3 Fanta

A brand of popular fruit-flavored soft drinks, of which orange lemonade is certainly the best known. It was launched in 1940, making it Coca-Cola's second oldest brand (2021). The company has chosen the following as the long-term slogan for this product:

Table 3: ***Fanta***

Slogan in English	Transcreation of the slogan into Slovak
More Fanta. Less serious.[9]	Fanta. Viac zábavy, menej nudy.[10] (Fanta. More fun, less boredom.)

[7] http://www.logovaults.com/logo/1138-garnier-take-care-logo-jpg
[8] https://youtu.be/Mh6I-EFAO6g?t=54
[9] https://www.youtube.com/watch?v=PuqzS9Wc3WM
[10] https://www.youtube.com/watch?v=PTyIaDQMXis

The original slogan can be interpreted in two ways. The first is that the advertising copywriter has used an imaginative way of incorporating the product branding that feels natural and yet is creative. In terms of orthoepy, this is an interesting move, as the word "fun" has a similar pronunciation as the first syllable of Fanta. It was thus possible to use the name Fanta to incorporate the brand and "fun" into the slogan. The second interpretation omits the above phenomena and the intention of the transcreator could be explained as — the more Fanta, the more one relaxes and is less serious. In the newly created slogan, the transcreator used an isolated constituent to emphasize the brand. Both statements comprise two declarative sentences, but the use of asyndeton was applied in the Slovak version, as the conjunction *a* is absent in the phrase *viac zábavy, menej nudy*. Interestingly, it was possible to keep the paradox in both phrases. These statements have a causal relationship, containing contrasting ideas (*more* fun — *less* boredom), but they make sense. The Slovak version could be considered a literal transcreation, which is less imaginative than the source text; this is not because of the transcreator's error but rather because of the impossibility of using such a pun in Slovak. Here, there could be the alternative slogan *Viac Fantazie, menej nudy*, which would preserve the original idea while being adapted to the Slovak market.

3.4 Sprite

This popular lemon and lime-flavored soft drink is produced and owned by Coca-Cola. Both advertisements and slogans are targeted at a wide range of potential customers. The best-known long-term slogan of this brand is:

Table 4: ***Sprite***

Slogan in English	**Transcreation of the slogan into Slovak**
Obey your thirst.[11]	Imidž je nanič. Počúvaj svoj smäd.[12] (Image is worthless. Obey your thirst.)

Here, the transcreated slogan comprises two statements instead of the original one. The first statement reflects the creativity of the transcreator, while the second is considered to be a literal transcreation. This slogan nonetheless differs from the previous two examples (Fanta and Garnier) as they did not contain any added statement. In the original slogan, there are no special stylistic or linguistic devices. There is a declarative sentence

[11] https://chadsouthwick.wordpress.com/2020/01/17/obey-your-thirst/

[12] https://www.youtube.com/watch?v=-ykBCbJ-Lz8. (An identical slogan in Slovak also exists, but it could not be found.)

which has a hint of a command in it. It is a simple phrase that the transcreator tried to make more interesting in Slovak, even though the phrase, which includes the rhyme *imidž je nanič*, is not directly related to Sprite. It is not about clothing or accessories, and therefore the product should not directly affect your image; however, the phrase can also be interpreted to mean that image is not as important in life as we might think and that we should focus on more important things — obeying our thirst and therefore buying Sprite. Such an interpretation, however, may seem a bit absurd. Although we need to care about our drinking habits, we do not need carbonated soft drinks. A key role in the transcreated slogan is played by the same number of syllables in both statements, creating a rhythmic pulse, and the overall rhythm adds to the memorability. Ultimately, the added phrase is an appropriate step. It helps the slogan not look vapid, and it adds a certain vitality.

3.5 KitKat

This chocolate bar was originally called Rowntree's Chocolate Crisp and was owned by Rowntree's, a British confectionery company. It was later acquired by Nestlé. KitKat has gained popularity with everyone regardless of age or gender, and it is more than possible that the iconic slogan, which has been used since 1957, has helped (Gilles 2021):

Table 5: ***KitKat***

Slogan in English	**Transcreation of the slogan into Slovak**
Have a break, have a KitKat.[13]	Daj si pauzu, daj si KitKat.[14] (Have a break, have a KitKat.)

This is another example of literal transcreation. There is rhythm in both forms of the slogan, but in the transcreated statement there is a noticeable rhythmic pulse that is caused by the same number of syllables in both parts of the slogan. The stylistic device retained by the transcreator is anaphora, originally expressed by the verb "have" and in Slovak by the modal verb *dať si*, which both express the imperative mood, even though the statements are formed by means of a declarative sentence. Anaphora and rhythm contribute to better memorability. The emphasis is placed on the end of the statement, and the brand of the product will resonate in the mind of the potential customer. As

[13] https://www.youtube.com/watch?v=1z84FkAlM78
[14] https://www.youtube.com/watch?v=6jVV4QnHoCc

already mentioned, the slogan in this form has been on the market for many years. It is a long-term slogan and thrives whether it is in its original or transcreated form.

3.6 Toffifee

Toffifee has been made by the German company Storck (2021) since 1973 and is distributed to over 100 countries around the world. The brand sticks to its long-term slogan:

Table 6: ***Toffifee***

Slogan in English	**Transcreation of the slogan into Slovak**
… there's so much fun in Toffifee![15]	… radosť sa skrýva v Toffifee![16] (… joy is hidden in Toffifee!)

Focusing on the stylistic figures, it is clear that prosiopesis is used in both cases. Neither slogan would lose its meaning if it were removed, but it is an embellishing element. Furthermore, personification is used in the slogans and is more pronounced in the transcreated variant. The statements take the form of an exclamatory sentence, which should gently encourage their plausibility. When transcreating the word "fun" into Slovak, there was a slight shift. The transcreator used the word *radosť* instead of *zábava*. This change does not alter the meaning of the transcreated statement and is not a significant shift. Here, one could use the word "joy" in the original as well because of the presentation of the product. The advertisement portrays a contented and happy family, trying to evoke an atmosphere of family well-being. The icing on the cake is Toffifee — and the joy it should bring to the family; however, the use of "fun" in the original is not distracting. The brand name is placed at the end of the slogan so that it resonates while also answering the question of where joy lies.

3.7 Calgon

Like Vanish, Calgon is owned by Reckitt Benckiser. Its main function is to soften water and remove limescale and dirt from washing machines. The brand has long used the well-known slogan:

[15] https://www.storck.co.uk/en/brands/toffifee/
[16] https://www.toffifee.sk/sk/uvod/

Table 7: ***Calgon***

Slogan in English	Transcreation of the slogan into Slovak
Washing machines live longer with Calgon![17]	Dlhý život pre vašu práčku, váš Calgon![18] (Long life for your washing machine, your Calgon!)

Both slogans take the form of an exclamatory sentence, which has the effect of intensifying the emotional effect. Here, it is not quite a literal transcreation, because certain changes have occurred in the statement, but the main idea remains preserved. Personification is present in both statements but is more clearly visible in the original. The brand name has once again been used to answer the question of what guarantees the long life of your washing machine and is placed at the end to resonate in the mind of the potential consumer. The Slovak version uses anadiplosis, as we see the repetition of the word *váš* at the end of one and at the beginning of the second part of the statement. The alternation of accented and unaccented syllables creates a rhythmic pulse. The overall rhythm of this slogan is one reason it is so easy to remember and is so well known. In this case, the transcribed version is at least as well mastered as the original.

3.8 Mercedes

This successful German automotive company has been a symbol of reliability for many people. The company has bet on originality and gently provokes its competitors:

Table 8: ***Mercedes***

Slogan in English	Transcreation of the slogan into Slovak
The best or nothing.[19]	Prečo nie bavorák? Lebo medveď![20] (Why not a BMW? Because of the bear!)

The transcreator used substantial creativity because the source statement does not seem to exist. The original takes the form of a simple declarative statement and does not have stylistic or other linguistic devices. The transcreated statement takes the form of a question and answer, which is expressed by means of an exclamatory sentence, enhancing the emotionality of the slogan. At the same time, the statement refers to a competing brand and tries to point out why a potential consumer should not turn to a

[17] https://vimeo.com/140035600
[18] https://www.youtube.com/watch?v=xvnR-B7VkD4. (An identical slogan in Slovak also exists, but it could not be found.)
[19] https://www.youtube.com/watch?v=HkV2dflBvcA
[20] https://www.youtube.com/watch?v=yTLKsq_xCuQ

competitor when given the better choice of Mercedes. The answer is meant to be humorous and lighten the situation. The use of the words *bavorák*[21] and *medveď* in a figurative sense can be considered uses of slang. These words are mostly familiar (perhaps less so for the older generation, who are probably not the target group of the company) but their use in the slogan is rather unusual, albeit positive. This is a creative use of transcreation that has accomplished its goal of capturing attention and making its humor memorable.

Internationally known companies (e.g., McDonald's) use their iconic advertising slogans in the original English version around the world without undergoing a transcreation process. They are popular with the younger generation, but the language barrier can be perceptible with older folk. Adapting the slogan to the target culture, market, and age of the consumer can be a key factor in the impact of a product's marketability. The slogan of any popular company that resonates in the consumer's head in their mother tongue is more memorable and leaves a different impression than if they had only heard it in the original.

The analysis shows a division of the selected advertising slogans into more distinct and less distinct ones. Most of the time, literal transcreation is used, or at least part of the statement is literally transcreated, but this is not a negative aspect because the statement can still look interesting (e.g., KitKat). There is a presence of various linguistic and stylistic devices used to embellish this statement, mainly for the sake of better memorability. The most commonly used stylistic devices are rhyme and rhythm. They are especially visible in Slovak and are one of the first things that the transcreator tries to incorporate into the slogan, but this is not a negative thing at all. Anaphora, ellipsis, and asyndeton are other appropriate and common devices occurring during the transcreation of selected slogans. Indeed, slogans are all about catchiness, sonority, and attractiveness. They need to be noticeable and not shallow. The counterpart to literal transcreation is, for example, the Mercedes slogan, in which there is a high degree of creativity, slang, humor, and everything else that catches the customer's eye, while the source statement does not seem to exist.

The demands on the transcreator are quite high. Apart from a perfect knowledge of a foreign language, their creativity is their most important skill; however, this can be suppressed by the client's requirements. It is best for a transcreator to have a free hand, but with that comes a lot of responsibility as the slogan can greatly affect the sales of the

[21] Interestingly, this colloquial expression for a BMW car is also listed on the dictionary portal of the Ľ. Štúr Institute of Linguistics of the Slovak Academy of Sciences.

products. Based on the comparison of individual slogans, transcreators are advised to constantly educate themselves, be that in the market or linguistics, to empathize with the consumer and focus on the target group. Slogans addressed to the younger generation should be something special, perhaps subtly provocative and a bit cheeky, because this group of customers cares about modernity and image and tries to stand out. The older generation prefers a focus on reliability and quality. It is important for transcreators to take into account similar details that can significantly affect the overall result of their work. Combining all this with the client's requirements is a challenging task.

Conclusion

As interest in translation deepens, awareness of the terms involved needs to be broadened. This article discussed the definition of transcreation as a method used for the highly creative translation that is required in decoding the main idea of a slogan in the source language and translating this into a newly created slogan for a new target audience along with all the cultural requisites. When comparing transcreation with translation or marketing translation, there are commonalities and differences. The analysis of the sources has revealed that transcreation is an effective translation process. It is also a procedure that can be used within localization. Advertising is a field where transcreation can be very effectively applied. This is an important part for understanding the importance of transcreation as well as its potential in this sphere.

The empirical part of the article was to analyze selected advertising slogans transcreated from English into Slovak from the translator's point of view. The analysis was based on the theoretical knowledge of advertising slogans, relying mainly on the characteristics of what makes a quality slogan. To meet all the criteria of a good slogan, it is sometimes necessary to use different linguistic and stylistic devices. The most often used linguistic and stylistic devices are rhyme, rhythm, and anaphora. Stylistic devices were identified in the selected slogans, which were evaluated in terms of the overall effect of the transcreated slogan.

Although relatively young, transcreation is an important activity. It is a specific type of service that offers the client something new and something more than just translation itself. It is about trying to persuade the customer to buy, but it is more than that. The transcreator must be tenacious and have perfect command of the language and of the mind of the potential consumer. They must think like the consumer. Transcreation is a translation method that makes it possible to create a new target text based on the client's or product's requirements and that does not necessarily resemble the source text.

In the translation industry, transcreation is a service used in different countries to promote a well-known company with the same success but in a different way. Transcreation opens up a world of possibilities for the client: expanding into new markets, becoming more successful, and increasing sales of products and services.

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