

Professional Translators' Attitudes Towards Control and Autonomy in the Human-Centered AI Era: Presenting a Survey Study

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Abstract. This paper introduces the theoretical and methodological background for a study on attitudes of US-based professional translators towards self-perceived “control” and “autonomy” in their present and future use of translation technologies. In Human-Centered AI [HCAI] and “intelligence augmentation” approaches, human agents retain full control and autonomy, in parallel to high levels of automation. The rationale for this study is that the normal cycle of translation technology adoption implies “human adaptation”, meaning that translation technologies are developed first, and then it is humans that need to be trained to adapt to an existing technology or workflow. Since we are at the dawn of this new AI technological revolution, it is of utmost importance to identify users’ needs, expectations and attitudes to develop tools that professionals can easily adopt, rather than present tools developed without their feedback that might lead to resistance to adoption. Methodologically, the project involves a self-administered online Qualtrics survey that was available in May-June 2024. This survey includes both quantitative and qualitative questions related to current attitudes towards “perceived control” and autonomy, as well as how professionals expect their autonomy to be respected in the AI era. The present paper presents an overview of the rationale for the study, the theoretical background, research questions, data collection instruments and how the collected data will be analyzed.

Keywords: Human-entered AI, translation technologies, control, autonomy, user experience.

1 Introduction: AI, Translation Technologies and Resistance to Adoption

During the last year we have experienced the meteoric rise of generative large language models [LLMs] and Artificial Intelligence [AI] apps. In professional translation, these generative LLMs have started to be integrated in translation environments and management workflows [e.g., 11], leading to what could be the next technological revolution in translation technologies. The potential disruption brought by these new technologies could impact how professionals interact with existing translation technologies, how these professionals produce or help produce translations, or how they communicate and negotiate with clients, Language Service Providers [LSPs] and other agents in the

translation production chain. It also has the potential to impact positively or negatively professionals' attitudes towards these technologies, especially if they perceive that they are forced upon them, they do not align with their processing styles or expectations, or they lead to higher cognitive load or cognitive friction [8, 32].

In the midst of this revolution, these novel technologies have raised concerns about the replacement of professional translators in different tasks through automation and AI integrations [e.g., 29, 26]. These potential applications of LLMs and AI in the translation and localization ecosystem are many, such as project management, terminology extraction, language improvement, neural machine translation functionalities, automatic post editing or quality estimation, to mention a few [11, 29].

In general, concerns about replacement or degradation of job conditions have been often found to result in resistance to adoption of translation technologies. Over the years, the cycle of adoption and resistance to adoption is documented in published literature. Survey and focus group studies have reported that professionals resist adoption of new technological developments at the early stages of implementation, such as the introduction of translation memory [TM] tools, neural machine translation post-editing [MTPE], workflow automation or the “platformization” of a segment of the translation market [e.g., 19, 21, 9, 24, 13, 14]. Among the many reasons for this resistance to adoption, existing literature has pointed to the lack of involvement of professionals in the actual development and implementation of new technologies, workflows, or integrations. It has also been attributed to their lack of involvement in economic decisions related to how translation technologies change the compensation or job relation environments [10]. As Briva Iglesias [5] indicates, the regular process of technology adoption in the language service industry is normally done through human adaptation, meaning that translation technologies are developed first, and then it is humans that need to be trained to adapt to an existing technology or workflow. Briva Iglesias claims that research in the opposite direction is needed to foster the adoption of technologies: developing technologies that meet users' needs and expectations to avoid the rejection of these technologies and help leveraging the advances that they might provide.

One of the main issues that professionals attribute to the encroachment of technologies into their daily jobs is the loss of control and autonomy. This is a common phenomenon across the vast number of fields related to AI. A survey study across different domains identified that the prime concerns of AI experts are the loss of human agency and loss of control over their lives or professional endeavors. This also applies to translation as a profession. Previous studies have also identified that professional translators are concerned about this loss of human agency or control [28], and new AI applications will potentially lead to the same issue.

In this context, the objective of this study is to research precisely how professional translators perceive or conceptualize the notions of “control” and “autonomy”, two essential features of emerging Human-Centered AI approaches [HCAI] [30, 31]. According to Schneiderman, one of the main goals of HCAI is to put “humans at the center by increasing human control, even when there are high levels of computer automation and AI algorithms” [31: 113]. He claims that high levels of human control and high levels of automation are possible, moving towards a paradigm in which the inevitable rise of AI does not necessarily lead to human in the loop AI paradigms. These “human in the

loop” paradigms often respond to development or architectural approaches to AI. These approaches by AI architects tend to favor the central role of AI systems, assuming a subservient role of the human in the process. These approaches are also reductive in their understanding of human cognition. As Van Rooij et al [34:1] indicate from the perspective of cognitive science:

When we think these systems [AI algorithms] capture something deep about ourselves and our thinking, we induce distorted and impoverished images of ourselves and our cognition.

In this sense, if AI tools and implementations in translation are going to be “human-centered” anytime soon, these tools should be developed with an eye on users’ control and autonomy to increase users’ satisfaction, rates of adoption, etc. It is here where the study of users’ needs, perceptions and attitudes might provide important clues to understand how professionals perceive control and autonomy in AI-driven translation workflows.

2 Control, Autonomy and Human Centered AI Approaches in Translation

This study is inspired by the recent introduction of the notions of “human-centered AI” and “augmented intelligence/cognition” in translation studies [23, 15, 16]. The main difference between general AI and HCAI is that the former intends to emulate human cognitive processing and replace humans in certain tasks, while HCAI involves augmenting human function [30, 31, 7]. Thus, HCAI and one of its sub-areas, “intelligence augmentation” [24], are focused on the integration of AI with human cognitive processes to enhance and improve the efficiency, efficacy or problem-solving abilities of human actors. As previously mentioned, the main objective is to put “the human at the center”, while maintaining high levels of automation. In HCAI, AI is seen as “complementary to human intelligence and [it] will not take over human function” [27: 192]. Rather than modelling cognitive processes of humans for their substitution, HCAI research is directed to “enhance human capacities and improve human experiences rather than replacing them through automation” [30:1]. As such, AI implementation mainly intend to amplify, augment, and enhance human performance, while at the same time supporting “human self-efficacy, encourage creativity, clarify responsibility, and facilitate social participation” [30: 120]. Humans and AI apps and algorithms are seen as complementary agents whose strengths are united for a common goal, but always keeping humans firmly in control [3, 16].

HCAI applications offer innumerable advantages in a broad range of fields. They offer capabilities such as automating tasks that are redundant, they can enhance predictions, offer decision support or can help provide better personalization. Nevertheless, in their introduction to a special issue on human autonomy through HCAI, Väänänen, K. et al [33] argue that these technologies also “pose a threat to human autonomy by

over-optimizing the workflow, hyper-personalization, or by not giving users sufficient choice, control, or decision-making opportunities” [33: np]. “Autonomy” here is understood as either the agent or the human having control and being able to make fully independent decisions [e.g., 3].¹ These issues require further research to address the identification of “approaches that could enable us to develop AI-based technologies without jeopardizing human control, agency, and autonomy” [33: np]. The benefits of putting human at the center are many: in Human-Computer interaction, it has been found that users that feel out of control can potentially feel more stress, anxiety and low esteem. They can also experience more anger and hostility [15]. Therefore, designers of human-computer interfaces need to consider the users’ sense of control as an important determinant of the overall usability of any system [15].

In this context, and if language industry or technological giants intend to “augment” human translators’ cognitive abilities [both professional and non-professionals alike], notions such as control and autonomy in relation to AI and automation deserve a closer look. This is especially true at a time when tech companies are rushing to test and integrate AI applications in translation and localization workflows, such as the MemoQ AGT Generative AI plugin for translation environments (Moorkens et al., 2024) [20, 29]. These integrations might also include prompt engineering [18]. In published literature on professional translators’ attitudes towards language technologies, autonomy and control often appear as desired qualities that should be embedded in emergent technologies [22]. In the upcoming AI era, translators should certainly perceive that they are at the center of the cognitive system and in control. But what does self-perceived control and autonomy mean for professionals? How do they conceptualize these notions in the upcoming AI era?

3 The Study

After this theoretical introduction, the following sections describe the study on professionals’ attitudes in the United States towards “control” and “autonomy” in technological environments. After presenting the research questions, the paper introduces the methodology and the survey that was distributed to US-based professional translators in May-June, 2024. It also briefly describes the qualitative and quantitative analyses that will be conducted.

3.1 Research Questions

The following are the overall research questions for the survey study:

RQ1: What are the attitudes towards the human-AI interface in the context of translation technology use and the potential to “augment” human cognition?

RQ2: What does “autonomy” and “control” mean for professional translators working with translation technologies in the age of AI?

¹ AI technologies also present a few issues, such as ethical and transparency challenges, to name a few.

RQ3: Which potential types of implementations or features will enhance the self-perceived sense of “control” and “autonomy” in professional translators in their interactions with translation technologies?

RQ4: Are there any correlations between positive or negative attitudes towards translation technologies in general, and AI in particular, and the attitudes towards the notions of “control” and “autonomy” for professional translators?

RQ5: Are there any correlations between the different data points [age, years working with translation technology, freelance vs. in-house translator, etc.] and positive or negative attitudes towards AI, and translators’ perceived “control” and “autonomy”?

3.2 Methodology

Methodologically, the study uses both qualitative and quantitative methods. The main data collection instrument is a self-administered online Qualtrics survey. Ethical approval was obtained by the Institutional Review Board at Rutgers University. This survey was distributed through professional organizations in the USA in May-June 2024. It was distributed among key professional organizations in the USA. To recruit more participants, snowball sampling [4, 12] was used, asking potential subjects to resend the recruitment email to personal contacts, emailing lists or professional social media sites [e.g. LinkedIn]. It is expected that 50/100 respondents might take the survey.

The online self-administered survey contains four distinct sections.

Part 1. The initial part of the study included demographic information [years of experience, education, language combinations, specializations, current job arrangement (in-house, freelance), specializations, etc.].

Part 2. The second part of the study included information related to their current use of translation technologies [type of technologies, frequency of use].

Part 3. The main part of the study included questions related to “perceived control” over the translation technologies currently used, such as perception of control, whether they are required to use required by clients/management/LSPs, personal perceptions of control over technologies, possibilities of personalization, types of technologies, features, integrations, User Interfaces etc. that they would like to have more control over and how, etc.

Part 4. Perceptions of control and autonomy in the near future in AI-enhanced translation environments [expected levels of control and autonomy, tasks or subcomponents of the translation process that will be more impacted by AI implementation, etc.].

3.3 Data Analysis

The survey includes both qualitative and quantitative data. Data was anonymized and stored in a secure server. Qualitative data in open-ended questions will be analyzed using thematic analysis using the NVivo analysis tool. Quantitative data related to personal information will consist of numerical data, while attitudinal questions will be primarily collected using 1-100 linear Likert scales for more precise measurements.

Descriptive statistics and linear regression analysis will be conducted using R. It is expected that by the time of the conference preliminary data will be available to offer a snapshot of attitudes towards control and autonomy in AI-Enhanced translation environments.

4 Conclusions

This paper has introduced the theoretical and methodological foundations for a study on the notions of translator’s perceived “control” and “autonomy” while using translation technologies. This study will collect data that might be valuable to help develop AI-enhanced technologies that can be more easily adopted and that face less resistance to adoption. One of the basic premises of this study is that resistance to adoption and satisfaction with translation technology can be mitigated if technologies can be fully individualized and/or controlled by actual users, rather than being imposed top-down by LSPs or clients. In the upcoming era of “Human-centered AI”, ethical and sustainable approaches that put the translators at the center can lead to higher satisfaction and less potential stress, anxiety and low esteem, or even anger and hostility towards new technologies.

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