From responsibilities to responsibility: a study of the effects of translation workflow automation

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ABSTRACT

This article studies the effects of automating a job allocation system, in a translation company of approximately 130 employees. Perceptions of the effects of automation on roles and responsibilities were collected through a short survey, answered by 38 project managers and translators. This evolved to an analysis of effects on the deeper notion of professional responsibility, related to accountability, control, engagement and understanding of a translation workflow. The results first reflect on positive and negative effects of automation, notably indicating that automation can both restrict and enhance professional roles and autonomy. The focus then turns to perceptions of workers' main responsibilities, when impacted by a new automated process. One key result suggests increased difficulty in prioritising these duties. Furthermore, translators prefer not being restricted by their specialisations and favour the development of new skills. Another relevant finding of the study shows in-house translators as being the group who alludes more frequently to concepts related to responsibility. The article contributes to the study of socio-technical changes in the translation industry, suggesting that responsibility plays an important part in highlighting the effects of technology, not only on professional and organisational practices, but also on individual perceptions of accountability and job satisfaction.

KEYWORDS

Workplace study, questionnaire study, translation workflow automation, impact of technology, job allocation system, job descriptions, professional responsibility, personal responsibility.

1. Introduction

Over recent decades, technological developments have contributed to dramatic changes in the translation industry, impacting workplaces and the nature of the work carried out (Drugan 2013; Folaron 2010; Garcia 2009). However, as Mossop argues, "[w]hat is new here is not technological change per se but a change in the way humans are organized to do work" (2006: 791). This idea has been supported by other scholars in suggesting that it is the business practices implemented that induce these changes, rather than the tools that facilitate them (Garcia 2009; LeBlanc 2013; LeBlanc 2017; do Carmo 2020).

The adoption of such technologies is often prompted by business pressures and demands for increased productivity. However, this growing "fetishization of efficiency" can consequently impact and distract from other important aspects of the industry (Kenny *et al*. 2020: 4), affecting the professionals working within it, as well as the end products (LeBlanc 2017). It is important to direct attention to translation as a business and to the

impact of technology implementation by way of research that looks at the human side of human-computer interaction (HCI). Among other reasons for doing so, the common failure to acknowledge system development as not just technical change but socio-technical change can lead to failure of the very systems themselves (Olohan 2011; Sakamoto and Yamada 2020).

Studies in recent years have seen a shift in focus from texts and translation as a product to the people involved in the translation process and their external influences (Abdallah 2012; Dam and Zethsen 2009; Gough *et al*. 2023; Kuznik and Verd 2010). However, despite the significant impact technology has had on professionals in the industry, there remains a dearth of workplace studies exploring the perspectives of different actors in professional translation.

To study personal and collective perceptions of professional roles, it is important to consider the concept of responsibility. The communication of professional responsibilities attached to a specific role can be supported by formal and explicit "job descriptions" (Gan and Kleiner 2005). However, a phenomenon known as "dejobbing" (Dessler 2004) moves away from the traditional compartmentalisation of responsibilities in job descriptions towards more innovative and dynamic approaches. Professionals are prompted less by their job descriptions and more by the changing demands of their environment (Azmi 2007). From this perspective, job roles become more fluid, and responsibilities are broadened to extend beyond the scope of the job descriptions. All of this can make the responsibilities assigned to a given individual more challenging to recognise and define.

Responsibility has been discussed in Translation Studies in the context of social responsibility in translation and interpreting (Drugan 2017; Drugan and Tipton 2017), whilst a recent study by Risku *et al*. (2021) highlighted the discord surrounding accountabilities and responsibilities within a workplace as a potential source of conflict. Studies of translation project management have also suggested that the definition of responsibilities can pose a challenge and may result in potential confusion and conflict within translation workflows (Abdallah 2012; Gough *et al*. 2023; Risku *et al*. 2021; Sakamoto 2019).

Despite these examples of studies concerning different forms of responsibility, we detected a general difficulty in clarifying what the term entails and how objective and measurable it can be. In fact, the word "responsibility" can be used in the plural or singular form and as a countable or an uncountable noun, taking on different meanings that can create ambiguity in those studies exploring it. According to Collins Dictionary (n.d.), "responsibilities", as a countable noun, are defined as duties and tasks that are part of one's job, usually described in detail in job descriptions. "Responsibility", as an uncountable noun, refers to a moral obligation, often not expressed but perceived, to take decisions or autonomously act upon something, or to take the blame for something that

has happened. In this sense, responsibility is very closely linked to the notion of accountability, as well as to concepts like control, ownership and engagement. This is also linked to what we might refer to as personal responsibility. In this study, we use these two terms according to the definitions given above: "responsibilities" as duties and tasks, and "responsibility" as a concept related to accountability, control, ownership, and engagement.

As responsibilities are associated with tasks and duties, they can arguably be measured using statistics, which are highly regarded in the industry and by economists (Abdallah 2012). Furthermore, job descriptions can be used to define metrics for key performance indicators (KPIs).

However, these objective figures can create a false sense of a full understanding of a complex reality, as they leave out important factors affecting performance, such as individual dedication and perceptions of professional or moral obligation (do Carmo 2020). These factors, related not to responsibilities but to responsibility, are more difficult to measure and manage in a dynamic workplace.

This article contributes to the expansion of translation workplace studies by focusing on the process of technology implementation and on the concept of responsibility in order to help uncover its complexity. The study began with the aim of exploring responsibilities in the sense of role-based duties, collecting reflections by different professionals on the evolution of their responsibilities. However, in the collected data, references to the broader notion of responsibility were identified, which were then analysed as indicators of deeper concerns about the personal and social effects of these changes. Analysing responsibilities and responsibility separately, according to their definitions in the Collins Dictionary, created a multi-layered study with which to unpack this multidimensional concept.

2. Methodology

2.1. Context: evolution of the automation of job allocation processes

This case study looks into the situation of a medium-sized translation company, which will be referred to as "the company" throughout this article. Since 2016, the company had been undergoing a process of developing and testing a new component of the project management system, dedicated to translation job allocation (the "job allocation system," or simply "JAS"). As the implementation of JAS at the company was still in progress at the time, three different job allocation methods were taken into account in the study as necessary:

  1) The pre-existing job allocation method, in which project managers (PMs) would consult a database of translators and, guided by filters

applied to vendor profiles, select those who were deemed to be the best-suited for each translation job. Translators were offered jobs and accepted or rejected them by email.

2) JAS, which was being implemented during the study, could be accessed not only by PMs but also by freelance translators to update their profiles in the vendor database. During job allocation, the PMs created a pool of translators whom they considered appropriate for each job, which would be announced simultaneously via JAS to all translators in that pool. JAS would then automatically allocate the work to the first translator to accept the job.

3) The final job allocation method was planned for the near future and added another layer of automation to JAS. An algorithm ranked the translators automatically, according to predefined criteria, and determined the order by which translators would be contacted to accept or reject each job offered, without intervention by PMs.

This concept of "lights-out project management", in which automated systems take on tasks traditionally performed by human PMs, is not entirely new (DePalma 2017) and is often motivated by the aim of increasing efficiency. By comparison to the traditional human PM, algorithm-based translator-client matching methods can present appealing advantages for translation companies and their clients, such as the capacity to store and process large volumes of data for translator selection, in addition to typically being cheaper and less time-consuming (Garcia 2015; Sakamoto 2018). Methods like this have been described as somewhat of a middle ground between machine translation and conventional LSP services (Garcia 2015).

As the automated version of JAS was not yet live at the time of the study and many participants had little to no knowledge of the upcoming changes, participants were sent emails outlining the system changes prior to receiving the questionnaire so as to ensure that they understood the background behind the questions and could give informed answers accordingly. Although the application of new technology is typically only studied after it has already happened (Garcia 2009), by analysing the implementation of this system during the development stages, this study captures users' first impressions and evaluations of the same, whilst also addressing the demand for more involvement of users in the development of technology and processes (Sakamoto 2019).

2.2. Study participants

Research was conducted by means of an online questionnaire. A total of 68 users were contacted and the questionnaire was completed by 38 participants, each belonging to one of three key groups: 11 PMs, 18 in-house translators, and 9 freelance translators.

PMs and translators were chosen as fitting participants for this study not only as the primary users of these systems, but also as central actors in translation production, both within the company and the industry as a whole. The questionnaire was offered to all PMs and in-house translators working for the company with the aim of achieving a representative sample and giving everyone the opportunity to have their say. Due to the much larger number of freelance translators working with the company in comparison to PMs and in-house translators, non-probability sampling was employed, selecting two freelance translators for each of the company's core language combinations and who had experience with the company's different processes. The selection criteria also included experience in using JAS prior to the study being conducted.

Whilst JAS is primarily aimed at optimising project management processes, it also affects translators and how they receive jobs. Although in-house translators at the company might have more experience with JAS, most translators today work on a freelance basis, making them an important and highly influential group. Their experiences with other clients and processes can also shape and add depth to their opinions. Whilst the aim of this study is not to make generalisations on behalf of the entire translation community, including both in-house and freelance translators among its participants provides a more complete view from perspectives both internal and external to the company.

2.3. The questionnaire

Although other research methods such as interviews and focus groups have been deemed effective for "elicit[ing] people's own understandings, opinions or views" (Wilkinson 2008: 347), questionnaires have been considered the most appropriate methodology when looking to investigate aspects like attitudes and user feedback (Müller *et al*. 2014). Questionnaires can ensure participants' anonymity and be completed in their own time. This can result in higher quality answers being received from more willing participants able to concentrate and complete the questionnaire as and when it suits them. Another advantage of this method is the ability to collect "responses quickly from a population of users that is geographically dispersed" (Lazar *et al*. 2017: 105). This is a substantial asset in this case, involving as it does multinational participants located across various countries, and particularly as the COVID-19 pandemic led many participants to work from home.

One of the main objectives of the questionnaire design was to select the smallest number of questions covering most of the factors that might affect participants' perceptions of the changes to the workflow management process. This process was performed by the authors with the support of translation and production management at the company. It was inspired by similar studies previously cited in this article, as well as being an iterative

process aimed at striking an appropriate balance between the depth of investigation required and the size of the questionnaire.

The questionnaire was distributed in August 2021 and participants were given two weeks to complete it. Prior to taking part, participants read an information sheet and completed a consent form for the study. The questionnaire was created and completed via Microsoft Forms™ and consisted of 28 questions. These comprised a combination of closed and open-ended questions to enable the collection of both quantitative and qualitative data. The questionnaire included numerous multiple-choice questions, with several incorporating a Likert-style rating to allow for a degree of nuance whilst still providing consistent and comparable data. In cases where more unique or elaborate answers were desired, open-ended questions were selected. Though it has been noted that participants are more likely to skip open questions (Saldanha and O'Brien 2014), this questionnaire included them nonetheless, as these target a motivated population. Despite not being paid for their participation, as users of JAS, gaining a better understanding of and optimising their work processes was deemed to be in participants' own interest. The questionnaire was methodologically designed to require answers from participants before allowing them to move on to subsequent questions. This came with the risk of participants not completing the questionnaire but also served as a further instrument of selection of those who were truly engaged with and dedicated to participating in the study. The questions were formulated to avoid the collection of identifiable custom data and maintain the participants' anonymity, which was essential for this study, as the sample included a limited number of participants who were likely to know one other.

The questionnaire was split into four distinct sections, each with different purposes:

- Introductory questions, to help characterise the sample and deduce links between participants' roles/experience and their attitudes (five questions);
- Implementation of technology, to understand participants' general attitudes to technology and encourage critical thinking (five questions);
- Adoption of JAS so far, to explore users' experiences with the system and their feedback (nine questions); and
- Further automation of JAS, for users to express their initial thoughts and attitudes towards announced developments (nine questions).

Before distributing the questionnaire, a pilot test was conducted with two individuals, in addition to the questionnaire being checked by the production and translation managers at the company. The clarity of the questions posed was especially important given the involvement of non-native English-speaking participants. Consideration was also paid to the specific

terminology used in the questionnaire, this aligning with the terminology used by the company.

2.4. Data analysis

The analysis of this study focused on recognising both common and contrasting responses to identify trends and connections in participants' views. A thematic analysis approach (Matthews and Ross 2010) helped with the establishment and interpretation of key themes that shaped the ensuing discussion and provided valuable insight into users' different attitudes and the reasons behind them.

In total, over 13,500 words and, more specifically, 12,100 words from open questions were analysed. As is typical of qualitative data, it was more challenging to identify trends for open questions (Saldanha and O'Brien 2014). The data for each open question were represented in table format and divided according to the three job roles with the aim of observing patterns within each of the roles and how attitudes varied between PMs, in-house translators, and freelance translators.

All responses were analysed and units of analysis comprising any repeated or similar answers were coded to identify shared opinions and trends, which could then also be illustrated in chart form. Particularly interesting comments offering a deeper insight into outlying attitudes that either reinforced or contradicted common perspectives were also noted.

The analysis was conducted in collaboration between two authors of this article who had authorised access to the primary data collected. In addition to ensuring the validity of the analysis, this collaboration allowed the study to benefit from both authors' individual perspectives, knowledge and experience with regard to JAS specifically and the translation industry as a whole in order to draw conclusions that were relevant, well-informed and unbiased. Whilst some of the company's management team were at times involved in explaining JAS to the authors and testing the questionnaire, to protect participants' anonymity and their workers' rights, management staff were neither involved in analysing the results nor given access to the primary data collected. These were kept private and not shared outside of the research team.

3. Results and discussion

3.1. Characterising the sample

The questionnaire was completed by a total of 38 participants comprising 11 project managers, 18 in-house translators, and 9 freelance translators (Q1). This sample was characterised by participants from different backgrounds with varying degrees of experience in their role and in using

JAS, providing a range of diverse perspectives with which to conduct a rich and extensive analysis for a sample of this size.

As seen in the answers to Q2 (see Figure 1), some participants had been working for the company for as little as a couple of months. However, the majority were more experienced, with 58% of participants (n=22) having worked in their role for over five years, and 71% for at least two years (n=27). Therefore, the participants can generally be seen as very knowledgeable with regard to their respective roles. Due to both the varying lengths of time for which participants had been working in their respective roles and the staggered implementation of JAS throughout the company, answers to Q11 (see Figure 2) also show mixed levels of experience with JAS from which participants could draw their opinions.
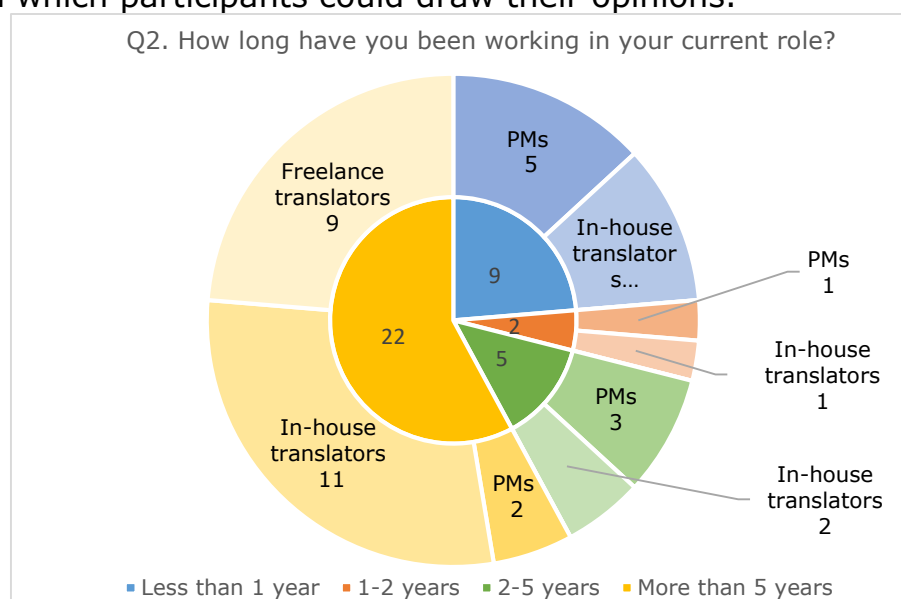

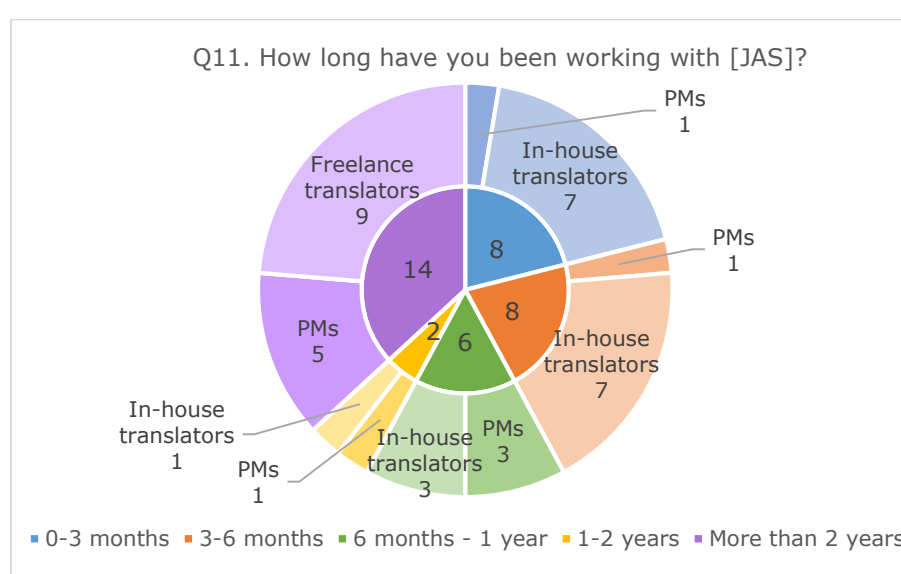**Figure 1. Distribution of participants' experience in their role, in relation to their job title.**

Figure 2. Distribution of participants' experience in using JAS, in relation to their job title.

3.2. Impact of automation

In this study, participants noted both positive and negative ways in which their role had changed with the implementation of JAS, often pondering on contrasting perspectives in the same answer.

When asked to list positive aspects of JAS (Q12), six of the eleven PMs gave answers relating to jobs being allocated faster or being able to find a translator more easily with this system, with three others positively commenting on its speed in general. One PM commented on fewer issues regarding overbooking, and another mentioned an advantage that translators "sometimes accept jobs even though it looks like they do not have time [to do them]".

Another positive aspect of the new version of JAS, as mentioned by 11 of the 18 in-house translators in the same open-ended question, was that of the translation workflow being managed directly by translators. Though this reflected a cost in terms of time previously dedicated to other tasks, the overall reactions appeared to be positive due to the job allocation process becoming swifter.

The saying "many hands make light work" comes into play here, as PMs' time-consuming task of checking each and every translator's availability could be split amongst the translators themselves, who should ultimately be more aware of their own capacity. Implementing JAS not only relieved PMs of certain arduous tasks, such as working out translators' capacity but also given some power back to translators, which they appeared to appreciate. Two thirds of in-house translators identified the ability to manage their own workload and/or choose their own projects as one of the positive consequences of JAS (n=12), coupled with words like "control", "agency" and "freedom" (Q12). In addition, one translator considered JAS more humanising for translators, removing the perception of being in "a role where it often feels like we are considered robots".

As to whether or not technology generally limits the freedom to make decisions (Q6), responses were mixed. One freelance translator commented that "while there are aspects of the technology I use that can feel slightly constraining, on the whole, technology enables me to have a vast amount of freedom". Another explained that "[w]hile there are translation technologies that enable more freedom, the increasing "technologisation" of workflow processes has meant that the work has become more standardised, quantified and restricted - the translator is forced to adapt their work to fit an increasingly strict technical framework".

The open-ended questions revealed a common dissatisfaction amongst the PMs and translators with the idea of the new automated system limiting their roles against their will. A change with which four PMs claimed not to be happy was the removal of their influence, particularly in selecting which

vendors would receive job requests, with one explaining that they "do not think [JAS] should auto-send requests to freelancers without a PM checking over it", but admitting that this would defeat the point of increased automation (Q22).

Sentiments towards a more automated version of JAS in Q23 were also very mixed and were in fact found to be linked to answers to Q21, which asked whether participants were happy with changes to their role due to a more automated job allocation process (see Figure 3). In general, the less happy participants were with changes to their role, the more apprehensive they were of the automated process. One freelance translator unhappy with changes to their role commented that technology "should support the tasks of the translator, not constrain or force the adoption of new roles" (Q22).
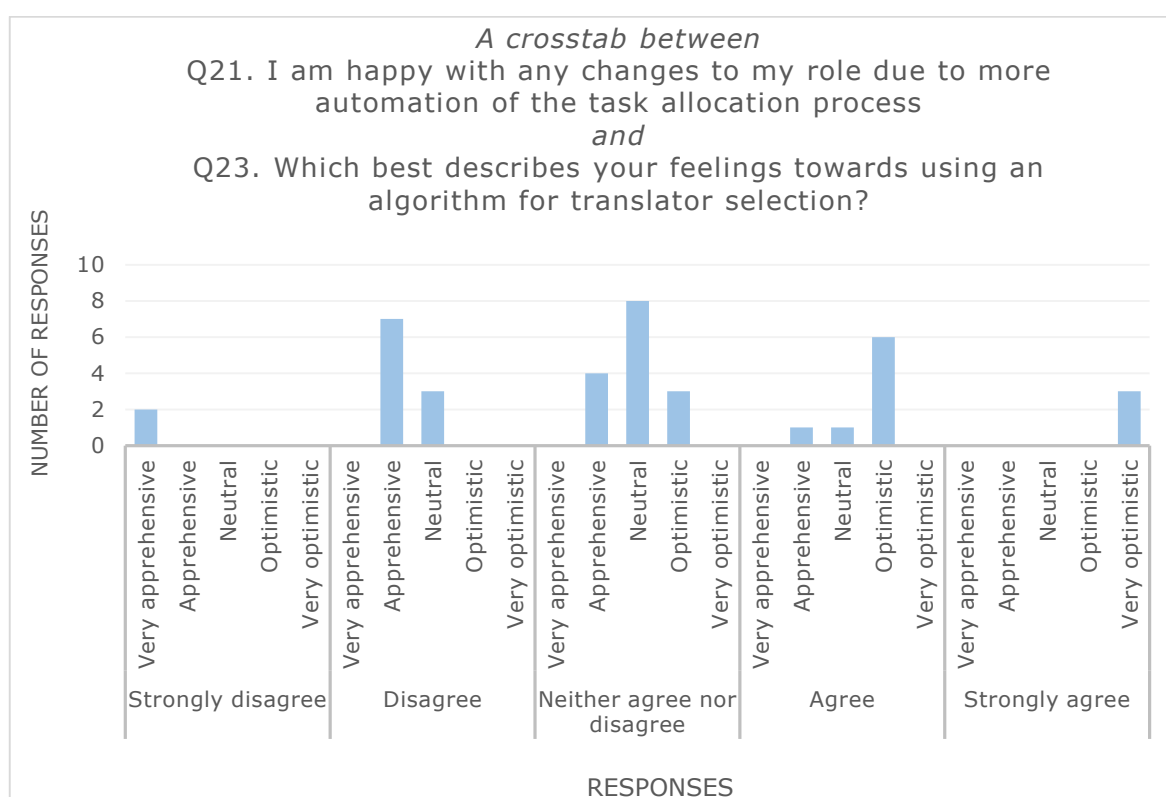

Figure 3. Participants' feelings towards using an algorithm for translator selection in relation to their happiness with any changes to their role due to more automation of the job allocation process.

For PMs, the will to retain some decision-making power in the future was related to a lack of trust in an algorithm, as well as to job satisfaction, with one PM stating that the task of creating projects was one that they enjoyed as part of their role (Q22).

Similar reactions towards technological changes were noted in the literature, supporting the statement by Koskinen and Ruokonen that "emotions also play a major role in acceptance of new technology" (2017: 9). Despite emotions often being neglected in translation research and practice, in this article, they highlighted both social and economic

impact that can stem from users' emotions. This can already be seen in one freelance translator's comment in the questionnaire, stating that the automation of JAS "might mean that I will work less with [the company] as I prioritise personal requests" (Q20). Whilst Koskinen and Ruokonen suggest that translators are likely to be more open to tools that increase their efficiency, findings also show that users' attitudes to new technology ultimately rely on much more than efficiency alone. Sakamoto's study looked into paid crowdsourcing platforms that connect translators to potential buyers and use algorithms rather than a human PM to assign translators to projects (Sakamoto 2019). When these platforms were explained to groups of PMs, they were met with some disapproval for reasons such as fear of loss of control, the wrong translator getting a job, lower translation quality, the devaluation of translation work, and the absence of human touch and interaction. Although participants could also see the possible advantages, including the potential for less experienced translators to gain more experience and a quicker turnaround, it is interesting to note that the PMs themselves could show aversion to them, despite such systems often being described as a tool to make PMs' jobs easier. It appears that, from their perspective, these benefits were outweighed by their concerns, implying conflicting values and interests between PMs and platform business advocates. Based on the answers from the 16 PMs questioned, Sakamoto suggests that PMs are "proud of their role as human gatekeepers of translation whose task is to maintain the high quality of their products" (Sakamoto 2019: 67).

Results from both Sakamoto's and our study show that the task of allocating translation jobs can hold different values for different individuals, be it related to job satisfaction, quality, control or a sense of responsibility, the latter of which we analyse in its different meanings in the next two sections. Professionals may feel protective of their duties and oppose the idea of these being taken away but also acknowledge the importance of time-saving and the greater process fluidity introduced by technology. This highlights the fact that people's general attitudes towards a system can depend not only on the system itself and what it can do for the overall workflow, but also on their perception of the real effects on their job roles.

3.3. Describing job responsibilities

Whilst changing one's responsibilities can create challenges, so too can simply understanding what they are in the first place. Job descriptions are a common instrument for presenting the duties one is expected to fulfil in a specific job role. However, with growing supply chains and professionals finding themselves having to adapt to ever-changing environments, the efficacy of rigid job descriptions can be called into question, in favour of a more dynamic "dejobbing" workplace (Dessler 2004).

When asked about the clarity surrounding their professional responsibilities (Q4), all 38 participants responded that their responsibilities were clear to

both themselves and to those with whom they worked. However, this was contradicted when they were asked in an open question (Q3) to list specifically what their three main responsibilities were.

Lists of the main responsibilities were particularly diverse amongst PMs. Figure 4 displays the disparity in the top answers provided, despite their working within the same department of the same company. Whilst a degree of similarity was observed amongst participants' answers, generally speaking, PMs did not agree on what their main responsibilities were. Even the most common responsibility of assigning projects was only listed by five of the eleven PMs (less than half of the sample). Less frequently repeated answers included communicating, maximising profitability, meeting deadlines, and ensuring quality, whilst responsibilities such as maintaining good relations and solving translators' problems were presented by only one of the PMs.

Figure 4. Most frequently mentioned responsibilities reported by PM participants.

By comparison, far more commonalities could be seen between the answers given by in-house and freelance translators (see Figures 5 and 6). Unsurprisingly, translation was listed by almost all translators, followed by revision and/or proofreading, which were mentioned by the majority of translators.

Whilst translators' roles appeared to consist primarily of two main responsibilities (translation and revision), participants expressed enjoying being able to perform varied tasks. When asked what changes they would or would not be happy with in a more automated job allocation process (Q22), seven in-house translators expressed that they would dislike the thought of this system confining them to work with specific kinds of texts, with little variety. One mentioned that they "[w]ould not be happy with only doing what [they] already do good all the time and never evolve as a

translator", whilst another was concerned that they would be stuck with "less fulfilling jobs" (Q22). Many participants would rather be responsible for a wider variety of work that allows them to develop complementary skills, rather than being restricted in their choices to the tasks in which they are seen as specialists. Eight in-house translators thought that ensuring variety should be an important criterion to consider during translator selection but assumed that this could be difficult to incorporate into an algorithm (Q25).
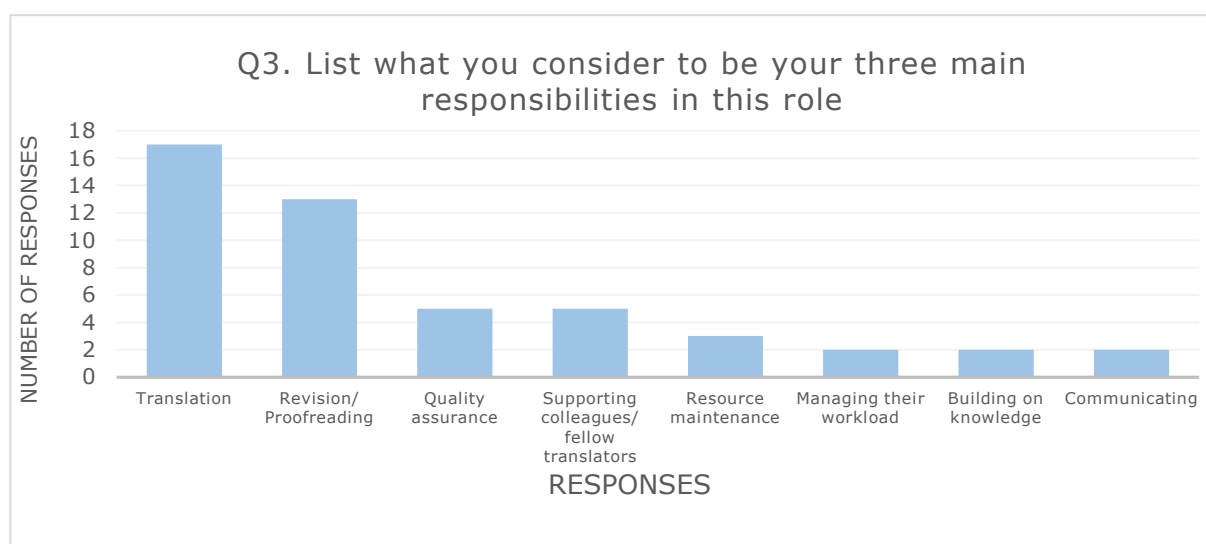

Figure 5. Most frequently mentioned responsibilities reported by in-house translator participants.
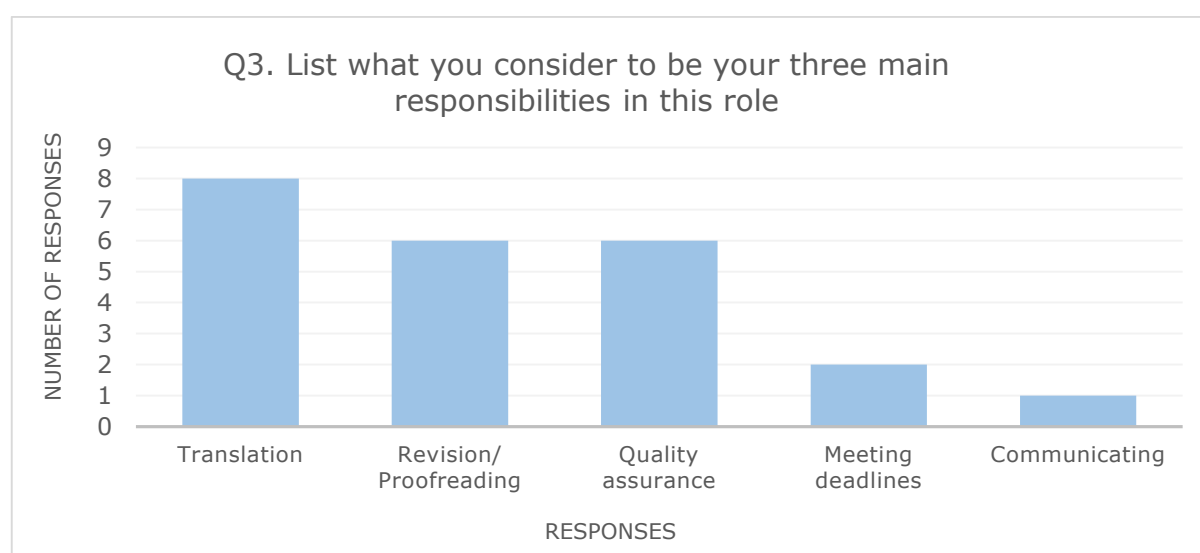

Figure 6. Most frequently mentioned responsibilities reported by freelance translator participants.

The way in which participants perceived their main responsibilities could indicate the prioritisation of responsibilities, this also being reflected in comments for other open-ended questions. These included remarks such as "[t]echnology does away with a lot "faff" and admin in my daily work which

leaves me more time to do what I'm hired to do, i.e., linguistic work", as stated by one in-house translator (Q7).

The results of this study tie in with several findings of other studies in this area, including those highlighted further below, which point towards an increased complexity in defining responsibilities in translation workflows. To conclude this section, we reflect on studies about the perception of responsibilities that corroborate our findings in the answers given by PMs and freelance and in-house translators.

Aspects usually associated with a PM's role include assigning jobs to translators, liaising between clients and translators, and ensuring the clients' needs are met whilst achieving a desired profit margin (Olohan and Davitti 2017). However, it has also been noted that the role of the PM is difficult to define, as the job can often vary based on numerous factors, such as company size and priorities (Sakamoto 2019). The diversity of PMs' answers to our questionnaire when asked about their main responsibilities (Q3) may emphasise the fluidity and complexity of their roles, which involve many different goals and responsibilities that require such adaptability. This might lead each to play a different and complementary role in the same organisation in such a way that a consensus in their top three answers could not be reached. Communicating was one of the most widely-voted main roles by PMs for this question; with longer production chains, this is arguably one of the most important roles that PMs play in a translation company.

Producing official job descriptions can be difficult due to structural changes in production chains within the translation industry, with a rise in outsourcing and the majority of translators nowadays working as independent contractors (Abdallah 2012; Risku *et al*. 2016). Longer workflows and the involvement of more actors have been seen to complicate matters regarding transparency, responsibilities and expectations (Abdallah 2012; Risku *et al*. 2021), especially due to the often-remote nature of such work. As they are not employed by a company, independent contractors rarely have official job descriptions either, resulting in a wide variety in the services freelancers provide, and their perception of their role.

Whilst complex multifaceted roles may be more challenging to define, at the opposite end of the spectrum, research has found that overly simplified work that is rigidly defined can lead to workers feeling "alienated and uncommitted" (Moorkens 2020: 15). Several studies have suggested that limiting one's responsibilities can be detrimental to professionals, and it has been highlighted that translators face a risk of their roles becoming narrower (LeBlanc 2013). Rodríguez-Castro (2016) found being able to perform a wide variety of tasks to be a crucial element for translator satisfaction, with Docherty *et al*. (2008) noting the importance of workers being able to develop both professionally and personally through their work. Responsibility and growth have been listed as key contributors to job

satisfaction; however, as roles and responsibilities become increasingly restricted, so too do opportunities to gain further expertise and advance (Moorkens 2020). In-house translators in our study expressed the wish to perform varied tasks to continuously evolve in their roles, an element that an automated system of job allocation would be unlikely to favour. This is due to one of the purposes of such systems being the standardisation of procedures, for example, by selectively offering translators work within the specific domains and text types listed in their vendor profile, and reducing the risk arising from experimentation. This desire for variety further supports claims that professionals value their responsibilities in different ways and can be averse to seeing the scope of their work being narrowed, even if the intention is to make their work simpler or more efficient. It is therefore important to highlight that the conflicts mentioned by Risku *et al*. (2021), among others, may arise from unbalanced communication systems, which do not allow for flexible adjustments to be made to automation systems.

Another aspect meriting consideration is the part played by job descriptions in a modern and adaptable company facing the need for flexibility in how its workers perform their duties, in both adjusting to volatile environments and avoiding feelings of alienation amongst workers. Can workers determine their priority tasks based on factors such as the tasks on which they spend most of their time, which bring most value to the company, or which give them the greatest job satisfaction? How would such factors be measured and controlled? Can companies afford not to consider in detail how to avoid misunderstandings and potential conflicts arising from a lack of clarity as to how all of these roles are combined for the common goal? In the next section, we focus on the workers' underlying perceptions of professional responsibility as a fundamental element for this discussion.

3.4. Reflecting on responsibility

Professional roles can be linked to other dimensions of responsibility as a moral obligation, related to how workers see the overall purpose of their jobs. Whilst the questionnaire included multiple questions directly calling for answers related to participants' responsibilities, the questions did not intentionally or explicitly address the broader notion of responsibility. However, the data revealed that concepts relating to control, ownership, engagement, and accountability lay below the surface in many of the most reflective answers received.

When analysing the degree to which PMs and translators considered both their responsibilities and the notion of responsibility in their answers, it was remarked that, of the three job roles, in-house translators were, by far, the group that most frequently alluded to responsibility (see Table 1).

Codes	PMs	In-house translators	Freelance translators	Subtotals
Responsibilities (duties)	28	51	21	100
Responsibility (professional engagement)	28	109	26	163
Subtotal	**56**	**160**	**47**	**263**

Table 1. Total number of allusions to the two main themes in all open answers given by participants.

The theme of responsibility was identified as a common and relevant trace in participants' answers during the data analysis process. It is therefore significant that this theme appears unsolicited with much higher frequency in the answers given by in-house translators. As Table 2 shows, we have found, on average, seven allusions to one of these two themes per participant. However, this number is only so high due to the fact that, on average, in-house translators made nearly nine allusions, of which two thirds referred to responsibility. In terms of the percentage of references to these themes in the total number of open answers received (Table 3), the panorama was the same: 44% of the answers given by in-house translators contained allusions to one of the themes, but responsibility alone was present in 30% of the answers given by this particular group.

	PMs	In-house translators	Freelance translators	Subtotals
Total nº participants	**11**	**18**	**9**	**38**
Avg. nº allusions to responsibilities / participant	2.55	2.83	2.33	2.63
Avg. nº allusions to responsibility / participant	2.55	6.06	2.89	4.29
Avg. nº allusions / participant	**5.09**	**8.89**	**5.22**	**6.92**

Table 2. Average number of allusions to the two main themes per participant.

Responsibility was of particular relevance, for example, in responses to Q22 and Q25, where numerous in-house translators expressed concern over constraints being imposed on the kinds of projects they received. In their answers, the translators highlighted the importance of their interests and preferences being taken into consideration and variety in their work being ensured as relevant criteria during job allocation processes. A similar attitude could be observed in Q12, where many listed the increased autonomy given by a system that allowed them to manage their own workload as a positive aspect of JAS.

	PMs	In-house translators	Freelance translators	Subtotals
Total nº open answers (qualitative codes)	**207**	**366**	**191**	**764**
% allusions to responsibilities / open answers	14%	14%	11%	13%
% allusions to responsibility / open answers	14%	30%	14%	21%
% allusions / open answers	**27%**	**44%**	**25%**	**34%**

Table 3. Percentage of allusions to the two main themes in all open answers given by participants.

Responses of this nature reflect on elements of autonomy and freedom, which are understudied when comparing in-house to freelance workers. The higher level of consideration for responsibility shown in in-house translators' answers, intentionally or otherwise, may shed light on how this group perceives their work, whilst also potentially indicating how working in-house provides contextual knowledge that brings a higher degree of involvement and commitment to the job. Insights into other participants' views of responsibility were also gained, for example, when discussing what happens when things go wrong. One PM wrote that "if I haven't sourced the right linguist because I sent the work via [JAS], it doesn't really matter the set-up" (Q17). Two others also mentioned issues with bugs when working with new technology, with one stating that "[I] have to spend [a lot] of time managing the technology and allowing for its quirks and bugs" (Q9). Additionally, one in-house translator commented that "if something goes wrong, you can always collectively blame the algorithm" (Q27). There appears to be at least a degree of ambiguity as to who takes the blame and, ultimately, who bears responsibility or can be held accountable for decisions in which at least part of the process is not performed by a human worker.

Besides commenting on accountability when problems occur, PMs and translators' commentaries also reveal gaps in their knowledge of elements of automated processes. In the next iteration of JAS, translators will manage their vendor profiles, which will form the basis for automated scoring and ranking of translators for each job. One PM suggested that this should imply "[f]inding a way to make sure all freelance translators will update their profiles" (Q28). It was interesting to note that, despite freelancers having more control over their profile using JAS, none of them mentioned the need to keep their profiles updated, with four of the nine freelance translators being unable to see how their responsibilities would change at all with more automation (Q20). The implications of not fully understanding how JAS works can also be seen in a comment from one PM

in stating that they would like JAS's scoring of translators to be "more clearly explained" (Q13). This answer shows a lack of trust in the autonomy of decision-making by JAS, but it can also reveal personal interest on improvement of the process, revealing that engagement with the job allocation task may continue after automation.

These reactions may also reveal a sense of lack of engagement in processes that go beyond workers' and vendors' core responsibilities. When asked about the effects of technology (Q7), one in-house translator stressed that the increase in efficiency occurs when technology is "correctly used". The correct use of technologies is associated with another element of professional engagement, which is the investment in and engagement with continued training, a responsibility mentioned by several participants in different questions.

One in-house translator mentioned "keeping up with tools" as part of their professional role (Q3), though participants also expressed a need or appreciation for some guidance being provided (Q10). One freelance translator commented that "proper briefing on process, tools and requirements is invaluable though, even if no formal training is required". One can highlight the fact that the word "proper" was also used in comments about insufficient instructions. One in-house translator explained that they may be given instructions for tools which are "more often than not written so that it is completely incomprehensible" (Q9). This was reinforced by another stating that "[q]uite often, the user guides provided are not helpful" (Q10). However, participants noted that a lot of their learning came from practical experience with the tools. Another in-house translator responded that "I've spen[t] so many hours doing formal training to introduce new technologies, only to have forgotten everything by the time I come to use them. Having [an] easily accessible list of instructions in [the company's] Wiki knowledge base is of much greater help here".

The above answers provide us with reflections on the responsibility of a worker or vendor in a complex workflow: what can go wrong; what complications can arise from an information gap; how workers should play their roles or engage with tasks if lacking in full understanding or control over their work and the information they receive is inadequate. There are several references in Translation Studies literature that may help us clarify the impact of automation on the notion of personal responsibility, such as may underlie some of these concerns.

A complex workplace is a network of relations between roles and people. Whilst the elements that keep the network together can be made explicit in the job descriptions and flowcharts of a company, there remains a multiplicity of human and social elements also affected by technological and process changes that are more difficult to study due to their implicit nature. When the boundaries of each worker's role (that is, what each person does, and how they relate to other roles) are fluid, these implicit elements become

very important. This is confirmed in the literature in such references as "[t]rust and co-operation, as well as the quality of the process and product, all improve when the actors know the extent and the boundaries of their accountability" (Abdallah 2012: 36–37). However, this is not always clear cut either. Increasingly complex workflows, resulting from outsourcing and the implementation of technologies, can render it more difficult to delegate, link consequences to specific actions, and establish responsibility (Risku *et al*. 2016; Moorkens 2020; Stahl *et al*. 2017).

Referring to technology more generally, the literature suggests that technologies can be linked not only to increased autonomy and control, but also to the opposite effect; assigning tasks and decisions to technology can "constitute a shift of control from individuals towards technology" (Stahl *et al*. 2017: 373). When interviewing translators, LeBlanc (2017) found that some translators had experienced a loss of autonomy as a result of shifting practices, reporting feelings that they no longer owned their texts, and had limited influence on their work. Similar results were also found by Gough *et al*. (2023) in relation to concurrent translation workflows on translation platforms, in which translators reported a diminished sense of responsibility and ownership for translations when texts were split and translated by multiple linguists. PMs in our study did not refer explicitly to feelings of reduced ownership, but they did reflect on the consequences of the autonomy given to JAS, especially in the case of eventual problems in job allocation.

Shifts in control and ownership can also result in the perceived exculpation of humans and blame instead being placed on technology when things go wrong. This raises questions of who or what should ultimately be held responsible and whether non-human entities like technology can in fact be accountable in any way (Stahl *et al*. 2017), a concept that translation clients would be unlikely to accept. Human errors can be identified by the instruments that describe the flow of tasks from human to human, often created and left unreviewed before the introduction of technological solutions. For example, in this case, an error in the JAS vendor selection process can be attributed to translators not ensuring the accuracy of their profiles. It is more difficult to identify when the system does not fully take into account all criteria for a decision where this is related to gaps in shared knowledge within the organisation.

The lack of clarity in user instructions and the need for tool training mentioned in the questionnaire demonstrate problems with downstream communication that is not always clear and efficient. This has also been recognised in other studies (Gough *et al*. 2023). Such issues can be exacerbated in an industry that involves extensive outsourcing and in which translators and PMs work with a multitude of different tools and instructions from various clients. Involving users in the development of technology can help to ensure that responsibility is well-managed and, as suggested by O'Brien (2012), to dissolve technology's threatening image and counteract

feelings of apprehension with those of ownership. The results of our questionnaire indicate that participants would benefit from a stronger sense of shared responsibility, which were made explicit when mentioning responsibilities such as further training. Whilst our study focused on individual responsibility, shared responsibility remains an arguably important human and social dimension that should be explored in other translation workplace studies.

4. Conclusion

This article sought to explore the automation of project management processes and to identify the effects that technology and automation can have on system users and their professional responsibility. Although this reporting on a small-scale case study focused on a single company, this article sheds light on processes and attitudes that are supported in the relevant literature, giving us reason to believe that elements of this research may well be applicable beyond the scope of this particular case study. It adds to previous research that has shown that having a clearly defined conception of one's responsibilities can provide a sense of focus, direction, and ownership in a context in which contrasting interpretations, such as those demonstrated in this study, can instead result in conflicting perceptions, confusion and inefficiency.

Participants' unanimous claim of clarity with regard to how both they and those with whom they work understand their responsibilities was not met by a similar consensus when each was asked what their main responsibilities were. The discrepancies in the answers provided for each job role, especially among PMs, reflect the complexity of a modern workplace in which roles change dynamically, and each worker develops a sense of their own responsibilities as the best way to contribute to the shared goals of the company. This indicates an element of ambiguity regarding professional responsibilities, this being potentially exacerbated by the adoption of new technology. The variety in responsibilities mentioned also indicates that job descriptions may no longer accurately describe the complex reality of modern technological workplaces. Modern companies may have difficulties in developing substitutes for traditional job descriptions or new instruments that provide a complete overview of these complex and fluid work relations, especially as these need to take into account implicit connections based on human and social factors that are not easy to observe or measure.

Similarly to the qualitative research on translators' attitudes towards technology done by Koskinen and Ruokonen (2017), the answers to our questionnaire reflected the coexistence of both positive and negative elements associated with the impact of technological change, often presented in the same answer. This proved challenging in terms of analysis and highlighted the depth and complexity of users' perspectives, which are so often overlooked. Participants' extensive knowledge of the processes led

them to express ambiguous attitudes, often highlighting a loss and gaining of control as possible effects of the same development.

We did not identify explicit evidence of tensions between professional roles, as, for example, reported by Risku *et al*. (2021). However, conflicting views and ambiguous attitudes can become further aggravated when workers and vendors find themselves constrained by the automation of work processes. This is especially the case if changes are imposed from the top down in a manner that marginalises translators who, traditionally speaking, have had little to no involvement in the job allocation decision-making process.

Contradictory reactions can also be seen, for example, in the case of some in-house translators who disliked the added administrative work of being made responsible for managing their workloads, whilst many showed an appreciation for this, associating it as they did with added freedom and control, even to the point of feeling that this transferred a degree of power to translators. This study aligns with existing research findings that technology integration can both enhance and limit human autonomy, as PMs and translators taking part in this study reported both liberating and constricting aspects of technology in general and of using JAS in particular.

Automation can often be perceived as relieving users of tasks, with this being presented as a positive change. However, the results of the present study also show that professionals may well prefer to have more responsibilities in certain cases, as this can hold various values for them in relation to a sense of control and job satisfaction. Translators in particular expressed the desire to not work continuously on the same types of jobs even if suited to their individual specialisations. Although this can complicate the job allocation process, especially when developing an automated system with this task in mind, job allocation criteria need to be flexibly defined with input from the translators in order to boost and maintain job satisfaction. The participants' answers also showed that individual attitudes and reactions to technology can depend on the perception of the breadth of knowledge they have of the processes at other points in the workflow, namely when that is reflected in the communication of instructions that require further investment in training.

This study has also shown how technology can influence the perception of personal responsibility, mostly associated with accountability. In the existing literature and in professional practice, reflections about accountability may only be visible when the discussion turns to whom to blame when things go wrong. In some cases, automation has been associated with the exculpation of humans in terms of whether or not the responsibility can instead be borne by technology, though human error can also be easier to identify than limitations in system implementation.

The heightened attention paid by the in-house translators to the notion of responsibility, if oftentimes inadvertently, provides an interesting insight

into how they perceive their roles in comparison to PMs and freelance translators. Their responses included allusions to freedom and control, which could be attributed to their in-house position within the company and the effect of this on these particular elements, with the contextual knowledge afforded by such a position potentially adding a further layer of engagement to the role.

The study of professional responsibilities and personal responsibility is clearly not exhausted in this article. However, it introduces responsibility as an integral yet neglected and misunderstood element of business that can greatly influence other aspects, such as productivity and quality. This study also poses additional questions, such as how professionals assume and prioritise their responsibilities; how to describe and manage the extent and boundaries of professional roles and still make them adjustable and well-integrated into dynamic workflows; how to fill in gaps in knowledge that may raise doubts and create resistance to change; how to allow for variety in and the development of new skills when automation is led by reducing variation in workers' profiles; and how to clarify where accountability falls when automated processes make important decisions.

Wider generalisations about the translation industry cannot be made from this case study alone; as such, it would be beneficial to expand this research with other translation companies adopting similar processes in order to obtain comparable results. In addition, it would be interesting to complement the current results with further data collection on the same themes once the fully-automated version of JAS has been integrated in the company and to see whether the perceptions of PMs and translators have changed accordingly.

Whilst this study was met with the challenge of ambiguous definitions or elements that were difficult to measure, this allowed the research team to uncover concepts that are not explicitly registered in business instruments, raising unexpected questions that open doors for further research. This article provides a strong starting point for further studies in relation to professional and personal responsibility and, beyond these, to shared responsibility. Conducting this research from the perspective of the workers and vendors in a translation company highlighted human and social elements that stress the importance of their views as contributors to technological developments that not only maximise efficiency but also improve job satisfaction, leading to an improved workspace culture. When workflows combine human and automated processes, it is essential to incorporate effective two-way communication channels to help prevent issues, such as the accumulation of tensions that alienate workers and eventual conflicts. This perspective acknowledges and supports the argument by Olohan (2011) and Sakamoto and Yamada (2020) that current changes in the translation industry are socio-technical in nature, and should be treated as such in order to ensure success for the industry and the profession.

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Data Availability Statement:

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