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The Impact of Machine Translation Post-Editing on Translation Project Management in Spain: A Study of its Implementation in Project Managers' Workflow

Abstract

The globalization of markets, coupled with digital convergence and the rapid expansion of the translation sector over the last two decades, has significantly transformed the professional translation market. Once an artisanal profession, translation has evolved into a structured industrial sector, shaped by technological advancements and the integration of machine translation post-editing (MTPE). Although MTPE is now widespread in the translation industry, its impact on translation project management (TPM) remains largely understudied—especially in terms of how project managers incorporate this service into their workflows. This study investigates how MTPE affects project managers' practices in Spain, where research on TPM processes is limited. Through an online survey of 61 project managers, the study examined their experience with MTPE integration, focusing on service implementation, quality assurance (QA) procedures, and perceived workload changes. The findings provide insights into how project managers navigate these changes and contribute to redefining professional practices within the translation sector. Consequently, even as MTPE becomes a standard service within TPM, there is still a clear need for standardized QA procedures and specialized project manager training to manage MTPE projects effectively.

Keywords

Translation project management; machine translation post-editing; project manager; machine translation post-editing integration; quality assurance; translation industry trends

1. Introduction

Over the past two decades, globalization and the surge of digital integration have significantly impacted the translation industry, leading to an era of transformation (Drugan, 2013; Risku et al., 2013). Regarded as a “fully-fledged industrial sector” (Dunne, 2012, p.143) or even a virtual translation factory (Rico Pérez, 2021), translation project management (TPM) has been driven by rapid technological advancements, which have not only altered workflows but also introduced new professional roles within the industry (Díaz-Millón & Gutiérrez-Artacho, 2020; Vihonen-Peuranen, 2024).

Until the mid-1990s, the translation industry consisted mainly of independent professionals and small agencies (Tirry, 2023). However, with globalization accelerating in the late 20th century, the demand for large-scale translation services grew. This shift necessitated new roles to manage increasingly complex workflows. Among these roles is that of the translation project manager, which has become central to coordinating translation projects in today's globalized economy (Fuentes-Pérez, 2023).

While project managers have played a critical role since the late 20th century when the first translation agencies were established worldwide—such as TransPerfect¹ in the US in 1992, Keywords

¹ <https://www.transperfect.com/>

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Studios² in Ireland in 1998, or the RWS Group³ in the UK in 1982—“it has been largely overlooked as an object of scholarly inquiry and critical pedagogical reflection in the field of translation studies” (Dunne & Dunne, 2011, p. 6). As Plaza-Lara (2018, p. 514) and Fuentes-Pérez & Plaza-Lara (in press) highlight, the literature and research on TPM remains limited even today, and it is only in works published from 2010 onwards that this professional profile has begun to be addressed in detail.

The adoption of machine translation post-editing (MTPE) has introduced significant changes to both industry operations and academic training. MTPE requires project managers to adapt their workflows, redefine their responsibilities, and develop new strategies to manage projects effectively in a technologically driven environment. Despite the growing importance of this area, research on MTPE's impact on project management remains limited. In this regard, scholars have begun to explore this area, particularly Plaza-Lara (2020a, 2020b, 2023), who has offered insights into MTPE and the competences required of project managers in TPM. Dorst et al. (2023) examined professional translators' and project managers' perceptions of MTPE, while Torres-Hostench et al. (2016) provided an overview of MTPE use in Spanish language service providers (LSPs). Fuentes-Pérez & Plaza-Lara (in press) analyzed how artificial intelligence (AI) is shaping the competences needed by translation project managers. Other examples are the study by Bento et al. (2022) and Hashfi and Raharjo (2023). These authors discuss the potentialities, challenges and limitations of implementing AI in the specific area of project management. Borges et al. (2021) provide a comprehensive overview of how AI technologies are being integrated into project management processes, mapping out key trends and research directions. Taboada et al. (2023) examine the role of AI in emerging project management through a systematic literature review, presenting the applications of AI techniques across different project management performance domains. Despite this growing body of research, there is a notable lack of studies that investigate how project managers' roles, responsibilities and workflows are influenced by the implementation and management of MTPE. In this context, the present study seeks to address this gap by exploring the specific challenges, adaptations, and perceptions encountered by project managers in Spain who oversee translation projects involving MTPE, including their approaches to quality assurance (QA) and workflow integration.

This paper examines how the introduction and management of MTPE influence the responsibilities, workflows, and required competences of translation project managers. Understanding these changes is crucial for industry stakeholders seeking to optimize translation processes, as well as for educators who must equip future professionals with the skills and knowledge needed to succeed in evolving project management environments. Thus, our study aims to answer the following research questions (RQ):

- RQ1: To what extent do translation project managers incorporate MTPE into their daily workflows?
- RQ2: What are project managers' perceptions of the main challenges and opportunities involved in integrating MTPE?

The paper is structured as follows. First, following this introduction, it contextualizes TPM, tracing its historical development, defining the role of project managers, and examining their workflows within LSPs. It then describes the methodology used, detailing the survey design, data collection, and analytical approach to explore project managers' experiences with MTPE. Next, the paper presents the survey findings, highlighting key patterns in how project managers integrate MTPE, and discusses the challenges and opportunities they encounter. These findings are then considered in relation to existing literature, offering insights into how MTPE is reshaping project management

² <https://www.keywordsstudios.com/en/>

³ <https://www.rws.com/>

practices. Finally, the paper concludes by summarizing its contributions, discussing implications for industry and education, and suggesting directions for future research.

2. Contextualization of TPM: Navigating Multifaceted Realities in the 21st Century

The roots of TPM can be traced back to the early days of human civilization when linguistic mediation was essential for facilitating communication between diverse communities. However, the formalization of TPM as a distinct field emerged more prominently in the latter half of the 20th century, coinciding with the rapid globalization of business and communication. As stated by Arevalillo Doval (2004, p. 89), with the advent of computer-assisted translation (CAT) tools and the digitalization of linguistic assets, the roles of translators and project managers evolved to encompass not only linguistic expertise but also technical proficiency and organizational acumen.

As businesses started expanding internationally and the demand for translation increased, the first international translation agencies and companies emerged in the late 1980s and early 1990s. These organizations, also referred to as LSPs (Rothwell & Svoboda, 2017; Esselink, 2020), became instrumental in managing translation projects, as they act as an intermediary between language provider (i.e., translator, interpreter, post-editor, proofreader, etc.) and client:

Today's translation industry relies heavily on LSPs that employ PMs [project managers] and can respond to individual client needs by providing a wide range of language services. In very broad terms, LSPs take on the responsibility for organisational and administrative aspects of translation and tend to outsource most of the actual translating. They usually get contacted by potential clients who require all kinds of translation. LSPs provide information about their available services, advise their clients on an individual basis and provide tailored quotations. (Foedisch, 2017, p. 11)

In Spain alone, according to a study conducted by Rico Pérez and García Aragón (2016), between 2014 and 2015 there were a total of 418 LSPs, distributed as follows: 153 in the Community of Madrid, 110 in Catalonia, 34 in the Community of Valencia, and 31 in Andalusia. In 2021, the National Association of Companies of Translation and Interpreting (ANETI, 2022) estimated a total of 460 LSPs in Spain alone, located in the same regions as indicated in the study by Rico Pérez and García Aragón (2016).

Many LSPs tend to operate without dedicated in-house language professionals who directly perform the core services (i.e., translation), relying instead on external collaborators. Consequently, these language services are outsourced to freelance professionals or even other LSPs, who may, in turn, outsource the services to other freelance professionals or LSPs (see Figure 1). Even though there are exceptions, and some companies prefer maintaining an in-house translation team, the trend in multinational LSPs is to “employ a core team of translation quality management resources but outsource most translation work to freelance translators or smaller, specialized agencies” (Esselink, 2020, p. 109). It is precisely within this intricate outsourcing network that the role of project managers becomes indispensable.

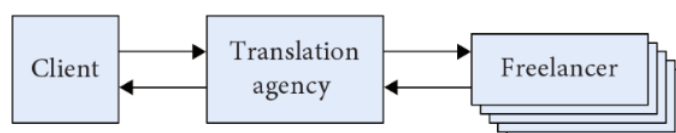


Figure 1. Language industry outsourcing model (Dunne & Dunne, 2011, p. 4)

In terms of responsibility, the project manager oversees and monitors a project from the moment the client requests a service until it is delivered. They control the project management process, and among their many responsibilities, their ultimate goal is to ensure client satisfaction upon delivery (Jáñez, 2020). When it comes to the duties and responsibilities of project managers, it is essential to refer to UNE-EN ISO 17100:2015 standard (*Translation Services – Requirements for translation services*) (2015, pp. 9-10), which outlines the tasks project managers should undertake. According to the ISO standard, these tasks include the following:

- a) identifying the key requirements and translation project specifications during the pre-production process and following the procedures and specifications throughout its production;
- b) supervising and monitoring the translation project preparation process;
- c) assigning a competent translator or translators to the translation project;
- d) assigning a competent reviser or revisers;
- e) disseminating information, issuing instructions related to the assignment, and managing the translation project to all parties involved;
- f) monitoring to ensure compliance with agreed upon schedule and deadlines;
- g) communicating any changes to the project specifications, if applicable;
- h) monitoring constant conformity to the client-TSP [translation service provider] agreement project specifications, and, where necessary, communicating with all parties involved in the project, including the client;
- i) ensuring translation and other queries are answered;
- j) managing and handling of feedback;
- k) verifying that the translation service specifications have been compiled before approving the target language content and giving clearance for its delivery to the client;
- l) delivering of the service.

Additionally, TPM may also include the following:

- a) if applicable, assigning a competent reviewer or reviewers to the translation project;
- b) if necessary, implementing corrections and/or corrective action;
- c) monitoring to ensure the project does not exceed the agreed budget;
- d) preparing and issuing the invoice;
- e) completing other activities or tasks agreed with the client.

Considering TPM workflows, the role of the project manager primarily falls within the framework of LSPs, when the project manager serves as a liaison between the client and the language specialist. This intermediary position involves overseeing the entire translation project, from initial client communication to final delivery, ensuring effective coordination and communication between all stakeholders involved. As Rodríguez Castro points out, “the PM has not only become the hub of the translator’s work environment but plays a critical role in the organization in order to mediate between all the stakeholders” (2013, p. 40).

In the context of LSPs, TPM workflow may vary according to the tasks they perform in their daily activities. However, in general terms, their workflow can be visually simplified as follows:

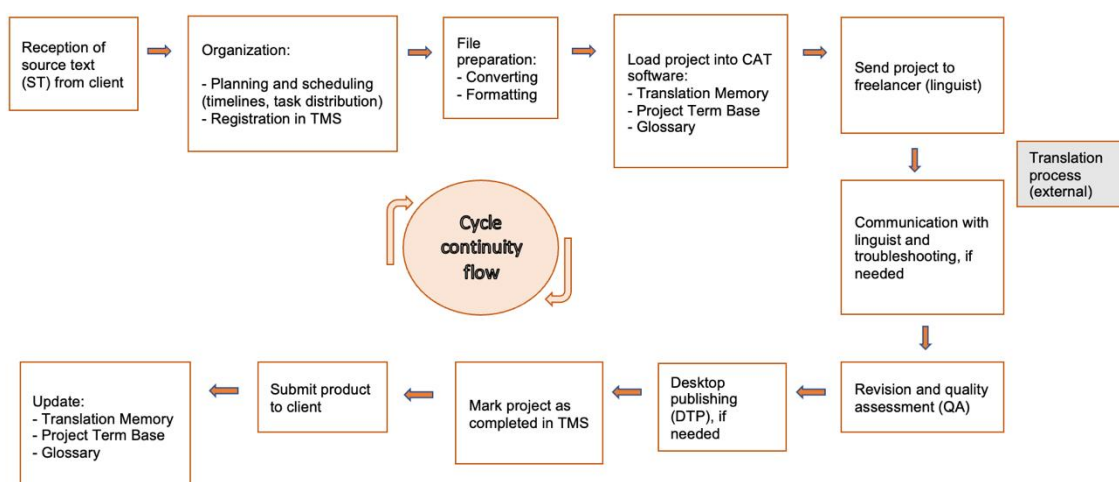


Figure 2. TPM workflow (adapted from Nevmerzhytski et al., 2021, p. 100)

As observed in Figure 2, the work of a PM can be divided into the following stages:

- Reception of original document (or any other language service) from the client. At this stage, the initial communication between client and project manager takes place. Requirements are formulated as well as terms, and other specifics, if needed, are discussed.
- Organization and planning. During this stage, the project manager draws a plan, outlines the timeframes, distributes the tasks and the roles, and registers project details in the translation management system.
- File preparation. This involves converting the text according to the specifications as well as formatting the text according to the requirements of the CAT tool.
- Uploading project into the CAT tool. By means of the CAT tool, the PM creates or uploads an existing translation memory, termbase, and/or glossary to the project.
- Translation. Once the project is ready, the project manager sends the final package to the language provider, and the translation process starts. At this stage, the project manager is in charge of solving any issues that may arise during the translation process, such as handling linguistic queries, managing technical issues with translation software, and clarifying ambiguities in the source text. If the translator encounters ambiguous phrases, has specific questions about terminology, tone, or context, or faces problems with the assigned CAT tool, it is the project manager who needs to ensure these issues are solved, whether by consulting with the client to clarify the intended meaning or coordinating with technical support teams to ensure the workflow is not disrupted.
- Revision and QA. During this stage, the project manager performs QA and quality control as for the terminological accuracy and consistency, grammar, lexico-semantic, and stylistic adequacy of the translated text.
- Desktop publishing (DTP). This service is the adaptation and graphic design work, the last step in a translation project. The project manager needs to make sure that the client receives a product with the same format and visual characteristics as the original file.
- Submission of the project to the client. After completing all translation and QA processes, the project manager delivers the final translated document to the client according to the agreed-upon deadline and specifications.
- Updating translation memories, termbases, and glossaries. Following the completion of the project, the project manager updates the different translation resources in the translation management system based on any new terminology or translations generated during the project.

This ensures that future projects may benefit from improved consistency and efficiency in translation.

However, while the workflow model described in Figure 2 offers a general overview of the project manager's responsibilities, the advent of MTPE has introduced new variables that significantly alter this model. It is therefore essential to adapt the conceptual framework of TPM to reflect the practical implications of MTPE use across different operational environments.

3. MTPE and TPM

Although machine translation (MT) had been introduced in commercial environments already in the 1970s (Vasconcellos & León, 1985), it was not until the late 1990s that the use of MTPE became commonplace in LSPs, “although the quality of the raw output could be very poor and freelance translators often struggled to perform the task” (Guerberof Arenas & Moorkens, 2019, p. 218). However, it is only in the last two decades that we have seen an increase of this activity within the translation industry, particularly in Europe:

And it is now official: both LSCs [language service companies] and independent professionals confirm that machine translation is used in more than 50% of their professional translation work. (ELIS [European Language Industry Survey], 2025, p. 5)

With recent advances in the quality of MT systems, especially since the launch of neural machine translation (NMT) in 2015 (Castilho et al., 2017), “post-editing has become an increasingly common task and in certain domains has been integrated in CAT workflows” (Dorst et al., 2023, p. 50). However, it should be noted that MT is not used in the same way by all LSPs. Therefore, the relationship between project managers and MT can take different forms (Plaza-Lara, 2020b, p. 168):

- Project managers working for an LSP that has its own MT engine and can offer MTPE as a customer service;
- Project managers working for an LSP that does not have its own MT engine but whose clients process texts with an MT engine and want them to post-edit that text;
- Project managers working for an LSP that does not have its own MT engine but uses MT features offered by different platforms;
- Project managers working with translators who use MT engines.

The integration of MTPE into translation workflows has significantly reshaped the responsibilities of the project manager. Plaza-Lara (2020b) emphasizes that the project manager's role is not static but evolves in response to technological advancements and organizational structures. Figure 3 visually represents the flow of responsibilities and decision points for the PM across these MTPE scenarios, highlighting the relational links between the project manager, MT engineers, clients, translators, and technology providers. The project manager emerges as a central, adaptable figure, whose expertise now encompasses technical evaluation, process optimization, ethical oversight, and strategic mediation between all stakeholders involved in the translation process. As Figure 3 shows, the project manager's role adapts dynamically across four main scenarios, each presenting distinct challenges and requiring specific expertise:

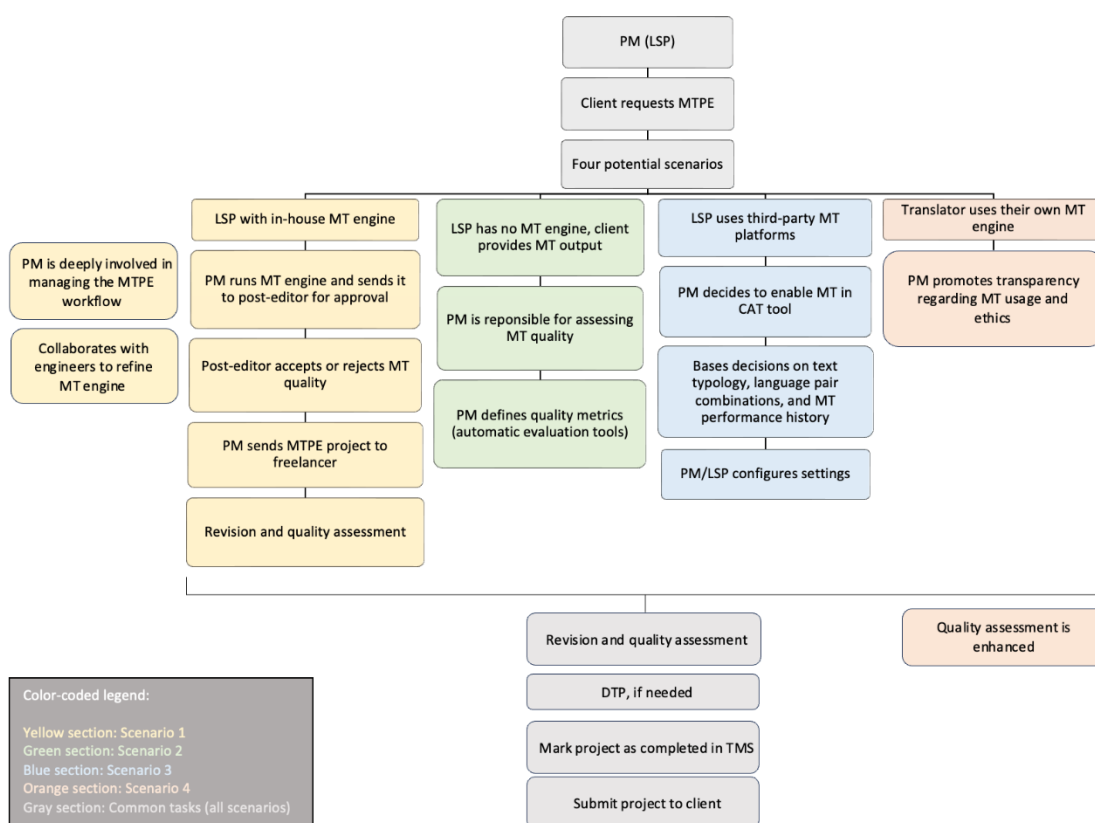


Figure 3. TPM workflow with MTPE (adapted from Nevmerzhytski et al., 2021, p. 100)

In the first scenario (yellow section in Figure 3), where the LSP operates its own MT engine, the project manager assumes a highly active and collaborative position. Here, the project manager not only coordinates the overall MTPE workflow but also contributes to the continuous improvement of the MT engine by providing linguistic feedback and facilitating communication between linguistic and technical teams. This scenario demands that the PM possesses a solid understanding of engine training processes, as well as the ability to oversee QA and ensure that the output aligns with project requirements.

In the second scenario (green section in Figure 3), where the LSP does not have its own MT engine and the client provides the MT output, the project manager's focus shifts to evaluating the quality of the provided output before initiating the post-editing (PE) phase. This evaluation involves defining and applying quality metrics, often supported by automatic evaluation tools, and negotiating with the client regarding the feasibility and scope of PE. The project manager's role here is evaluative and requires careful negotiation to ensure that the PE process aligns with both client expectations and industry standards.

The third scenario (blue section in Figure 3) involves LSPs that utilize third-party MT platforms. In this context, the project manager must make strategic decisions about whether to enable MT features within CAT tools. These decisions are influenced by factors such as text typology, language pair combinations, and the past performance of the MT system. The project manager's responsibilities include configuring MT settings and workflows, adapting them to the specific needs of each project, and ensuring that the integration of third-party MT solutions balances efficiency with quality and client requirements.

In the fourth scenario (orange section in Figure 3), the translator independently incorporates their own MT engine into the workflow. The project manager's supervisory role becomes crucial, as it involves monitoring and verifying the use of MT, often through contractual obligations or project specifications. Establishing clear guidelines and documentation requirements for translators is essential to ensure transparency and maintain ethical standards, particularly in contexts where the use of MTPE is required or must be explicitly disclosed. The project manager must ensure that quality control measures are in place and that the final product meets both client and industry expectations.

4. Methodology and Design: A Survey-Based Study

Following Grotjahn's paradigm (1987, pp. 59-60), our research adopts a mixed-methods methodology focused on a quantitative, explorative-descriptive approach. Based on a non-experimental study, participants were not subject to any form of manipulation. This means that the data reflect naturally occurring perceptions and professional experiences. In order to gain insight into the perception of the participants on the influence of MTPE in the translation management lifecycle, a survey was designed and administered to the participants, using Microsoft Forms. The collected data were subsequently exported to an Excel file for processing. While the analyses are primarily quantitative, interpretative insights were also drawn to contextualize patterns in relation to previous studies.

4.1. Participants

Our study comprises 61 project managers working in various LSPs, in corporate settings and as freelancers across Spain. In order to obtain a representative sample, we followed the inclusion and exclusion criteria illustrated in Table 1. When selecting the participants, the method used was "non-probability sampling" (Hernández Sampieri et al., 2014; Mellinger & Hanson, 2016; Sharma, 2017), where participant selection is not dependent on probability but rather on causes related to the characteristics and purposes of the research (Hernández Sampieri et al., 2014). In terms of ethical standards and to respect privacy, anonymity, and confidentiality of participants, all of them were informed of the aims of the research, and permission was obtained for the dissemination of the results.

Subgroup: project managers	
Inclusion criteria	<ul style="list-style-type: none"> — Currently active or having been professionally active within the last five years; — Engaged in or having engaged in professional work as project manager in Spain; — Engaging in or having engaged in their work either as an employee or self-employed project manager.
Exclusion criteria	<ul style="list-style-type: none"> — Not professionally active within the last five years or more; — Currently not engaged in professional work as a project manager in Spain. Participants would be considered eligible if they have worked as project managers abroad, as long as they also have experience as project managers in Spain; — Lacking professional experience in TPM.

Table 1. Inclusion and exclusion criteria used in this survey-based study

To apply the exclusion criterion of lacking professional experience in TPM, we included a screening question at the start of the survey for respondents who identified as project managers. The question asked: *Are you currently active in the field of TPM?* Those who selected *No, I have not been active for more than five years* were automatically excluded and unable to proceed with the survey. This approach ensured that only participants with recent and relevant professional experience in TPM were included in the study.

4.2. Survey Design

As a quantitative instrument, a survey was designed to gather insights into project managers' attitudes, practices, and challenges concerning integrating new technologies in their workflows. The survey consisted of 15 closed questions divided into three main sections. The first section (questions Q1-Q4) focused on delineating the profile of the project manager, encompassing factors such as professional background, experience, and expertise. On the other hand, the second section (questions Q5-Q10) shifted the focus towards the integration of MTPE within TPM processes. Lastly, the third section (Q11-Q15) explored project managers' perceptions of the challenges and opportunities associated with MTPE integration, including issues related to workload, QA, and training needs. In its initial stage, the survey was piloted by three Spanish project managers. Once validated, it was administered using Microsoft Forms,⁴ allowing easy distribution and data collection. It was published on different online platforms, such as ProZ,⁵ LinkedIn,⁶ and Facebook,⁷ and it was shared among and referred to project managers within these platforms.

The survey was available from June to August 2023. This time frame was chosen to allow for an adequate data collection period while also considering the availability of potential participants. During this data collection phase, efforts were made to reach out to a diverse pool of participants, including project managers working in various sectors and organizational settings across Spain. Multiple channels, such as professional networks, industry associations, and social media platforms, were utilized to disseminate the survey and maximize participation.

5. Analysis and Discussion

In general terms, the data collected from the 61 participants provide a comprehensive snapshot of current practices, perceptions, and professional backgrounds among translation project managers in Spain. The overall sentiment emerging from the survey is one of an industry in transition: while MTPE has become firmly embedded in daily workflows and is increasingly demanded by clients, there remain notable gaps in formal training and standardization, as well as diverse approaches to QA. The following sections present a detailed breakdown of participant profiles, the integration of MTPE into project management workflows, and the main challenges and opportunities identified by project managers, offering a nuanced view of the current state of the profession.

5.1. Project Manager Profile (Questions Q1-Q4)

Figure 4 illustrates the distribution of respondents' current activity within the TPM industry (Q1). According to the data, a substantial majority—79% of participants—reported that they are presently active in the sector. This proportion specifically reflects individuals who are currently engaged in professional roles related to TPM, indicating that the survey sample is predominantly composed of project managers with direct, ongoing experience in the industry. In contrast, 21% of respondents indicated that they are not currently active, but they had been involved in the industry within the past one to five years. This group may include professionals who have recently transitioned to adjacent fields within translation and localization or who have temporarily stepped away from specific roles related to TPM. This interpretation is supported by recent findings from Fuentes-Pérez & Cano Fernández (2025), who observe a notable rise in professional profiles driven by developments in advanced translation technologies over the past five years, such as localization project managers, localization engineers, computational linguists, and multilingual prompt engineers. On the other hand, no respondents reported being inactive in the TPM industry for more than five years. This outcome

⁴ <https://forms.office.com/>

⁵ <https://www.proz.com/>

⁶ <https://www.linkedin.com/>

⁷ <https://www.facebook.com/>

aligns with the study's exclusion criteria, which limited participation to those with recent or current TPM experience. As a result, the dataset comprises only those with relevant and up-to-date industry knowledge, thereby enhancing the validity of the study's findings.

It is important to note that the high proportion of currently active professionals (79%) may partially reflect a self-selection bias, as individuals with a sustained interest in TPM and related topics—such as MTPE—were more likely to participate in the survey. Consequently, while the results demonstrate a strong representation of active TPM professionals, this should be interpreted in the context of the study's recruitment and eligibility parameters.

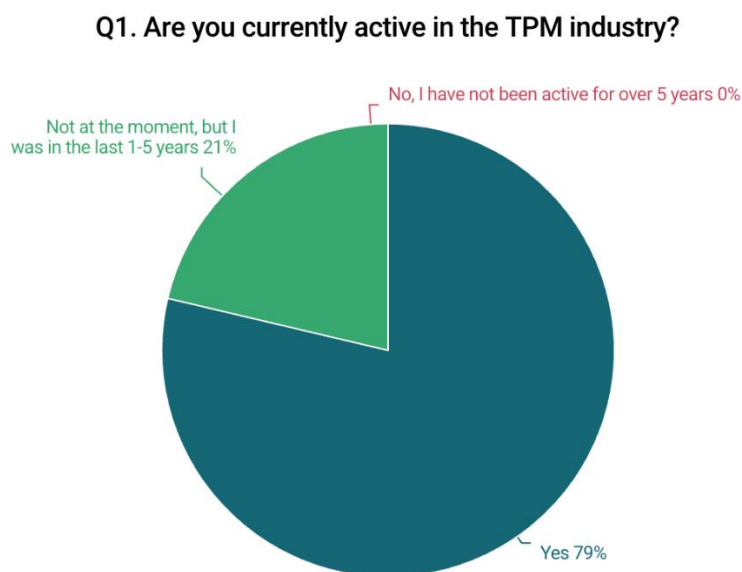


Figure 4. Survey question Q1: Are you currently active in the TPM industry?

Next, we sought to determine how many years of experience the participants had in the field of TPM (Q2). The responses are summarized in Table 2 below:

Years of experience in TPM	Number of responses	Percentage
0-2 years	21	34%
2-4 years	16	26%
4-6 years	11	18%
More than 6 years	13	21%

Table 2. Survey question Q2: How many years of experience do you have in TPM?

As shown in the table above, the largest proportion of participants have been working as translation project managers for less than two years (34%), followed by those with two to four years of experience (26%). This means that over half of the sample consists of junior profiles within the TPM industry. Additionally, 18% of respondents have between four and six years of experience, while 21% have more than six years in the field.

Subsequently, respondents were asked about the type of undergraduate university degree they had completed (Q3). The data reveals a diverse array of educational pathways that respondents pursue, reflecting the multidisciplinary nature of the translation industry and the varied skill sets cultivated within the TPM profession. The results were distributed as follows:

Undergraduate university degree completed	Number of responses	Percentage
I do not have a university degree	21	0%
Bachelor's Degree in Translation and Interpreting (or related)	50	82%
Bachelor's Degree in Philology (or related)	8	13%
Other	3	5%

Table 3. Survey question Q3: What is your highest completed undergraduate university degree?

As shown in Table 3, none of the participants indicated that they did not have an undergraduate university degree (0%). In fact, the vast majority of project managers reported having completed a Bachelor's Degree in Translation and Interpreting or a related field (82%), followed by a much smaller group who had completed a Bachelor's Degree in Philology or a related field (13%). It is also worth noting that 3 participants (5%) indicated other degrees, specifically: "Bachelor's Degree in Applied Languages," "Degree in Telecommunications Engineering and Physics," and "Bachelor's Degree in Translation and Interpreting and Bachelor's Degree in Philology." Given these results, and considering the importance of translation competence in project management (Plaza-Lara, 2020b), it is not surprising that 82% of the surveyed translation project managers hold a degree in Translation and Interpreting or a closely related field.

Next, we aimed to delve deeper into the specific training received by participants and included a dedicated question regarding education in TPM (Q4). The results are presented in the table below:

Specific training in TPM	Number of responses	Percentage
I have not received any training	28	46%
Yes, during undergraduate studies	14	23%
Yes, during postgraduate studies (Master's or PhD)	10	16%
Yes, at private professional schools/companies	5	8%
Other	4	7%

Table 4. Survey question Q4: Have you ever received specific training in TPM?

As shown in Table 4, nearly half of the respondents (46%) reported not having received any specific training in TPM. This is followed by 23% who received such training during their undergraduate studies. Additionally, 16% indicated they had undertaken postgraduate training, such as a Master's or PhD, and 8% had received training at private professional schools. Finally, 4 respondents (7%) specified other types of training, including "in-house company training," "internships and training sessions," "practical training within the company," and "Master's Degree: management of interpreting teams, not translation."

These initial findings highlight a clear lack of specialized training in TPM in Spain, with almost half of the respondents lacking any formal preparation for their daily professional tasks. In this connection, it is worth referencing the data collected by Quijano Peña (2022), who surveyed 41 graduates of Translation and Interpreting degrees working in project management. Specifically, one of the questions in her survey asked whether respondents had received training in TPM during their undergraduate studies. Of the 41 participants, 30.6% reported having received such training, while 69.4% stated they had not received any specific project management training during their degree. These figures are closely aligned with the 23% of our sample who indicated having received this type of training at the undergraduate level. Furthermore, if we compare these results with Matcha Abombo's study (2015), which surveyed translation companies in the Madrid region, none of the professionals employed in those companies had received "training in TPM" (p. 469). This finding is also consistent with our results regarding the lack of formal training in this area.

On average, participants are relatively junior translation project managers, predominantly holding an undergraduate degree in Translation and Interpreting or a related field, and with limited formal training specifically in project management. These findings underscore not only the persistent lack of specialized training in TPM in Spain—nearly half of respondents reported no formal preparation—but also some broader implications for the industry. As highlighted by previous research, such as Quijano Peña (2022) and Matcha Abombo (2015), this gap in formal education is not unique to our sample but reflects a wider, systemic issue within the sector. The absence of structured training pathways may hinder the development of essential professional competences, limit career progression, and ultimately impact the quality and efficiency of project delivery. This sets the stage for the following section, which examines additional aspects of respondents' professional background and practices.

5.2 MTPE and TPM Workflow (Questions Q5-Q10)

On average, participants report that MTPE is firmly embedded in the daily workflows of translation project managers in Spain. The survey responses reveal that the integration of MTPE is no longer an emerging trend but a standard practice within the industry, reflecting the evolving demands of clients and the operational realities faced by project managers. This section addresses the extent to which MTPE is integrated into TPM routines (RQ1) and explores project managers' perceptions of the main challenges and opportunities associated with its integration (RQ2).

Drawing on the full sample of 61 participants, the first question (Q5) in this section aimed to identify which linguistic services were most in demand from clients in 2023. Although respondents could select multiple options, translation project managers were asked to indicate only the three services that had been most frequently requested over the past year. This yielded a total of 183 responses, which are summarized in the figure below:

Q5. Please indicate the top 3 language services and specializations requested by clients in 2023:

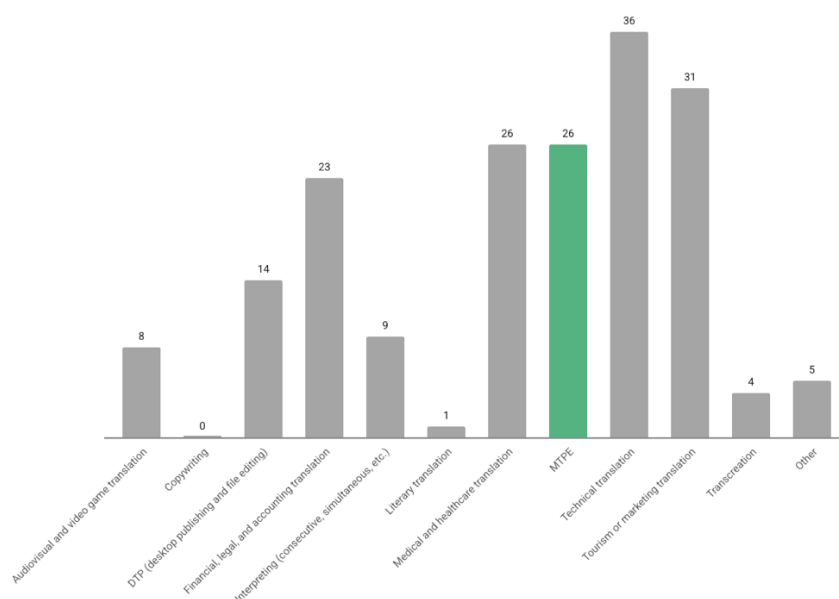


Figure 5. Survey question Q5: Please indicate the top 3 language services and specializations requested by clients in 2023

The detailed service breakdown in Figure 5 reveals MTPE's prominence among translation workflows. While technical translation led with 36 responses (19.7%) and tourism and marketing translation followed with 31 responses (16.9%), MTPE's third-place tie with medical translation (26 responses, 14.2%) demonstrates its integration into mainstream project management practice. Legal, financial, and accounting translation ranked next, with 23 responses (12.6%), followed by DTP services with 14 responses (7.7%). The least requested services among clients of translation agencies or LSPs were interpreting (9 responses, 4.9%), audiovisual and video game translation (8 responses, 4.4%), transcreation (4 responses, 2.2%), and literary translation (1 response, 0.5%). Notably, copywriting received no selections (0%). The "Other" category (5 responses, 2.7%) included services such as fashion translation, intellectual property, corporate and e-learning translation, website localization, and patent translation.

Regarding the extent to which MTPE is incorporated into project managers' daily workflows (RQ1), the survey data indicate that MTPE has become increasingly central to translation service provision. Specifically, MTPE now ranks within the top three services requested by clients of translation agencies and LSPs, demonstrating that project managers must oversee MTPE assignments with growing regularity. Given the modest sample size, these findings should be interpreted as indicative of broader trends rather than definitive conclusions. However, to contextualize these results, we compared them with data from the 2024 ELIS report, which surveyed 257 translation agencies and LSPs in Europe. According to this report, MTPE is the only service for which agencies anticipate growth compared to 2023. Indeed, the most recent ELIS report (2025) further confirms this trend: "And it is now official: both LSCs [language service companies] and independent professionals confirm that machine translation is used in more than 50% of their professional translation work" (p. 5). This represents an unprecedented level of MT and PE usage in the history of the translation and interpreting industry, particularly among agencies and LSPs.

Earlier research by Torres-Hostench et al. (2016) also highlighted the expanding role of MTPE in LPSs. Their findings revealed that MT accounted for 34% of the European language services market in 1999, rising to 42% in 2004, while 38.63% of respondents reported offering MT services within an overall annual translation industry growth of 6.23%. Notably, PE was identified as the fourth most requested service by clients, after translation, revision, and editing of originals and translations. While the specific service rankings differ slightly between their study and the present research, there is clear evidence that MTPE is becoming increasingly central to project management in the industry—a trend consistently supported by the latest ELIS reports (2023, 2024, 2025). The present findings go a step further by demonstrating that MTPE is now tied for third place among the most requested services, reflecting its normalization and growing prominence in client demand. These developments underscore the urgent need for targeted training and upskilling in MTPE and related technologies, ensuring that project managers and translators are equipped to meet the evolving demands of the sector.

Continuing with the items in our questionnaire, respondents were next asked whether their translation agency/company (or they as freelancers) held ISO 18587 certification for translation services, specifically focusing on PE of MT output for professional and quality use of MT engines (Q6). The results of this question were divided as follows:

Do you hold ISO 18587 certification?	Number of responses	Percentage
Yes	28	46%
No	33	54%

Table 5. Survey question Q6: Does your translation agency/company (or, alternatively, you as a freelancer) hold ISO 18587 certification: Translation services. Post-editing of machine translation output, specifically for the professional and quality use of MT engines?

As shown in Table 5, despite the fact that the results for this question are fairly balanced, the majority of respondents work in agencies (or, alternatively, as freelancers) that do not hold the aforementioned certification (54%). Nevertheless, a high percentage of participants work in agencies or hold certification for the professional and quality use of MT engines (46%).

These findings reveal a significant paradox in the current state of MTPE integration within the translation industry. While the previous question (Q5) demonstrated that MTPE occupies a central position among the services most requested by clients (ranking third with 14.2% of responses), only 46% of respondents confirm that their agency holds *ISO 18587 certification* specifically designed for professional MTPE services. This discrepancy suggests a potential gap between market demand and formal quality standardization in MTPE practices. Therefore, while MTPE has become operationally central to many translation agencies, the formal adoption of industry standards for these services remains incomplete.

For those participants who indicated that they held the relevant certification, we sought to determine whether they were involved—either directly or indirectly—in the process of evaluating the quality of the MT engine (Q7). The responses from these 28 individuals were distributed as follows:

Do you participate in the evaluation of MT engine quality?	Number of responses	Percentage
Yes	16	57%
No	12	43%

Table 6. Survey question Q7: Do you participate in the evaluation of MT engine quality?

As shown in Table 6, the majority of participants—57%—reported being involved in MT engine quality evaluation, while 43% stated that they do not participate in this process. Their lack of involvement may stem from various factors such as organizational structure, job responsibilities, or reliance on automated QA tools and processes. Those 16 participants who are, in some way, part of the MT engine evaluation group were then asked about the specific nature of their involvement (Q8). Their responses are summarized in the table below:

How do you participate in the evaluation of MT engine quality?	Number of responses	Percentage
The assigned linguist decides whether the MT output is of sufficient quality and informs me	8	40%
I, as the translation project manager, am solely responsible for deciding on MT quality	0	0%
Both the linguist and I, as the project manager, jointly decide on MT quality	2	10%
We have a dedicated team/department that handles these evaluations exclusively	9	45%
Other	1	5%

Table 7. Survey question Q8: How do you participate in the evaluation of MT engine quality?

Since Q8 was a multiple-response question, a total of 20 responses were collected from the 16 participants. The data reveal a diverse approach to MT engine quality evaluation. In 40% of cases, the assigned linguist is responsible for assessing MT quality and communicates the result to the project manager, highlighting the crucial role of linguists in this initial evaluation. Notably, there were no cases in which the translation project manager alone was responsible for determining MT quality (0%). In 10% of cases, both the linguist and the project manager collaborate in the evaluation, providing a more integrated approach. Meanwhile, 45% of participants indicated that their organization relies on a dedicated team or department for this function, suggesting that many translation agencies have specialized teams to ensure MT quality. Finally, one project manager (5%) clarified: "A note

regarding my selected answer: it is common practice to consult several linguists, and if any of them confirm the quality of the MT output, the project is assigned accordingly."

The findings from Q7 and Q8, which specifically address QA in MTPE workflows, reveal a notable pattern regarding the role of translation project managers in quality control processes. Despite the central position that MTPE occupies in contemporary translation workflows and the active participation of project managers in managing these projects, the data suggests that project managers are not extensively involved in direct QA activities. The results demonstrate that quality evaluation is predominantly delegated either to linguists (40% of cases) or to specialized teams and departments (45% of cases), with no instances of project managers assuming sole responsibility for MTPE QA. Therefore, while project managers coordinate and oversee MTPE projects, the technical evaluation of MT output remains largely within the domain of language professionals and specialized QA units. This division of responsibilities may reflect both the specialized technical skills required for MT evaluation and the need for linguistic expertise in assessing translation quality, positioning project managers primarily as project coordinators rather than quality gatekeepers in the MTPE workflow.

As mentioned previously, *ISO 18587 certification—Translation Services. Post-editing of Machine Translation Output*—serves as a quality guarantee, but it does not preclude the provision of MTPE services by those who do not hold the certification. For this reason, participants were also asked in Q9 whether their agency, company, or, in the case of freelancers, they themselves offered MTPE services, or, in the case of freelancers, whether they offered such services themselves. The results are presented in the figure below:

Q9. Does the translation agency (or you as a freelancer) offer PE services?

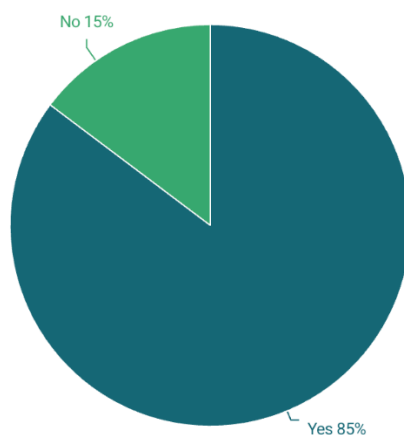


Figure 6. Survey question Q9: Does the translation agency (or you as a freelancer) offer MTPE services?

As shown in Figure 6, an overwhelming majority of participants—52 out of 61 (85%)—reported offering MTPE services, while only a minority of 9 (15%) indicated that they did not. To contextualize these results, we compared them with those from the study by Torres-Hostench et al. (2016), in which the authors posed the same question to 55 companies. In their study, the results were much more evenly split: 52.7% of respondents reported not using MTPE, while 47.3% said they did. This contrast is likely due to the timing of the two studies—Torres-Hostench et al.'s research was conducted in early 2015, eight years prior to our own, at a time when MTPE was just beginning to gain

traction in LSPs. Furthermore, as noted in the 2024 ELIS report, "we can now safely state that machine translation has become a standard part of professional translation work" (p. 31).

Next, the same group of project managers who reported offering MTPE services were asked what proportion of their workload in 2023 consisted specifically of MTPE assignments (Q10). In other words, they were asked what percentage of their work over the past year involved MTPE. The results are presented in the following figure:

Q10. Approximately what percentage of workload corresponded to MTPE in the last year?

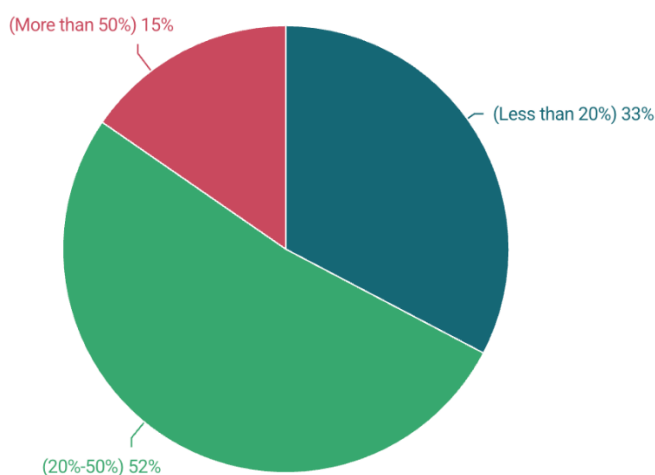


Figure 7. Survey question Q10: Approximately what percentage of workload corresponded to MTPE in the last year?

As shown in Figure 7, 17 participants indicated that less than 20% of their projects involved MTPE (33%). However, 27 participants reported that MTPE accounted for between 20% and 50% of their assignments, representing more than half of the respondents (52%). Finally, 8 respondents stated that more than 50% of their projects involved MTPE (15%).

These findings were compared with those from the previously cited study by Torres-Hostench et al. (2016), which collected similar data. In their study, 61.8% of surveyed agencies reported that less than 20% of their projects involved MTPE; 10.9% indicated that MTPE accounted for between 20% and 50% of their assignments; 7.3% stated that more than 50% of their projects were MTPE; and 20% did not respond to this question. The comparison, especially regarding the "less than 20%" category, suggests that over the past decade there has been a clear and growing demand for MTPE services among clients of translation agencies and LSPs.

On the other hand, unlike Dorst et al. (2023), who surveyed 15 project managers and translators in mixed contexts, our study focuses exclusively on Spanish project managers with direct experience in MTPE workflows. The more polarized attitudes towards MTPE found in our study may stem from our respondents' concentrated, hands-on experience with MTPE management. While increased use of MTPE does not necessarily imply improvements in translation quality, the growing reliance on PE by professionals may indicate a perceived practicality and effectiveness in managing productivity and project workflows.

5.3. Project Managers' Perceptions of MTPE Integration Challenges and Opportunities (Questions Q11-Q15)

Continuing with the same group of project managers who reported offering MTPE services (52 participants), the next question (Q11) in this section aimed to determine whether a specific QA process is followed for MTPE projects. The responses are distributed as shown in the table below:

Do you follow a specific QA process for MTPE projects?	Number of responses	Percentage
Yes	20	38%
No	32	62%

Table 8. Survey question Q11: Do you follow a specific QA process for MTPE projects?

As can be observed, more than half of the surveyed project managers indicated that they do not follow a specific QA procedure for MTPE projects (62%), compared to a minority who reported the opposite (38%). This finding highlights a significant challenge in the integration of MTPE into translation workflows: the lack of dedicated quality control measures. The adoption of MTPE not only brings new opportunities but also demands greater attention to QA, as ensuring the quality of post-edited output becomes increasingly critical. The absence of specific QA procedures suggests that, for many project managers, adapting existing quality control frameworks to the specific challenges of MTPE—such as evaluating machine-generated output, assessing PE quality, and managing the distinct error patterns of MT systems—remains an ongoing issue.

Next, participants were asked whether they perceive MTPE to contribute to an additional workload for project managers (Q12). These results are presented in the figure below:

Q12. Do you consider MTPE to be an additional workload for the project manager?

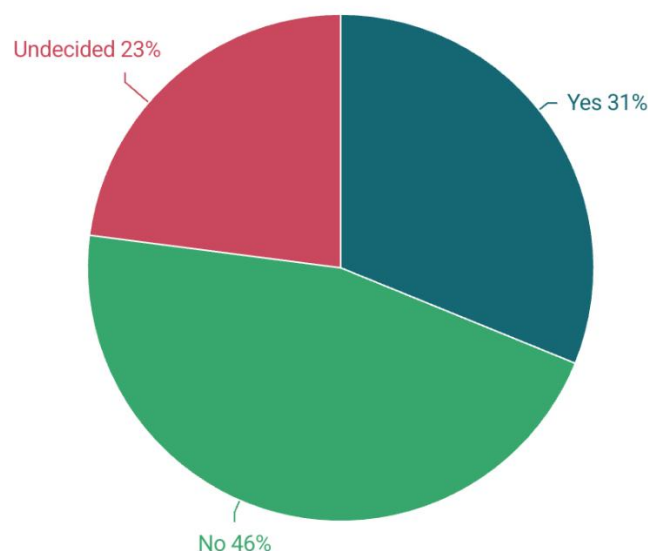


Figure 8. Survey question Q12: Do you consider MTPE to be an additional workload for the project manager?

In this case, most respondents do not perceive MTPE as a significant additional workload (46%). This may suggest that project managers feel MTPE is efficiently integrated into their current processes, possibly due to tools and workflows that facilitate this task. However, a significant portion of

respondents do see MTPE as an added workload (31%). This group may be facing challenges related to time management, quality monitoring, or coordination with translators and reviewers on projects involving MTPE. Additionally, 23% of participants indicated no clear opinion on the matter, which could be due to a lack of direct experience with MTPE processes or a neutral perception of its impact on project management. Overall, these results reflect a split in perceptions regarding the impact of MTPE, which may depend on the specific context and tools available in each professional environment. This division of opinions aligns with the findings of Torres-Hostench et al. (2016), who state that “MTPE is a task that evokes mixed feelings and is not recognized or accepted as just another revision service” (p. 25).

We also sought to determine whether there was any relationship between company size and project managers’ perceptions of MTPE as an additional workload. The underlying assumption was that larger companies tend to have more automated workflows, potentially making the integration of MTPE smoother than in smaller companies. Thus, we analyzed the factors of *company size* and *additional workload*:

Company size	Number of responses	Percentage
Freelance project managers	2	10.53%
<10 employees	3	15.79%
11-49 employees	11	57.89%
50-200 employees	1	5.26%
>250 employees	2	10.53%

Table 9. Correlation between company size and project managers’ perception of MTPE as an additional workload

As shown in Table 9, the responses suggest that company size impacts project managers’ perceptions of MTPE as an added workload. Of the 19 responses collected, 2 were from freelance project managers (10.53%), and 14 were from project managers working in companies with fewer than 49 employees, accounting for nearly 74% of the responses. In contrast, only 15% of participants who view MTPE as an additional workload in companies with more than 50 employees. This suggests that project managers in smaller companies or freelancers may find MTPE more demanding due to a possible lack of specialized resources, less standardized processes, or a generally higher workload. Larger companies, on the other hand, may have access to more advanced MT tools, dedicated MTPE teams, or optimized workflows, which can ease the workload on project managers. However, it is important to note that this correlation does not imply direct causation, and other factors—such as project complexity or project manager’s experience—may also influence this perception.

Participants were next asked about their personal experience working on projects involving MTPE (Q13). As this item allowed for multiple responses, a total of 74 responses were collected from 61 participants, as shown below:

Experience with MTPE projects	Number of responses	Percentage
MT quality is not always suitable for client delivery	44	59%
I have no personal experience with MTPE projects	7	9%
I prefer managing MTPE projects over other types of services	6	8%
I do not have enough knowledge on MTPE, and, therefore, I do not feel comfortable managing such projects	8	11%
Other	9	12%

Table 10. Survey question Q13: What has been your personal experience working with MTPE in translation projects?

As indicated in Table 10, the majority of respondents reported that, in their experience, MT quality is not always good enough for direct client delivery (59%), highlighting a widespread concern about the need for thorough PE to ensure final quality. Additionally, 11% of participants stated that they do not feel comfortable managing MTPE projects due to a lack of knowledge in this area, pointing to a need for training and upskilling so that project managers can effectively supervise and handle projects involving MTPE. On the other hand, the low percentage of respondents with no experience (9%) and the small number of project managers who prefer MTPE projects (8%) suggest that, while interest in MT is growing, especially among clients, significant challenges remain regarding quality and trust in these technologies.

Given the considerable percentage of participants who selected “Other” (12%), we considered it appropriate to break down their responses, as shown in the following table:

Experience with MTPE projects: «Other»	Participants response
1	No difference from standard translation project workflows.
2	PE alone is not sufficient; thorough revision is required.
3	Some clients choose MTPE to cut costs but expect the same quality as a standard translation. With PE, the translator only corrects MT errors, not creative turns of phrase, which can cause issues.
4	Sometimes, outdated TMs [translation memories] make it harder to deliver acceptable PE to clients.
5	We are still exploring possibilities; so far, we use it as a process that goes through all usual checks (four-eye principle) and is presented as a final product to the client. It is also offered in cases of extreme urgency, with the client made aware of possible consequences if deadlines are not extended. The preparation process does not differ for the project manager.
6	Sometimes, translators report poor MT output, which requires more effort than the client expects.
7	Many translators do not want MTPE projects or have issues with MT quality.
8	MT/PE should be understood as another service. If the client understands what to expect and agrees, it can save time and reduce costs. Ultimately, within minimum standards, quality is client satisfaction.
9	These are a different type of project with a different management process, but still viable.

Table 11. Breakdown of participant responses under 'Other' regarding experience with MTPE projects

Analysis of this item reveals several important nuances regarding the implementation and perception of MTPE services. Multiple responses highlight the importance of clients understanding the limitations and objectives of MTPE, emphasizing that the same quality as traditional translation cannot be expected, especially when cost reduction is the main goal (participant 3). The need for thorough revision after MTPE to ensure an acceptable final result is also stressed, along with challenges related to variable MT quality, outdated translation memories, and some translators' reluctance to work on such projects (participants 4, 6 & 7). These points echo the findings of Torres-Hostench et al. (2016), whose respondents noted that “machine translation produces poor results” (p. 19), with 35.6% of participants lacking trust in MT and 20% of translators refusing to accept MTPE projects.

Overall, these responses suggest that the success of MTPE projects largely depends on clear communication with clients, proper management of expectations, rigorous revision processes, and the availability of trained and willing translators. As Torres-Hostench et al. note, “insufficient training in MT and PE among translators adds to the prejudices that shape the opinion within the sector that MT is changing the traditional way translators work” (2016, p. 20). They also point out that, if properly understood and managed, MTPE can be a viable option for reducing costs and turnaround times, provided that minimum quality standards are maintained to meet client needs.

To conclude this section on MTPE, we asked project managers whether they believed that MT optimizes or slows down the project management workflow overall (Q14). This question aimed to gather their general perception of how MT integration affects project efficiency from a managerial perspective. Specifically, we were interested in understanding whether MT adds complexity or streamlines the project manager's tasks. As shown in the breakdown of responses below, opinions are quite divided:

Does MT optimize or slow down the workflow?	Number of responses	Percentage
Optimizes	17	28%
Slows down	15	25%
Neutral, no impact	15	25%
No opinion	14	23%

Table 12. Survey question Q14: Does MT optimize or slow down the workflow?

Although 28% believe that MT optimizes workflow, 25% feel it actually slows things down, while another 25% remain neutral, indicating a lack of consensus regarding the impact of MT on project management efficiency. The high proportion of neutral responses may suggest that whether MT optimizes or hinders workflow largely depends on the specific project context, the quality of the MT system used, and the project manager's ability to integrate MT into existing processes. Additionally, the fact that 23% of respondents have no opinion on the matter could reflect either limited direct involvement in MT-related decisions or uncertainty about its overall impact.

Last, participants were asked to rank, from 1 to 5—with 1 being the most important—which aspects they considered essential for a translation project manager in the context of MTPE (Q15). The results are presented in the bar chart below:

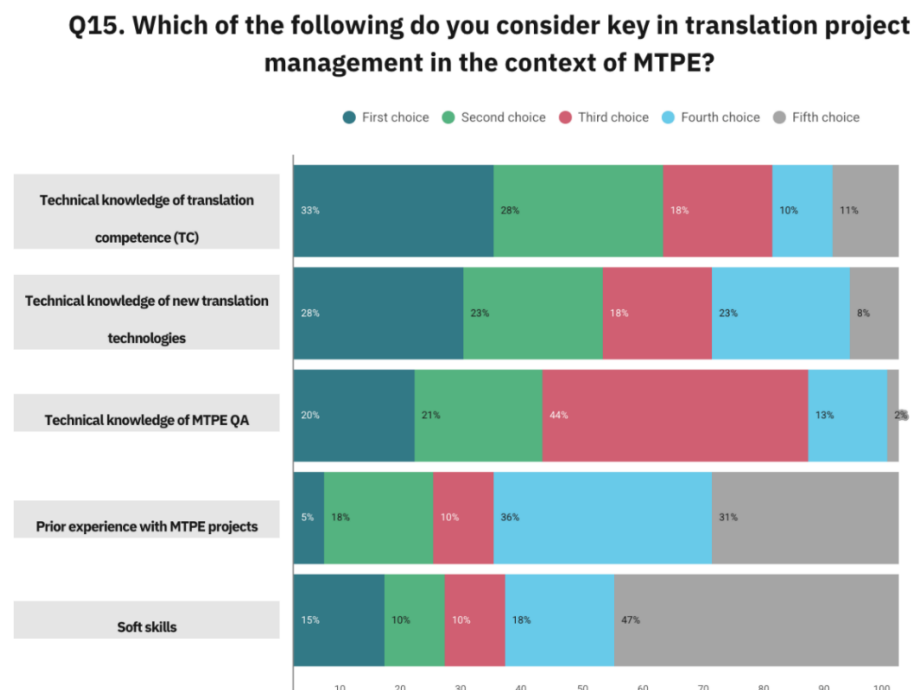


Figure 9. Survey question Q15: Which of the following do you consider key in TPM in the context of MTPE?

Technical knowledge related to translation competence (33% first choice, 28% second choice) and technical knowledge of new technologies (28% first choice, 23% second choice) stand out as the most highly valued by translation project managers. These results suggest that, to effectively manage MTPE projects, it is crucial for project managers to understand both the principles of translation and the workings of MTPE tools and knowledge, as well as the latest innovations in the field.

In a secondary, yet still relevant, position is technical knowledge of QA (20% first choice, 21% second choice, 44% third choice). While not the top priority, QA once again emerges as a key aspect in MTPE projects, where PE requires special attention to ensure that the final product meets acceptable quality standards. By contrast, soft skills (15% first choice, 47% fifth choice) and prior work experience in MTPE environments (5% first choice, 31% fifth choice) appear to be less of a priority compared to specific technical knowledge, although they remain important for effective project management and team communication.

While Plaza-Lara (2020a) emphasizes translation sub-competence and instrumental sub-competence as the most valuable competences for project managers according to translators, our findings suggest a shift towards a more technical knowledge related to MTPE and QA. This evolution indicates that the project manager's role is becoming increasingly hybrid, requiring not only traditional coordination and administrative skills but also domain-specific technical expertise, especially in contexts involving MTPE. The prominence of technical knowledge in our results reflects the growing complexity of translation projects in the digital era, where project managers must navigate both linguistic and technological challenges to ensure successful project delivery. This transformation suggests that the professional profile of translation project managers is adapting to meet the demands of an increasingly technology-driven industry.

6. Conclusions

The widespread adoption of MTPE has fundamentally transformed the translation market landscape, reshaping professional roles and workflows across the industry. Translation project managers, who serve as critical intermediaries in this evolving ecosystem, have experienced particularly significant changes in their responsibilities, competences, and daily operations as MTPE becomes increasingly integrated into standard translation practices.

Overall, the data collected in this study reveal that MTPE is no longer a peripheral or emerging service but has become a firmly established component of TPM workflows in Spain. The majority of participants are currently active professionals, predominantly with junior profiles and backgrounds in Translation and Interpreting, yet almost half lack any specific training in TPM, highlighting a significant gap in formal preparation for the realities of the profession. This finding is consistent with previous research and underscores the need for more targeted education in this area.

Addressing RQ1, the results show that MTPE ranks among the top three most requested services by clients, alongside technical and marketing translation. This positioning confirms the service's strategic importance in contemporary translation operations. However, a notable paradox emerges: only 46% of respondents report that their agency or themselves as freelancers hold *ISO 18587 certification* for professional MTPE services, while the majority (54%) do not. This points to a partial standardization of MTPE practices and suggests that formal QA frameworks have not kept pace with the operational integration of MTPE. Furthermore, the responsibility for MT output quality is largely delegated to linguists or specialized teams, with project managers rarely assuming direct responsibility for technical assessment. This division of duties positions project managers primarily as coordinators and workflow managers, rather than as quality gatekeepers, within MTPE projects.

Regarding RQ2, project managers identify several challenges in the integration of MTPE, with the inconsistent quality of machine-translated content standing out as the main concern. 60% of respondents state that MT output is not always suitable for direct delivery to clients, echoing concerns

in the literature about the reliability and adequacy of MTPE deliverables. The lack of adequate quality controls and the limited involvement of project managers in technical evaluation processes further compound these issues, highlighting a need for clearer QA protocols and more comprehensive training. On the other hand, the growing demand for MTPE has led to increased specialization within project management roles. Respondents emphasize the importance of technical knowledge—particularly in MTPE QA and translation technologies—as essential competences for project managers overseeing MTPE projects, aligning with previous findings that underscore the value of instrumental and technical skills in managing technologically mediated translation services.

Several implications arise from these findings for translator training and LSPs. For translator training, the clear lack of specific preparation in project management and MTPE, both at undergraduate and postgraduate levels, underscores the urgent need to revise and update curricula. Translation and Interpreting programs should incorporate dedicated modules on MTPE workflows, MT quality evaluation, and project management competences to better prepare future professionals for the demands of the evolving market. For LSPs, the results serve as a call to action to recognize the strategic importance of MTPE and the need to implement robust quality controls aligned with international standards. The fact that a significant portion of the sector offers MTPE services without *ISO 18587* certification highlights the urgency of investing in internal training, adopting standards, and developing in-house protocols for MT quality evaluation to ensure service excellence and strengthen client trust.

While this study provides valuable insights, certain limitations must be acknowledged. The sample size, though informative, is relatively small and geographically focused on Spain, limiting generalizability. Additionally, the reliance on self-reported data may introduce bias or inaccuracies. Future research would benefit from expanding the sample size and diversity, incorporating qualitative methodologies such as interviews or case studies, and broadening the geographic scope to provide a more global perspective on MTPE integration in project management.

In conclusion, this study confirms that MTPE is becoming an integral component of TPM in Spain, fundamentally reshaping project managers' professional roles and presenting both challenges and opportunities. The findings highlight the need for enhanced MTPE training and certification among project managers, which would ensure quality management and workflow optimization. As the translation industry continues to evolve, further research on the intersection of MTPE and project management will be essential for addressing emerging trends and developing best practices.

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