

Freelancer Competences: National Analysis Report

Spain

Version 6.1

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Project coordinator – name	Grażyna Paliwoda-Pękosz paliwodg@uek.krakow.pl
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Contributors

Francisco Jose Liébana-Cabanillas, University of Granada, Spain

Francisco Muñoz-Leiva, University of Granada, Spain

Elena Higuera-Castillo, University of Granada, Spain

Disclaimer

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The quantitative analysis of the national datasets within the ENTEEF project was carried out by Florin Stoica (Lucian Blaga University of Sibiu), following a standardized methodological framework. This centralized approach ensured consistency, comparability, and methodological rigor across all participating countries.

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1 Introduction

This National Report presents the results of the quantitative analysis conducted for Spain within the framework of the ENTEEF – Fostering Entrepreneurship through Freelancing project. The analysis was carried out by the Spanish research team in strict accordance with the Freelancer Competences: Quantitative Analysis Guidelines, ensuring methodological rigor, transparency, and full comparability with national reports produced by other partner countries.

The report is based on data collected from Spanish respondents through the ENTEEF Questionnaire for Freelancers and the Questionnaire for Companies. Its main objective is to provide an evidence-based assessment of freelancer competences, perceived skill gaps, and training needs within the Spanish freelance ecosystem, while maintaining alignment with the common analytical framework defined at project level.

The structure of the report follows the standardized analytical stages recommended in the ENTEEF guidelines. It begins with descriptive statistics and respondent profiling, offering an overview of the demographic and professional characteristics of Spanish freelancers and companies. This section provides the contextual foundation for interpreting subsequent analytical results.

The report then examines competence importance and proficiency (or meeting standards), identifying key competences perceived as critical by Spanish freelancers and hiring companies. These analyses support the identification of competences that are most relevant within the national context and contributes directly to addressing Research Question RQ1.

Subsequent sections apply comparative and inferential statistical methods, including cross-tabulation analysis, analyses of variances (ANOVA), Chi-square tests, and paired comparisons, to explore relationships between competences and

categorical variables such as age, education level, area of activity, company size, and AI usage. These analyses allow for the systematic identification of competence mismatches and statistically significant differences across respondent groups, addressing research questions RQ1 and RQ2.

The report further includes a segmentation and profile analysis, using cluster analysis to identify distinct freelancer typologies in Spain and CHAID decision-tree analysis to explore organizational profiles associated with anticipated challenges in accessing skilled freelancers. These methods provide an interpretable, data-driven understanding of heterogeneity within the Spanish freelance market and support targeted policy and training recommendations, in line with research question RQ3.

Finally, the findings are integrated into an identification of training needs, combining freelancer and company perspectives into structured training-needs matrices. This step translates empirical competence gaps into prioritized training areas, providing direct input for the design of educational interventions, upskilling programs, and evidence-based recommendations relevant to the Spanish context.

This National Report operationalizes the ENTEEF quantitative analysis framework for Spain and contributes robust, comparable evidence to the project's cross-country analysis. Consistent with the conclusions of the methodological guidelines, the results presented here provide a validated empirical foundation for the development of the Competence Assessment Tool (CAT) and for the design of MOOCs and targeted training modules, ensuring alignment between freelancers' professional development needs and companies' demand within the Spanish freelance economy.

2 Descriptive statistics:

Respondent profiling

2.1 Freelancers

This section provides a comprehensive overview of the demographic, educational, and professional characteristics of freelancers participating in the ENTEEF survey in Spain. The descriptive analysis presented here establishes the empirical context for understanding freelancers' competence profiles, perceived challenges, and training needs examined in subsequent sections of the report.

The section begins with a detailed demographic profile, including age and gender distributions, which offers insight into the composition of the Spanish freelance workforce and supports later subgroup analyses. Educational background is examined both in terms of highest level of education attained and area of education, allowing for a nuanced understanding of freelancers' formal qualifications and disciplinary orientations in the Spanish context.

Professional characteristics are then explored through indicators such as years of experience as a freelancer, main area of freelance activity, and number of clients in the past 12 months. Together, these variables describe freelancers' labour-market positioning, degree of professional maturity, and patterns of client engagement in Spain, which are essential for interpreting differences in competence use, workload structure, and income stability.

The section further examines job acquisition mechanisms, including freelancers' reliance on personal contacts, professional networks, digital labour platforms, and social networks. By distinguishing between different channels and platforms used to

find work, the analysis highlights how Spanish freelancers access market opportunities and how digital intermediaries shape freelance careers.

In addition, the section captures freelancers' forward-looking perceptions, addressing anticipated near-term challenges, perceived drivers of freelancing growth, and expectations regarding the future of freelancing. These perspectives provide valuable insight into freelancers' strategic outlook, perceived risks, and opportunities within the Spanish labour market, which is characterized by ongoing structural and technological transformation.

Finally, the section explores freelancers' engagement with artificial intelligence and continuous learning, focusing on expected future use of AI, investment in upskilling and reskilling, and preferred pathways for skill acquisition and development. These dimensions are particularly relevant for understanding how freelancers in Spain adapt to technological change and how training interventions can be designed to align with both individual practices and evolving market demands.

This section establishes a structured and evidence-based profile of freelancers in Spain, serving as a critical foundation for the subsequent analysis of competence importance, proficiency, gaps, and training priorities within the ENTEEF analytical framework.

2.1.1 Age distribution

The age distribution of Spanish freelancers reveals a clear concentration in the 45 to 52 and 53 to 60 age intervals, which together account for 46.8% of the national sample (that is 24.8% and 22.0%, respectively). This pattern indicates a strong presence of mid- to late-career professionals within the Spanish freelance ecosystem, suggesting that freelancing is frequently adopted after substantial accumulation of professional experience, sector-specific expertise, and well-established professional networks.

Closely following these cohorts, the 37–44 age group represents 21.3% of respondents, constituting another important segment of the sample. Freelancers in this age range typically combine consolidated professional trajectories with a high

degree of flexibility and adaptability, positioning freelancing as a strategic and stable career choice rather than a transitional employment arrangement.

More moderate representation is observed in the 29–36 age interval, which accounts for 12.8% of the sample. This group reflects younger professionals who may be in the process of transitioning from salaried employment to independent work, or who are consolidating their position within the freelance market following early career stages.

At the lower end of the age distribution, the 24–28 and under 24 groups are minimally represented, comprising 4.3% and 3.5% of respondents, respectively. This limited presence suggests that freelancing in Spain is comparatively less prevalent among very young individuals, potentially due to factors such as limited professional experience, ongoing formal education, or restricted access to freelance market opportunities during early career phases.

Finally, the 61 or more age group accounts for 11.3% of the sample. While not a dominant segment, this proportion indicates the continued engagement of senior professionals in freelance activities, possibly as a means of leveraging accumulated expertise, maintaining professional involvement, or pursuing flexible work arrangements beyond traditional career trajectories.

Overall, the age profile of Spanish freelancers points to a freelance workforce that is predominantly experienced and mature, with nearly 70% of respondents aged 37 or older (three first groups in the graph). This age structure provides important contextual insight for interpreting subsequent analyses of competence importance, proficiency, gaps, and training needs within the Spanish freelance context.

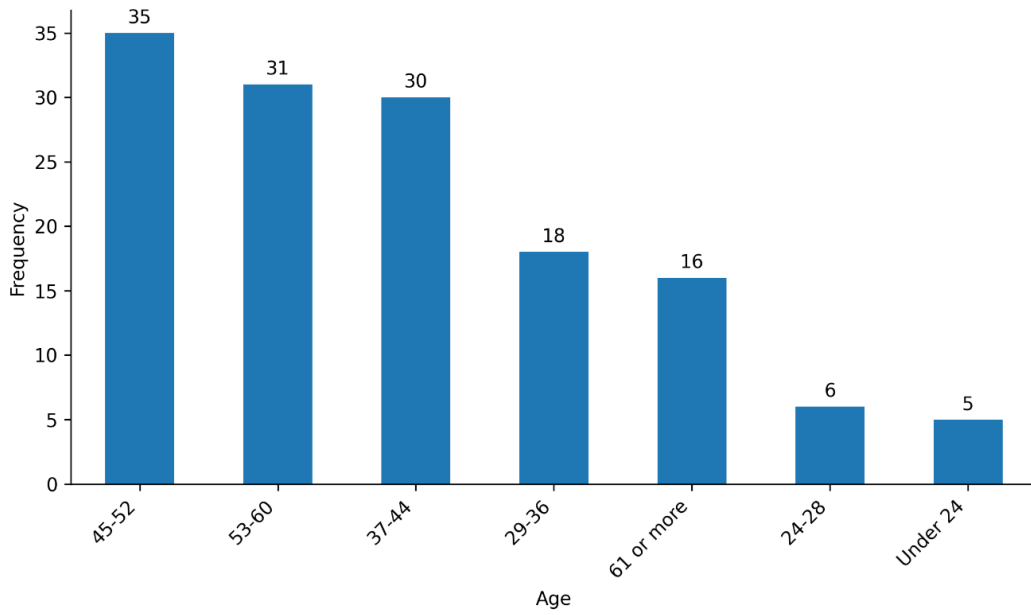


Figure 1. Freelancers: Age distribution.

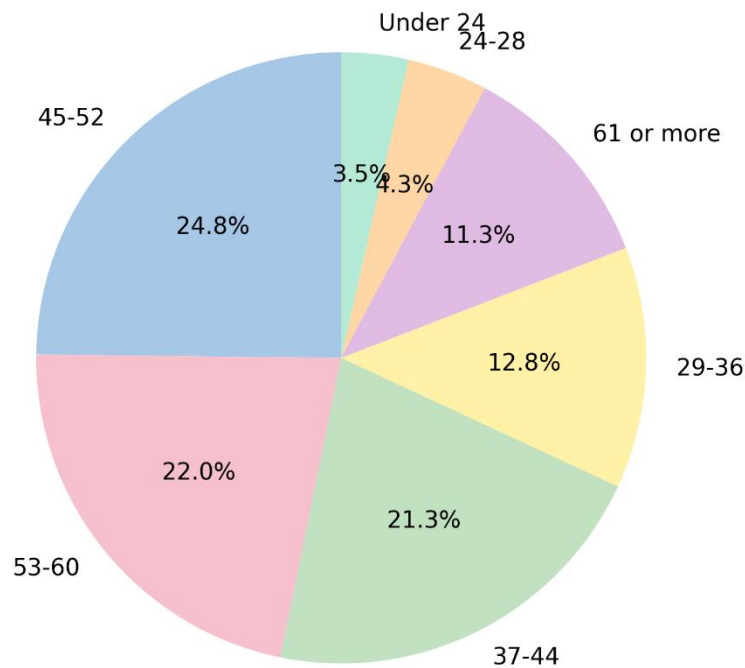


Figure 2. Age distribution - Percentage.

The observed age structure indicates that freelancing in Spain is predominantly concentrated among mid- to late-career professionals, particularly those aged 37–60, who together represent nearly 68% of the sample. This distribution suggests that freelancing in the Spanish context is largely adopted as a consolidated professional

pathway, rather than as an early-career entry point, with secondary participation from younger entrants and a meaningful presence of older, highly experienced specialists.

This age pattern provides important context for subsequent analyses, as age is likely to influence competence profiles, levels of professional specialization, digital and AI adoption, engagement in upskilling and reskilling activities, and the perception of training needs. In particular, the predominance of experienced freelancers may be associated with higher self-assessed competence levels in core professional skills, alongside more selective or targeted training demands.

From an analytical perspective, age (and other variables discussed later) constitutes a highly relevant stratification variable in the Spanish sample, as it is commonly associated with systematic differences in career trajectories, technological adoption patterns, AI usage, and lifelong learning behaviour. Consequently, the age profile established in this section provides a robust empirical basis for subsequent cross-tabulation analyses, mean-difference tests, and segmentation procedures, facilitating a nuanced understanding of heterogeneity within the Spanish freelance population.

2.1.2 Gender distribution

The gender distribution of Spanish freelancers included in the analysis indicates a relatively balanced composition, with a slight predominance of male respondents. Specifically, 54.6% of the sample identifies as male, while 45.4% identifies as female. This distribution reflects a near-parity gender structure within the Spanish freelance sample, suggesting that freelance activity in Spain, as captured by the ENTEEF survey, is not strongly gender-segregated.

In relative terms, the observed gender structure indicates that both men and women are substantially represented in the Spanish freelance ecosystem. The sizeable female subgroup supports robust comparative analyses by gender, allowing for meaningful examination of potential differences in competence importance, perceived proficiency, professional practices, and training needs in subsequent sections of the report.

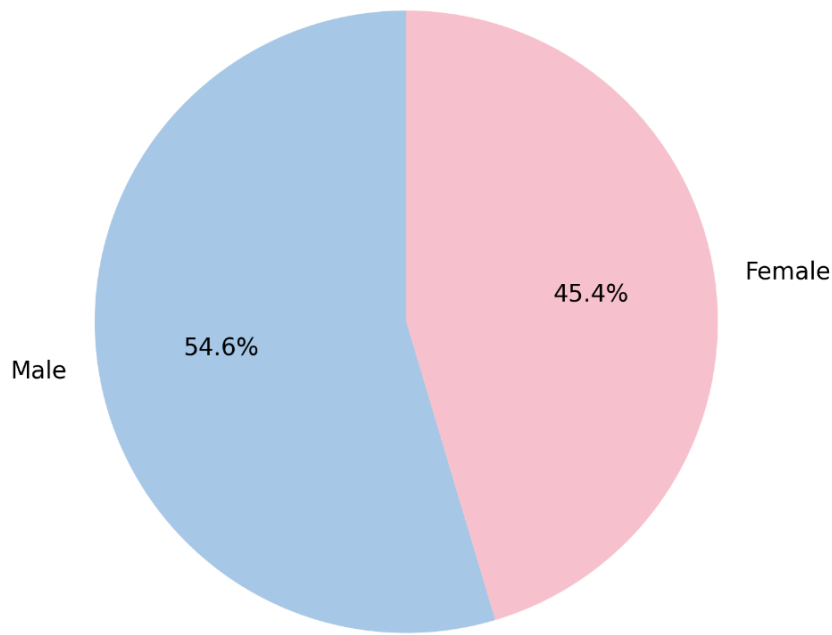


Figure 3. Gender distribution - Percentage.

Understanding gender composition is essential for interpreting possible variations in competence assessment, access to freelance opportunities, patterns of digital and AI usage, and engagement in upskilling and reskilling activities. Gender is therefore treated as a key categorical variable in later descriptive and inferential analyses, to explore whether statistically significant gender-based differences exist in competence-related perceptions and outcomes within the Spanish freelance context.

2.1.3 Education level

The education-level distribution of Spanish freelancers participating in the ENTEEF survey reflects a heterogeneous but predominantly highly educated profile. The most prevalent qualification among respondents is a bachelor's degree, reported by 42.6% of the sample. This indicates that undergraduate higher education constitutes the most common formal educational background within the Spanish freelance workforce.

This is followed by freelancers holding a high school qualification or less, who account for 27.0% of respondents. The size of this group highlights that, in the Spanish context, access to freelancing is not exclusively limited to higher education

graduates, and that a substantial proportion of freelancers operate with vocational, secondary, or experience-based qualifications.

Respondents holding a master's degree represent 25.5% of the sample, reflecting a significant presence of advanced higher education and specialized training within the freelance population. In contrast, individuals with a Doctorate or equivalent qualification constitute a smaller segment, accounting for 5.0% of respondents. While numerically limited, this group points to the participation of highly specialized and academically advanced professionals within specific freelance niches.

The distribution shows that approximately 73% of Spanish freelancers hold at least a bachelor's degree, underscoring the relevance of formal education in the Spanish freelance ecosystem, while simultaneously revealing a more educationally diverse profile than that observed in some other national contexts.

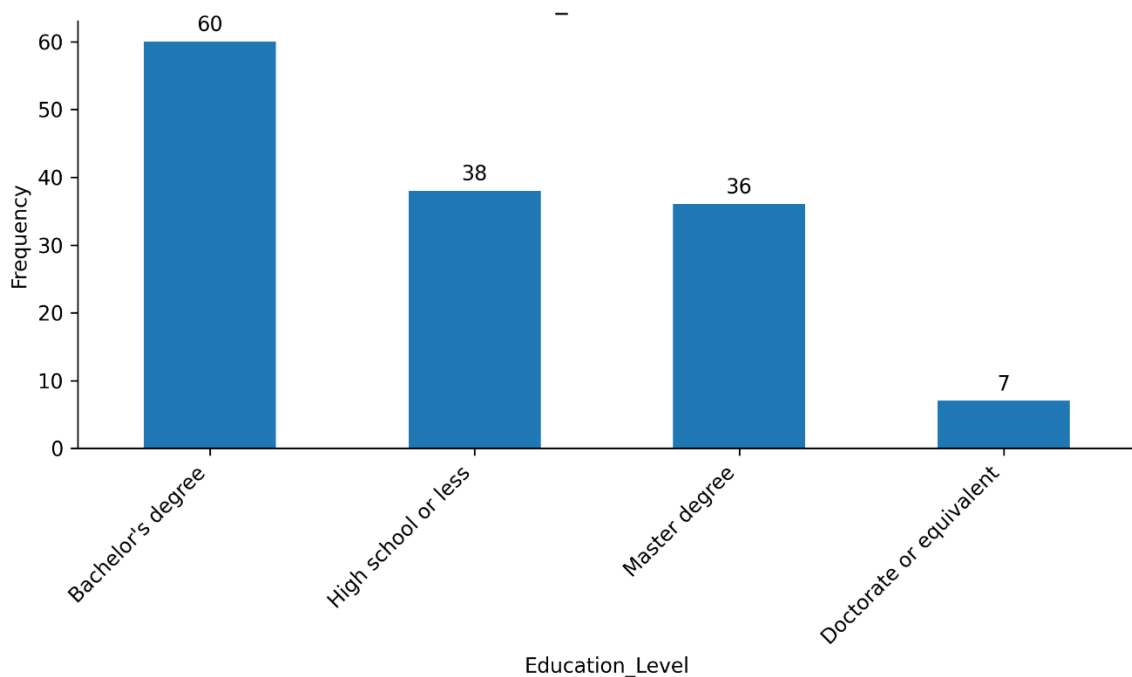


Figure 4. Education level distribution.

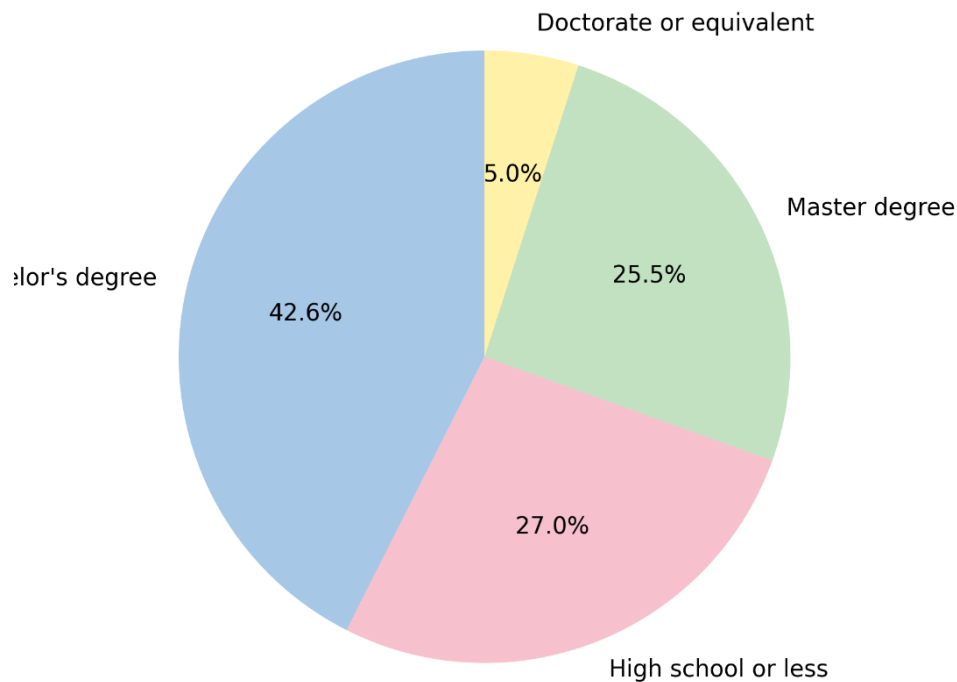


Figure 5. Education level distribution - Percentage.

This educational structure has important implications for subsequent analyses, as education level is likely to influence competence importance perceptions, self-assessed proficiency, technology and AI adoption, and training needs. Accordingly, education level is treated as a key stratification variable in later comparative and inferential analyses.

2.1.4 Area of education

The total number of observations reported for Area of Education differs from the total number of respondents reported for education level, as respondents were allowed to indicate more than one field of study, reflecting multidisciplinary educational backgrounds. Consequently, the frequencies reported for this variable represent the total number of educational fields declared, rather than the number of unique individuals. Percentages are therefore calculated relative to the total number of reported fields and should be interpreted as the distribution of educational backgrounds, not as proportions of respondents. This approach provides a more accurate representation of the diverse and cross-disciplinary profiles characterizing the Spanish freelance workforce.

The distribution of respondents by area of education highlights a strong concentration in Business, Administration and Law, which constitutes the largest category with 32 reported fields (20.6%). This predominance underscores the relevance of business-related knowledge, legal expertise, and administrative competences within the Spanish freelance ecosystem, suggesting a strong orientation toward consulting, management, and professional services activities.

The second most represented category is Engineering, Manufacturing and Construction, with 17 reported fields (11.0%), followed closely by Information and Communication Technologies (ICT) and Services, each reported by 16 respondents (10.3% each). Together, these areas reflect a substantial presence of technical, digital, and service-related competences, reinforcing the skill-intensive and heterogeneous nature of freelancing in Spain.

Moderate representation is observed in Arts, Humanities and Languages, reported by 15 respondents (9.7%), Health and Welfare, with 14 responses (9.0%), and Education, accounting for 13 reported fields (8.4%). These areas indicate the presence of freelancers engaged in creative, educational, training, and care-related activities, highlighting the breadth of professional domains represented in the Spanish freelance market.

Additional educational backgrounds include No formal or self-taught education, reported by 11 respondents (7.1%), Natural Sciences, Mathematics and Statistics, with 9 responses (5.8%), and Social Sciences, Journalism and Information, accounting for 8 reported fields (5.2%). The presence of self-taught freelancers points to alternative entry pathways into freelancing, while scientific and communication-oriented fields represent smaller but relevant professional niches.

At the lower end of the distribution, Agriculture, Forestry, Fisheries and Veterinary sciences are reported by 4 respondents (less than 3% of all reported fields), indicating that freelancing remains relatively marginal within primary-sector-related disciplines in Spain.

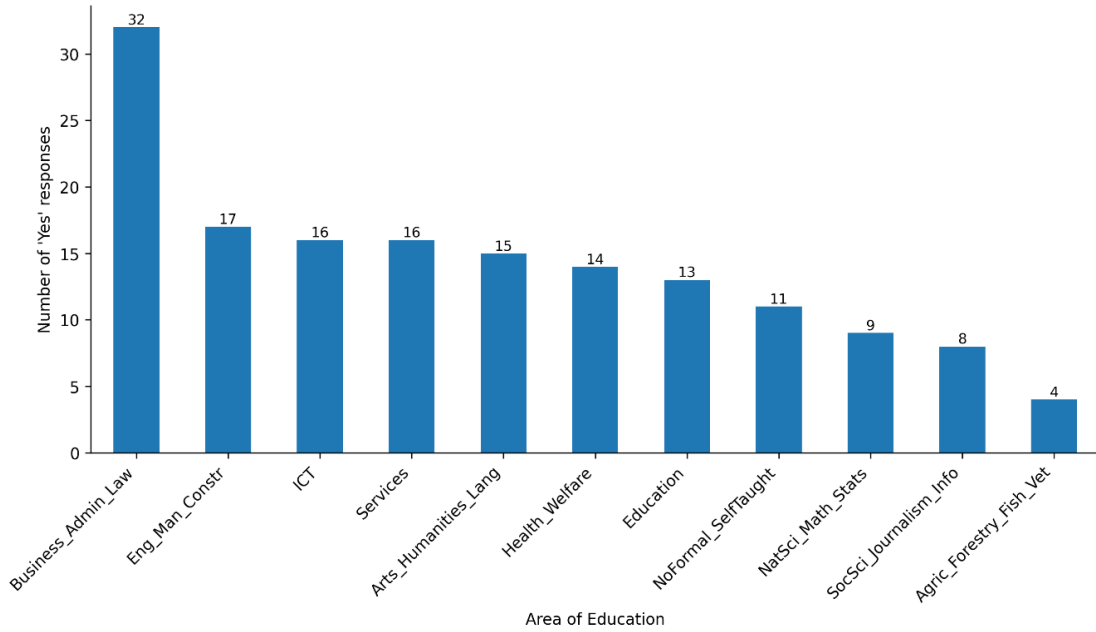


Figure 6. Areas of education – Frequency of ‘Yes’.

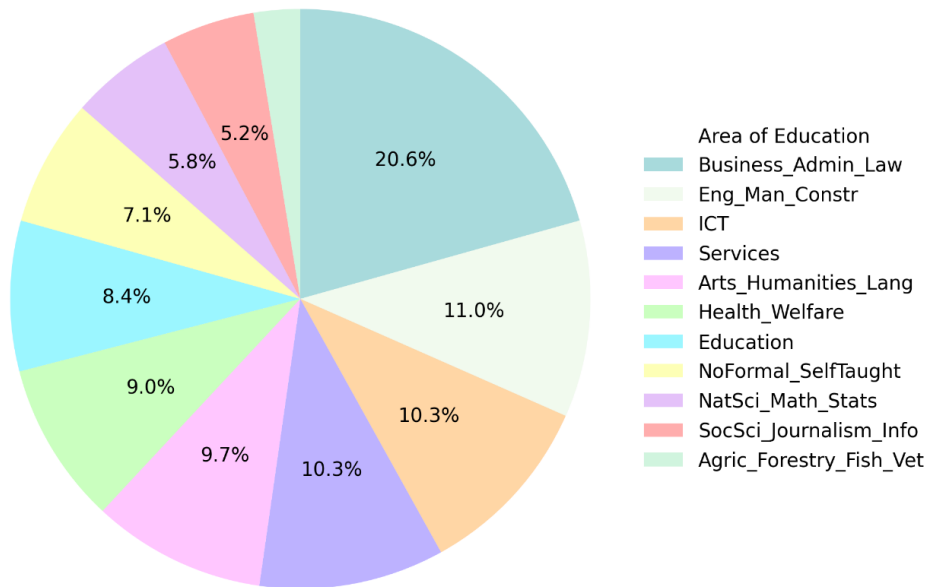


Figure 7. Areas of education – Percentage of ‘Yes’.

Overall, the area-of-education profile indicates that Spanish freelancing is predominantly anchored in business-related, technical, and service-oriented disciplines, while also encompassing a wide range of creative, educational, and social fields. This educational structure provides important context for interpreting subsequent analyses of competence importance, digital and AI literacy, professional

specialization, and training needs, as educational background is likely to shape both competence profiles and adaptation strategies within the Spanish freelance market.

2.1.5 Years of experience as a freelancer

The experience profile of Spanish freelancers reveals a workforce with a high degree of professional maturity. The largest group consists of freelancers with more than 10 years of experience, comprising 60 respondents (42.6%). This dominant segment indicates that freelancing in Spain is frequently a long-term professional pathway, adopted by individuals with extensive accumulated experience and well-established positions in their respective markets.

The second most represented category corresponds to freelancers with between 1 to 5 years of experience, accounting for 48 respondents (34.0%). This group reflects professionals who have successfully moved beyond the initial entry phase into freelancing and have begun to consolidate their activity within project-based or independent work structures.

Freelancers with 6–10 years of experience represent a more moderate segment of the sample, with 24 respondents (17.0%). Together with those reporting more than 10 years of experience, these groups indicate that nearly 60% of the sample consists of highly experienced freelancers, underscoring the stability and persistence of freelance careers within the Spanish context.

At the lower end of the distribution, only 9 respondents (6.4%) report less than one year of freelance experience. This limited presence of newcomers suggests that the Spanish sample is clearly weighted toward freelancers with established professional trajectories, rather than individuals in the very early stages of freelance activity.

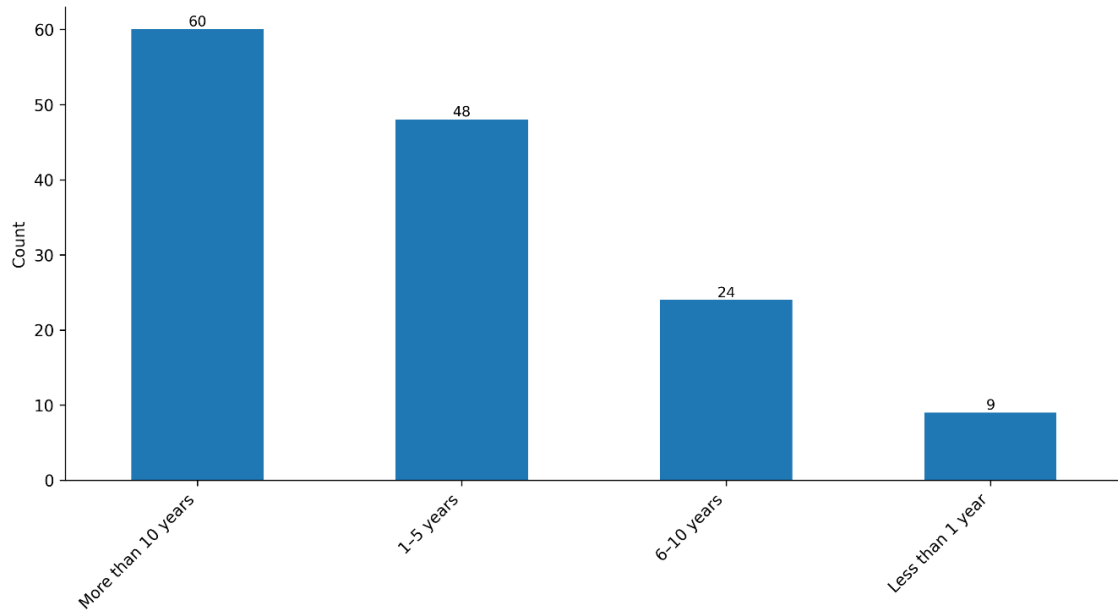


Figure 8. Years experience freelancer – Frequency.

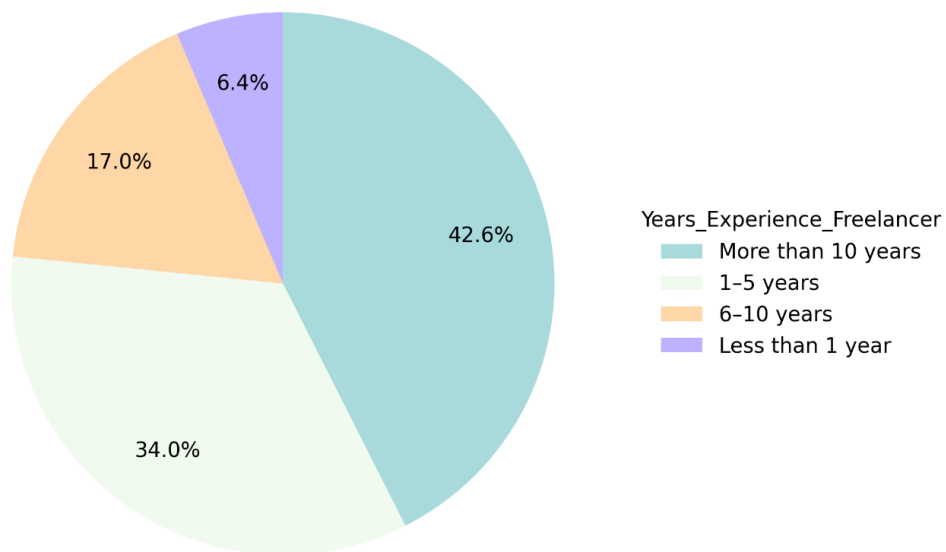


Figure 9. Years experience freelancer – Percentage.

The experience distribution highlights a mature and highly experienced freelance population in Spain, characterized by long-term engagement in independent work. This experience profile has important implications for the interpretation of subsequent analyses, as years of freelance experience are likely to influence competence proficiency, digital and AI adoption patterns, client management practices, and training needs. More experienced freelancers may exhibit more

selective upskilling behaviours and different competence gaps compared to recent entrants, reinforcing the relevance of experience as a key stratification variable in later inferential and segmentation analyses.

2.1.6 Main area of freelancer activity

The distribution of respondents by main area of freelance activity reveals a clear concentration in knowledge-intensive and service-oriented fields, reflecting the structure of the Spanish freelance market as captured by the ENTEEF survey.

The largest group of respondents operates in Professional Services, accounting for 35 freelancers (24.8%). This dominant share highlights the central role of consultancy, advisory, and professional support activities within the Spanish freelance ecosystem, which typically rely on advanced expertise, client-oriented competences, and project-based work.

The second most represented category is Sales and Marketing Support, reported by 30 respondents (21.3%), followed by Creative and Multimedia activities, with 17 freelancers (12.1%). Together, these categories indicate a strong orientation toward commercial, creative, and communication-driven activities, underscoring the relevance of market-facing skills and creative competences in the Spanish freelance context.

A further substantial segment of freelancers is engaged in Software Development and IT, accounting for 11 respondents (7.8%), alongside Technical Engineering and Clerical and Data Entry, each reported by 9 respondents (6.4%). These fields reflect the presence of technical and operational roles within the freelance market, albeit with lower relative weight than professional and commercial services.

Moderate representation is observed in Teaching, with 8 respondents (5.7%), and Healthcare, Wellness and Beauty, reported by 5 freelancers (3.5%). These areas point to the engagement of freelancers in educational, training, and personal-service activities that often combine professional expertise with direct service delivery.

Smaller proportions of respondents report activity in Service and Support Work (4 respondents; 2.8%), Hospitality, Tourism and Events and Writing and Translation

(each 3 respondents; 2.1%), as well as Sports, Recreation and Performing Arts, Agriculture and Animal Services, and Construction and Manual Trades (each 2 respondents; 1.4%). Finally, Generic / Self-Employment is reported by 1 respondent (0.7%), representing a marginal segment within the sample.

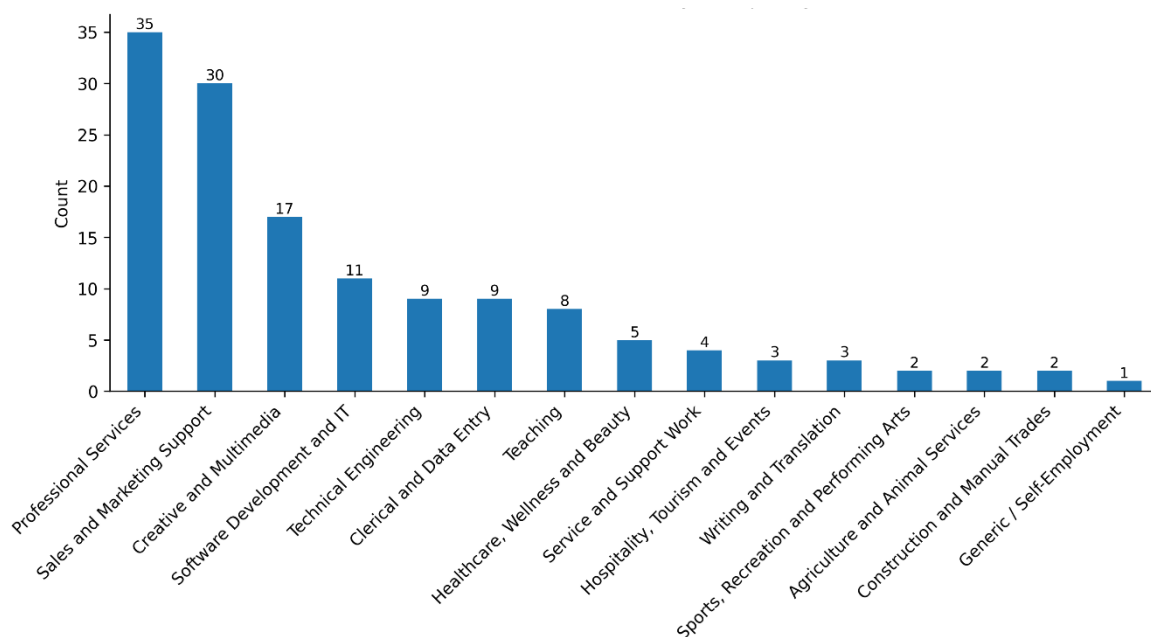


Figure 10. Main freelancer activity – Frequency.

The activity profile indicates that freelancing in Spain is predominantly oriented toward professional, commercial, creative, and knowledge-based services, with more limited representation in manual, agricultural, hospitality, or generic self-employment activities. This sectoral structure provides essential context for interpreting subsequent analyses of competence requirements, digital and AI adoption, work organisation, and training needs, as the nature of freelance activity is closely linked to the types of skills demanded and the patterns of professional development observed in the Spanish freelance market.

2.1.7 Number of Clients in the Past 12 Months

The distribution of Spanish freelancers by the number of clients served in the past 12 months reveals a highly heterogeneous structure, combining a clear concentration

in relatively low to moderate client volumes with a pronounced long-tail distribution at the upper end.

The most frequently reported client volumes are 20 clients, declared by 11 respondents, followed by 10 clients, reported by 9 respondents, and 2 clients, reported by 8 respondents. Other recurrent values include 50 clients (7 respondents), as well as 30 clients, 6 clients, and 5 clients, each reported by 6 respondents. Together, these figures indicate that a substantial proportion of Spanish freelancers operate with a limited to moderate number of recurring clients, rather than engaging in very high-volume transactional work.

This pattern suggests the prevalence of ongoing or repeated client relationships, project continuity, and medium-term contractual arrangements, which are commonly associated with professional services, consultancy, creative work, and specialised technical activities. Such client structures often imply higher levels of trust, deeper client-freelancer collaboration, and more stable income streams compared to high-churn freelance models.

Beyond this core group, the distribution exhibits a strong long-tail pattern, with progressively fewer respondents reporting higher numbers of clients. A wide range of client volumes is observed, including values such as 100 clients (4 respondents), 200 clients (4 respondents), 300 clients (3 respondents), 1,000 clients (2 respondents), and 2,000 clients (2 respondents). In addition, a series of extreme values, each reported by a single respondent, appear at the upper end of the distribution, reflecting exceptional cases of very high-volume (e.g. 1,000,000, 21,121) or low-volume (e.g., 8, 1) freelance activity.

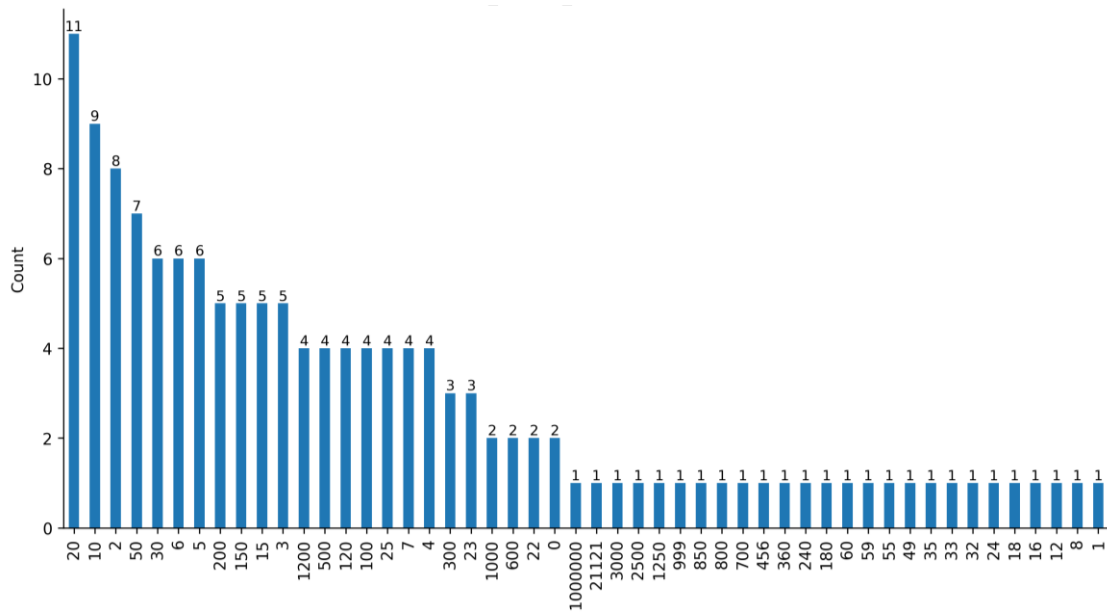


Figure 11. Number of clients 12M – Frequency.

The client-volume profile of Spanish freelancers points to a market characterised primarily by low to moderate client diversification, combined with a small number of highly active freelancers operating in high-volume or platform-mediated environments. This structure provides important context for interpreting subsequent analyses related to workload intensity, income stability, competence utilisation, and training needs, as client volume is closely linked to business models, service standardisation, and the types of skills required to manage freelance activity effectively.

2.1.8 Freelancers’ job acquisition channels

This subsection examines the channels through which Spanish freelancers identify and secure work opportunities. As respondents were allowed to select multiple job acquisition channels, the reported frequencies and percentages reflect the relative prominence of each channel, rather than mutually exclusive categories.

The results indicate that personal contacts constitute the dominant job acquisition channel, reported by 89 respondents (33.1%). This finding underscores the central role of informal networks, trust-based relationships, and personal referrals in the Spanish freelance market, highlighting the importance of social capital and reputation in accessing freelance opportunities.

A second tier of channels includes social networks, reported by 42 respondents (15.6%), and digital labour platforms, used by 39 respondents (14.5%). These channels illustrate the relevance of both online social visibility and platform-mediated work in facilitating access to freelance projects, suggesting a hybrid model that combines relational and digital mechanisms.

Professional networking platforms are reported by 34 respondents (12.6%), reinforcing the role of structured professional networking and targeted visibility in the freelance job-search process. In addition, personal websites are used by 29 respondents (10.8%), indicating that self-managed online branding and direct client acquisition play a meaningful, though secondary, role within the Spanish freelance ecosystem.

Less frequently used channels include agencies, reported by 27 respondents (10.0%), as well as own business initiatives, selected by 7 respondents (2.6%), and other forms of advertising, reported by only 2 respondents (0.7%). The limited use of these channels suggests that formal intermediation and traditional advertising mechanisms are comparatively less central in freelancers' job acquisition strategies in Spain.

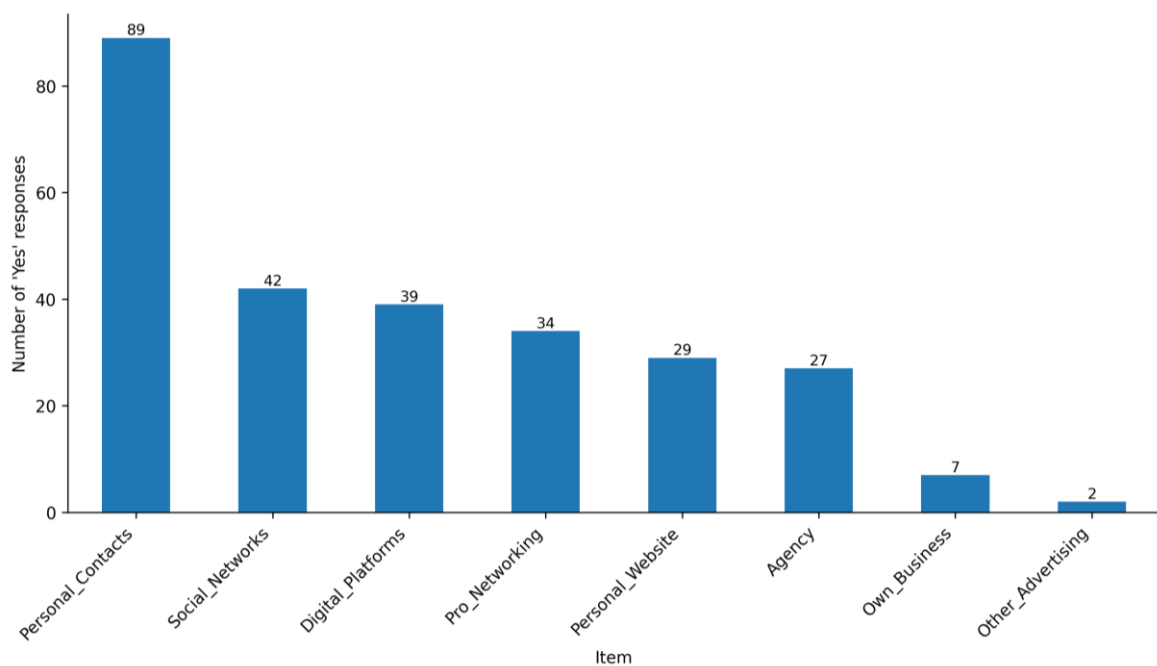


Figure 12. How freelancers find jobs – Frequency of 'Yes'.

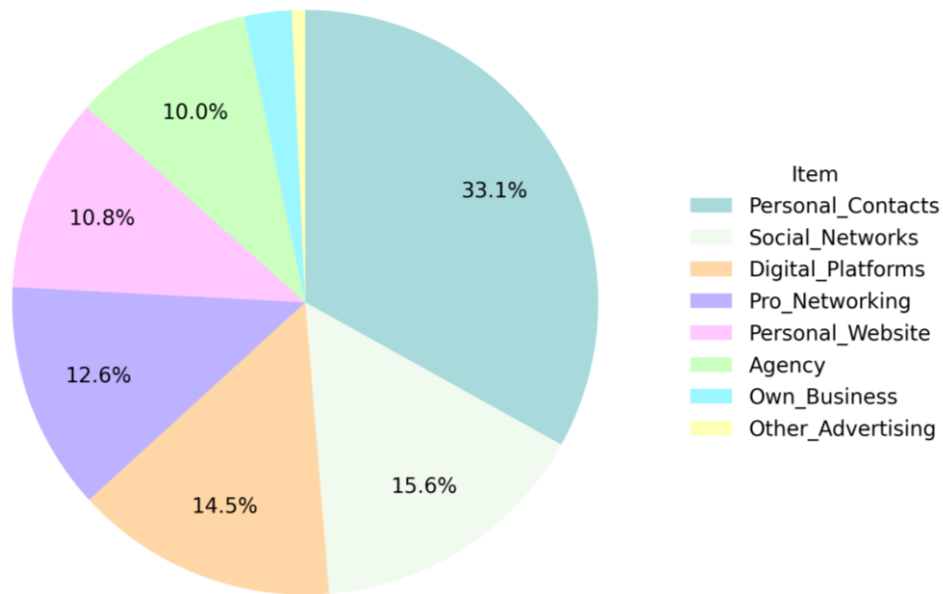


Figure 13. How freelancers find jobs – Percentage of ‘Yes’.

Overall, the distribution of job acquisition channels indicates that freelancing in Spain is largely shaped by relational and network-based pathways, complemented by digital platforms and online presence. This pattern provides important context for interpreting subsequent analyses related to competence development, professional networking skills, digital literacy, and training needs associated with market access and client acquisition within the Spanish freelance context.

2.1.9 Digital labour platforms used to find jobs

This subsection examines the digital labour platforms utilised by Spanish freelancers to identify work opportunities. It should be noted that only a subset of respondents reported using digital labour platforms, and therefore the frequencies and percentages presented in this section are calculated relative to this subgroup of platform users, rather than to the full sample. As a result, the figures reported here reflect the relative prominence of each platform among active users, not overall market penetration.

Among Spanish freelancers who use digital labour platforms, Freelancer emerges as the most frequently reported service, used by 20 respondents (32.3%), making it the dominant platform within this subgroup. This finding highlights the relevance of

international, open-access platforms in facilitating freelance work in Spain, particularly for project-based and competitive bidding environments.

The second tier of platforms includes Fiverr and Upwork, each reported by 9 respondents (14.5% each). Their similar levels of adoption suggest that both task-oriented marketplaces (such as Fiverr) and more project-focused platforms (such as Upwork) play a comparable role in the Spanish freelance ecosystem.

A further group of platforms shows moderate but notable usage. Workana is reported by 6 respondents (9.7%), indicating some engagement with platforms oriented toward Spanish- and Latin American markets. Guru and other platforms are each selected by 5 respondents (8.1% each), reflecting additional diversification in platform choice among freelancers.

Lower levels of usage are observed for PeoplePerHour and Toptal, each reported by 3 respondents (4.8%). While numerically limited, Toptal's presence suggests participation by a small group of highly skilled freelancers operating in more selective, premium-oriented platform environments. LinkedIn, reported by 2 respondents (3.2%), reflects the partial overlap between professional networking platforms and digital job marketplaces.

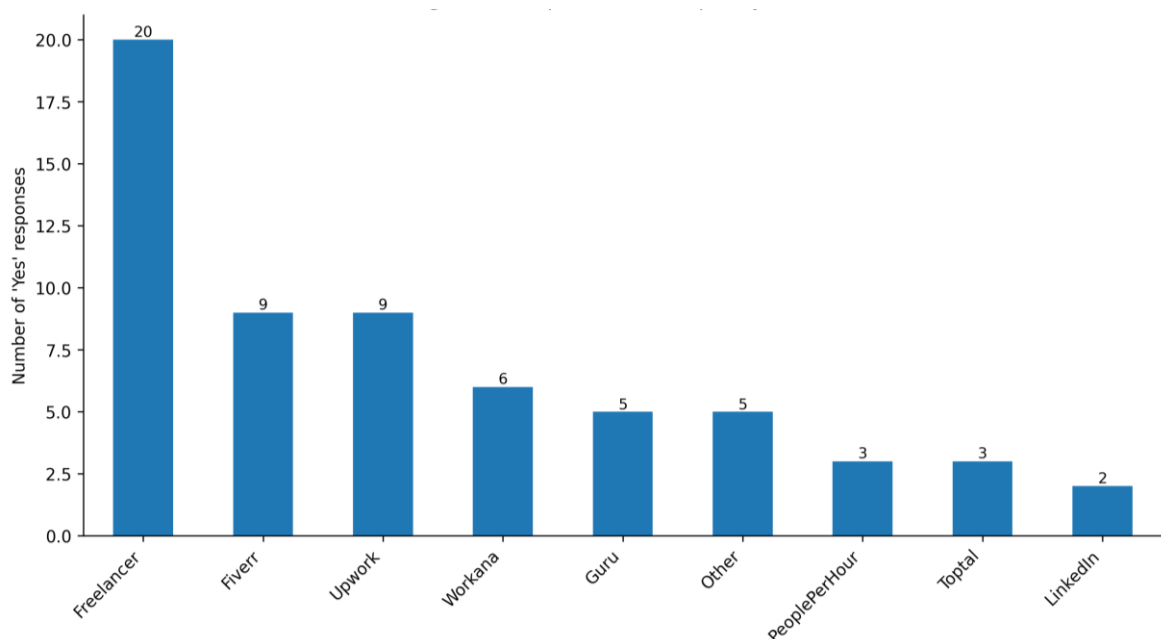


Figure 14. Digital labour platforms - Frequency of 'Yes'.

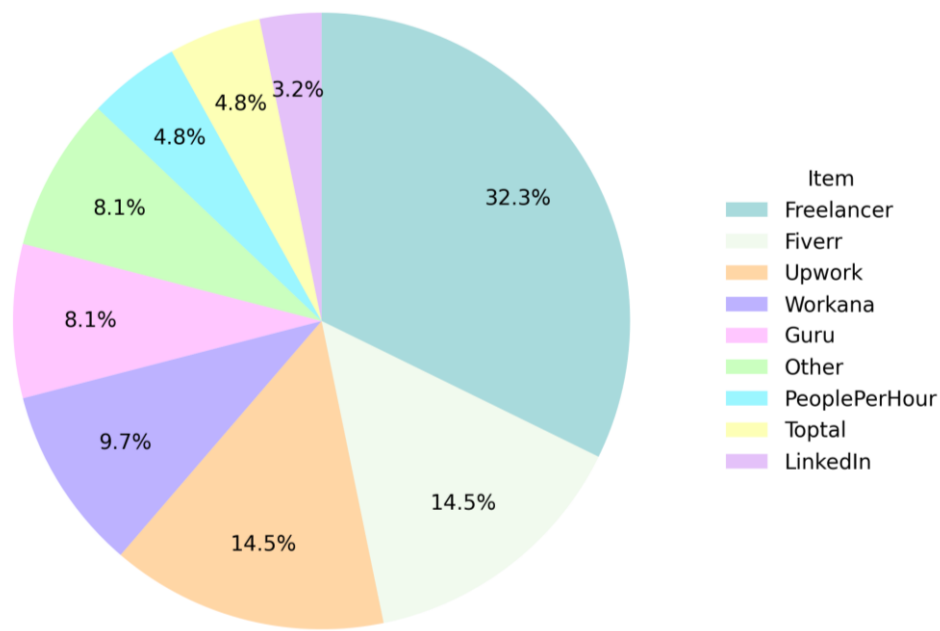


Figure 15. Digital labour platforms – Percentage of ‘Yes’.

The results indicate that digital labour platform usage among Spanish freelancers is concentrated within a limited subgroup of respondents and dominated by a small number of well-established international platforms. This pattern suggests that platform-based freelancing complements, rather than replaces, other job acquisition channels such as personal networks and social contacts. These findings provide important context for interpreting subsequent analyses related to competition intensity, platform dependency, digital competence requirements, and training needs associated with platform-mediated freelance work.

2.1.10 Social networks used to find jobs

This subsection analyses the social networks employed by Spanish freelancers to find work opportunities. It should be noted that only a subgroup of respondents reported using social networks for job acquisition. Accordingly, the frequencies and percentages presented in this section are calculated relative to this subgroup of social-network users, rather than to the full sample. As respondents were allowed to

select more than one platform, the figures reflect the relative prominence of each social network, not mutually exclusive choices.

Within this subgroup, Facebook emerges as the most frequently used platform, reported by 27 respondents (38.6%). This finding highlights the continued relevance of Facebook as an informal yet effective channel for job acquisition, particularly through professional groups, community networks, and peer-based referrals, despite not being primarily designed as a professional networking platform.

The second most prominent platform is LinkedIn, used by 23 respondents (32.9%). This result confirms LinkedIn's key role as a professionally oriented social network that facilitates visibility, reputation building, and access to freelance opportunities, especially in knowledge-intensive and service-based activities.

A further notable share of freelancers report using TikTok, selected by 12 respondents (17.1%). While not traditionally associated with professional networking, this result suggests that TikTok is emerging as a relevant channel for content-driven, creative, or personal-brand-based freelance activities, particularly in fields related to media, marketing, and digital content creation.

Other platforms play a more limited role. Instagram is reported by 5 respondents (7.1%), while other social networks are mentioned by 2 respondents (2.9%). WhatsApp is used by 1 respondent (1.4%), indicating marginal use as a direct job acquisition channel, likely confined to highly personalised or informal contact networks.

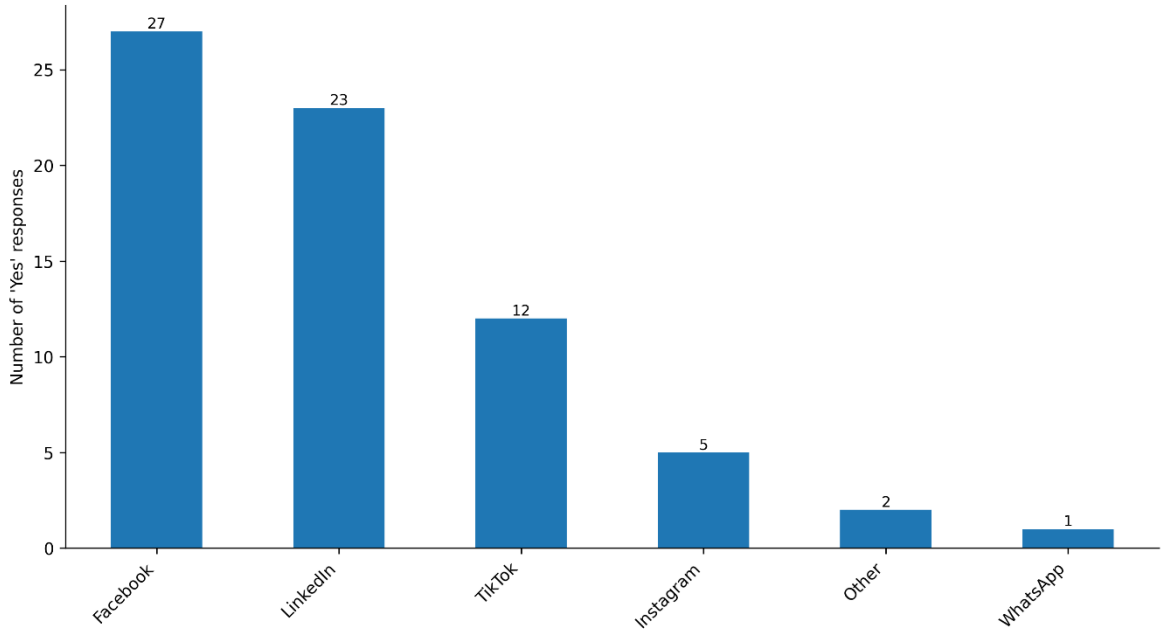


Figure 16. Social networks - Frequency of 'Yes'.

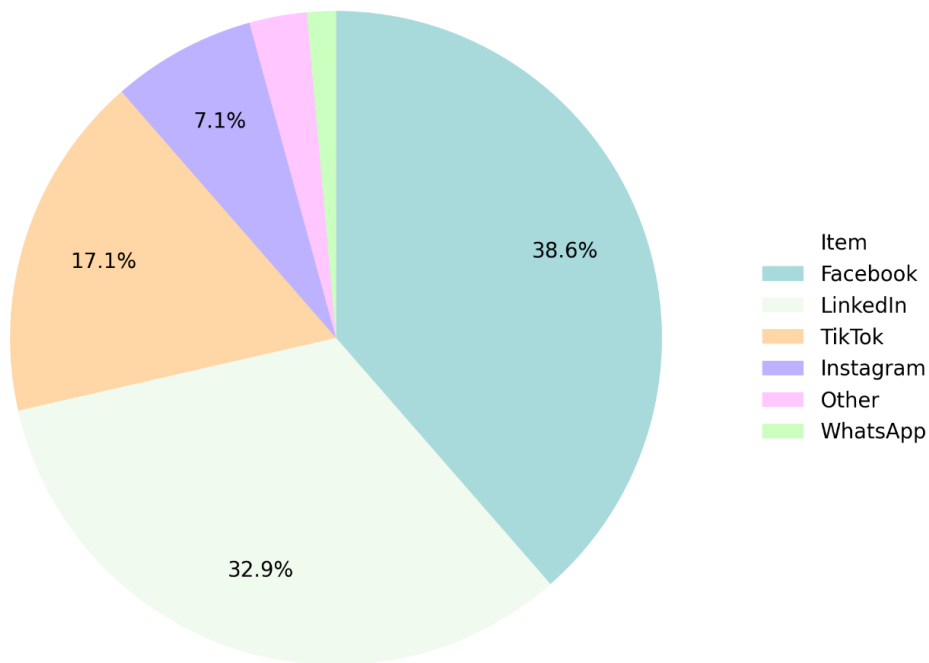


Figure 17. Social networks - Percentage of 'Yes'.

The results indicate that social-network-based job acquisition among Spanish freelancers is distributed across both professional and informal platforms, with Facebook and LinkedIn jointly dominating this channel. This pattern underscores the importance of maintaining a strategic online presence, combining professional

networking competences with informal social engagement skills, which has important implications for competence development, digital visibility, and training needs related to market access in the Spanish freelance context.

2.1.11 Freelancers' anticipated near-term challenges

This subsection examines the near-term challenges anticipated by Spanish freelancers. Respondents were allowed to select up to three challenges, resulting in multiple selections per respondent. Consequently, the frequencies and percentages reported below reflect the relative prominence of each challenge among all selected options, rather than mutually exclusive respondent categories.

The most frequently reported challenge relates to market changes that may affect demand for freelance services, selected 71 times (21.6%). This result indicates a high level of concern regarding market volatility, shifts in client demand, and increasing uncertainty in the freelance marketplace.

Closely following this, the challenge of ensuring consistent and stable income is reported 70 times (21.3%), highlighting financial predictability as a central concern among Spanish freelancers. This finding reflects the structural income instability often associated with freelance work and underscores the relevance of financial planning and income diversification competences.

A second tier of challenges includes changes in customer expectations and contractual conditions, selected 52 times (15.8%), and the need to upskill and keep pace with emerging trends, also reported 52 times (15.8%). These results suggest that Spanish freelancers perceive growing complexity in client relationships alongside sustained pressure to update skills and remain competitive in rapidly evolving markets.

Challenges related to project complexity are selected 41 times (12.5%), indicating increasing demands in terms of scope, coordination, and technical requirements. Similarly, issues associated with resilience, discipline, and long-term motivation are reported 39 times (11.9%), pointing to the importance of personal sustainability, self-management, and well-being in freelance careers.

By contrast, economic and regulatory instability is mentioned only 3 times (0.9%), while competition and access-related challenges are reported just once (0.3%), suggesting that these factors are perceived as comparatively less pressing in the near term by Spanish freelancers.

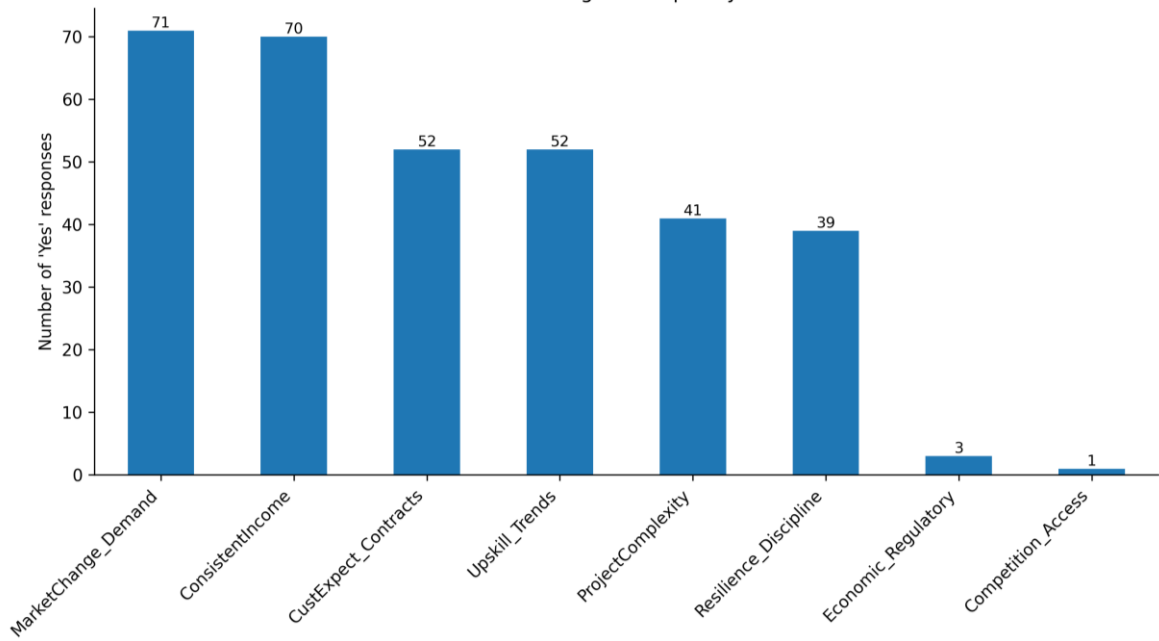


Figure 18. Future challenges - Frequency of 'Yes'.

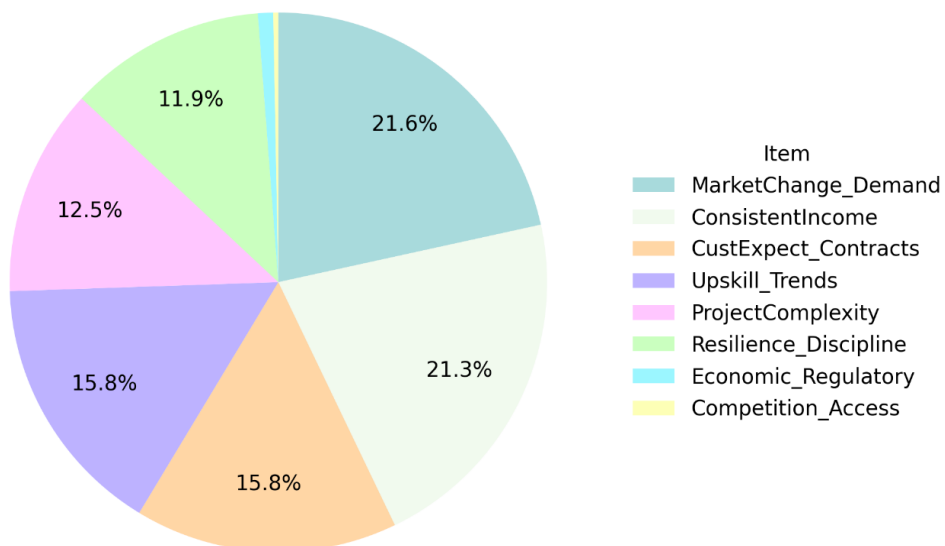


Figure 19. Future challenges – Percentage of 'Yes'.

The distribution of anticipated challenges indicates that Spanish freelancers primarily perceive market uncertainty, income stability, evolving client expectations, and the need for continuous upskilling as the most pressing near-term issues. These findings provide essential context for the subsequent analysis of competence gaps and training needs, particularly in relation to adaptability, financial sustainability, client management, and continuous professional development within the Spanish freelance ecosystem.

2.1.12 Freelancers' perceived drivers of freelancing growth

This subsection explores the factors that Spanish freelancers perceive as driving the growth of freelancing. Respondents were allowed to select multiple factors, resulting in a total number of selections exceeding the number of respondents. Consequently, the frequencies and percentages reported below reflect the relative prominence of each perceived driver among all selected options, rather than mutually exclusive respondent categories.

The most frequently identified driver of freelancing growth is greater business flexibility, selected 84 times (27.5%). This finding indicates that Spanish freelancers strongly associate the expansion of freelancing with increased autonomy, flexibility in work organisation, and the ability to adapt professional activity to personal and professional needs.

Closely following this, technological advances are reported 67 times (22.0%), highlighting the enabling role of digital technologies, remote working tools, and online platforms in facilitating freelance activity. This result underscores the importance of digitalisation as a structural enabler of freelancing growth in the Spanish context.

Lifestyle preferences constitute another key driver, selected 64 times (21.0%). This suggests that non-economic motivations, such as work–life balance, location independence, and personal fulfilment, play a substantial role in freelancers' perceptions of why freelancing continues to expand.

Structural economic factors are also perceived as relevant. Economic shifts are selected 62 times (20.3%), reflecting freelancers' awareness of labour-market transformation, organisational restructuring, and evolving employment models that favour more flexible and project-based forms of work.

Finally, globalisation is selected 28 times (9.2%), indicating that while internationalisation, cross-border collaboration, and access to global markets are recognised as growth drivers, they are perceived as comparatively less influential than flexibility, technology, lifestyle considerations, and economic change.

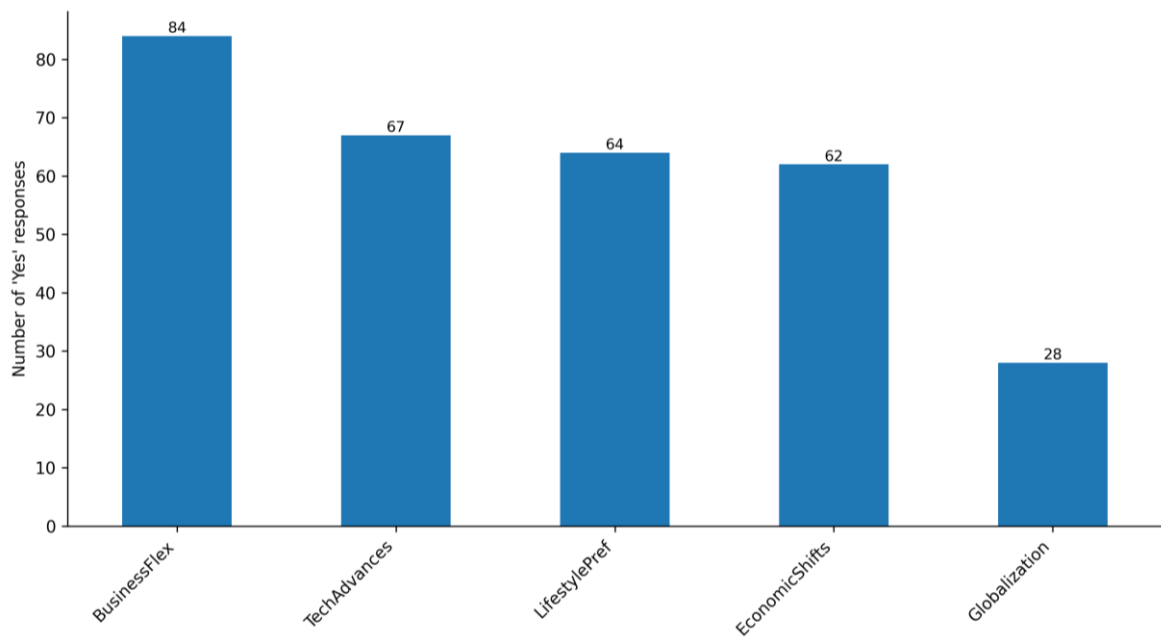


Figure 20. Growth factors - Frequency of 'Yes'.

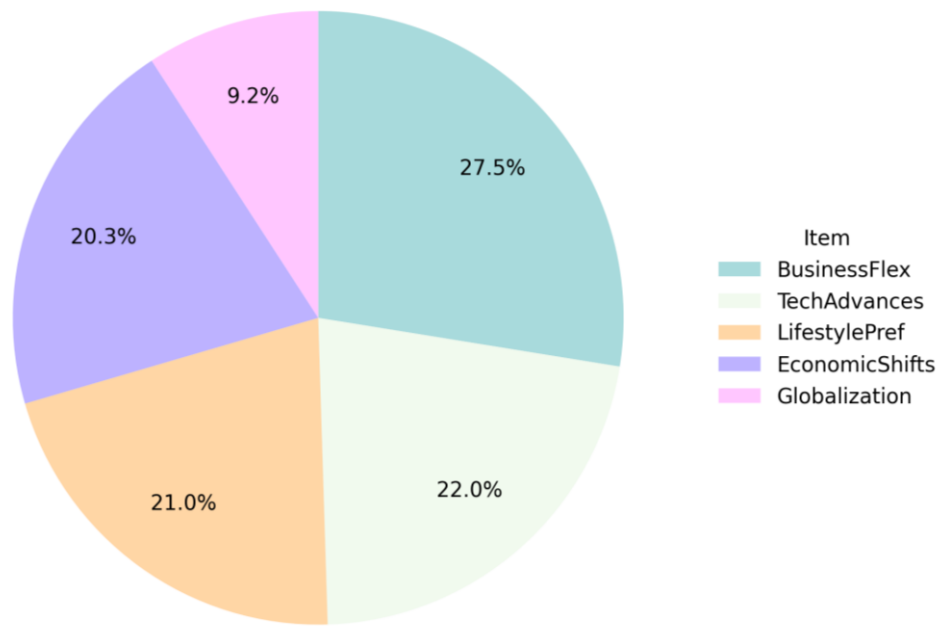


Figure 21. Growth factors – Percentage of ‘Yes’.

The distribution of perceived drivers suggests that Spanish freelancers view the growth of freelancing as the result of a combination of individual-level motivations (flexibility and lifestyle preferences) and broader structural forces (technological development and economic transformation). These perceptions provide important contextual insight for interpreting freelancers’ career choices, competence development needs, and anticipated challenges analysed in subsequent sections of the report.

2.1.13 Freelancers’ perceptions of the future of freelancing

This subsection presents Spanish freelancers’ perceptions regarding the future of freelancing in their professional fields. The distribution of responses reflects a moderately positive overall outlook, combined with a substantial presence of neutral and cautiously pessimistic perspectives.

The most frequently reported sentiment is somewhat optimistic, expressed by 53 respondents (37.6%). This result indicates that a considerable proportion of Spanish freelancers expect favourable developments in their professional fields, while simultaneously recognising the existence of uncertainty, market volatility, or emerging challenges.

A further 31 respondents (22.0%) report being very optimistic, reflecting strong confidence in the continued relevance, growth, and sustainability of freelancing as a professional pathway. Together, these two categories indicate that nearly 60% of respondents (59.6%) hold an optimistic view of the future of freelancing in Spain.

At the same time, 30 respondents (21.3%) express a neutral outlook, suggesting ambivalence or cautious assessment of future developments. This group likely represents freelancers who perceive a balance between opportunities, such as technological advancement and flexible work models, and risks related to income stability, competition, or changing client expectations.

More cautious views are reported by 27 respondents (19.1%), who identify as somewhat pessimistic. While not dominant, this proportion indicates that a non-negligible segment of Spanish freelancers harbours concern about future conditions, potentially linked to market saturation, regulatory uncertainty, or increased competitive pressure. Notably, no respondents report being very pessimistic, suggesting that strongly negative expectations are absent within the Spanish sample.

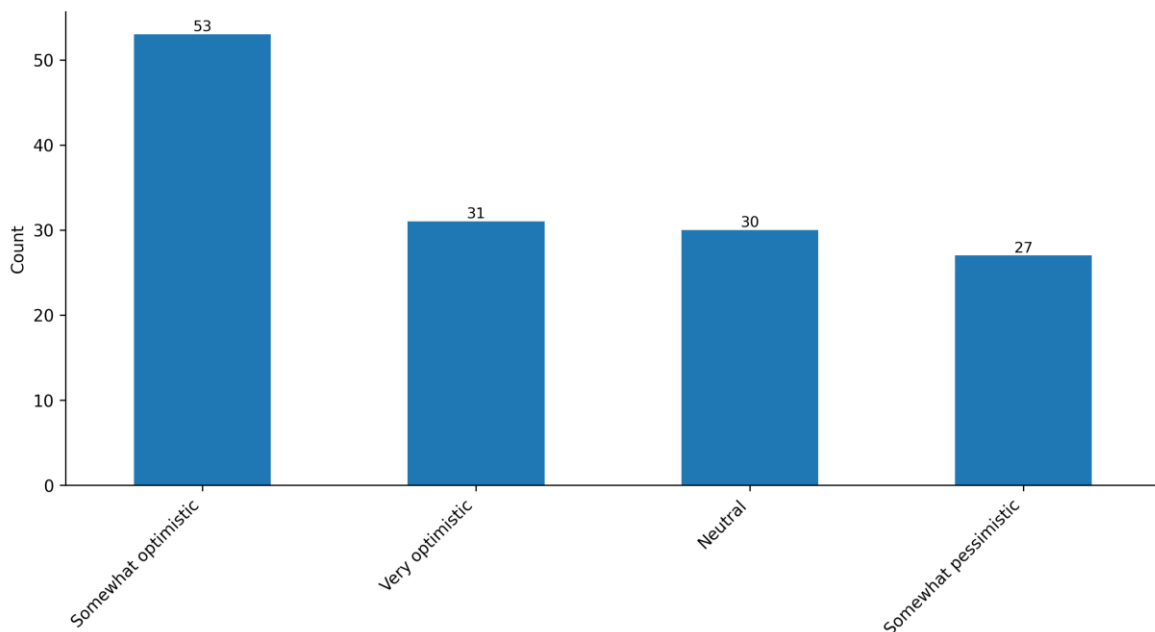


Figure 22. Future freelancing – Frequency.

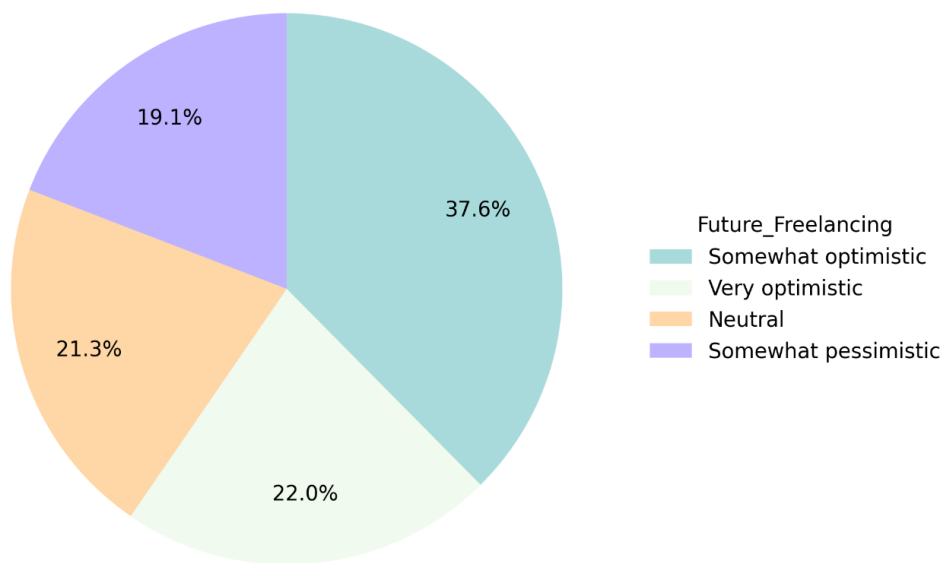


Figure 23. Future freelancing – Percentage.

The findings indicate that optimism outweighs pessimism among Spanish freelancers, although a significant share of respondents adopts a neutral or cautious stance. This balanced perception provides important context for interpreting freelancers’ career planning, investment in skill development, adoption of new technologies, and engagement in upskilling and reskilling activities, which are examined in subsequent sections of the report.

2.1.14 Freelancers’ expected future use of AI

This subsection examines Spanish freelancers’ expectations regarding the use of artificial intelligence (AI) in their professional activities over the next five years. The distribution of responses points to a broad anticipated integration of AI into freelance work, albeit with varying intensities of expected usage.

The largest share of respondents expects to use AI occasionally, reported by 45 freelancers (31.9%). This suggests that for a substantial segment of Spanish freelancers, AI is perceived as a complementary tool that will support specific tasks or processes rather than fully reshape daily workflows.

Closely following this group, 43 respondents (30.5%) indicate that they expect to use AI often, highlighting a strong expectation of frequent and functional AI adoption

across a wide range of freelance activities. Together, these two categories account for 62.4% of the sample, indicating that most freelancers foresee at least moderate engagement with AI technologies soon.

A further 26 respondents (18.4%) report that they expect to use AI regularly, suggesting that for nearly one-fifth of the sample, AI is anticipated to become a routine and embedded component of their professional practice. This group likely includes freelancers operating in digitally intensive, data-driven, or content-oriented fields where AI-assisted tools are already gaining prominence.

Lower expected levels of AI adoption are observed among 17 respondents (12.1%), who anticipate using AI rarely, and 10 respondents (7.1%), who expect never to use AI in their freelance activities. These segments may reflect freelancers whose tasks are less amenable to AI integration, or who perceive barriers related to relevance, skills, trust, or ethical concerns.

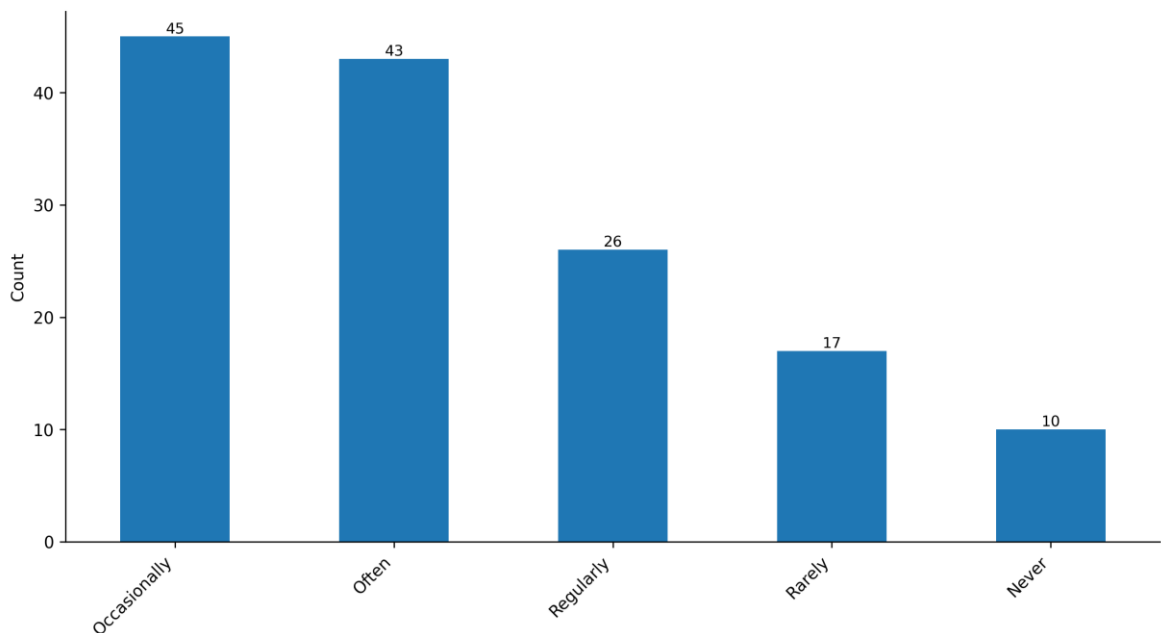


Figure 24. AI use future – Frequency.

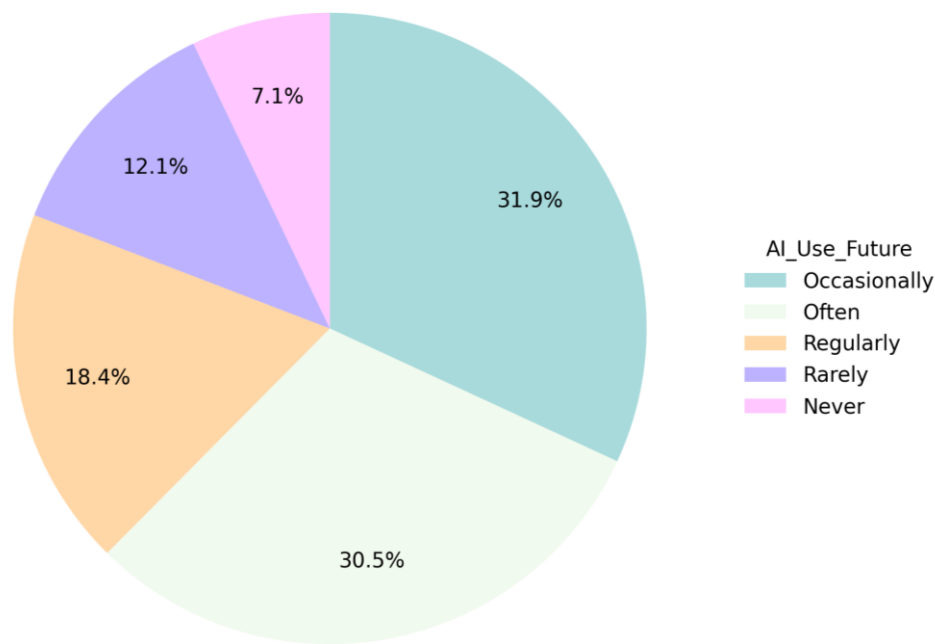


Figure 25. AI use future – Percentage.

The findings indicate that nearly four out of five Spanish freelancers (80.8%) expect to use AI at least occasionally within the next five years, with almost half of the sample (48.9%) anticipating frequent or regular use. This widespread expectation of AI adoption underscores the perceived relevance of AI technologies within the Spanish freelance economy and provides essential context for interpreting subsequent analyses related to competence requirements, training needs, and perceived challenges associated with AI integration in freelance work.

2.1.15 Investment in upskilling and reskilling by freelancers

This subsection examines the frequency with which Spanish freelancers invest in upskilling and reskilling as part of their professional development. The distribution of responses points to a strong overall commitment to continuous learning within the Spanish freelance workforce, albeit with varying intensities of engagement.

The largest share of respondents report investing in upskilling or reskilling occasionally, selected by 54 freelancers (38.3%). This suggests that a substantial proportion of Spanish freelancers engage in learning activities on a periodic or needs-

driven basis, often in response to specific project requirements, market changes, or emerging technologies.

Closely following this group, 44 respondents (31.2%) indicate that they invest in upskilling or reskilling often, reflecting a high level of proactive engagement with continuous professional development. Together, these two categories account for nearly 70% of the sample (69.5%), indicating that most freelancers maintain at least a moderate and sustained commitment to skill development.

A further 24 respondents (17.0%) report investing in upskilling or reskilling regularly, suggesting that for a significant minority of freelancers, learning and skill acquisition are systematic and embedded practices within their professional routines.

Lower levels of engagement are observed among 17 respondents (12.1%), who report investing in upskilling or reskilling rarely, while only 2 respondents (1.4%) indicate that they never invest in such activities. The very limited size of this latter group suggests that disengagement from continuous learning is uncommon among Spanish freelancers.

The findings show that nearly half of the respondents (48.2%) invest in upskilling or reskilling often or regularly, and that more than nine out of ten freelancers (98.6%) engage in these activities at least occasionally.

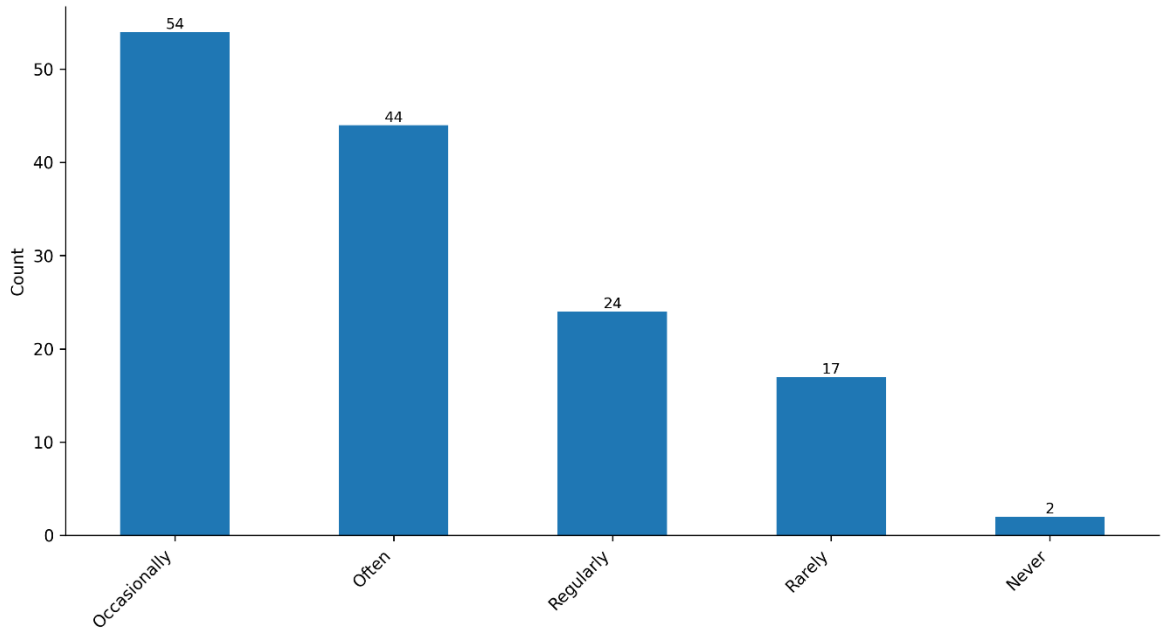


Figure 26. Upskilling frequency.

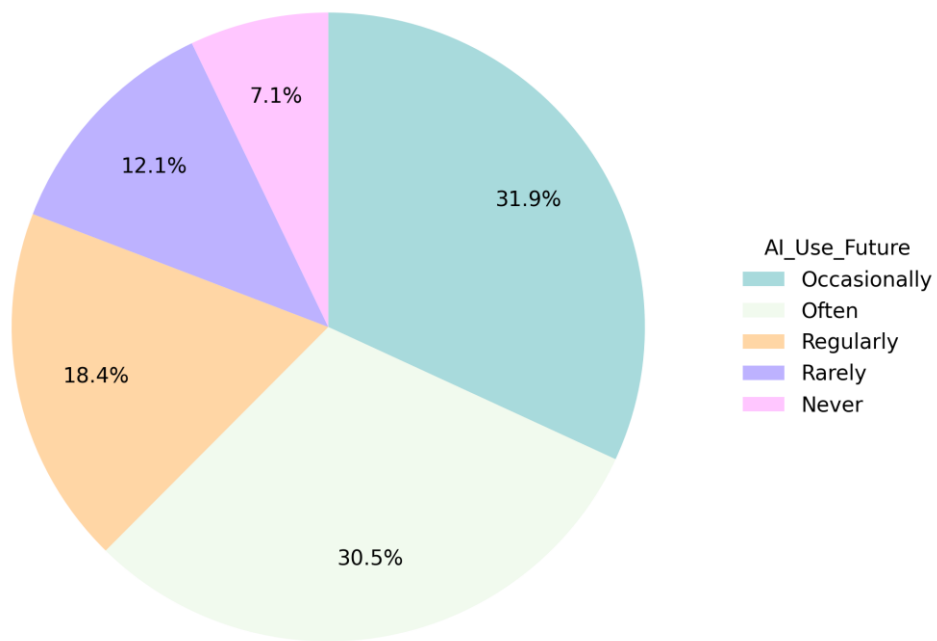


Figure 27. AI use future – Percentage.

This strong orientation toward continuous learning provides important context for interpreting anticipated AI adoption, competence gaps, and the prioritisation of training needs analysed in subsequent sections of the report, particularly within the Spanish freelance ecosystem.

2.1.16 Pathways to skill acquisition and development in freelancing

This subsection examines the pathways through which Spanish freelancers acquire and develop new skills. Respondents were allowed to select multiple learning pathways, resulting in a total number of selections exceeding the number of respondents. Consequently, the frequencies and percentages reported below reflect the relative prominence of each pathway among all selected options, rather than mutually exclusive respondent categories.

The most frequently reported pathway is online learning, selected 88 times (34.8%). This finding highlights the central role of digital learning formats, such as online courses, tutorials, webinars, and self-paced learning resources, in supporting continuous skill development among Spanish freelancers. The prominence of online learning aligns closely with the flexible, autonomous, and self-directed nature of freelance work.

The second most common pathway is offline learning, reported 77 times (30.4%). This indicates that in-person formats, such as workshops, seminars, short courses, and training events, continue to play a significant role in skill acquisition, particularly for competences that benefit from face-to-face interaction, peer exchange, or guided instruction.

Learning through work experience represents another key pathway, selected 65 times (25.7%). This result underscores the importance of experiential and practice-based learning, whereby freelancers acquire and refine skills through direct engagement in projects, problem-solving, and on-the-job challenges. Such learning is especially relevant in dynamic and rapidly evolving professional fields.

Finally, formal education is reported 23 times (9.1%), making it the least frequently selected pathway. This suggests that structured educational programmes (e.g., degrees or long-term formal qualifications) play a more limited role in ongoing skill development for freelancers, compared to more flexible, modular, and experience-oriented learning approaches.

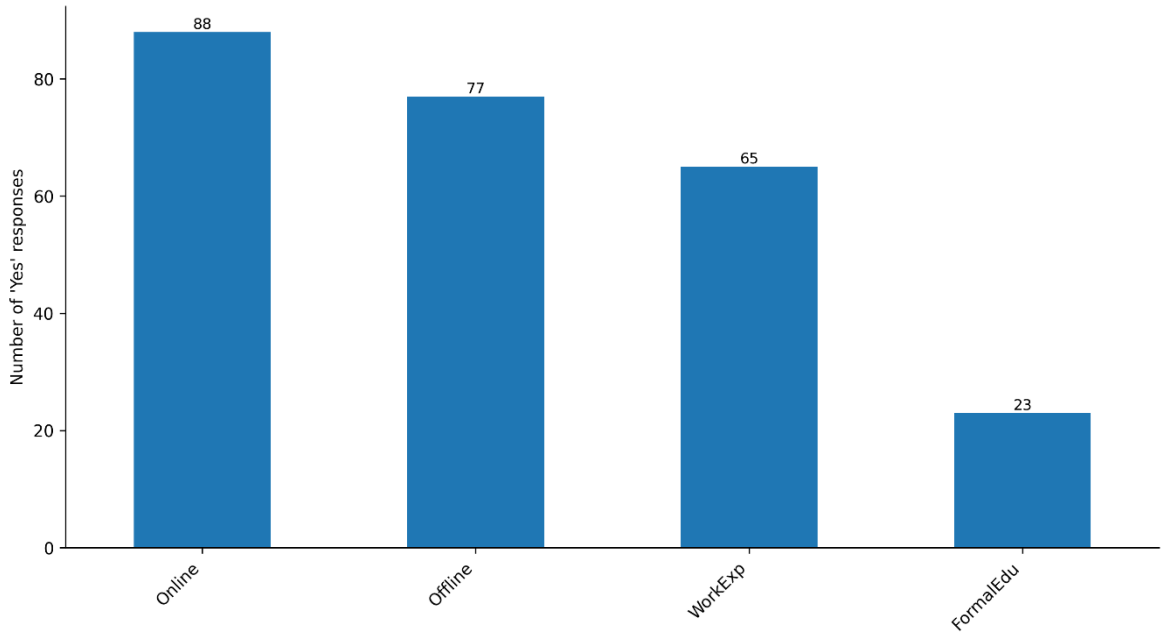


Figure 28. New skills - Frequency of 'Yes'.

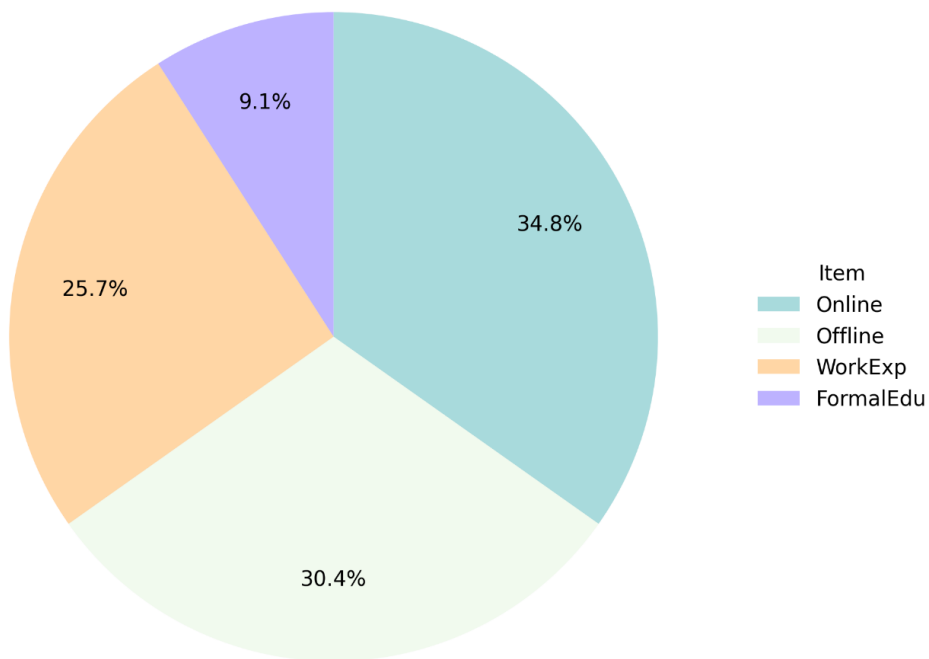


Figure 29. New skills - Percentage of 'Yes'.

The distribution of learning pathways indicates that skill acquisition and development among Spanish freelancers are primarily driven by online learning and experiential practice, with offline training also playing a substantial complementary role, and formal education occupying a secondary position. This pattern provides

important context for the design of targeted training interventions, supporting an emphasis on flexible, practice-oriented, and digitally delivered learning formats in subsequent analyses of training needs and competence development within the Spanish freelance ecosystem.

2.2 Companies

This section presents a structured overview of the organisational characteristics, hiring practices, and strategic perceptions of companies participating in the ENTEEF survey in Spain. The descriptive analysis provides essential context for understanding companies' demand-side perspectives on freelance work, competence requirements, and anticipated labour-market developments within the Spanish context.

The section begins with a description of companies' structural characteristics, including their main area of activity, company size, and years of operation in the market. These variables capture the sectoral composition, organisational scale, and maturity levels of the surveyed Spanish firms, and support the interpretation of differences in freelancer engagement strategies across distinct organisational profiles.

Subsequent subsections examine companies' experience with freelance labour, focusing on the duration of freelancer hiring and the types of freelance services contracted. This analysis provides insight into how Spanish companies integrate freelance professionals into their operational and strategic processes.

The section further explores companies' motivations for hiring freelancers as well as the perceived risks associated with reliance on freelance labour. Together, these dimensions highlight the perceived advantages, constraints, and trade-offs of freelancer engagement, offering a clearer understanding of organisational decision-making processes and risk management considerations in the Spanish business environment.

In addition, the section addresses companies' forward-looking expectations, including anticipated near-term challenges related to freelancer engagement and

perceptions of the influence of artificial intelligence (AI) on the hiring of freelancers. These perspectives reflect how Spanish organisations anticipate changes in workforce availability, cost structures, and skill requirements soon.

Finally, the section examines companies' views on the broader impact of AI technologies on the freelancing market, capturing organisational perceptions of market-level transformations that extend beyond firm-specific hiring decisions.

This section establishes a comprehensive picture of the company-side context of freelancing in Spain, serving as a critical foundation for subsequent comparative analyses and for understanding the alignment or misalignment between organisational demand and freelancers' skills, expectations, and professional development trajectories within the ENTEEF analytical framework.

2.2.1 Main area of company activity

This subsection presents the distribution of Spanish companies participating in the ENTEEF survey by their main area of activity, classified according to the NACE-based categories used in the ENTEEF questionnaire. The analysis provides essential contextual information on the sectoral background of the surveyed firms and supports the interpretation of subsequent findings related to freelancer hiring practices and competence requirements.

The results indicate a predominance of "Professional, Scientific and Technical Activities", which account for 2 companies (40.0%) of the total sample. This concentration reflects the strong involvement of knowledge-intensive and professional-service-oriented firms in the use of freelance labour within the Spanish context, where external expertise, consultancy, and specialised professional services are frequently sourced through freelancers.

The remaining companies are evenly distributed across "Other service activities", "Electricity, gas, steam and air conditioning supply, and "ICT services", each represented by 1 company (20.0%). Although these sectors are less prevalent in the sample, their inclusion illustrates that the engagement of freelancers in Spain is not

confined exclusively to professional services, but also extends to technical, infrastructural, and digital domains.

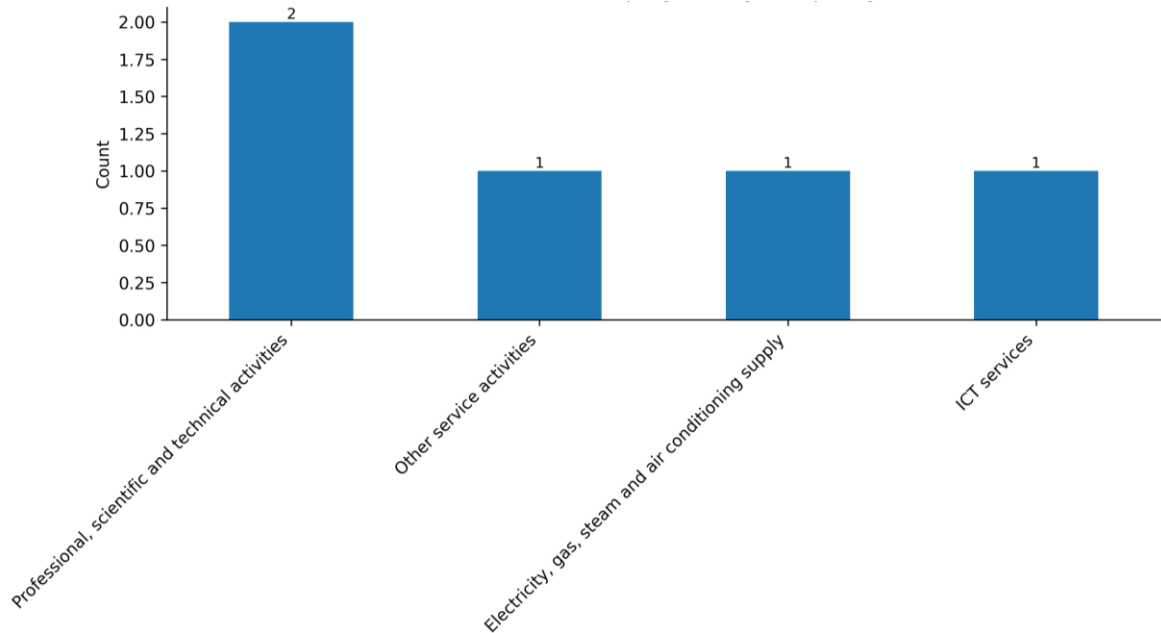


Figure 30. Main area of company activity – Frequency.

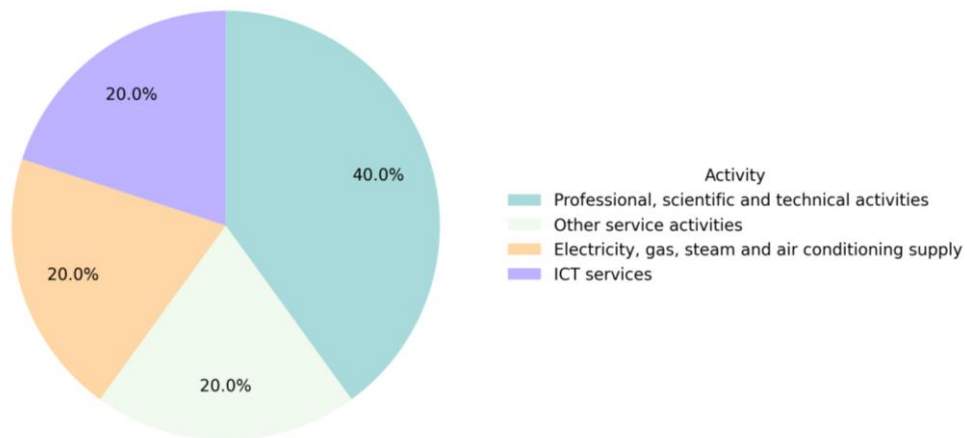


Figure 31. Main area of company activity – Percentage.

Therefore, the sectoral profile of the surveyed companies suggests that freelancer demand in Spain is primarily driven by professional and knowledge-based activities, with complementary participation from ICT and selected industrial and service sectors. This distribution provides important context for interpreting companies' perspectives on competence requirements, motivations for hiring

freelancers, perceived risks, and anticipated challenges, which are examined in subsequent sections of the report.

2.2.2 Company size

This subsection presents the distribution of Spanish companies participating in the ENTEEF survey by company size, based on standard employment-size categories. The analysis provides contextual information on the organisational scale of the surveyed firms and supports the interpretation of their engagement with freelance labour.

The results show a complete concentration of respondents within the micro-enterprise category (1–9 employees). All 5 surveyed companies (100.0%) fall into this size group, indicating that the company sample in Spain is composed exclusively of very small organisations.

This distribution suggests that, within the Spanish context captured by the ENTEEF survey, freelancer engagement is primarily driven by micro-enterprises. Such organisations typically rely on freelancers to enhance flexibility, access specialised competences, and scale capacity on demand without incurring the fixed costs associated with permanent staffing. Freelancers may therefore play a critical role in complementing limited internal resources and enabling project-based or intermittent activities.

The absence of small, medium-sized, and large enterprises in the Spanish company sample should be considered when interpreting subsequent findings related to hiring motivations, perceived risks, and anticipated challenges. While this limits cross-size comparisons within the Spanish dataset, it also provides a focused insight into the demand-side perspective of micro-enterprises, which represent a highly relevant segment of the Spanish business landscape.

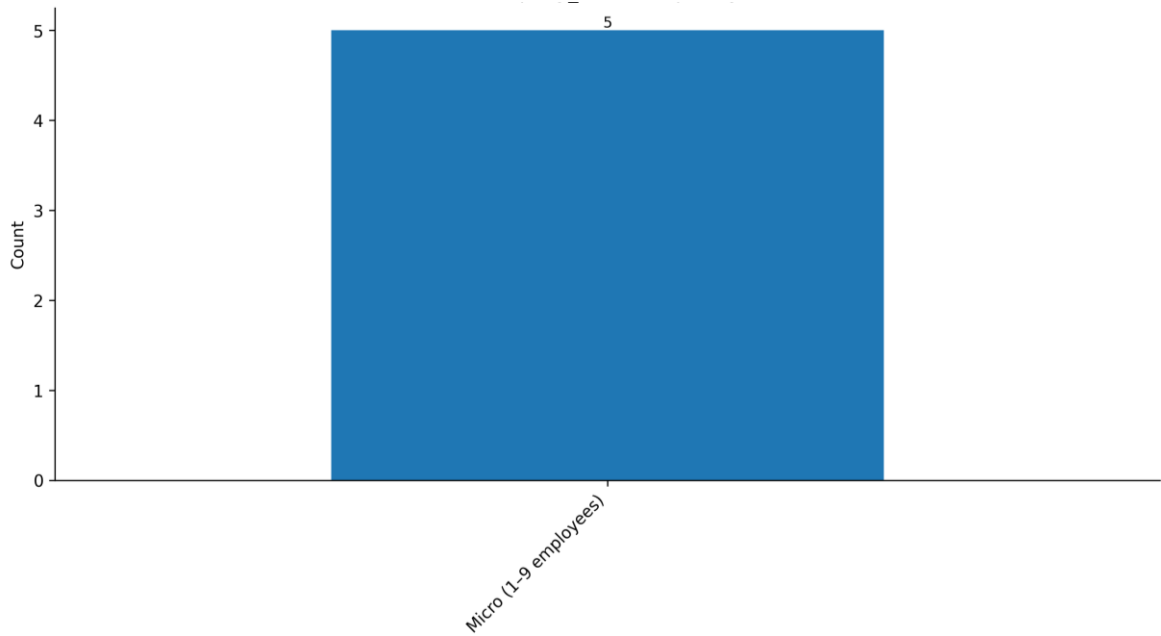


Figure 32. Company size – Frequency.

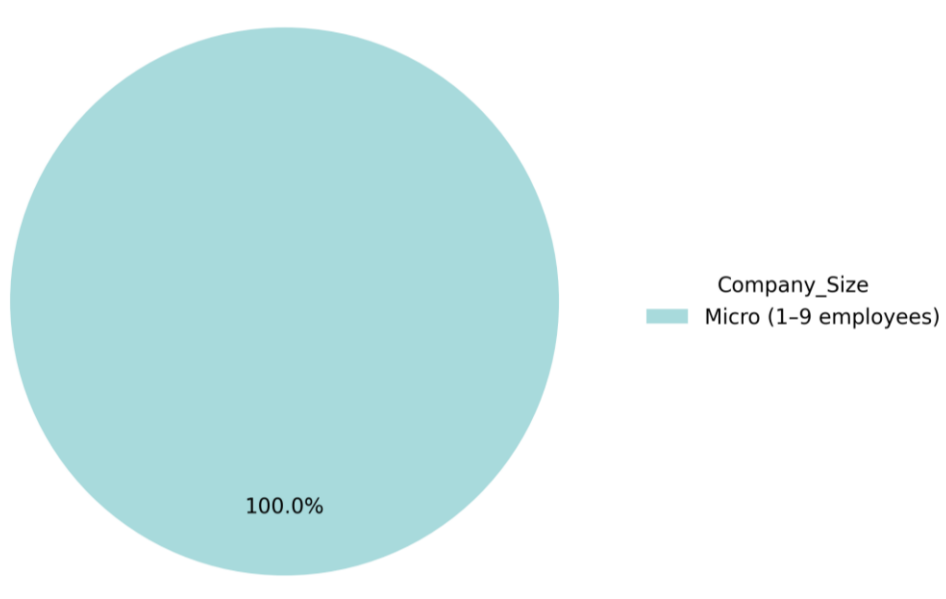


Figure 33. Company size – Percentage.

The company-size profile indicates that, in Spain, the demand for freelancers captured by this survey reflects the realities and strategic considerations of micro-enterprises, offering valuable evidence on how the smallest organisational units engage with freelance labour within the ENTEEF analytical framework.

2.2.3 Years active on the market

This subsection describes the distribution of the surveyed Spanish companies according to the number of years they have been active on the market, offering insights into their organisational maturity and accumulated market experience.

The results indicate that the sample is predominantly composed of well-established firms with a long-standing presence in the market. The largest proportion of companies (40.0%) report having been active for 21 years, highlighting a strong representation of organisations with more than two decades of operational experience. This suggests a consolidated business structure and a high degree of familiarity with market dynamics.

In addition, three companies (20.0% each) report 25 years, 6 years, and 1 year of market activity, respectively. This distribution reflects a heterogeneous sample that combines highly experienced firms with more recent market entrants. While a minority of firms can be considered relatively young, the presence of organisations with over 20 years of experience clearly dominates the sample.

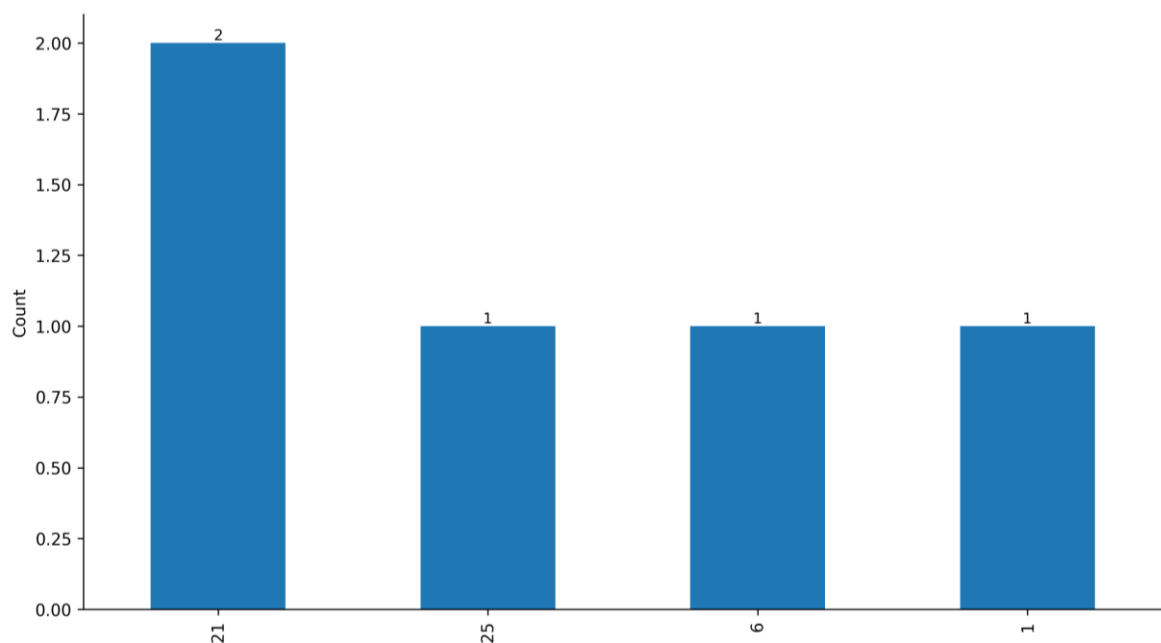


Figure 34. Years active market - Frequency.

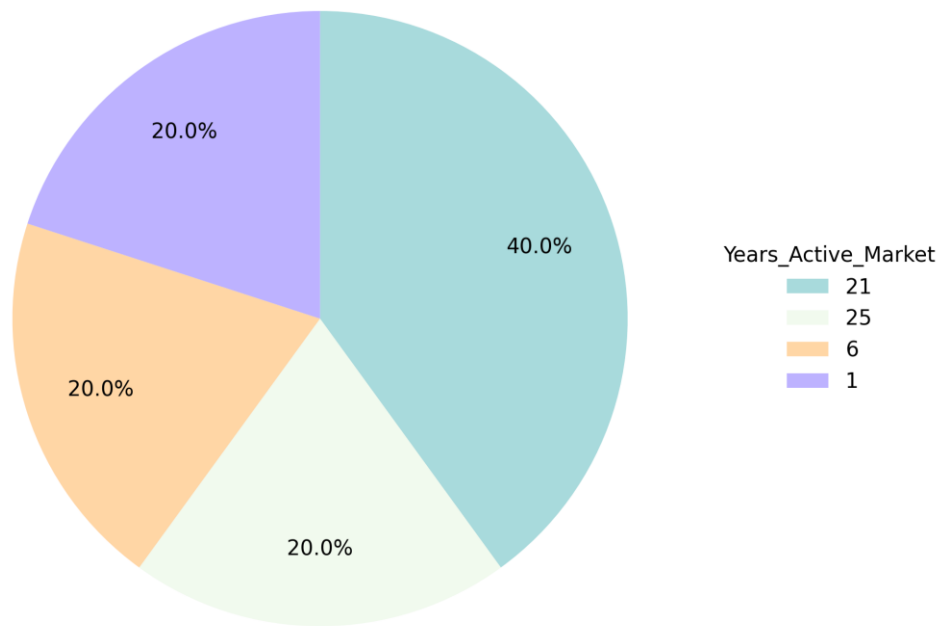


Figure 35. Years active market – Percentage.

The findings suggest that Spanish companies participating in the study are largely mature market actors rather than newly established firms. This organisational maturity provides an important contextual backdrop for interpreting their approaches to working with freelancers, particularly in terms of competence expectations, risk management, and strategic use of external talent. Firms with extensive market experience may display more structured hiring practices and clearer competency requirements compared to younger organisations, which may adopt more flexible or exploratory approaches.

2.2.4 Years of Freelancer Hiring

This subsection presents the distribution of the surveyed Spanish companies according to the number of years they have been hiring freelancers, offering insight into their organisational experience with freelance engagement and the degree to which this practice is embedded in their operational strategies.

The results suggest that, for a substantial proportion of the sample, the use of freelancers constitutes a well-established organisational practice rather than a recent or reactive adaptation. Specifically, two companies (25.0%) report having hired freelancers for 20 years, indicating long-term integration of freelance labour into

their business models. In addition, two further companies (25.0%) report 5 years of experience with freelancer hiring, reflecting sustained, albeit more recent, engagement with this form of external talent.

Beyond these groups, the sample also includes companies with intermediate levels of experience in hiring freelancers. One company (12.5%) reports 18 years of experience, another 15 years (12.5%), and a further company 10 years (12.5%), suggesting a gradual and cumulative adoption of freelance work arrangements across different organisational trajectories. Finally, one company (12.5%) reports only 3 years of experience, indicating relatively recent entry into freelancer-based collaboration.

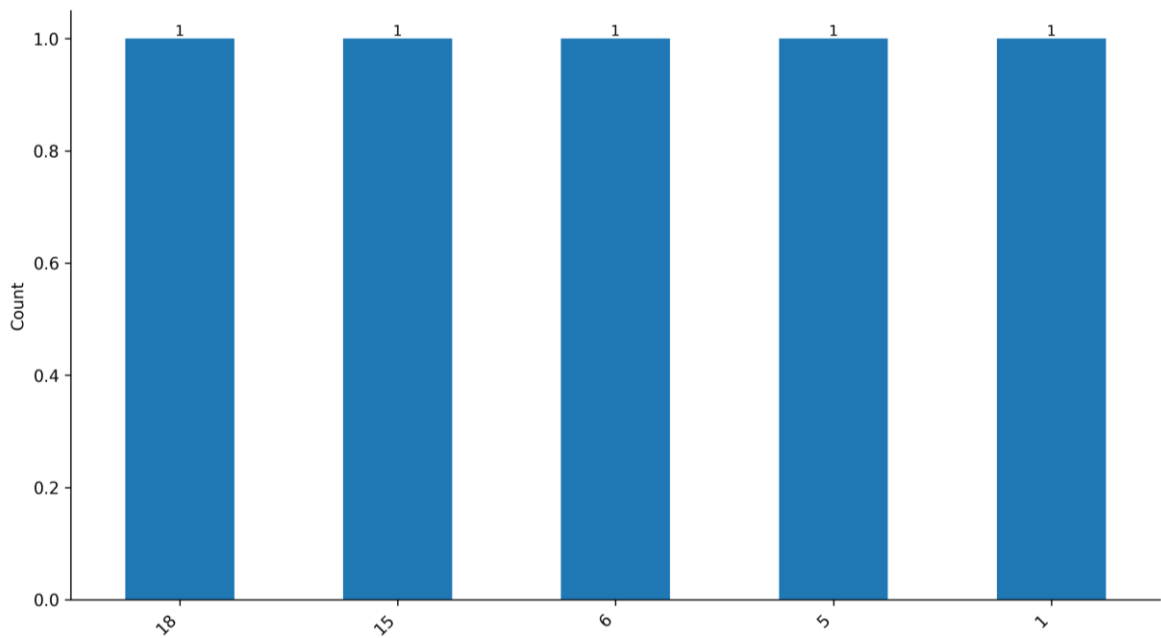


Figure 36. Years hiring freelancers - Frequency.

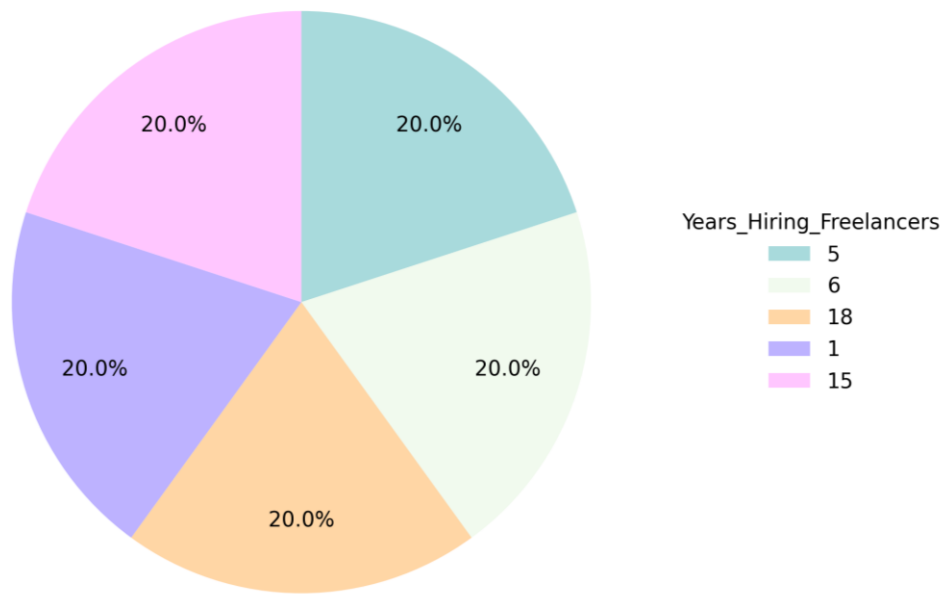


Figure 37. Years hiring freelancers – Percentage.

The distribution reveals a heterogeneous pattern in the duration of freelancer hiring among Spanish companies, combining organisations with extensive, long-standing experience and others that have adopted freelance engagement more recently. This variation provides important context for interpreting differences in companies' motivations, expectations, and perceived challenges related to working with freelancers, as discussed in subsequent sections. Firms with longer experience may have more formalised processes and clearer expectations, whereas those with shorter engagement histories may still be experimenting with freelance work as a strategic resource.

2.2.5 Type of freelance services hired

This subsection examines the types of freelance services hired by the surveyed Spanish companies. It should be noted that the analysis is based on a small sample of eight companies and that respondents were allowed to select multiple service categories. Consequently, the reported frequencies and percentages reflect the relative prevalence of different types of freelance services rather than mutually exclusive company profiles.

The results indicate that Sales and Marketing services represent the most frequently hired type of freelance support, selected by four companies (25.0%). This suggests that Spanish firms rely heavily on freelancers to support commercial activities, market positioning, and customer engagement, often on a flexible or project-based basis. A second group of services includes Creative and Multimedia and Writing and Translation, each reported by three companies (18.8%). These categories point to a strong demand for creative content, communication, and language-related skills, reflecting the growing importance of branding, digital presence, and international communication.

In addition, Professional Services and Software Development and IT are each selected by two companies (12.5%). While less dominant than commercial and creative services, these results indicate that freelancers are also used to access specialised expertise and technical competencies, particularly in support of specific projects or operational needs.

By contrast, Clerical and Data Entry and Teaching and Training are the least frequently reported service types, each selected by one company (6.2%). These services appear to play a more complementary role, addressing administrative support or internal knowledge development rather than core business functions.

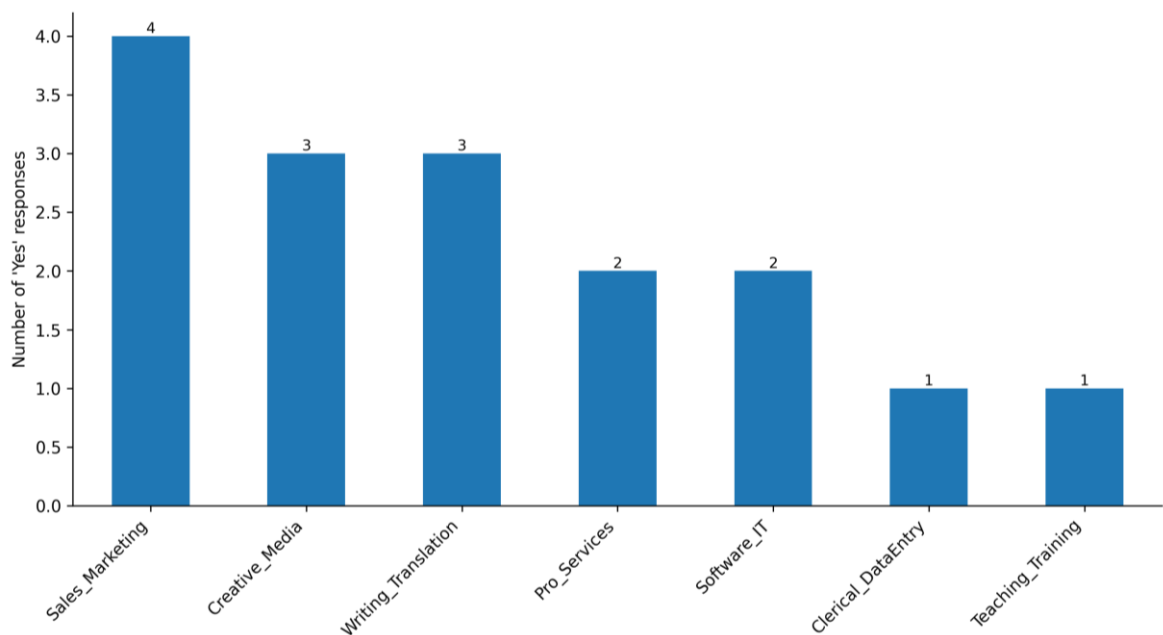


Figure 38. Type of freelance services - Frequency of 'Yes'

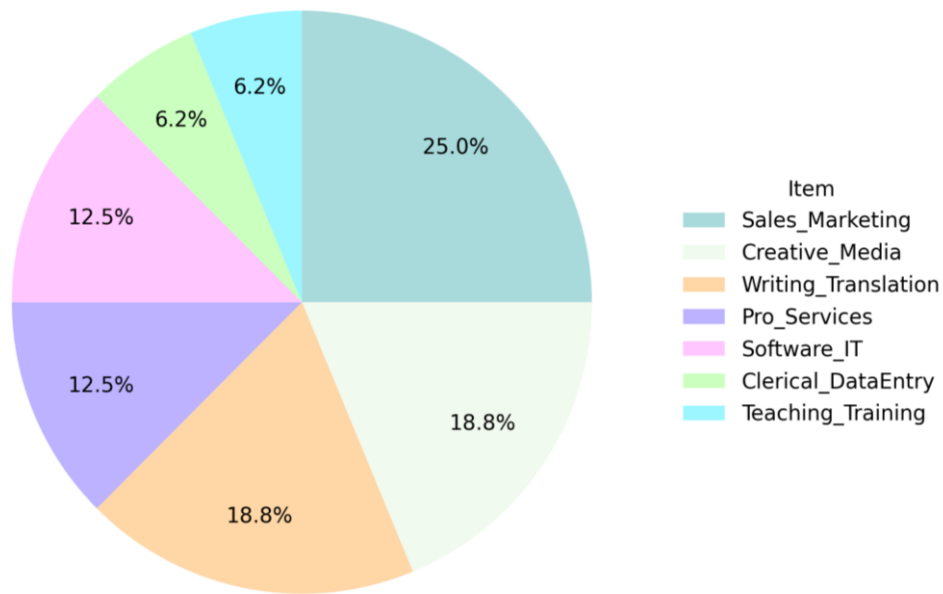


Figure 39. Type of freelance services – Percentage of ‘Yes’

The distribution suggests that Spanish companies primarily engage freelancers for market-oriented, creative, and communication-related activities, complemented by selective use of technical and professional services. Compared to more technology-focused patterns observed in other national contexts, these findings point to a relatively strong commercial and content-driven orientation in freelancer hiring. Given the limited sample size, the results should be interpreted with caution; nevertheless, they provide valuable context for understanding firms’ competence requirements, strategic priorities, and patterns of freelancer engagement discussed in subsequent sections.

2.2.6 Motivations for hiring freelancers

This subsection examines the motivations that drive Spanish companies to hire freelancers. It should be noted that the analysis is based on a small sample of eight companies and that respondents were allowed to select multiple motivations. Consequently, the reported frequencies and percentages reflect the relative importance of different motivations rather than mutually exclusive organisational categories.

The results indicate that the two most prominent motivations for hiring freelancers are access to specialised skills and cost effectiveness, each selected by four companies (30.8%). This suggests that Spanish firms primarily engage freelancers to complement internal capabilities with specific expertise while simultaneously seeking to optimise labour costs and maintain financial efficiency. These findings point to a strategic use of freelance labour, where skills acquisition and cost considerations are closely intertwined.

A second tier of motivations includes faster delivery and legal structure, each reported by two companies (15.4%). The emphasis on faster delivery indicates that freelancers are sometimes perceived as a means of accelerating project completion or responding quickly to time-sensitive demands. Similarly, the relevance of legal structure suggests that contractual and regulatory considerations play a non-negligible role in firms' decisions to engage freelancers, potentially reflecting preferences for flexible yet formally defined working arrangements.

By contrast, flexibility is the least frequently cited motivation, selected by only one company (7.7%). This finding contrasts with dominant narratives in the freelance literature that emphasise flexibility as a primary driver and suggests that, in the Spanish context, flexibility may be seen more as an implicit characteristic of freelance work rather than an explicit hiring motive.

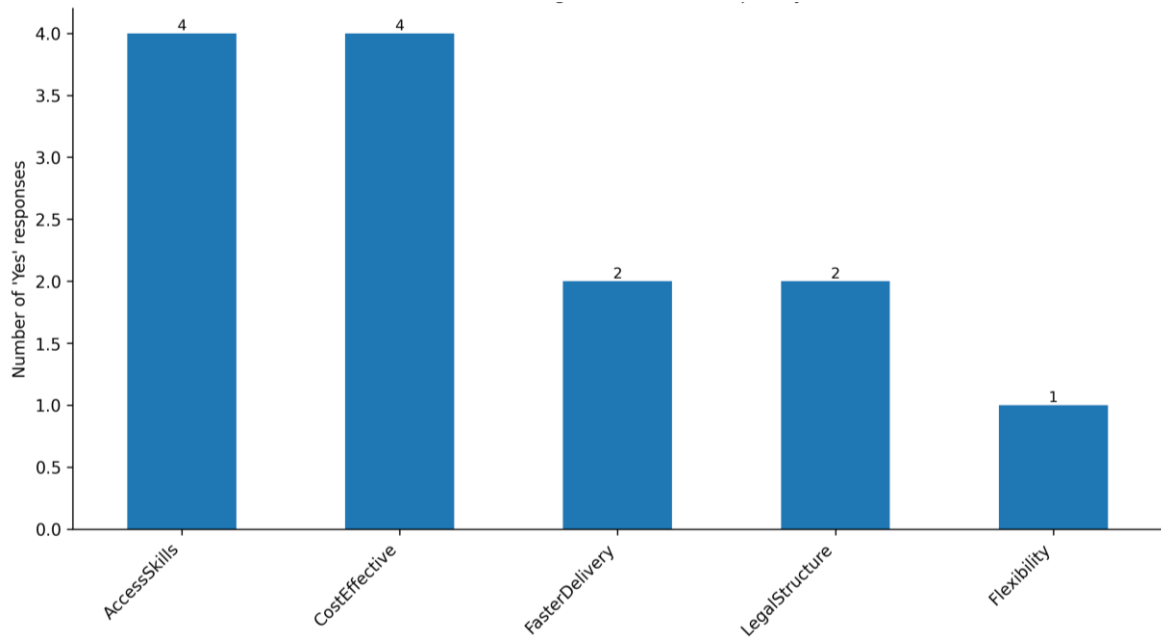


Figure 40. Motivations for hiring freelancers - Frequency of 'Yes'.

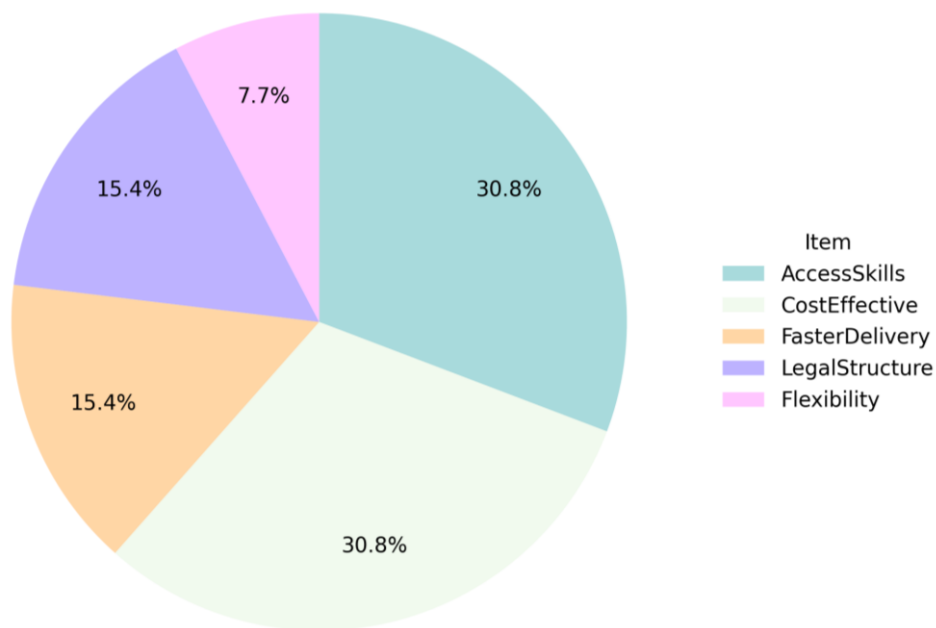


Figure 41. Motivations for hiring freelancers - Percentage of 'Yes'.

The results indicate that Spanish companies' decisions to hire freelancers are predominantly driven by strategic needs for specialised expertise and cost efficiency, supported by secondary considerations related to delivery speed and legal arrangements. Given the limited number of participating companies, these findings should be interpreted with caution; nevertheless, they provide valuable insight into

the rationale underlying freelancer engagement and offer an important foundation for interpreting subsequent analyses related to competence requirements and perceived challenges.

2.2.7 Risks of relying on freelancers

This subsection examines the risks perceived by Spanish companies when relying on freelancers. The analysis is based on a sample of 5 companies, and respondents were allowed to select multiple risk factors. Consequently, the reported frequencies and percentages reflect the relative importance of different perceived risks rather than mutually exclusive organisational categories.

The results indicate that several risks are perceived with a similar level of importance. Data leakage, delays or unreliability, integration and communication issues, intellectual property concerns, and payment disputes are each reported 2 times (16.7%). This distribution suggests that Spanish companies do not identify a single dominant risk associated with freelancer engagement; instead, they perceive a set of operational, legal, and coordination-related risks that carry comparable relevance.

Concerns related to data leakage and intellectual property underline the importance of safeguarding sensitive information and ensuring clear contractual arrangements when working with external professionals. Likewise, risks linked to delays or unreliability and integration and communication highlight potential challenges in aligning freelancers with internal workflows and organisational processes. The reporting of payment disputes further indicates that transactional and contractual issues remain a relevant concern for some companies.

By contrast, lack of control and transparency and freelancer unavailability are reported less frequently, each cited 1 time (8.3%). These risks appear to be of secondary concern compared to those related to coordination, legal protection, and operational reliability.

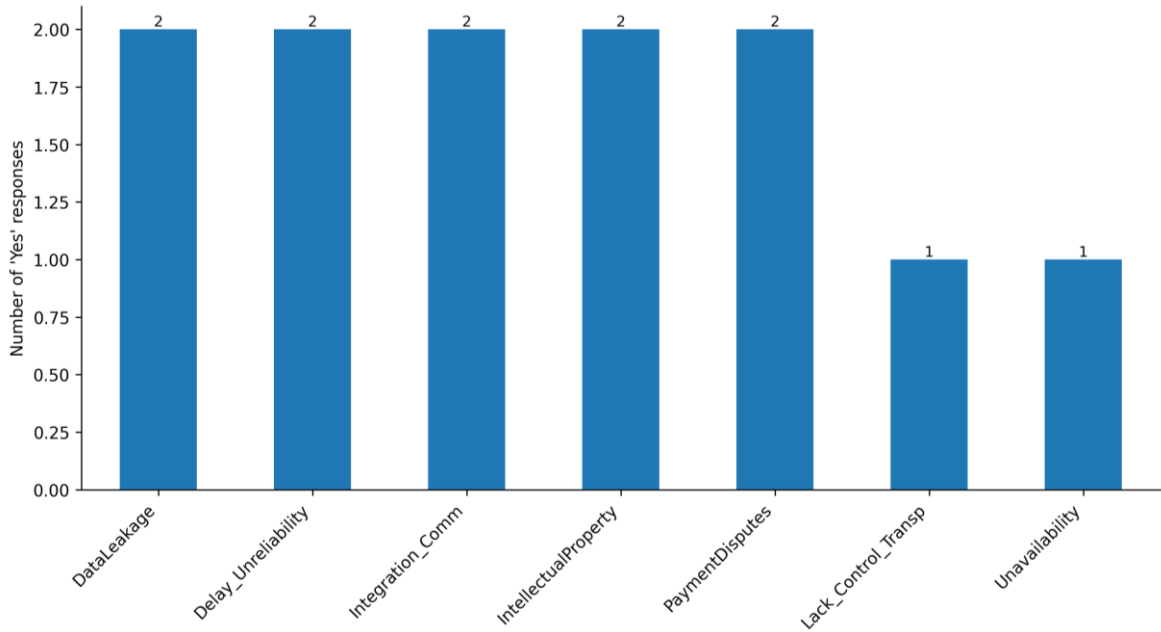


Figure 42. Risks of relying on freelancers - Frequency of 'Yes'.

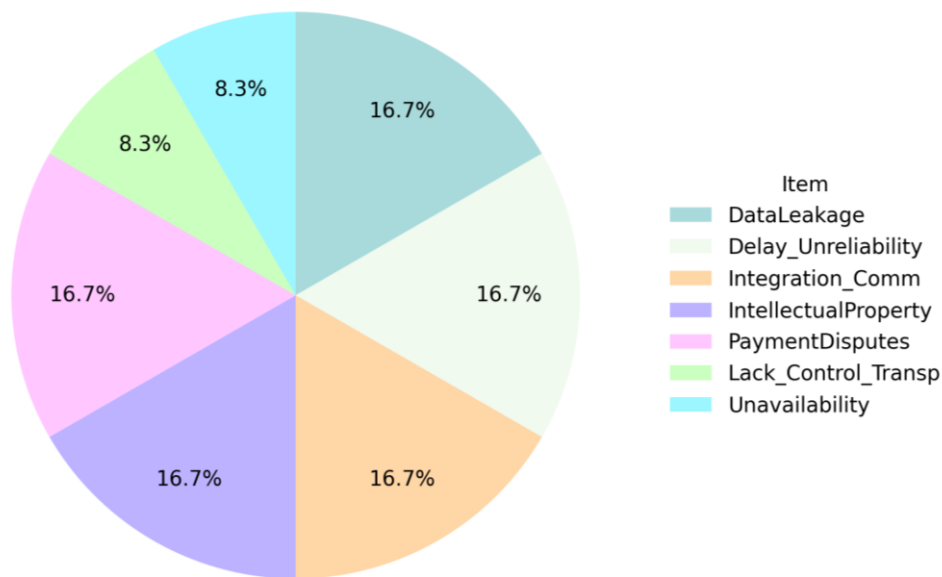


Figure 43. Risks of relying on freelancers – Percentage of 'Yes'.

The findings suggest that Spanish companies perceive a diversified and moderate risk profile when relying on freelancers, rather than acute concern in any single dimension. Given the limited number of participating companies, these results should be interpreted with caution; nevertheless, they provide valuable insight into the risk considerations that shape companies' approaches to freelancer engagement and risk management strategies.

2.2.8 Companies' anticipated near-term challenges

This subsection examines the near-term challenges anticipated by Spanish companies in relation to their engagement with freelancers. The analysis is based on responses from 5 companies, and respondents were allowed to select multiple challenges. Accordingly, the reported frequencies and percentages reflect the relative prominence of each challenge among all selected options rather than mutually exclusive company categories.

The results show that three challenges emerge as the most frequently anticipated. Market changes affecting freelancer availability, changing work-life balance expectations among new generations of freelancers, and the availability of skilled freelancers are each reported 3 times (21.4%). These findings indicate that Spanish companies are particularly concerned about talent availability in a context characterised by dynamic labour-market conditions and evolving expectations regarding working arrangements and professional priorities among freelancers.

A second group of challenges includes increased costs associated with freelancer engagement and growing project complexity, each reported 2 times (14.3%). These concerns point to economic pressures linked to rising remuneration levels and to the managerial challenges associated with coordinating more complex, multidisciplinary, or technologically demanding freelance projects.

By contrast, rising freelancer expectations is the least frequently reported challenge, cited 1 time (7.1%). Although less prominent, this issue suggests that some companies are aware of increasing demands from freelancers in terms of compensation, flexibility, or working conditions.

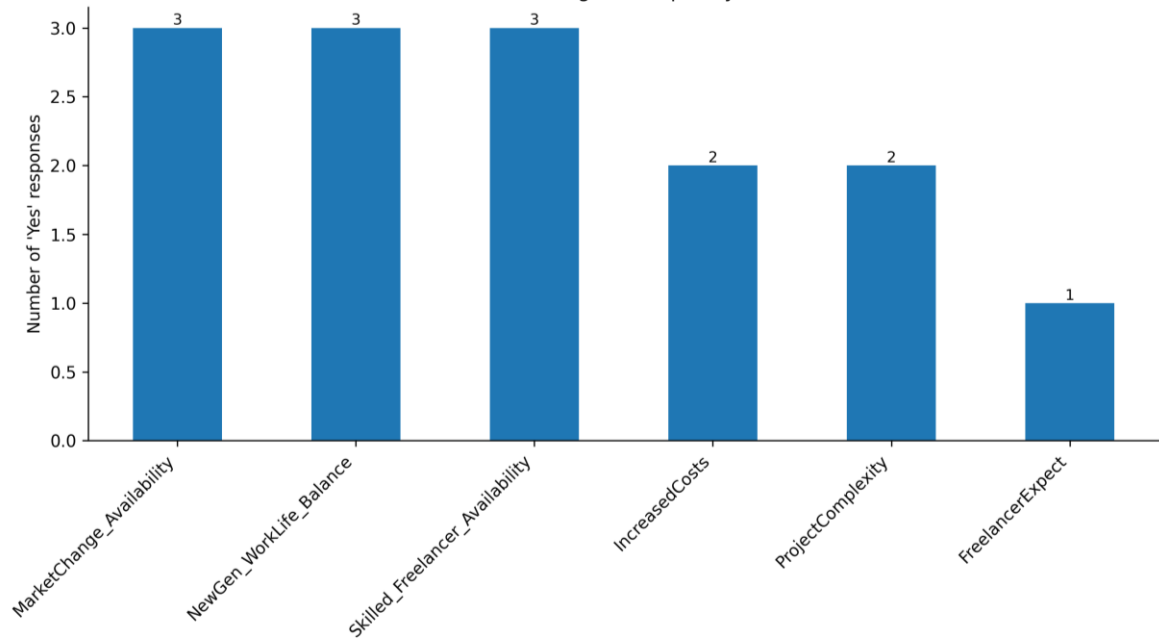


Figure 44. Future challenges - Frequency of 'Yes'.

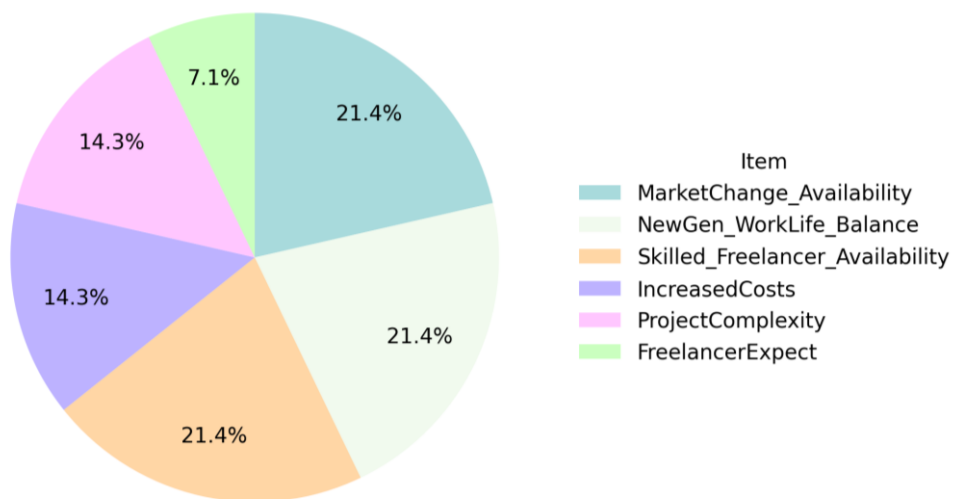


Figure 45. Future challenges – Percentage of 'Yes'.

The results suggest that Spanish companies anticipated near-term challenges are primarily centred on talent availability, market and workforce dynamics, and cost pressures, rather than purely operational or technical issues. Given the limited number of participating companies, these findings should be interpreted with caution; nevertheless, they provide valuable context for understanding organisational constraints and strategic considerations shaping future freelancer engagement.

2.2.9 Perceived influence of AI on freelancer hiring

This subsection examines Spanish companies' perceptions regarding how the use of artificial intelligence (AI) is expected to influence their future hiring of freelancers. The analysis is based on responses from 5 companies, and the reported frequencies and percentages reflect the distribution of perceptions within this sample.

The results indicate that companies' perceptions of AI's impact on freelancer hiring are predominantly cautious. The most frequently reported expectation is that AI will lead to hiring fewer freelancers, reported 4 times (80.0%). This finding suggests that, for a substantial majority of respondents, AI is perceived as a potential substitute for certain freelance tasks, particularly those that are routine, repetitive, or susceptible to automation.

By contrast, no effect on freelancer hiring is reported 1 time (20.0%). This response may reflect organisations that view AI primarily as a complementary technology that enhances efficiency and productivity without fundamentally altering their reliance on freelance labour.

Notably, none of the surveyed companies anticipate an increase in freelancer hiring because of AI adoption. This absence suggests that, in the Spanish context, AI is not currently perceived as a driver of additional demand for freelance expertise, but rather as a technology that may reduce or stabilise the need for external labour.

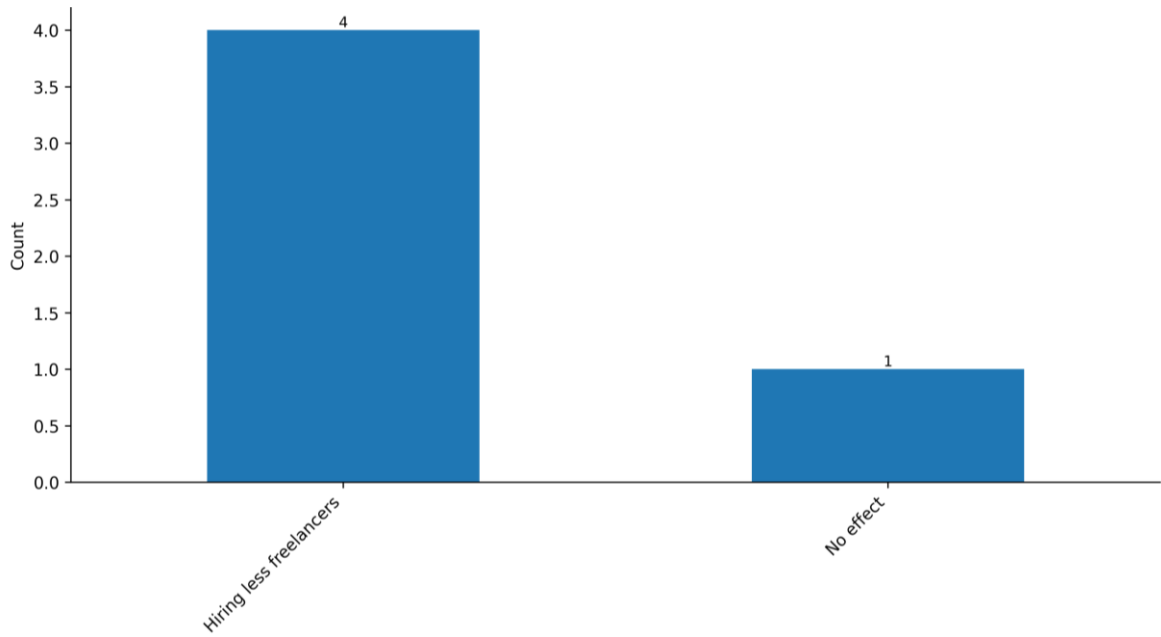


Figure 46. AI influence freelancer hiring – Frequency.

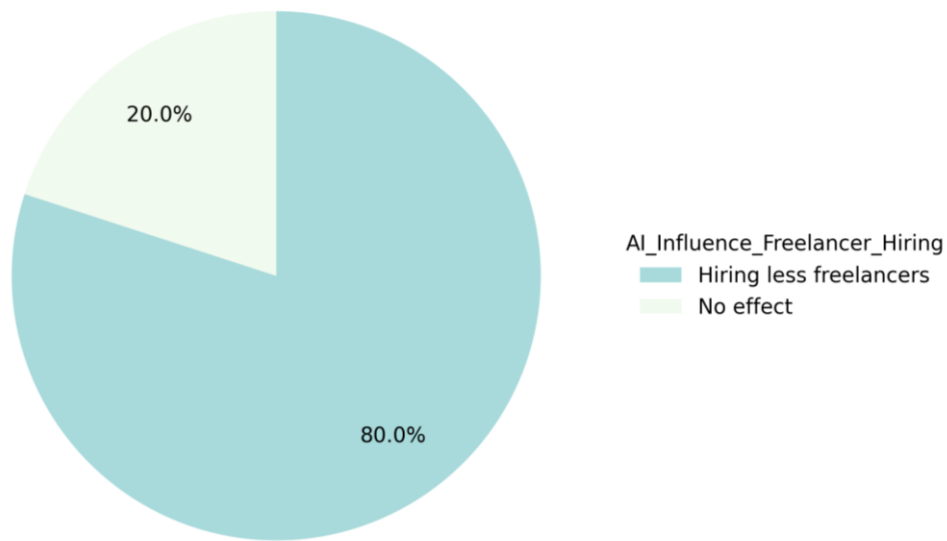


Figure 47. AI influence freelancer hiring – Percentage.

The findings suggest that Spanish companies expect AI adoption to either reduce or have a neutral effect on their future engagement with freelancers. Given the limited number of participating companies, these results should be interpreted with caution; nevertheless, they provide valuable insight into organisational expectations regarding the relationship between AI implementation and freelance labour demand.

2.2.10 Perceived impact of AI technology on the freelancing market

This subsection examines Spanish companies' perceptions of how artificial intelligence (AI) technology is influencing the freelancing market. The analysis is based on responses from 5 companies, and respondents were allowed to select multiple perceived effects. Accordingly, the reported frequencies and percentages reflect the relative prominence of each perceived impact rather than mutually exclusive categories.

The most frequently reported perceived impact of AI on the freelancing market is shrinking freelance opportunities, reported 3 times (50.0%). This finding suggests that a substantial share of Spanish companies associate AI adoption with a potential reduction in demand for certain types of freelance work, particularly tasks that are routine, standardised, or increasingly automatable through AI-enabled solutions.

A second group of perceived impacts includes automation of routine tasks, faster project delivery expectations, and increased global competition, each reported 1 time (16.7%). The perception of automation reflects the view that AI is primarily affecting repetitive freelance activities, while faster delivery expectations indicate growing pressure to shorten project timelines as AI-enhanced tools accelerate workflows. The mention of increased global competition points to concerns that AI may intensify competitive pressures by lowering entry barriers and enabling a wider pool of freelancers to compete internationally.

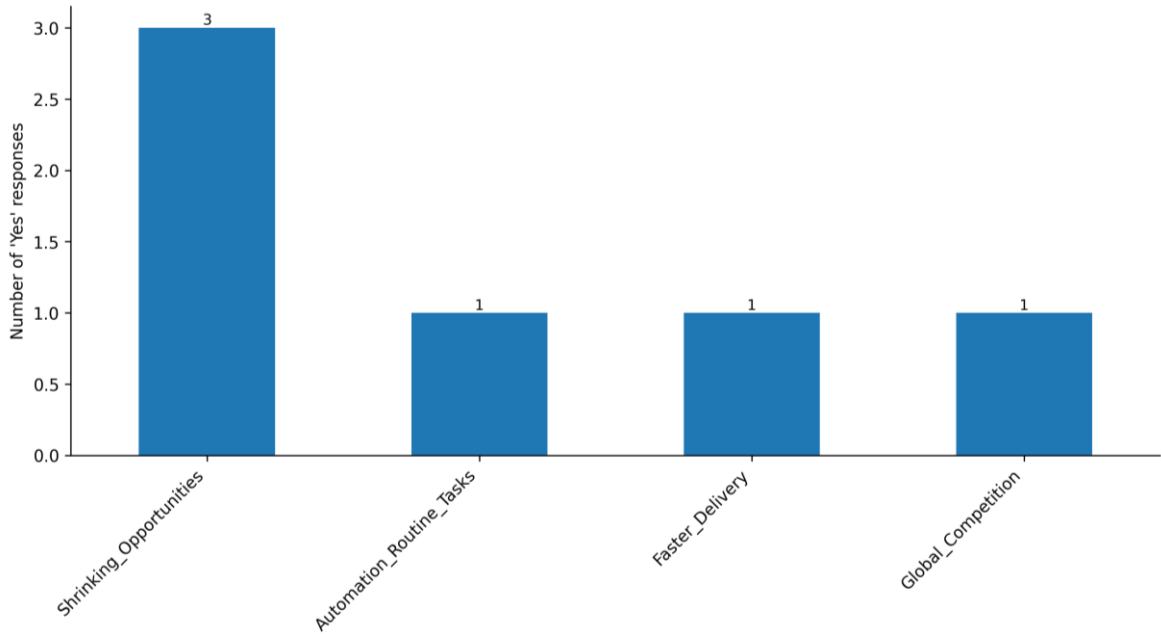


Figure 48. AI impact on freelancing - Frequency of 'Yes'.

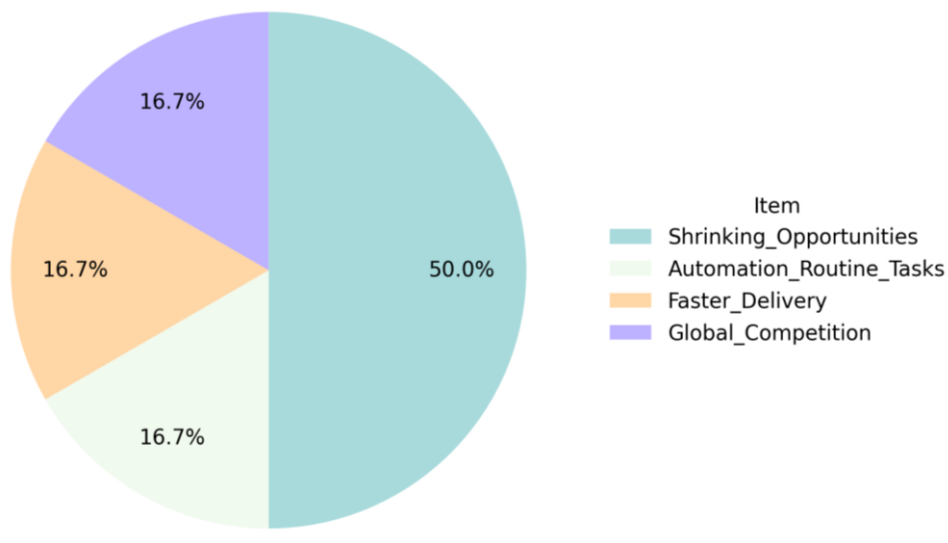


Figure 49. AI impact on freelancing – Percentage of 'Yes'.

The distribution of responses indicates that Spanish companies' perceptions of AI's impact on the freelancing market are predominantly cautious and somewhat unbalanced, with stronger emphasis on the risk of reduced opportunities than on potential enabling effects. Given the limited number of participating companies, these findings should be interpreted with caution; nevertheless, they provide valuable qualitative context for understanding how organisations perceive AI as reshaping the structure, competitiveness, and demand dynamics of the freelancing market.

3 Competency analysis:

Importance and proficiency

3.1 Freelancers

3.1.1 Top-ranked competencies by importance across age groups

This subsection analyses the top competencies ranked by importance across different freelancer age groups. The comparison highlights both stable core competencies valued across the life course and age-specific emphases reflecting different career stages and professional priorities.

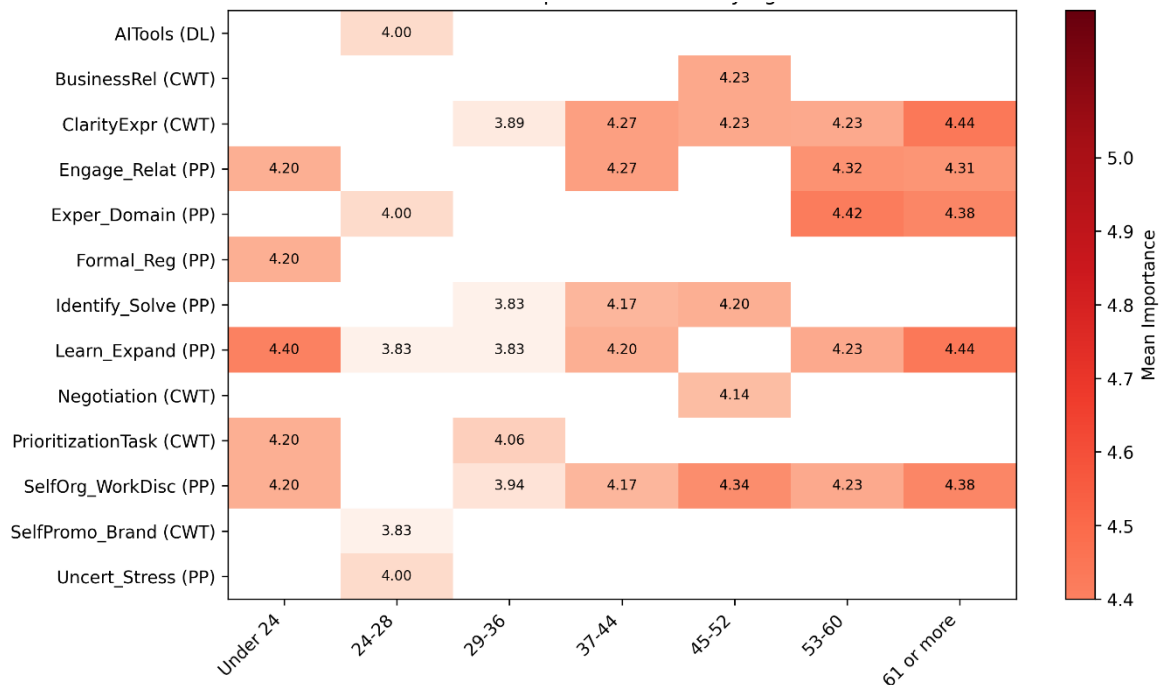


Figure 50. Mean importance of skill by age.

Under 24

Among the youngest freelancers in the Spanish sample, the most highly valued competence is learning and skill expansion, which achieves the highest mean importance score (4.40). This result highlights a strong early-career orientation towards continuous learning and personal development, reflecting the need to build human capital and remain adaptable in a highly competitive and rapidly evolving freelance market.

Closely following this, several competencies share similarly high importance levels (mean scores of 4.20), including self-organisation and work discipline, formal and regulatory awareness, the ability to engage and maintain professional relationships, and task prioritisation. Together, these findings indicate that young freelancers in Spain place substantial emphasis not only on acquiring new skills but also on developing organisational and relational capabilities that support effective professional performance.

In addition to cognitive and technical development, the prominence of relational and self-management skills suggests that freelancers under 24 recognise the importance of reliability, compliance, and collaboration when entering the market. Establishing trust with clients, managing workloads efficiently, and understanding formal requirements appear to be perceived as critical mechanisms for compensating for limited professional experience.

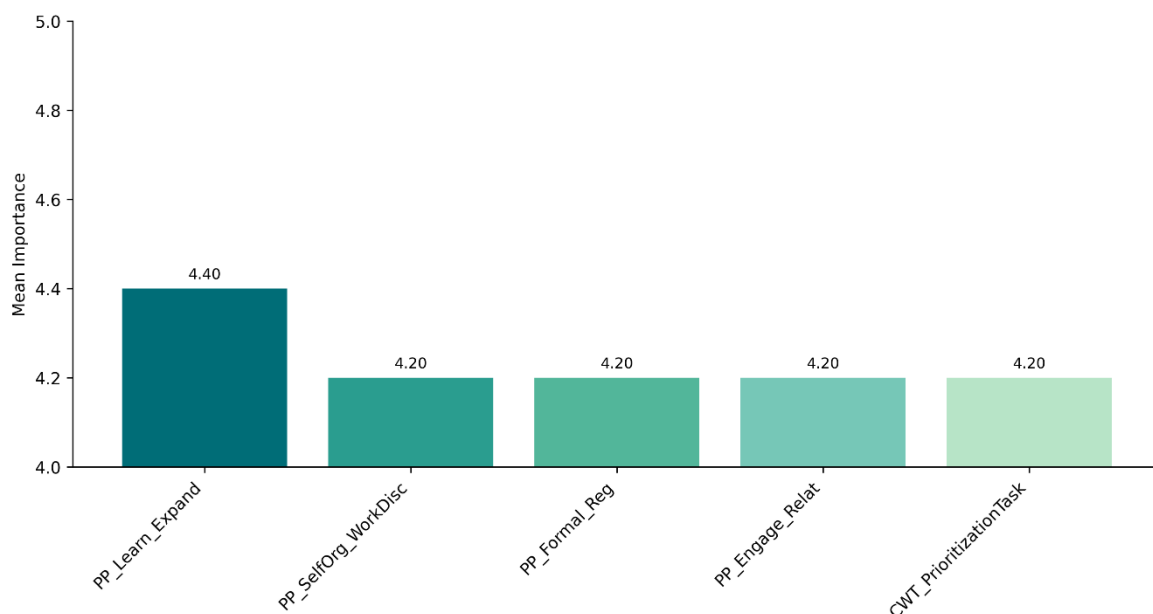


Figure 51. Top 5 skills by importance – Age=under 24.

Overall, the competence profile of Spanish freelancers under 24 reflects a clear focus on capability building, adaptability, and professional integration, combining learning orientation with interpersonal and organisational skills. This pattern is consistent with an early-stage freelancing strategy aimed at facilitating market entry, enhancing credibility, and creating sustainable professional relationships.

24–28

No empirical results are reported for the 24–28 age group in the Spanish subsample, as no respondents fall within this age category. Consequently, no conclusions regarding skill importance or competence prioritisation can be drawn for this group.

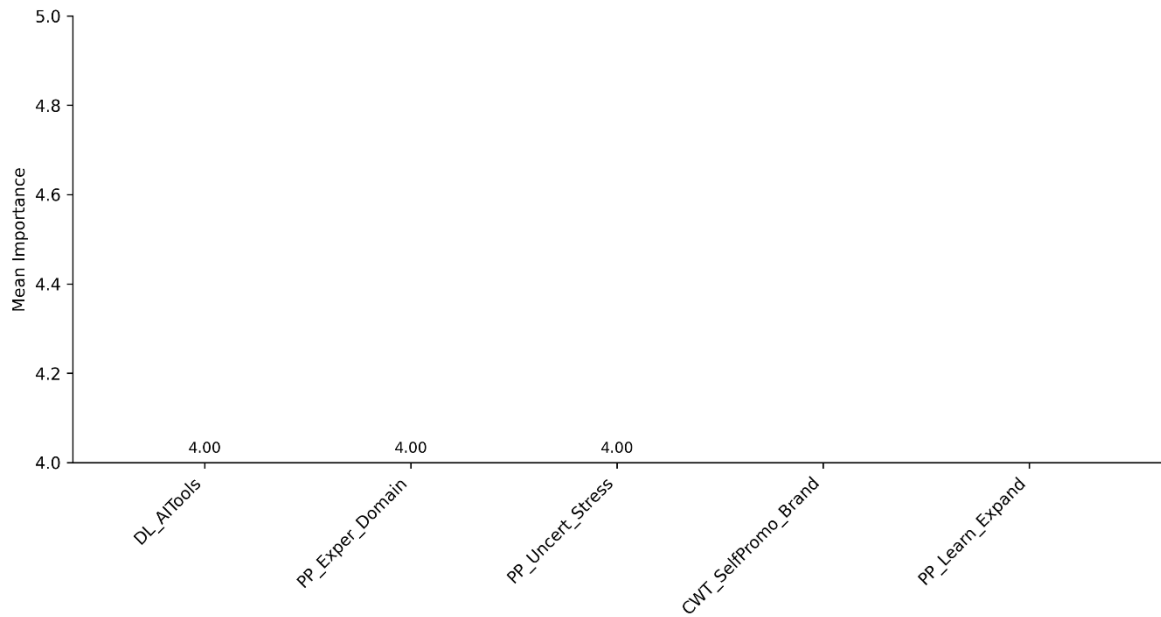


Figure 52. Top 5 skills by importance – Age=24-28.

29–36

Among Spanish freelancers aged 29–36, the competence profile reflects a clear phase of professional consolidation and stabilisation. The most highly valued skill in this age group is task prioritisation, which records the highest mean importance score (4.06). This finding highlights the centrality of effective time management and the ability to organise workloads strategically as freelancers increasingly juggle multiple projects, clients, and deadlines.

Closely following task prioritisation, several competencies display similarly high importance levels, including self-organisation and work discipline, the ability to clarify expectations and requirements with clients, learning and skill expansion, and problem identification and solving. Together, these skills suggest that freelancers in this age group place strong emphasis on maintaining structured work practices while ensuring clear communication and continuous professional development.

Compared to younger age groups, the prominence of organisational and coordination-related competencies indicates a shift towards sustaining long-term productivity and managing more complex professional relationships. Freelancers aged 29–36 appear to operate with a higher degree of autonomy and responsibility,

where efficiency, reliability, and clarity in collaboration become essential for maintaining client trust and repeat business.

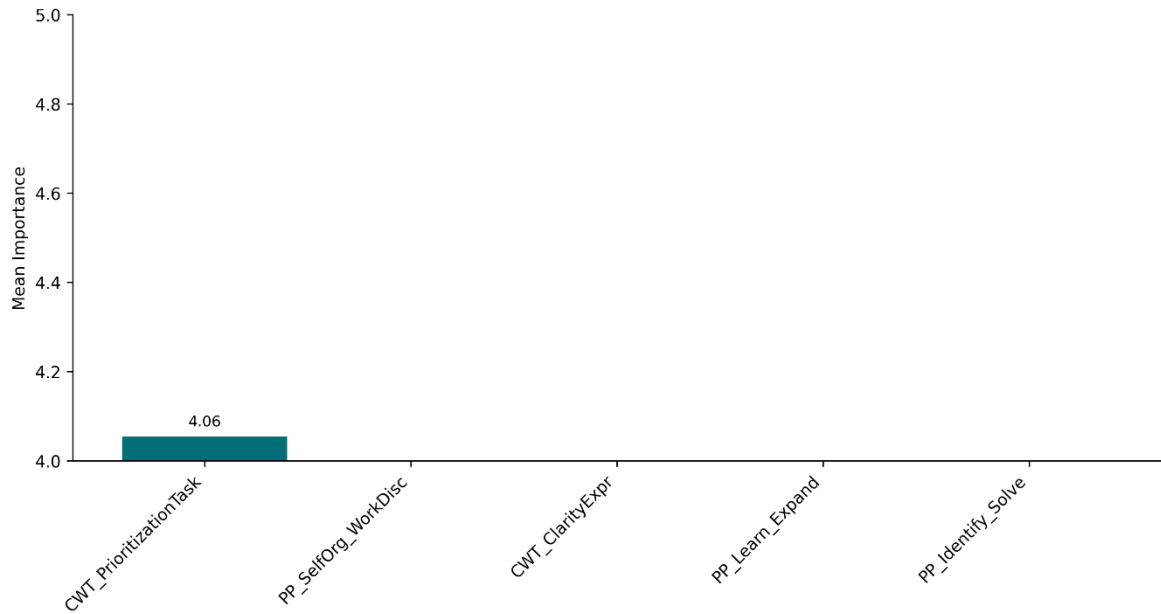


Figure 53. Top 5 skills by importance – Age=29-36.

Therefore, the competence profile of Spanish freelancers in the 29–36 age group reflects a mature stage of freelance career development, characterised by disciplined self-management, strategic prioritisation, and a balanced integration of operational efficiency and ongoing skill development. This stage represents a transition from early experimentation toward stable and sustainable freelance practice.

37–44

Among Spanish freelancers aged 37–44, the competence profile reflects a mature and relationally oriented stage of freelance career development. The highest mean importance scores are observed for the ability to engage and maintain professional relationships and clarity of expression and communication, both scoring 4.27. This finding underscores the central role of interpersonal competence and effective communication in managing client relationships, coordinating complex projects, and sustaining long-term professional collaborations at this career stage.

Closely following these competencies, learning and skill expansion also remains highly valued (mean = 4.20), indicating that continuous professional development continues to be relevant even at more advanced stages of freelancing careers. This suggests that experienced freelancers do not perceive learning as a purely early-career concern, but rather as an ongoing requirement to remain competitive and adaptable.

Additional competencies, including self-organisation and work discipline and problem identification and solving, are also rated highly (mean = 4.17). Their slightly lower but still substantial importance reflects a stable mastery of operational skills, which may be taken for granted relative to the increasing salience of relational and communicative capabilities.

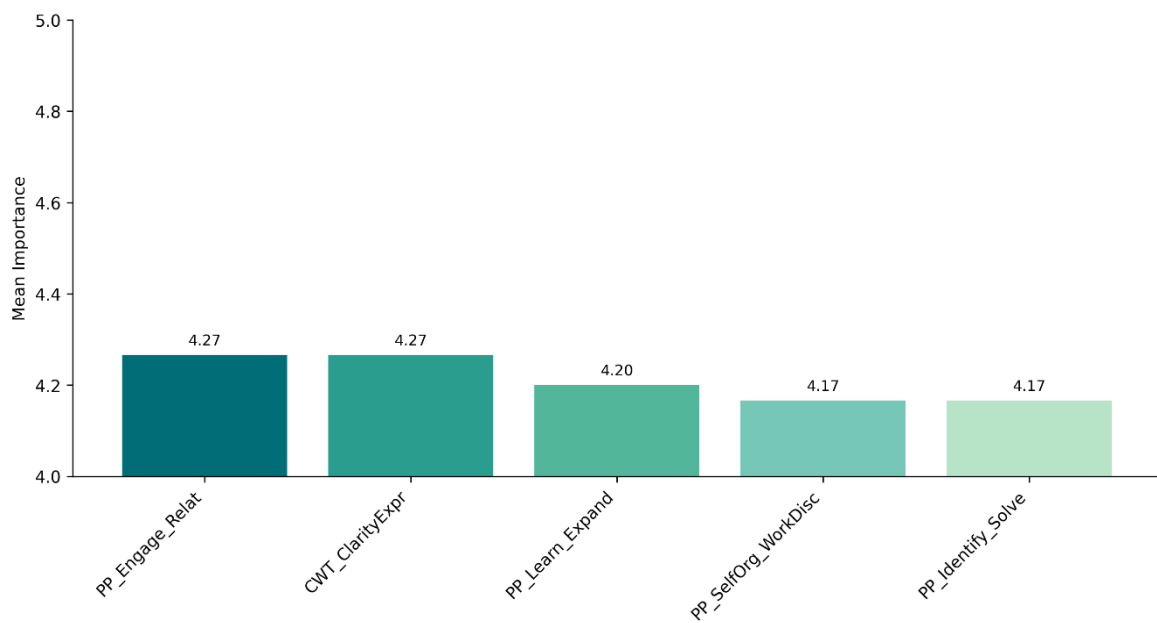


Figure 54. Top 5 skills by importance – Age=37-44.

The results indicate that Spanish freelancers aged 37–44 prioritise relationship management, communication clarity, and continuous learning, complemented by strong self-management and analytical skills. This competence configuration aligns with a career stage characterised by complex client-facing roles, higher coordination demands, and a strategic focus on sustaining professional reputation and long-term value creation.

45-52

Among Spanish freelancers aged 45-52, the competence profile reflects a highly consolidated and experience-driven stage of freelance career development. The most highly valued competence in this age group is self-organisation and work discipline, which records the highest mean importance score (4.34). This finding highlights the central role of structured work practices, reliability, and disciplined time management in sustaining productivity and professional credibility at later stages of freelance careers.

Closely following this, clarity of expression and communication and the ability to manage business relationships are both rated with high importance (mean = 4.23). These competencies underline the increasing relevance of clear communication, negotiation, and relationship management as freelancers operate in client-facing roles that require trust, coordination, and long-term collaboration.

Additional competencies, including problem identification and solving (mean = 4.20) and negotiation skills (mean = 4.14), further characterise this age group. Their prominence suggests that freelancers aged 45-52 rely heavily on accumulated experience to address complex problems, manage expectations, and navigate contractual or relational aspects of freelance work.

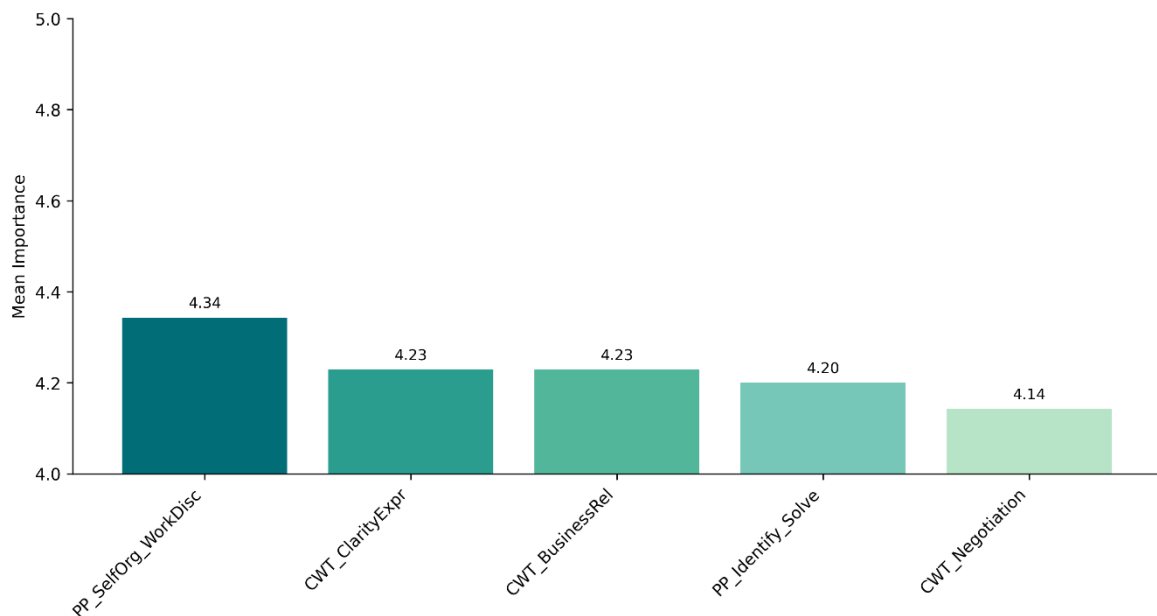


Figure 55. Top 5 skills by importance – Age=45-52.

The competence configuration of Spanish freelancers in the 45–52 age group emphasises discipline, communication clarity, and relationship management, supported by strong analytical and negotiation skills. Rather than prioritising learning and skill expansion as a primary concern, freelancers at this stage appear to leverage established expertise and organisational capabilities to maintain stable, sustainable, and high-value professional engagements.

53–60

Among Spanish freelancers aged 53–60, the competence profile reflects a highly senior and expertise-driven stage of freelance career development. The most highly valued competence in this age group is expertise within the professional domain, which records the highest mean importance score (4.42). This finding highlights the central role of accumulated knowledge, deep specialisation, and professional mastery as key sources of value creation at later stages of freelance careers.

Closely following domain expertise, the ability to engage and maintain professional relationships is also rated very highly (mean = 4.32), underscoring the importance of trust-based, long-term client relationships. This competence suggests that freelancers in this age group increasingly rely on relational capital and reputation to sustain their professional activity.

A third cluster of competencies, self-organisation and work discipline, learning and skill expansion, and clarity of expression and communication, all display similarly high importance levels (mean = 4.23). The continued relevance of learning indicates that, even at more advanced career stages, freelancers recognise the need to remain up to date and adaptable in changing market and technological contexts. At the same time, strong organisational and communication skills support effective knowledge transfer, coordination, and advisory-oriented roles.

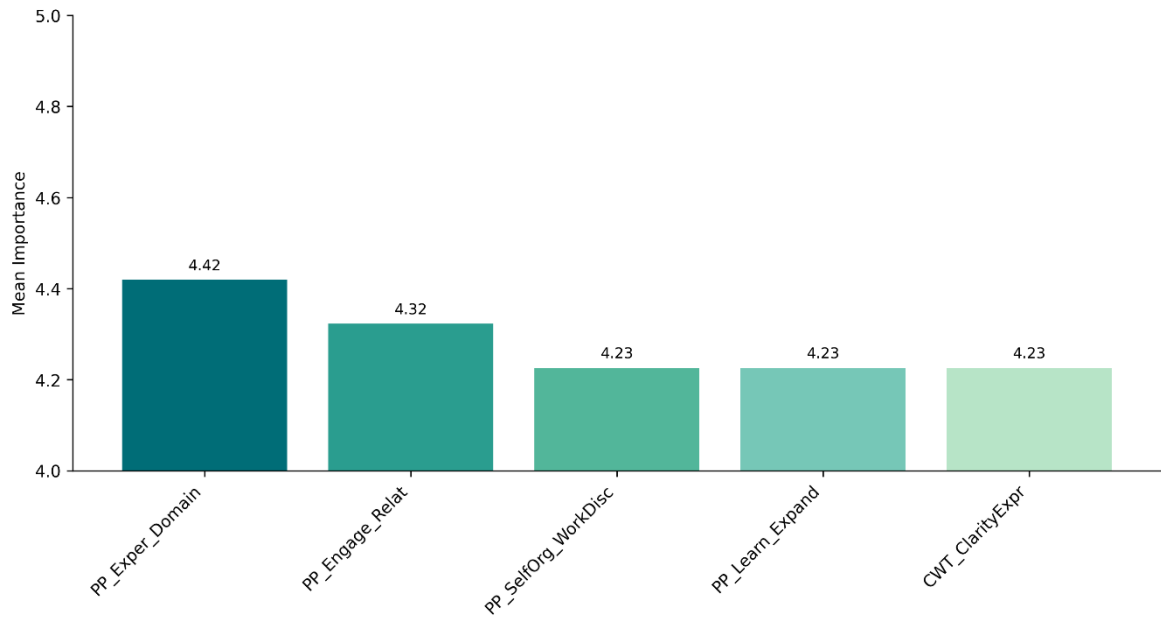


Figure 56. Top 5 skills by importance – Age=53-60.

Overall, the competence configuration of Spanish freelancers aged 53–60 emphasises expertise, relational engagement, and disciplined self-management, complemented by ongoing learning and clear communication. Rather than signalling a retreat from skill development, this profile reflects a mature freelance career stage characterised by advisory capacity, professional credibility, and sustained engagement in lifelong learning.

61 or more

Among Spanish freelancers aged 61 or more, the competence profile reflects a late-career stage characterised by reflection, communication, and sustained learning. The highest mean importance scores are observed for learning and skill expansion and clarity of expression and communication, both recording a mean value of 4.44. This finding highlights the continued relevance of lifelong learning and clear, effective communication even at advanced stages of freelance careers.

Closely following these competencies, self-organisation and work discipline and expertise within the professional domain are also highly valued (mean = 4.38). These results suggest that freelancers in this age group continue to rely on disciplined work practices and deep professional knowledge as foundations for reliable performance and value creation.

The ability to engage and maintain professional relationships also remains important (mean = 4.31), although it appears slightly less dominant compared to learning, communication, and expertise. This pattern indicates that relational competence continues to support professional activity, particularly in advisory or support-oriented roles.

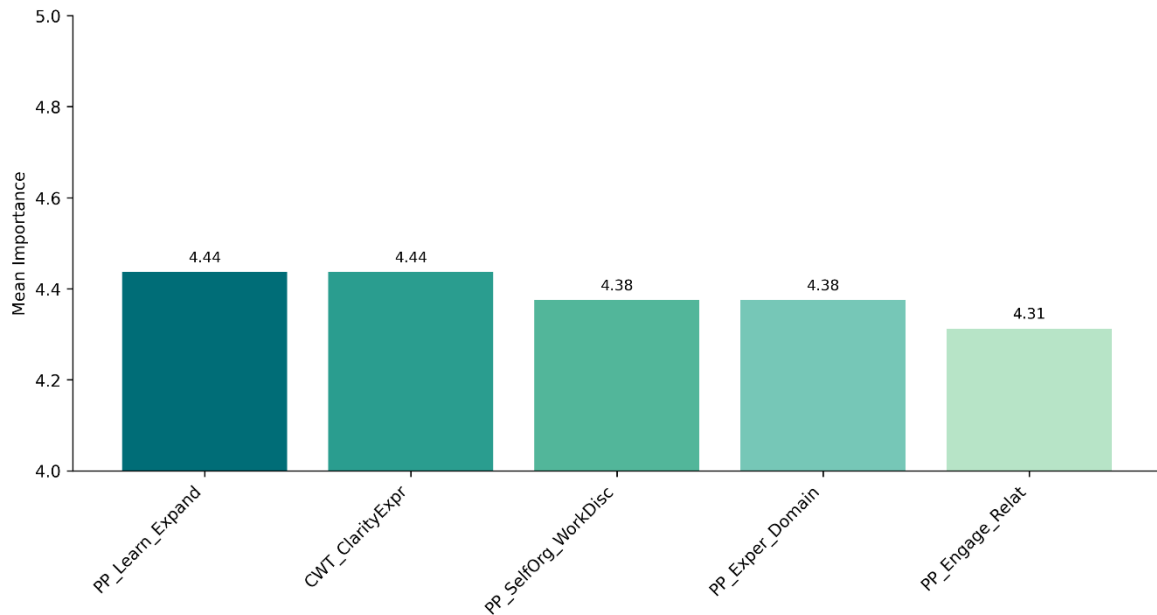


Figure 57. Top 5 skills by importance – Age=61 or more.

The competence configuration of Spanish freelancers aged 61 or more emphasises continuous learning, communication clarity, and disciplined self-management, supported by accumulated expertise and relational skills. Rather than signalling disengagement, this profile reflects an enduring commitment to professional relevance, knowledge transfer, and high-quality collaboration in later stages of freelance careers.

Cross-age synthesis

Across all age groups in the Spanish sample, a set of core competencies consistently emerges among the highest-ranked skills, albeit with varying relative emphasis. Self-organisation and work discipline, problem identification and solving, and learning and skill expansion repeatedly appear across multiple age cohorts, highlighting their role as foundational competencies throughout freelance careers.

These skills reflect the enduring importance of autonomous work management, analytical capacity, and lifelong learning in sustaining professional performance in freelance contexts.

Beyond this shared core, clear age-specific patterns can be identified, revealing a progressive reconfiguration of competence priorities over the life course. Among younger freelancers, emphasis is placed on learning, skill acquisition, and professional integration, reflecting early-career needs related to capability building and market entry. As freelancers move into mid-career stages, competencies related to operational efficiency, task prioritisation, and clarity of communication gain prominence, signalling increasing responsibility for project coordination, client management, and workload structuring.

In later career stages, the competence profile shifts further towards deep domain expertise, communication clarity, and relationship management, supported by strong self-organisation and continued learning. Rather than diminishing in importance, learning remains a salient competence even among older freelancers, underscoring the relevance of lifelong learning for maintaining professional relevance in changing technological and market environments.

The Spanish results depict freelance career development as an evolutionary process in which core competencies remain stable while their functional role changes over time, from enabling entry and experimentation, to supporting efficiency and consolidation, and ultimately to sustaining expertise-driven, relational, and advisory-oriented professional roles. These patterns provide essential context for interpreting age-related differences in competence gaps and offer a robust foundation for designing age-sensitive training, reskilling, and support interventions in subsequent analyses.

3.1.2 Top-ranked competencies by importance across gender

This subsection examines the top competencies ranked by importance for male and female freelancers, highlighting both shared priorities and gender-specific emphases in perceived competence relevance.

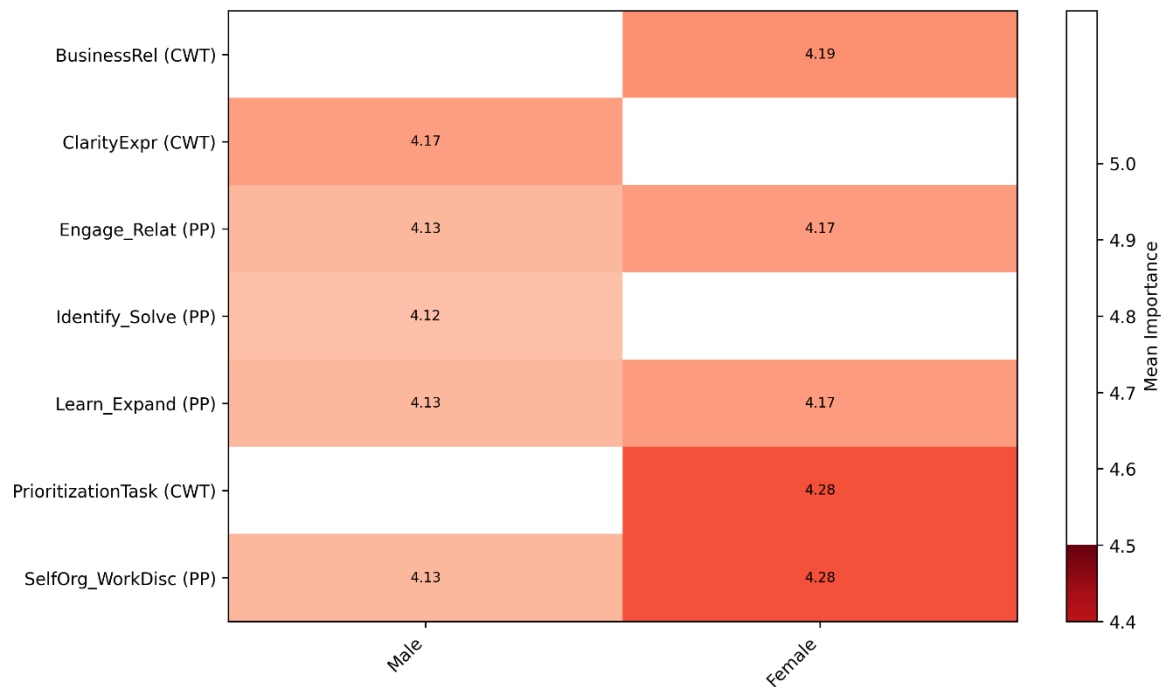


Figure 58. Mean importance of skill by gender.

Male freelancers

Among Spanish male freelancers, the competence profile is characterised by a strong emphasis on communication clarity and structured self-management, rather than a predominant focus on problem-solving. The most highly ranked competence is clarity of expression and communication, which records the highest mean importance score (4.17). This finding highlights the central role of clear communication in managing client expectations, coordinating tasks, and ensuring effective collaboration in freelance work.

Closely following this, learning and skill expansion, self-organisation and work discipline, and the ability to engage and maintain professional relationships all display similarly high importance levels (mean scores of 4.13). Together, these competencies indicate that male freelancers in Spain place substantial value on continuous professional development, disciplined work practices, and relational engagement as key enablers of sustained freelance performance.

Problem identification and solving also appears among the top five competencies, albeit with slightly lower relative importance (mean = 4.12). This suggests that analytical and solution-oriented thinking remains relevant, but it is complemented,

and in some cases outweighed, by the importance of communication, organisation, and learning-oriented skills.

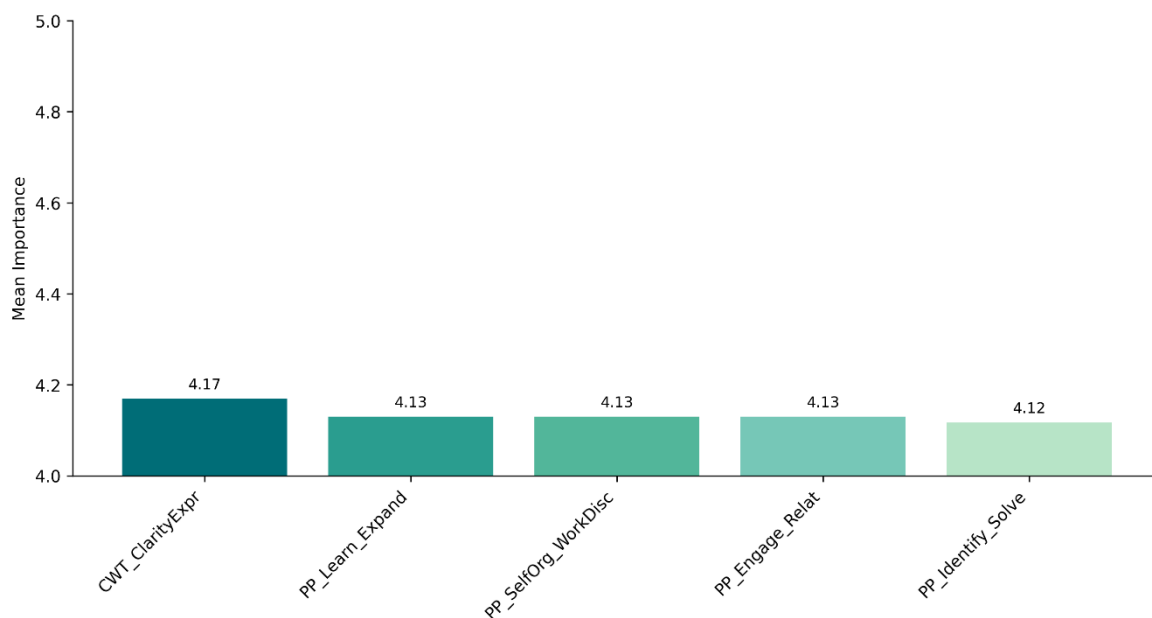


Figure 59. Top 5 skills by importance – Gender=male.

The competence profile of Spanish male freelancers reflects a balanced orientation towards effective communication, autonomous work management, and continuous skill development, rather than a narrowly defined problem-solving focus. This configuration points to a professional approach centred on reliability, clarity, and adaptability as core components of successful freelance careers.

Female freelancers

Among Spanish female freelancers, the competence profile is strongly oriented towards structured self-management and effective workload organisation. The two most highly ranked competencies are self-organisation and work discipline and task prioritisation, both recording the highest mean importance scores (4.28). This result highlights the centrality of disciplined work practices, time management, and the ability to structure tasks efficiently in managing freelance activity.

Closely following these, the ability to manage business relationships also emerges as a highly valued competence (mean = 4.19), underscoring the importance of relational skills for sustaining client trust, negotiating expectations, and maintaining

long-term professional collaborations. This relational orientation is further reinforced by the high importance attributed to engaging and maintaining professional relationships (mean = 4.17).

Finally, learning and skill expansion also appears among the top five competencies (mean = 4.17), indicating that continuous professional development remains an important concern for female freelancers, even when organisational and relational competencies take precedence.

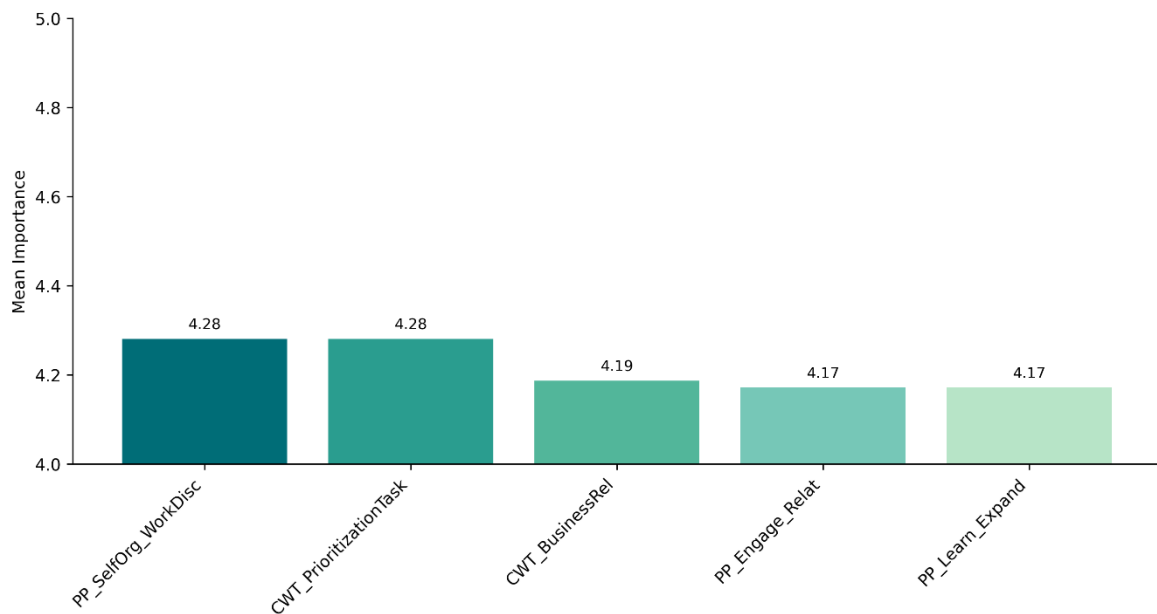


Figure 60. Top 5 skills by importance – Gender=female.

The competence profile of Spanish female freelancers reflects a balanced yet distinctly organisationally driven orientation, combining strong self-management and prioritisation capabilities with relational competence and ongoing learning. Compared to male freelancers, female freelancers place relatively greater emphasis on work discipline and task organisation, highlighting differentiated strategies for achieving effectiveness and sustainability in freelance careers.

Gender-based synthesis

Across both genders in the Spanish sample, several competencies emerge as highly valued, although with distinct patterns of emphasis rather than a single shared dominant skill. Self-organisation and work discipline, learning and skill expansion,

and relational competencies (such as engaging and maintaining professional relationships) appear among the top-ranked skills for both male and female freelancers, highlighting their role as foundational capabilities for effective freelance work regardless of gender.

At the same time, notable gender-based differences in competence prioritisation can be observed. Male freelancers assign relatively greater importance to clarity of expression and communication, alongside continuous learning and disciplined self-management, suggesting a profile oriented towards effective coordination, adaptability, and clarity in client interactions. In contrast, female freelancers place stronger emphasis on self-organisation and work discipline and task prioritisation, indicating a pronounced focus on workload structuring, time management, and operational control as key drivers of freelance effectiveness.

Relational competencies also play an important role for both groups, although they appear slightly more salient among female freelancers through the importance attributed to managing business relationships and sustained engagement with clients. By comparison, problem identification and solving, while present in both profiles, does not emerge as a dominant competence for either gender in the Spanish context.

These findings suggest that gender-based competence profiles among Spanish freelancers are complementary rather than divergent, reflecting different strategic approaches to managing freelance work. These nuanced distinctions provide valuable context for interpreting subsequent analyses of competence gaps and offer a robust foundation for the development of gender-sensitive training, support, and upskilling initiatives tailored to the specific priorities and strengths of male and female freelancers.

3.1.3 Top-Ranked competencies by importance across education levels

This subsection examines the top competencies ranked by importance across different education levels, highlighting both shared priorities and education-specific emphases in freelancers' perceptions of competence relevance.

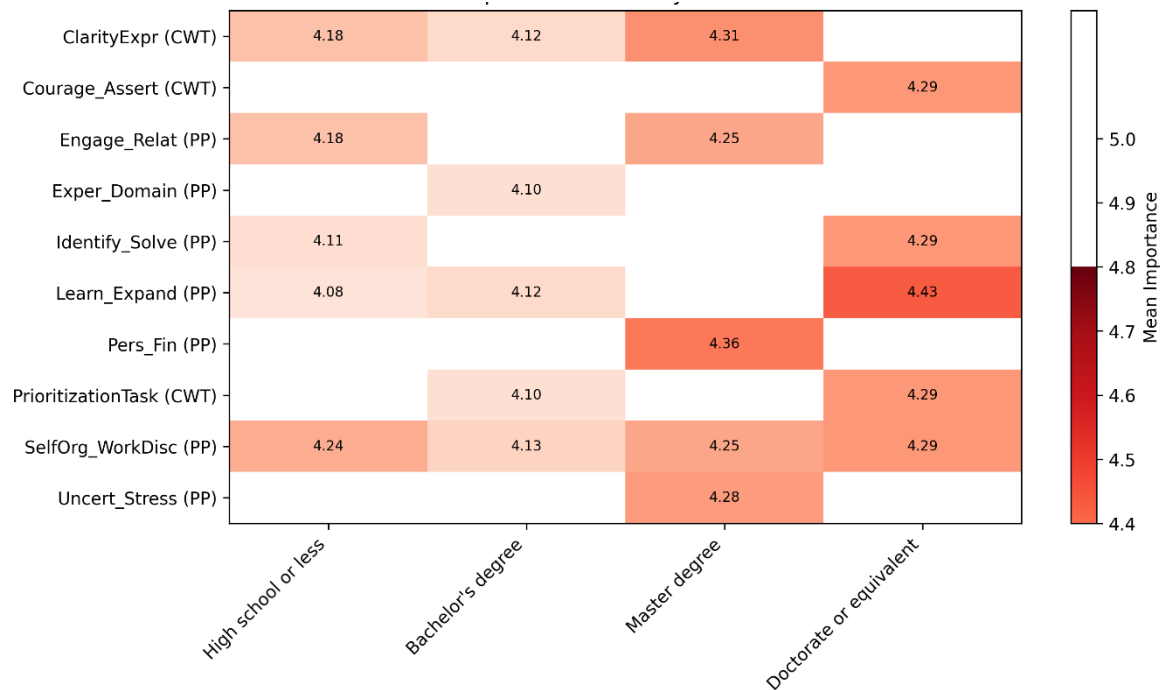


Figure 61. Mean importance of skill by education level.

High school or less

Among Spanish freelancers with high school education or less, the most highly valued competence is self-organisation and work discipline, which records the highest mean importance score (4.24). This finding highlights the central role of disciplined work practices, autonomy, and effective time management as key mechanisms for sustaining freelance activity among individuals with lower levels of formal education.

Closely following this, the ability to engage and maintain professional relationships and clarity of expression and communication are both rated highly (mean = 4.18). These competencies underscore the importance of interpersonal skills and effective communication in securing work opportunities, building trust with clients, and compensating for more limited formal qualifications.

Additional competencies, including problem identification and solving (mean = 4.11) and learning and skill expansion (mean = 4.08), also appear among the top-ranked skills, although with slightly lower relative importance. Their presence suggests that analytical capacity and ongoing learning remain relevant but are perceived as secondary to organisational and relational capabilities in this group.

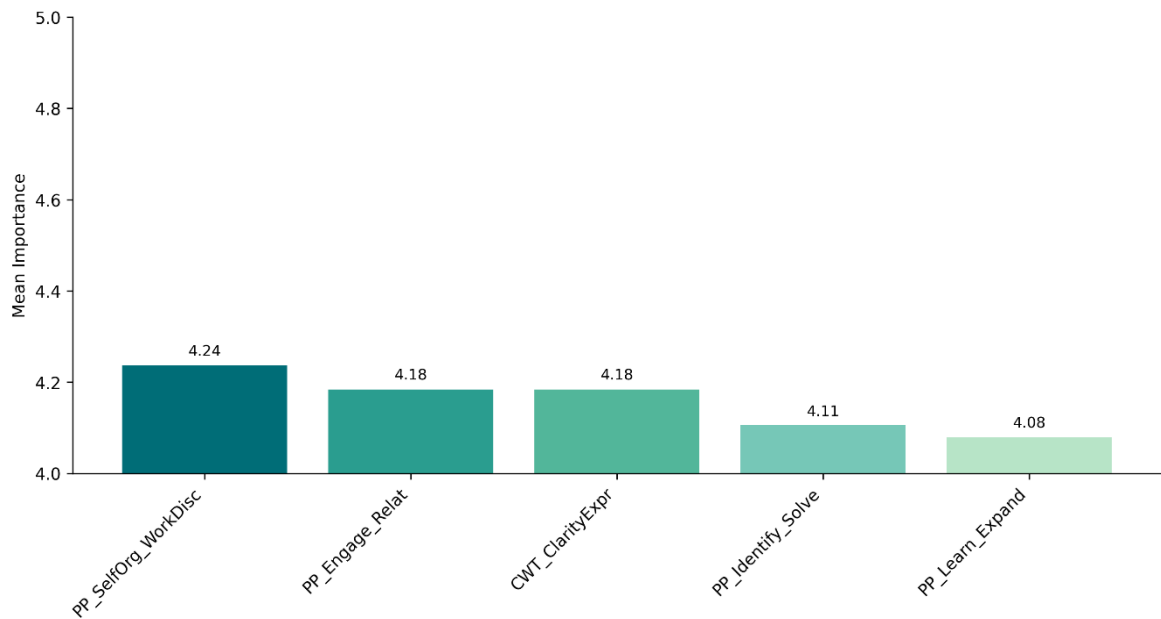


Figure 62. Top 5 skills by importance – Education level=high school or less.

Overall, the competence profile of Spanish freelancers with high school education or less emphasises self-management, relational engagement, and communication clarity as primary drivers of freelance success. This pattern suggests that, in the absence of advanced formal education, freelancers rely more heavily on disciplined work practices and interpersonal effectiveness to maintain employability and achieve professional sustainability.

Bachelor's degree

For freelancers holding a Bachelor's degree, problem identification and solving ranks as the most important competence, followed by coping with uncertainty and stress. This combination reflects a strong emphasis on analytical problem-solving, alongside the ability to manage ambiguity and pressure, which is characteristic of early to mid-career freelancers navigating competitive and dynamic market conditions.

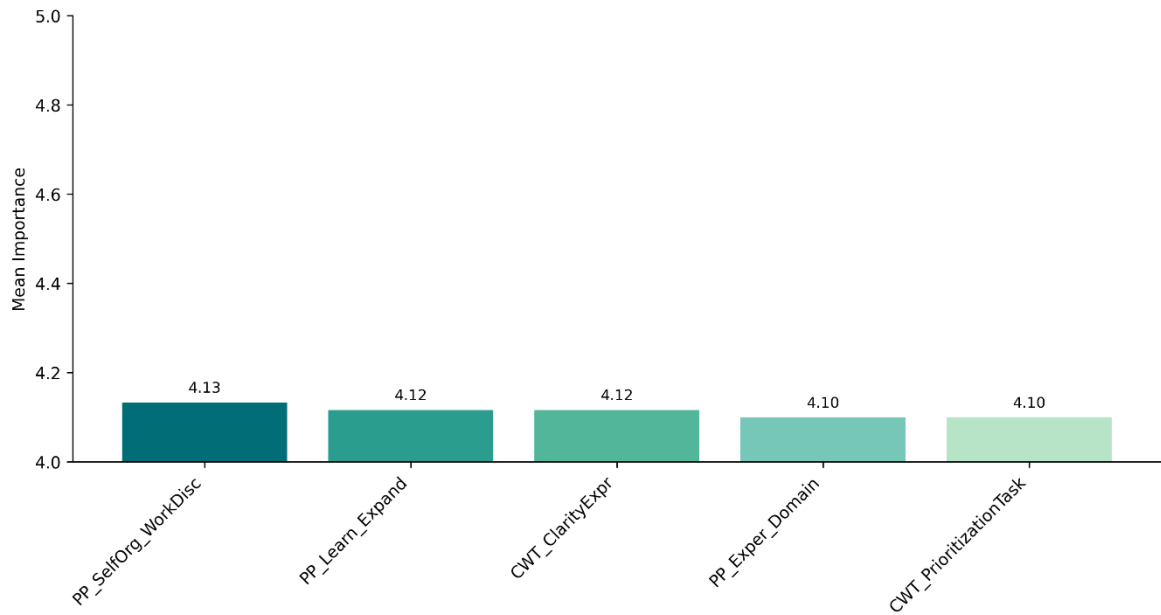


Figure 63. Top 5 skills by importance – Education level=bachelor’s degree.

Master’s degree

Among Spanish freelancers holding a Bachelor’s degree, the most highly valued competence is self-organisation and work discipline, which records the highest mean importance score (4.13). This highlights the central role of autonomous work management, time discipline, and structured task execution for freelancers with undergraduate education, who are often required to manage multiple projects and client relationships independently.

Closely following this, learning and skill expansion and clarity of expression and communication both display similarly high importance levels (mean = 4.12). This pattern indicates a strong orientation towards continuous professional development and effective communication, reflecting the need to remain competitive in dynamic markets while ensuring clear coordination with clients and collaborators.

Additional competencies, including expertise within the professional domain and task prioritisation, also appear among the top-ranked skills (both with a mean importance of 4.10). Their presence suggests that technical proficiency and the ability to structure workloads efficiently are perceived as essential, albeit slightly secondary, capabilities within this educational group.

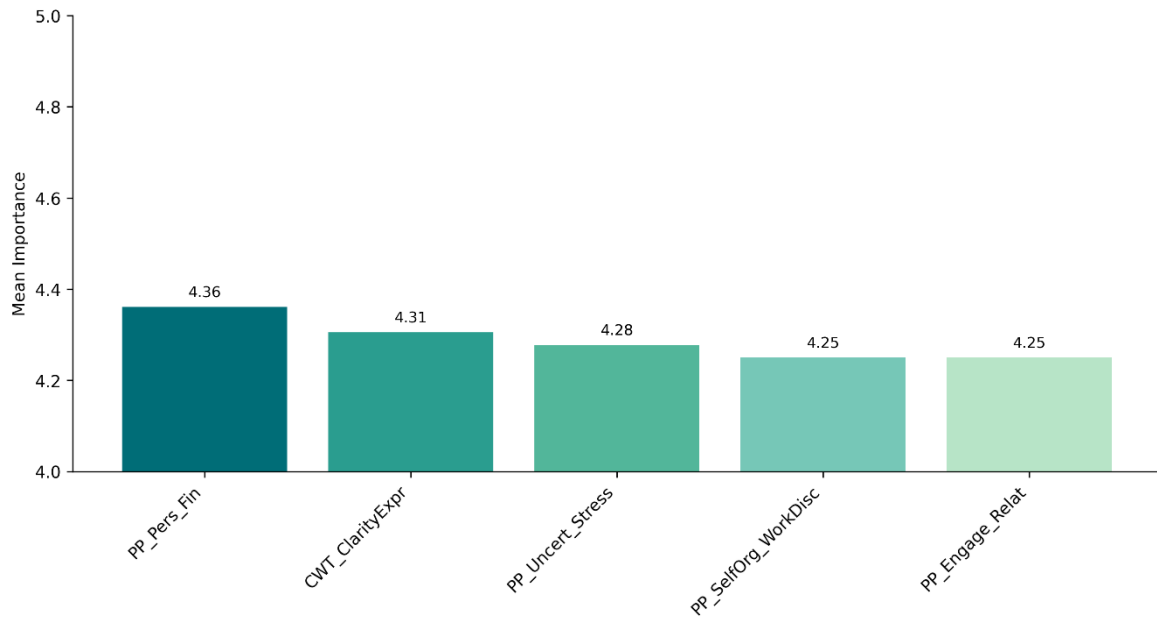


Figure 64. Top 5 skills by importance – Education level=master’s degree.

The competence profile of Spanish freelancers with a Bachelor’s degree emphasises disciplined self-management, continuous learning, and communication clarity rather than stress coping or problem-solving dominance. This configuration reflects a professional stage characterised by consolidation of core skills, proactive upskilling, and effective coordination, which together support sustainable freelance performance in competitive and knowledge-intensive contexts.

Doctorate or equivalent

Among Spanish freelancers holding a Doctorate or equivalent qualification, the most highly valued competence is learning and skill expansion, which records the highest mean importance score (4.43). This finding highlights a strong orientation towards lifelong learning, continuous knowledge updating, and intellectual adaptability, even at the highest levels of formal education. It suggests that advanced academic credentials do not diminish the perceived need for ongoing skill development in the rapidly evolving freelance market.

A second tier of competencies, self-organisation and work discipline, problem identification and solving, task prioritisation, and assertiveness and professional confidence, all display similarly high mean importance scores (4.29). This configuration reflects a balanced competence profile combining analytical capacity,

structured work management, and the ability to make and defend professional decisions, which is consistent with consultancy, expert advisory, and highly specialised freelance roles.

Notably, clarity of expression and communication, while important, does not emerge as the dominant competence within this group, distinguishing doctoral-level freelancers from those in older age cohorts or other educational categories. Instead, the emphasis lies on cognitive depth, strategic autonomy, and continuous learning, rather than primarily on relational or communicative skills.

The competence profile of Spanish freelancers with doctoral-level education reflects a mature professional orientation centred on knowledge renewal, analytical problem-solving, and disciplined autonomy. This pattern underscores the role of advanced freelancers as adaptive knowledge workers who must continuously update expertise while managing complex, high-responsibility projects independently.

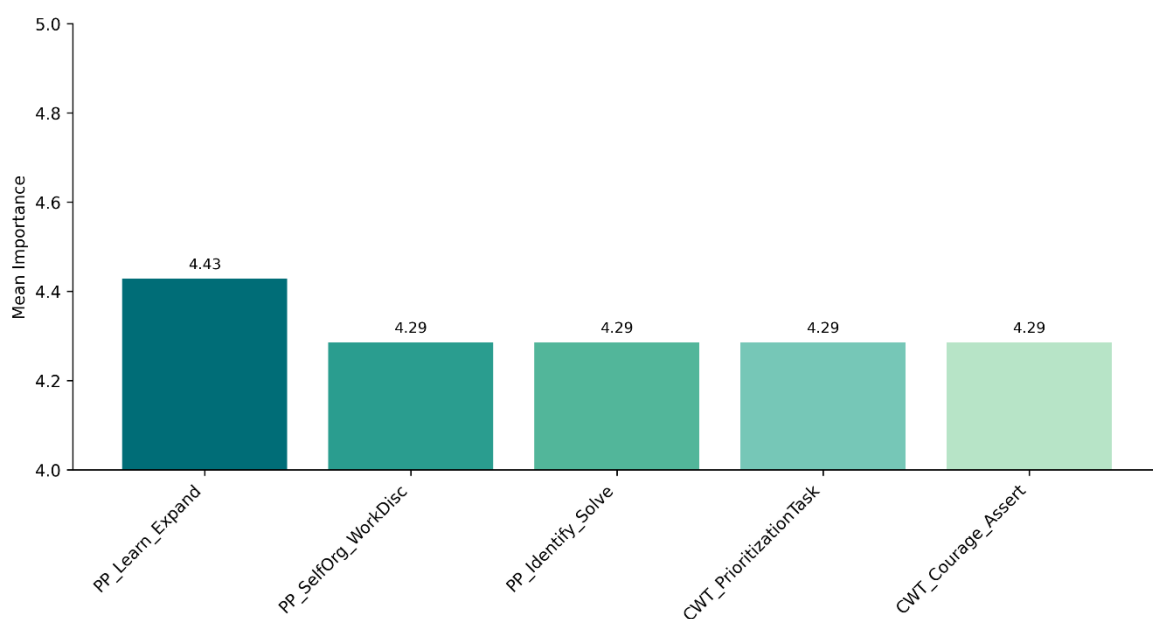


Figure 65. Top 5 skills by importance - Education level=doctorate or equivalent

Cross-education synthesis

Across education levels in the Spanish sample, self-organisation and work discipline and learning and skill expansion consistently emerge among the most highly valued competencies, indicating that disciplined autonomous work

management and continuous learning form a stable core competence set irrespective of formal educational attainment. These skills appear repeatedly across all educational categories, underscoring their central role in sustaining freelance performance in diverse professional and market contexts.

Beyond this shared core, clear education-based differentiation can be observed in competence prioritisation. Freelancers with lower levels of formal education (high school or less) place particular emphasis on self-management, relational engagement, and communication clarity, suggesting a reliance on organisational discipline and interpersonal effectiveness to compensate for more limited formal credentials and to secure work opportunities.

As educational attainment increases, competence profiles become more balanced and cognitively oriented. Freelancers holding a Bachelor's degree emphasise disciplined self-management alongside continuous learning and communication clarity, reflecting a consolidation of core professional skills required for competitive and knowledge-intensive freelance work. Among those with a Doctorate or equivalent, the strongest emphasis shifts towards learning and skill expansion, supported by analytical problem-solving, task prioritisation, and professional assertiveness, indicating a focus on knowledge renewal, strategic autonomy, and managing complex expert-oriented tasks.

The results suggest that while core freelance competencies remain stable across education levels, their functional role evolves with increasing academic attainment, from compensatory organisational and relational strategies at lower education levels to cognitively demanding, expertise-driven, and learning-intensive profiles at higher levels. These patterns provide essential context for interpreting education-based differences in competence gaps and offer a robust foundation for the design of education-sensitive training, reskilling, and upskilling interventions in subsequent analyses.

3.1.4 Top-ranked competencies by importance across years of experience as a freelancer

This subsection analyses the top competencies ranked by importance across different levels of freelance experience, highlighting how competence priorities evolve as freelancers progress from entry-level to highly experienced stages.

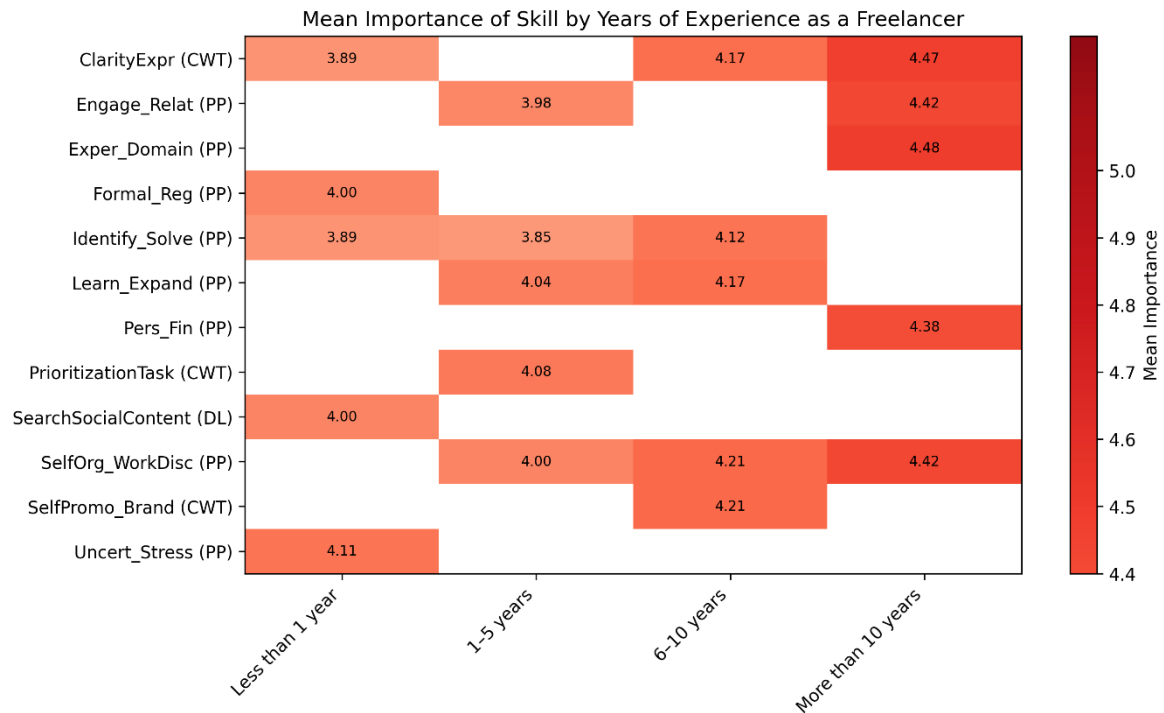


Figure 66. Mean importance of skill by years of experience as a freelancer.

Less than 1 year

Among Spanish freelancers with less than one year of experience, the results indicate a very narrow and clearly defined competence focus, reflecting the specific challenges of entry into freelance activity. In this group, the only competence for which valid data are available is coping with uncertainty and stress, which records a high mean importance score (4.11).

This finding suggests that, at the earliest stage of freelancing, newcomers primarily perceive emotional resilience and the ability to manage uncertainty as critical for sustaining their activity. Entering the freelance market often involves unstable income, irregular workloads, ambiguous client expectations, and limited

professional networks. As a result, the capacity to cope with stress and ambiguity appears to be perceived as a foundational competence that precedes the development of more operational, relational, or technical skills.

Given the absence of sufficient data for other competencies in this experience category, no further conclusions regarding competence prioritisation can be drawn for freelancers with less than one year of experience. This limitation underscores the highly transitional nature of the entry phase and highlights uncertainty management as a key enabling condition for early-stage integration into the freelance market.

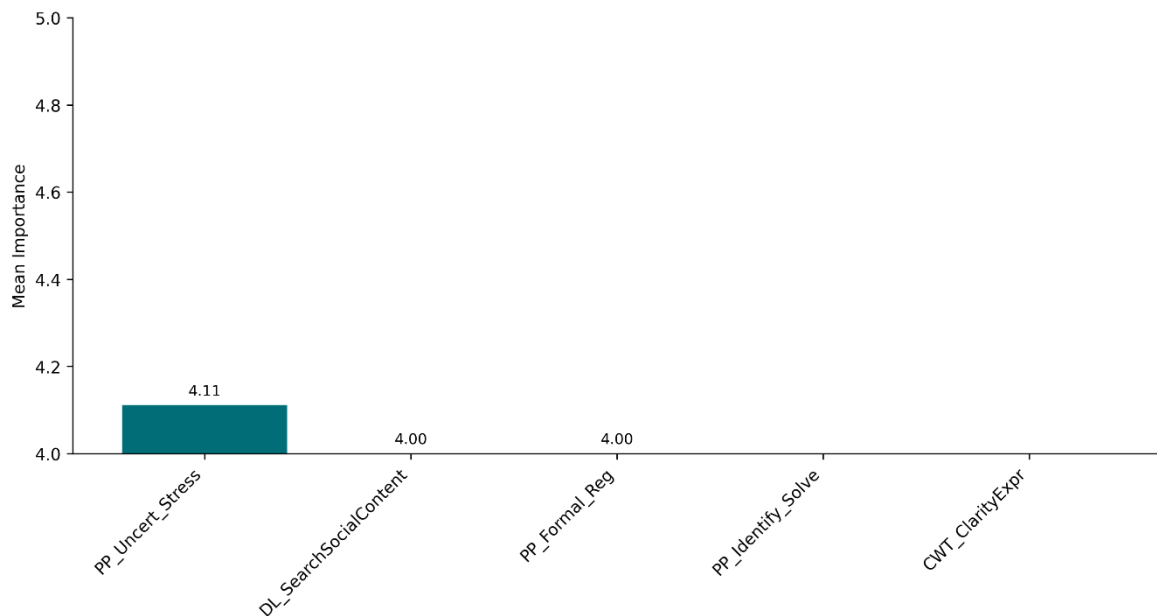


Figure 67. Top 5 skills by importance - Years experience freelancer=less than 1 year.

1-5 years

Among Spanish freelancers with 1-5 years of experience, the competence profile reflects an early stage of professional structuring and consolidation following initial market entry. In this group, the most highly valued competence is task prioritisation, which records the highest mean importance score (4.08). This finding indicates that, as freelancers gain initial experience, the ability to organise workloads, manage deadlines, and balance multiple projects becomes a central concern.

Closely following this, learning and skill expansion also emerges as a highly valued competence (mean = 4.04). This result suggests that freelancers in this experience

range remain strongly oriented towards continuous learning and upskilling, likely as a strategy to strengthen their competitive position and expand their range of services during the early years of freelance activity.

Given that no valid data are available for other competencies within this experience category, no further conclusions regarding self-organisation, problem-solving, or relational skills can be drawn for this group. Overall, the results indicate that freelancers with 1–5 years of experience primarily prioritise structuring their work effectively and continuing to develop their skills, reflecting a phase focused on stabilising routines and building a sustainable professional trajectory.

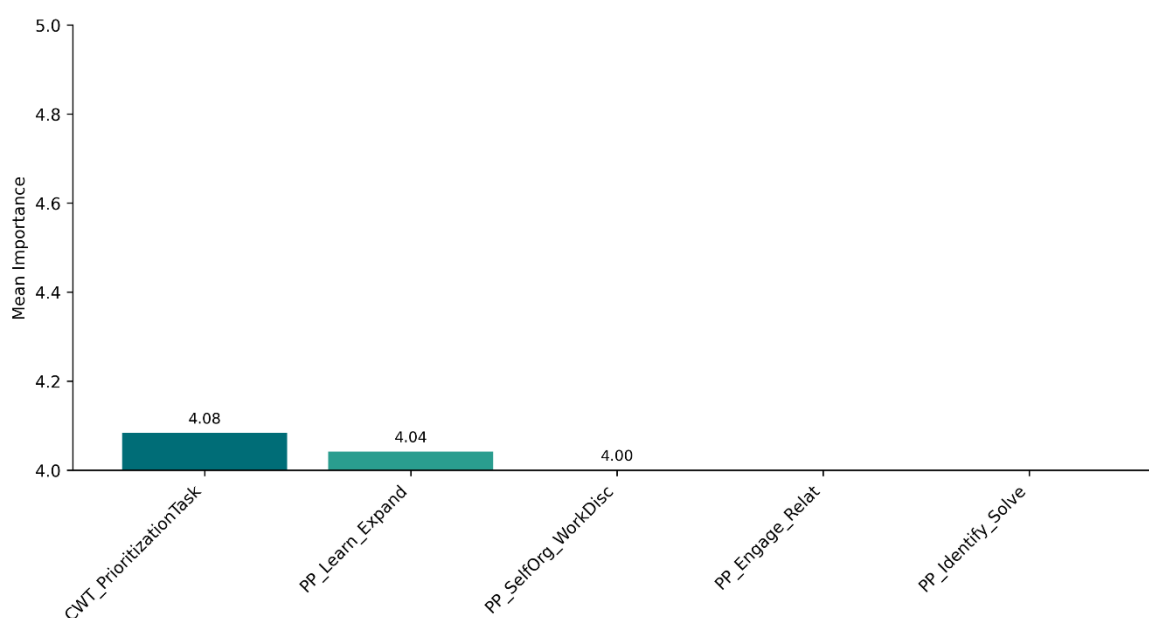


Figure 68. Top 5 skills by importance – Years experience freelancer=1-5 years.

6–10 Years

Among Spanish freelancers with 6–10 years of experience, the competence profile reflects a phase of professional consolidation and market positioning. The two highest-ranked competencies are self-organisation and work discipline and self-promotion and personal branding, both recording the highest mean importance scores (4.21). This indicates that freelancers at this stage place strong emphasis on maintaining structured, autonomous work practices while simultaneously reinforcing their professional visibility and competitive positioning in the market.

In addition, learning and skill expansion (mean = 4.17) continues to be highly valued, suggesting that continuous development remains an important strategy for sustaining relevance and adapting to evolving technologies, tools, and client demands. Clarity of expression and communication (mean = 4.17) also emerges as a key competence, reflecting the increasing importance of effective client interaction, expectation management, and the articulation of value propositions as freelancers handle more complex and long-term engagements.

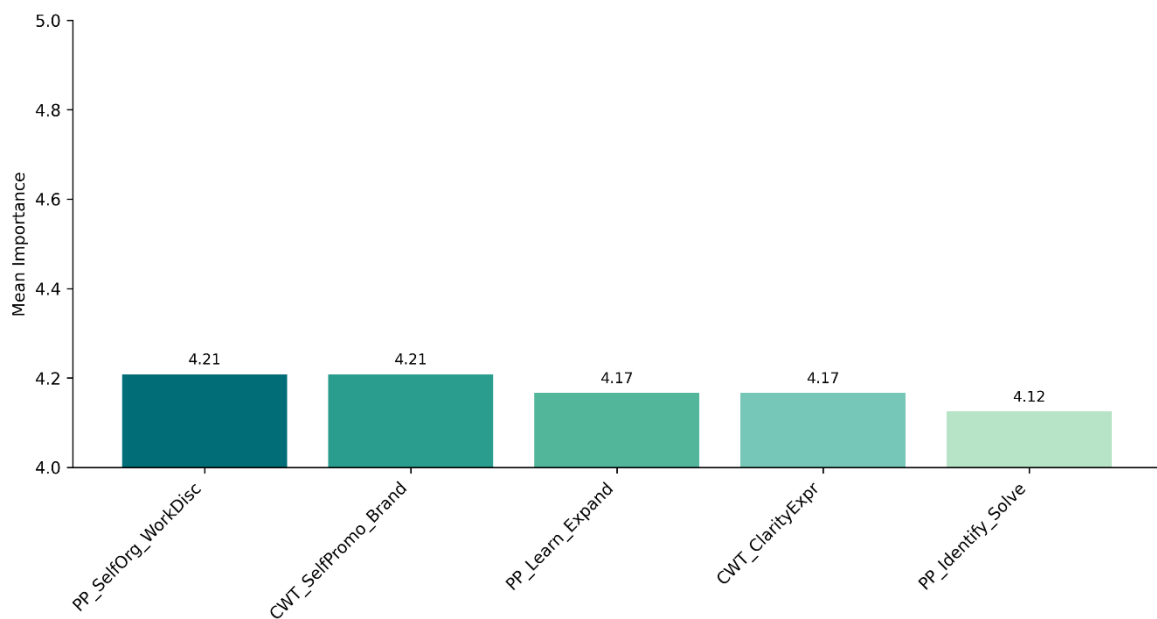


Figure 69. Top 5 skills by importance – Years experience freelancer=6-10 years.

The results suggest that freelancers with 6–10 years of experience prioritise a balanced combination of internal efficiency (self-organisation) and external market orientation (personal branding and communication), supported by ongoing learning. This competence profile is consistent with a mature stage of freelance careers, characterised by stable workflows, reputational concerns, and sustained professional growth rather than initial market entry or survival.

More than 10 years

Among Spanish freelancers with more than 10 years of experience, the competence profile clearly reflects a stage of advanced expertise and relational consolidation. The highest-ranked competence is expertise within the professional

domain (mean = 4.48), indicating that long-term success in freelancing is strongly associated with deep, specialised knowledge and recognised professional mastery. At this career stage, value creation is closely linked to expertise-based contribution rather than task execution alone.

Closely following, clarity of expression and communication emerges as the second most important competence (mean = 4.47), underscoring the central role of effective communication in advisory, coordination, and client-facing roles. Experienced freelancers are more likely to engage in complex projects that require translating expertise into clear recommendations, aligning expectations, and facilitating decision-making processes.

In addition, self-organisation and work discipline and the ability to maintain good business relationships (both with a mean importance of 4.42) remain highly valued. This combination highlights the importance of sustaining reliable work practices while nurturing long-term, trust-based client relationships. Rather than short-term project delivery, experienced freelancers appear to prioritise continuity, reputation, and relational capital.

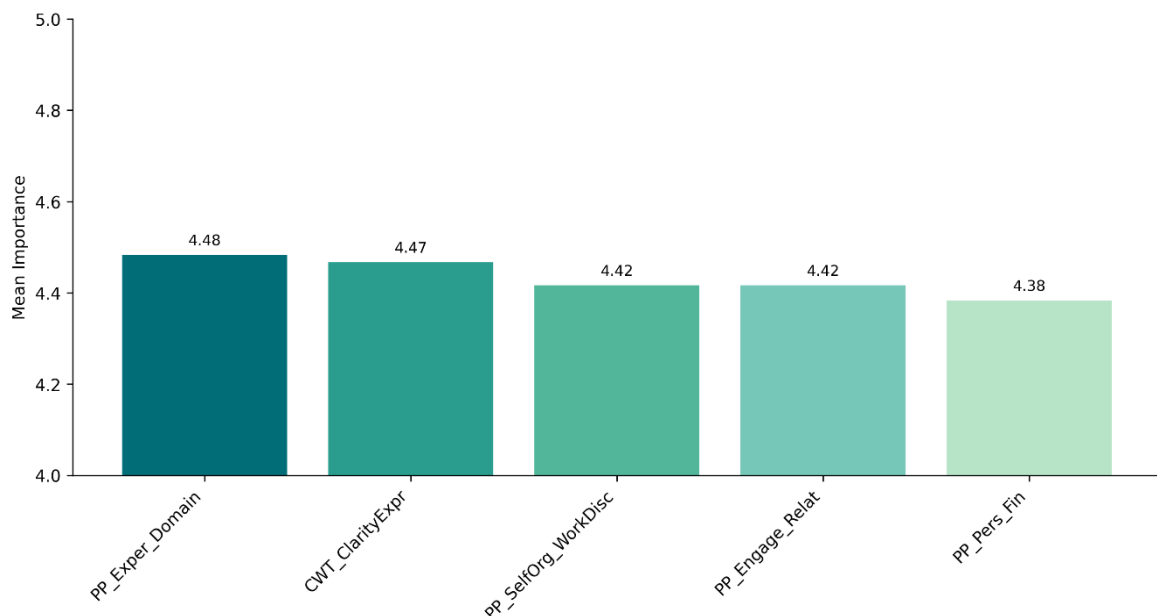


Figure 70. Top 5 skills by importance – Years experience freelancer=more than 10 years

The results suggest that freelancers with more than 10 years of experience operate in a phase characterised by expert authority, communication-intensive interaction, and stable professional relationships. This competence profile is consistent with senior freelance roles oriented towards consultancy, mentoring, strategic support, and long-term collaboration, where credibility, interpersonal effectiveness, and accumulated expertise are key determinants of sustained career success.

Cross-experience synthesis

Across freelance experience levels, the results reveal a clear and progressive evolution in competence priorities, rather than a single competence dominating all stages. In the early phase of freelancing (less than one year), the limited available evidence points to coping with uncertainty and stress as the most salient competence, indicating that initial success is strongly conditioned by freelancers' ability to manage ambiguity, emotional pressure, and the insecurities associated with market entry.

As freelancers accumulate 1–5 years of experience, priorities shift towards more operational and execution-oriented competences, particularly task prioritisation, learning and skill expansion, and self-organisation and work discipline. This stage reflects a consolidation phase in which freelancers learn to structure workloads, balance multiple projects, and build sustainable routines while continuing to invest in competence development.

In the mid-career stage (6–10 years), the competence profile expands to include a stronger market-facing orientation, with self-organisation and work discipline and self-promotion and personal branding emerging as the most important competences. Continuous learning and communication skills remain highly valued, suggesting that freelancers at this stage focus simultaneously on internal efficiency and external visibility to sustain competitiveness.

For freelancers with more than 10 years of experience, competence priorities clearly centre on expertise within the professional domain and clarity of expression and communication, supported by strong relationship management and disciplined work practices. This profile reflects a mature career stage characterised by advisory

roles, long-term client relationships, and reputation-based value creation, where deep expertise and effective communication outweigh purely operational concerns.

The findings indicate that freelance careers evolve from coping and operational discipline, through structuring and positioning, towards expert authority and relational capital. These patterns provide a nuanced framework for interpreting experience-based competence gaps and underscore the importance of designing career-stage-sensitive training and upskilling strategies, rather than one-size-fits-all interventions for freelancers.

3.1.5 Top-ranked competence by main freelancer activity

This subsection examines the top competencies ranked by importance for each main freelancer activity, highlighting how competence priorities vary across professional domains and reflect the specific demands of different types of freelance work.

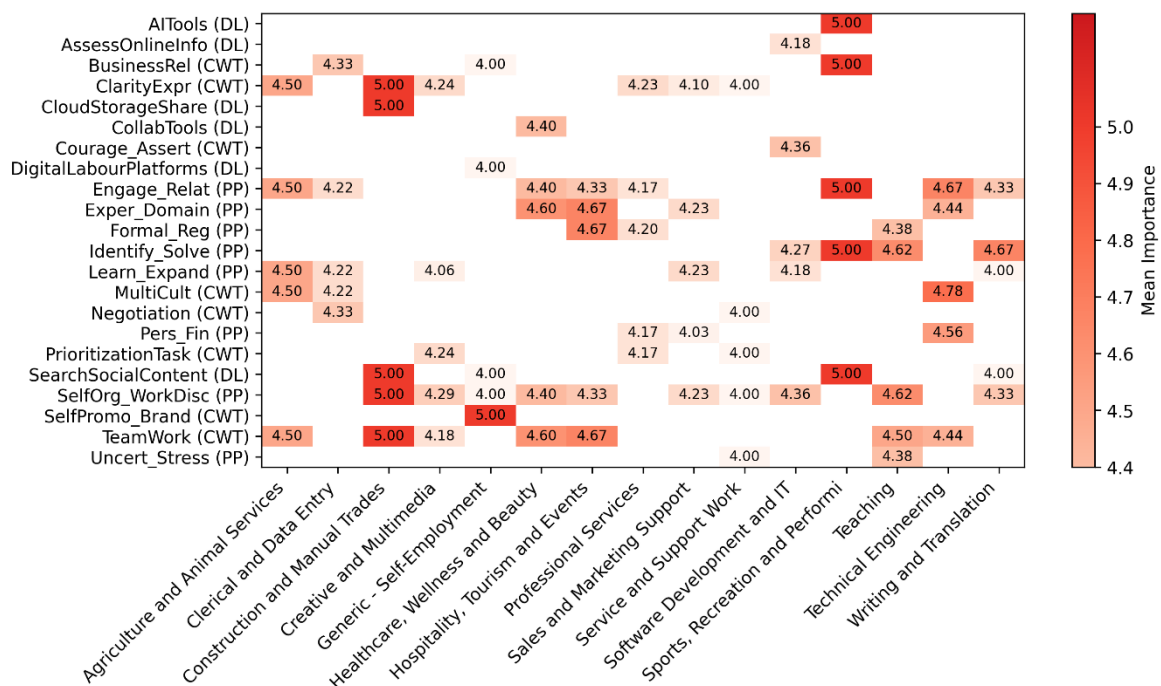


Figure 71. Main importance of skill by main freelancer activity.

Software development and IT

For Spanish freelancers active in Software Development and IT, the competence

profile highlights a strong emphasis on autonomy, decisiveness, and structured work practices. The two highest-ranked competencies are self-organisation and work discipline and courage and assertiveness, both recording the highest mean importance scores (4.36). This indicates that success in technical freelance roles is strongly associated with the ability to manage complex workloads independently, adhere to disciplined work routines, and take confident decisions in uncertain or high-responsibility contexts.

Problem identification and solving remains highly important (mean = 4.27), reflecting the continued relevance of analytical thinking, debugging, and solution design in software development and IT-related activities. However, its position behind self-organisation and assertiveness suggests that, beyond technical problem-solving, freelancers in this field place increasing value on execution reliability, accountability, and the confidence to propose, defend, and implement technical solutions.

In addition, critical assessment of online information and learning and skill expansion (both with mean scores of 4.18) appear among the top-ranked competencies. This highlights the importance of staying up to date with rapidly evolving technologies, frameworks, and tools, as well as the capacity to evaluate information quality in a fast-changing digital environment.

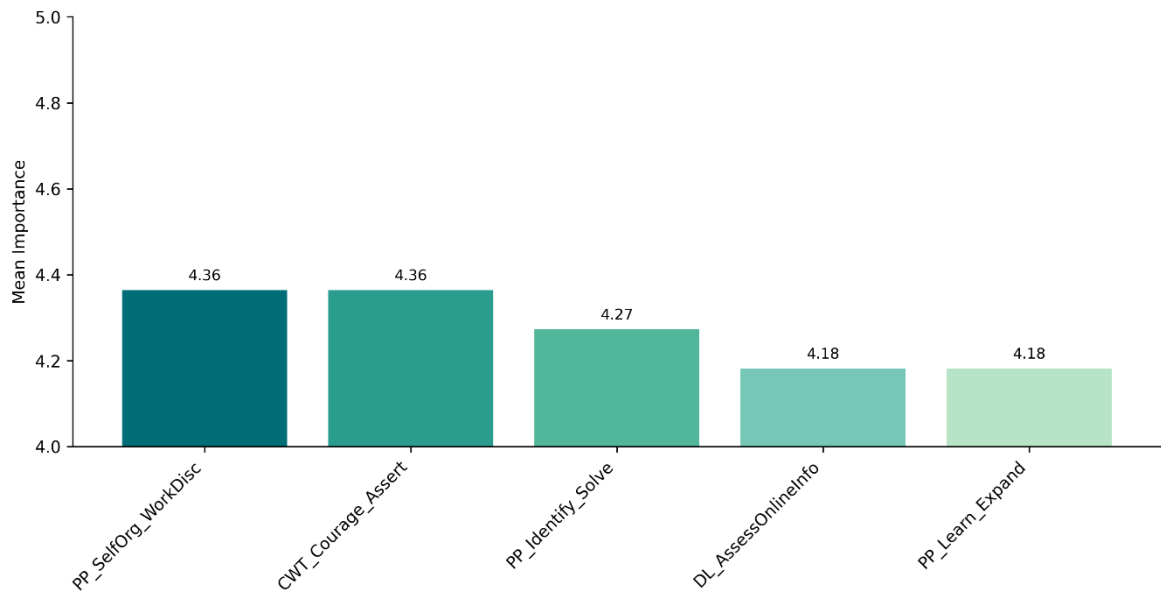


Figure 72. Top 5 skills by importance - Main freelancer activity=software development and IT.

The results indicate that freelance work in Software Development and IT is characterised not only by technical problem-solving demands, but also by a strong need for self-regulation, assertive professional behaviour, and continuous learning, reflecting the complexity and autonomy inherent in advanced digital and technology-driven freelance roles.

Professional services

For Spanish freelancers operating in Professional Services, the competence profile reflects a strong emphasis on communication, regulatory awareness, and structured professional interaction, rather than the dominance of a single technical skill. The highest-ranked competence is clarity of expression and communication (mean = 4.23), highlighting the central role of effective communication in conveying expert knowledge, managing client expectations, and supporting informed decision-making in advisory and consultancy-oriented activities.

Closely following, formal and regulatory knowledge emerges as the second most important competence (mean = 4.20). This finding underscores the importance of understanding legal, procedural, and institutional frameworks that shape professional services work, particularly in domains where compliance, standards, and formal requirements are integral to service delivery and professional credibility.

In addition, several competencies share a similar level of importance, including the ability to maintain good business relationships, personal financial management, and task prioritisation (each with a mean score of 4.17). This constellation of skills points to the need for sustained client relationships, sound financial self-management, and effective workload planning in freelance professional services.

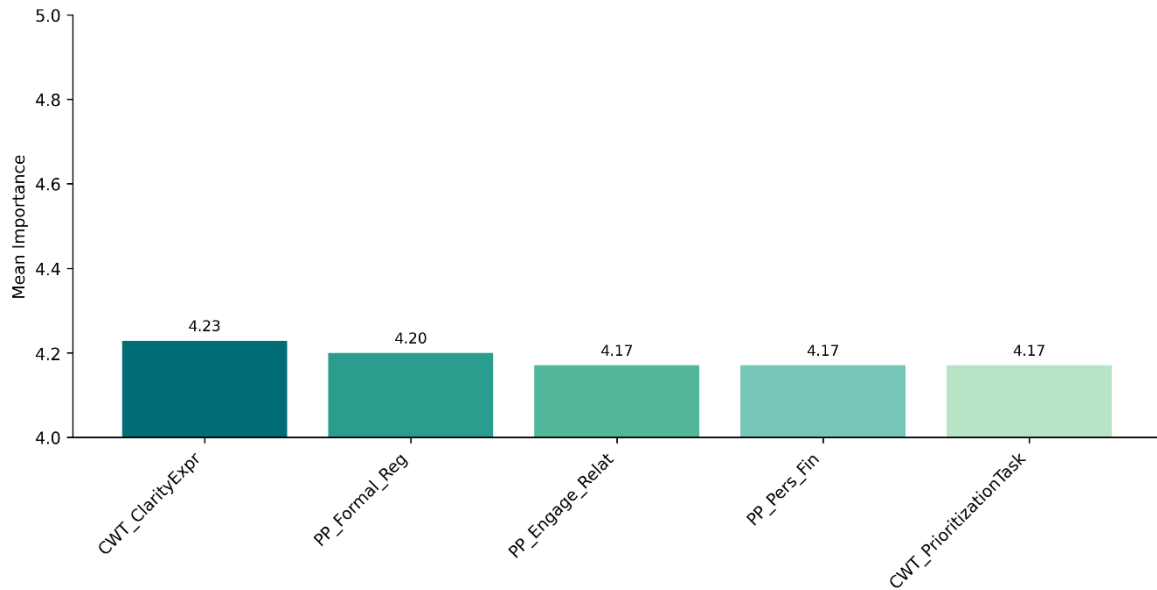


Figure 73. Top 5 skills by importance – Main freelancer activity=professional services.

The results indicate that success in Professional Services freelancing depends on a balanced and multidimensional competence profile, combining strong communication skills, regulatory literacy, relational competence, and disciplined task and financial management. Rather than relying on a single dominant capability, freelancers in this domain appear to create value through the integration of expert knowledge with clear communication and structured professional practices.

Creative and multimedia

For Spanish freelancers working in Creative and Multimedia activities, the competence profile places strongest emphasis on self-organisation and work discipline (mean = 4.29), indicating that managing time, deadlines, and project workflows is perceived as critical in creative freelance work. Despite the often flexible and project-based nature of creative activities, effective self-management appears essential for sustaining productivity and meeting client expectations.

Closely following, clarity of expression and communication and task prioritisation (both with a mean score of 4.24) emerge as key competencies. This highlights the importance of clearly interpreting client briefs, articulating creative concepts, and structuring tasks to balance multiple projects, revisions, and delivery timelines. Creative value creation thus relies not only on artistic capability, but also on effective communication and organised execution.

In addition, teamwork (mean = 4.18) features among the top competencies, reflecting the collaborative nature of many creative and multimedia projects, which often involve coordination with clients, agencies, or multidisciplinary teams. Learning and skill expansion (mean = 4.06) remains relevant, albeit slightly less prominent, suggesting that while continuous learning is important, operational and relational competencies are more immediately critical in day-to-day creative freelance work.

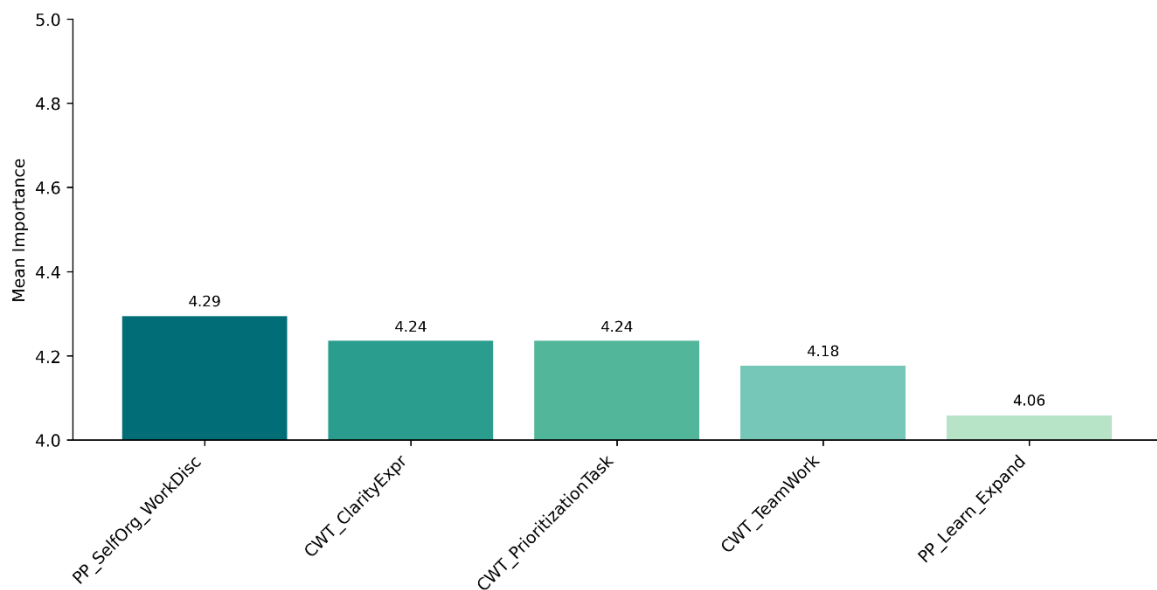


Figure 74. Top 5 skills by importance - Main freelancer activity=creative and multimedia.

The results indicate that freelance activity in Creative and Multimedia domains is underpinned by a strong organisational and communicative competence base, complemented by collaborative skills. Rather than being driven primarily by abstract problem-solving, creative freelance success appears to depend on the ability to

structure work, communicate effectively, and collaborate within dynamic project environments.

Technical engineering

For Spanish freelancers operating in Technical Engineering, the competence profile highlights a strong emphasis on interpersonal, contextual, and relational capabilities, alongside technical expertise. The highest-ranked competence is multicultural and cross-cultural competence (mean = 4.78), indicating that technical engineering freelancers frequently operate in internationalised environments, cross-border projects, or multicultural teams where the ability to navigate cultural differences is critical for effective collaboration and project success.

The second most important competence is the ability to maintain good relationships in business collaboration (mean = 4.67). This underscores the relational dimension of technical engineering work, where coordination with clients, suppliers, and multidisciplinary teams is essential, and where trust-based collaboration supports the successful execution of complex technical tasks.

In addition, personal financial management (mean = 4.56) emerges as a highly valued competence, reflecting the economic responsibility and risk management inherent in freelance engineering activity. This finding suggests that technical expertise alone is insufficient without the ability to manage income variability, pricing, and long-term financial sustainability.

Finally, teamwork and expertise within the professional domain (both with a mean importance of 4.44) remain central components of the competence profile. Together, these results indicate that technical engineering freelancers combine deep professional knowledge with strong collaborative, financial, and cross-cultural skills.

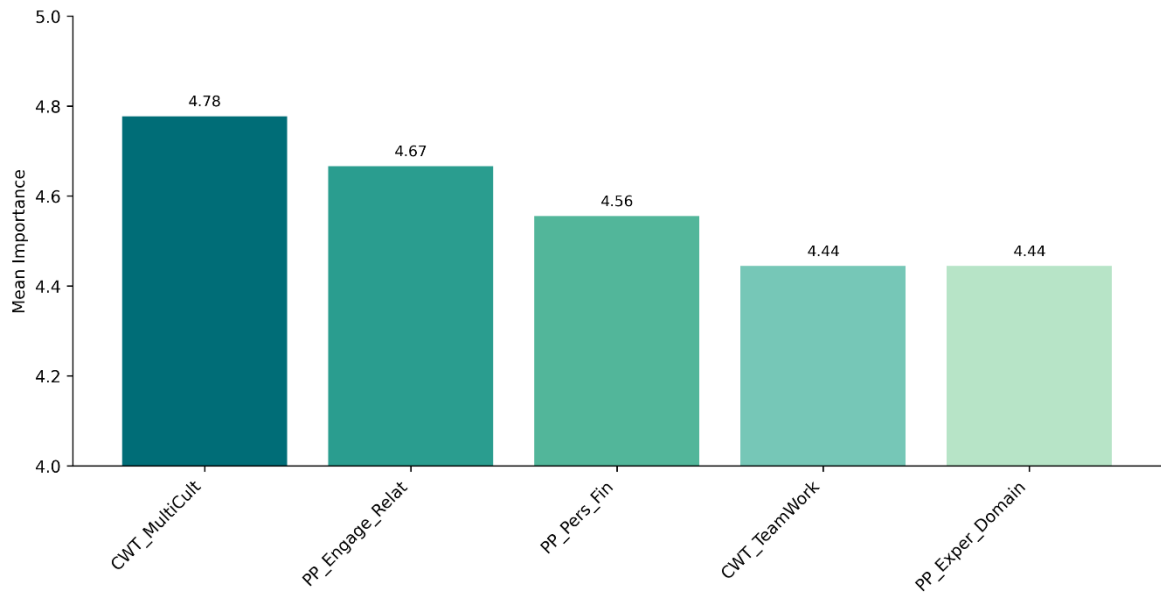


Figure 75. Top 5 skills by importance – Main freelancer activity=technical engineering.

The findings suggest that freelance work in Technical Engineering is characterised by a highly integrative competence profile, where technical mastery is embedded within multicultural, relational, and economically self-managed professional contexts. Rather than prioritising learning or problem-solving alone, success in this domain appears to depend on the ability to operate effectively across organisational, cultural, and interpersonal boundaries.

Teaching

For Spanish freelancers engaged in Teaching, the competence profile is strongly oriented towards structured work practices and analytical capability, rather than communication alone. The two highest-ranked competencies are self-organisation and work discipline and problem identification and solving, both with a mean importance score of 4.62. This indicates that freelance teaching activities require a high degree of autonomy, careful planning, and the ability to diagnose learning needs, adapt content, and respond to pedagogical challenges effectively.

Teamwork also emerges as a highly valued competence (mean = 4.50), reflecting the collaborative nature of many teaching contexts, which may involve coordination with institutions, platforms, other educators, or organisational stakeholders. Even in freelance teaching arrangements, instructional work is rarely fully isolated and often embedded in broader educational ecosystems.

In addition, coping with uncertainty and stress and formal and regulatory knowledge (both with a mean score of 4.38) are perceived as important supporting competencies. These findings suggest that freelance teaching involves managing variable workloads, contractual uncertainty, and compliance with institutional, curricular, or certification requirements.

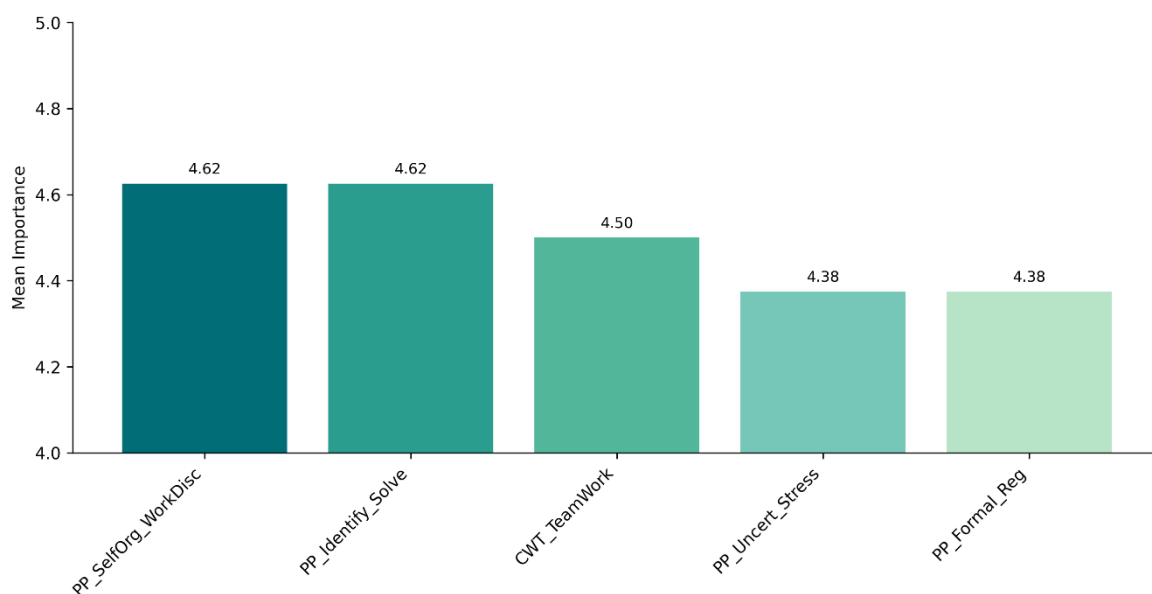


Figure 76. Top 5 skills by importance – Main freelancer activity=teaching.

The results indicate that success in freelance teaching is underpinned by a combination of disciplined self-management, adaptive problem-solving, and collaborative capacity, rather than communication skills alone. Teaching freelancers appear to operate in contexts that demand pedagogical judgement, organisational reliability, and resilience in the face of changing educational and contractual conditions.

Sales and marketing support

For Spanish freelancers providing Sales and Marketing Support, the competence profile emphasises a strong combination of operational discipline, continuous learning, and domain-specific expertise. Three competencies share the highest mean importance score (4.23): self-organisation and work discipline, learning and skill expansion, and expertise within the professional domain. This indicates that success in sales and marketing support roles relies on the ability to manage tasks

independently, stay up to date with evolving market tools and practices, and apply specialised knowledge effectively in client-facing activities.

Clarity of expression and communication also emerges as an important competence (mean = 4.10), reflecting the communicative nature of sales and marketing tasks, which often involve persuasion, coordination with clients or internal teams, and the articulation of value propositions. Although not ranked at the very top, effective communication remains a key enabler of performance in this domain.

Finally, personal financial management (mean = 4.03) appears among the top five competencies, highlighting the importance of pricing, income stability, and financial planning in freelance sales and marketing activities, which are frequently characterised by variable workloads and performance-based remuneration.

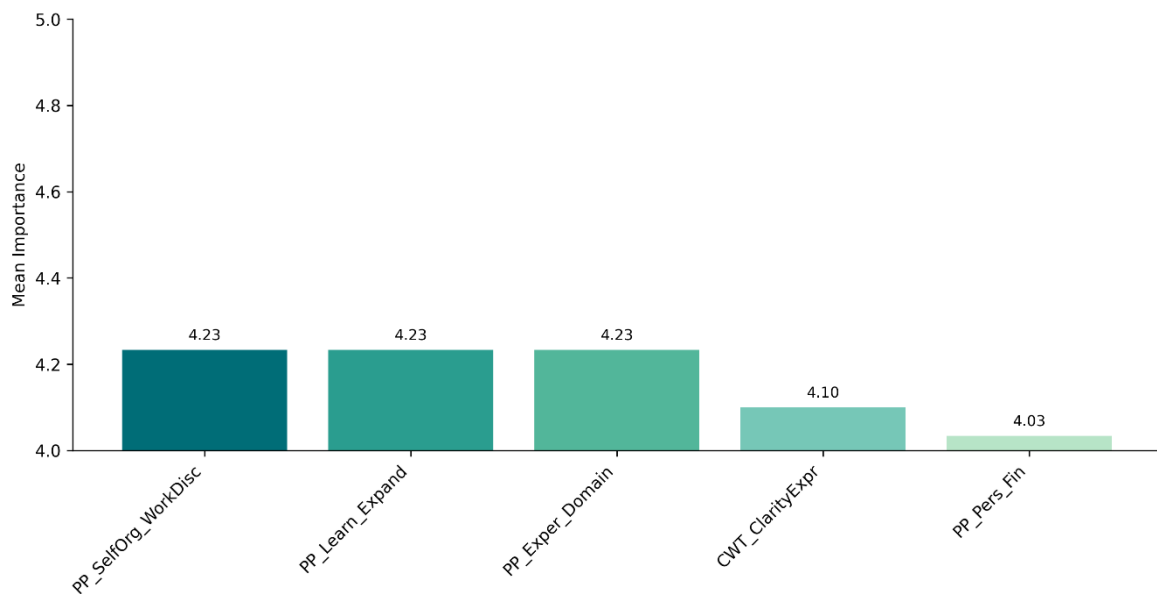


Figure 77. Top 5 skills by importance – Main freelancer activity=sales and marketing support.

The results suggest that freelance work in Sales and Marketing Support is underpinned by a balanced competence profile combining disciplined self-management, continuous professional development, and applied domain expertise, supported by communicative and financial self-management skills. This configuration reflects the dynamic, performance-oriented, and client-facing nature of sales and marketing freelance roles.

Writing and translation

For Spanish freelancers working in Writing and Translation, the competence profile places strongest emphasis on problem identification and solving (mean = 4.67), making it the most highly ranked competence in this activity. This suggests that writing and translation work is perceived not merely as linguistic execution, but as a cognitively demanding process that involves interpreting briefs, resolving ambiguities, adapting content to context, and responding to nuanced client requirements.

Closely following, self-organisation and work discipline and the ability to maintain good relationships in business collaboration (both with a mean score of 4.33) emerge as equally important competencies. This reflects the need to manage multiple assignments autonomously while sustaining effective and trust-based relationships with clients, editors, or agencies. Given the project-based and deadline-driven nature of writing and translation work, disciplined self-management and relational reliability are key enablers of sustained freelance activity.

In addition, learning and skill expansion and searching and assessing online content (both with a mean importance of 4.00) remain relevant supporting competencies. These findings highlight the importance of continuously updating language skills, subject-matter knowledge, and information literacy in a field where content domains, terminology, and digital resources evolve rapidly.

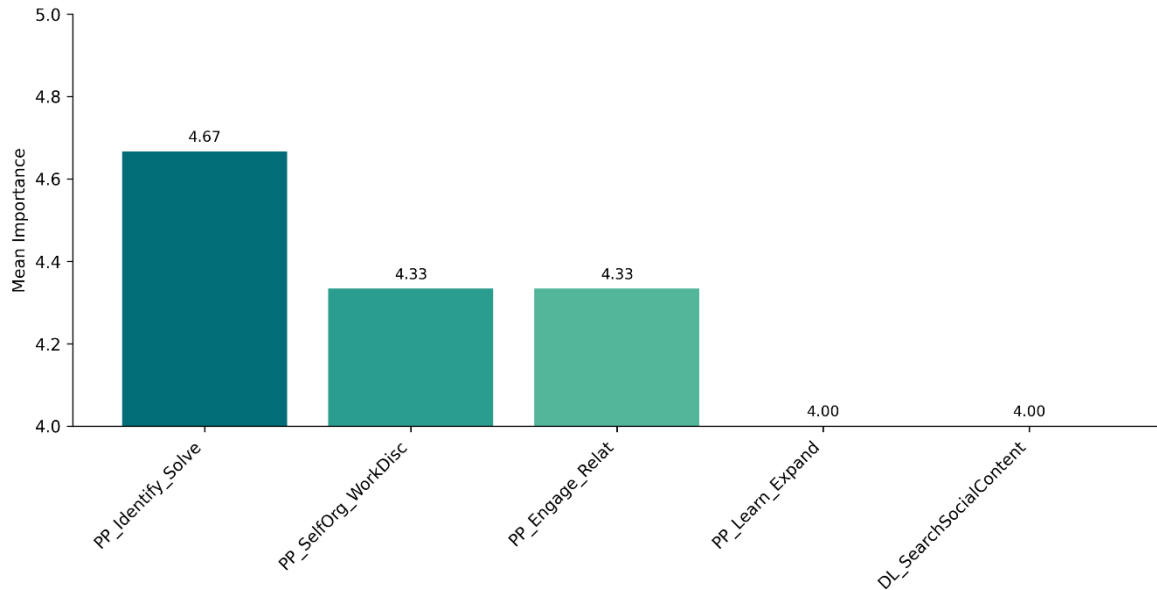


Figure 78. Top 5 skills by importance – Main freelancer activity=writing and translation.

The results indicate that freelance activity in Writing and Translation is underpinned by a strong cognitive and organisational competence base, complemented by relational skills and ongoing learning. Success in this domain appears to depend on the ability to solve content-related problems, manage work independently, and collaborate effectively with clients over time, rather than on technical language proficiency alone.

Construction and manual trades

Within the Construction and Manual Trades category, the results reveal an exceptionally concentrated competence profile, with all top-ranked competencies reaching the maximum mean importance score (5.00). This uniformity suggests that these skills are perceived as essential and non-substitutable prerequisites for effective freelance performance in this domain.

Self-organisation and work discipline stands out as a foundational competence, reflecting the need for reliability, punctuality, and effective task coordination in work contexts characterised by strict deadlines, safety requirements, and on-site execution. Freelancers in construction-related activities must manage their work autonomously while ensuring consistent compliance with project schedules and contractual commitments.

Equally critical is clarity of expression and communication, underscoring the importance of precise and unambiguous information exchange. In construction and manual trades, miscommunication can have significant operational and safety implications, making clear communication with clients, supervisors, and team members indispensable.

Notably, digital information-handling competencies are also rated at the highest level. Both searching and assessing online content and the use of cloud storage and file-sharing tools are considered essential, highlighting the increasing digitalisation of construction-related freelance work. These skills support access to technical documentation, plans, regulations, and real-time project updates, as well as efficient coordination across stakeholders.

Finally, teamwork is identified as a critical competence, reflecting the inherently collaborative nature of construction and manual trades. Freelancers in this domain rarely work in isolation and must integrate effectively into teams, coordinate with multiple actors, and contribute to collective task execution.

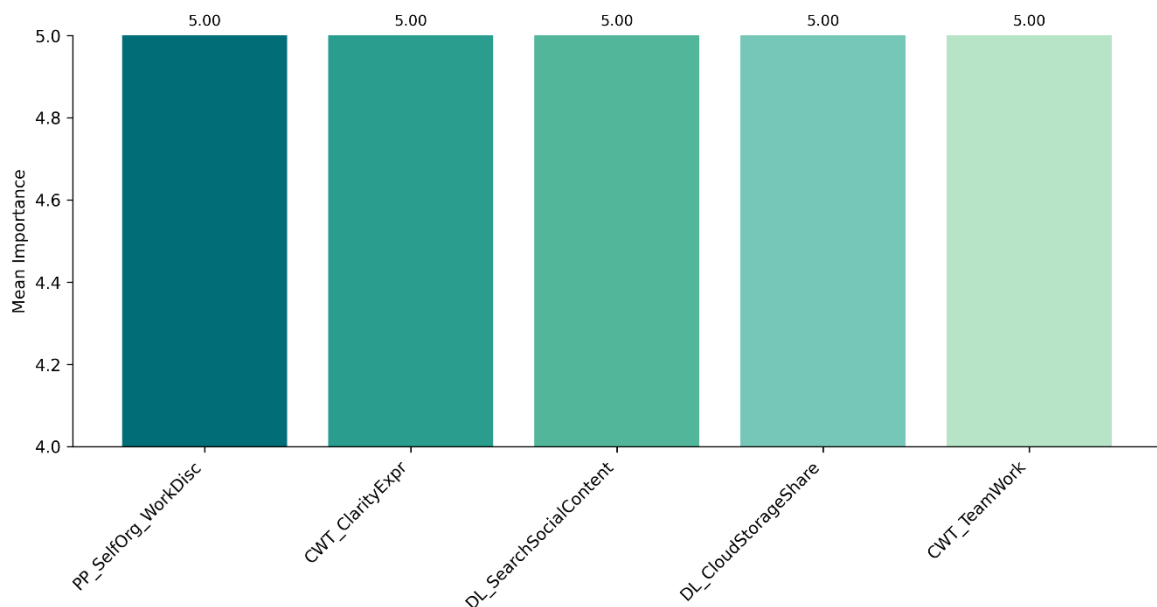


Figure 79. Top 5 skills by importance – Main freelancer activity=construction and manual trades.

The findings indicate that freelance activity in Construction and Manual Trades relies on a highly operational and coordination-oriented competence set, combining

disciplined self-management, clear communication, digital information practices, and strong collaborative capacity. Rather than emphasising abstract problem-solving or continuous learning, success in this sector appears to depend on the ability to function reliably and efficiently within tightly coordinated and increasingly digital work environments.

Clerical and data entry

For Spanish freelancers engaged in Clerical and Data Entry activities, the competence profile highlights a strong emphasis on relational and interaction-oriented skills, rather than purely technical or task-execution capabilities. The two highest-ranked competencies are the ability to keep good relationships in business collaboration and negotiation skills, both with a mean importance score of 4.33. This indicates that, even in clerical and data-related freelance work, success is closely linked to effective interaction with clients, supervisors, and organisational counterparts.

The prominence of negotiation skills suggests that freelancers in this domain frequently need to clarify task scopes, agree on workloads, deadlines, and compensation, and manage expectations within often fragmented or short-term contractual arrangements. Maintaining constructive professional relationships appears central to securing continuity of work and ensuring smooth workflow integration.

In addition, multicultural competence, engagement and relationship-building, and learning and skill expansion (all with mean scores of 4.22) further reinforce the relational and adaptive nature of clerical freelance work. These competencies point to the importance of operating effectively in diverse organisational contexts, sustaining ongoing professional engagement, and continuously updating procedural or digital skills as administrative tools and requirements evolve.

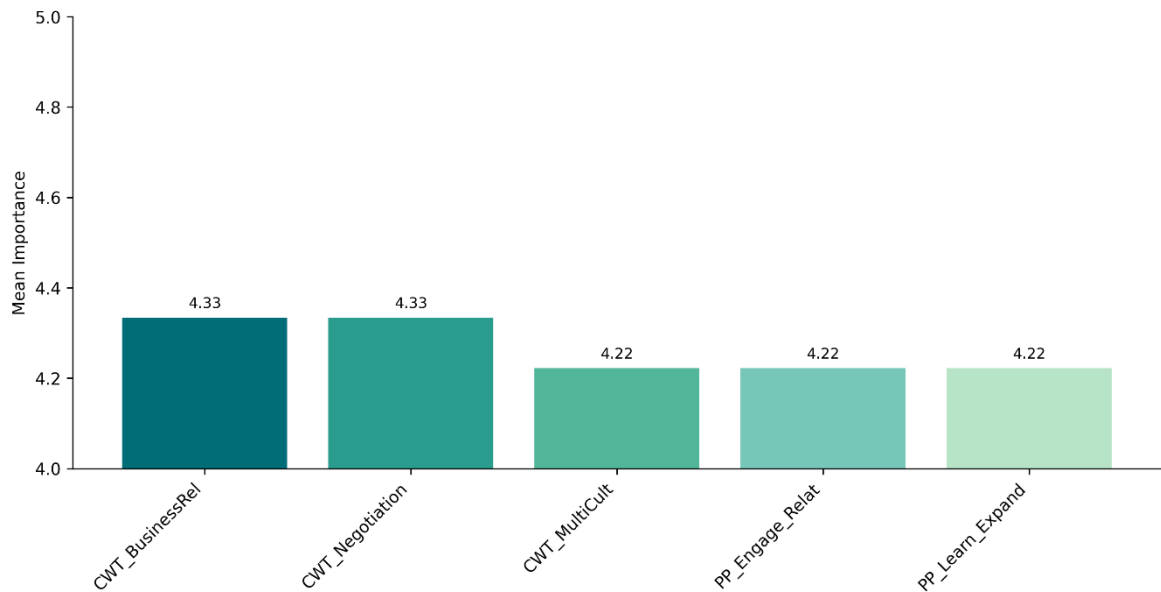


Figure 80. Top 5 skills by importance – Main freelancer activity=clerical and data entry.

The results indicate that freelance activity in Clerical and Data Entry is underpinned by a relationship-centred competence profile, where interpersonal effectiveness, negotiation capacity, and adaptability play a more decisive role than advanced technical expertise. This challenges the perception of clerical freelance work as purely routine, highlighting instead its embeddedness within organisational, relational, and culturally diverse work environments.

Hospitality, tourism and events

For Spanish freelancers operating in the Hospitality, Tourism and Events sector, the competence profile reflects the strongly operational, regulated, and collaborative nature of this activity. Three competencies share the highest mean importance score (4.67): domain-specific expertise, compliance with formal regulations, and teamwork.

The prominence of domain-specific expertise highlights the importance of practical knowledge related to hospitality operations, tourism services, or event management. Freelancers in this sector are expected to deliver high-quality services that meet industry standards and client expectations, often in real-time and customer-facing contexts.

Equally important is compliance with formal regulations, reflecting the regulatory intensity of hospitality and tourism activities. Health and safety rules, licensing

requirements, labour regulations, and sector-specific standards play a critical role, making procedural knowledge and regulatory adherence essential for freelance performance.

The high ranking of teamwork underscores the collaborative nature of work in this sector. Freelancers frequently operate within temporary teams, alongside venue staff, organisers, suppliers, and other service providers, requiring effective coordination and collective task execution.

In addition, self-organisation and work discipline and engagement and relationship-building (both with mean scores of 4.33) further reinforce the importance of reliability and interpersonal effectiveness. Freelancers must manage irregular schedules, peak workloads, and time-sensitive tasks while maintaining constructive relationships with clients and collaborators.

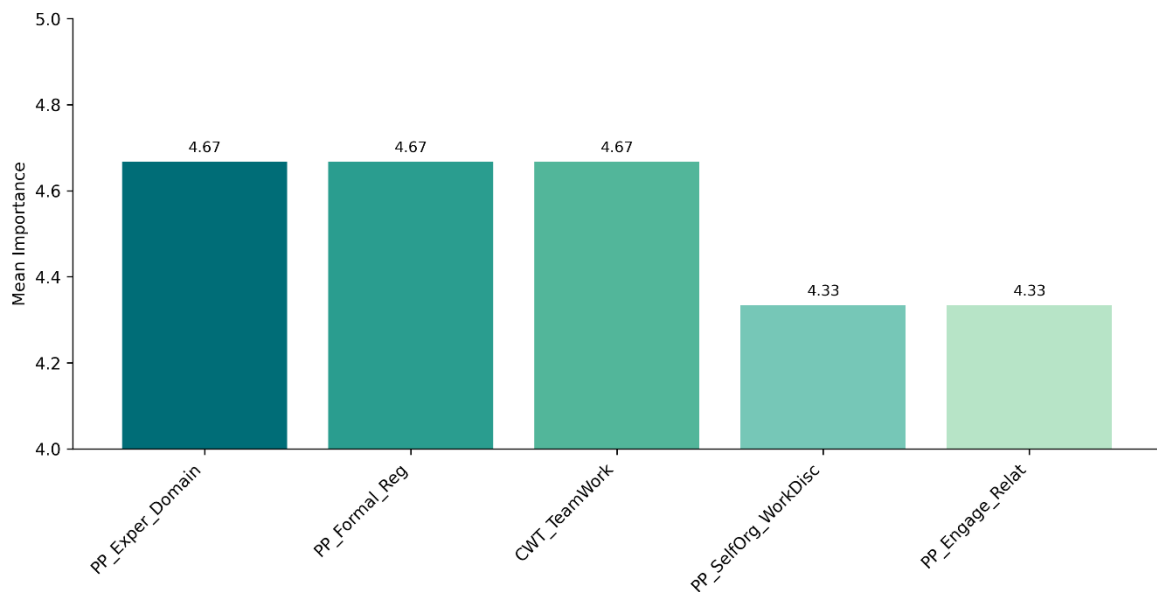


Figure 81. Top 5 skills by importance – Main freelancer activity=hospitality, tourism and events.

The results indicate that freelance work in Hospitality, Tourism and Events is characterised by a practice-oriented competence profile, where technical expertise, regulatory compliance, and teamwork form the core foundations of performance, supported by strong self-management and relational capabilities. This highlights the

operational intensity, and coordination demands inherent to freelance activity in this sector.

Generic / self-employment

For Spanish freelancers operating under Generic/Self-Employment arrangements, the competence profile highlights the central role of market positioning, autonomy, and digital visibility in sustaining freelance activity in non-specialised or broadly defined work contexts.

The most highly valued competence is self-promotion and personal branding, which attains the maximum mean importance score (5.00). This result underscores the critical importance of actively presenting one's skills, services, and professional identity in highly competitive and loosely structured freelance markets. In the absence of a clearly defined occupational niche, visibility and differentiation become key mechanisms for accessing opportunities.

A second group of competencies, self-organisation and work discipline, business relationship management, use of digital labour platforms, and searching and managing online content, share identical importance scores (4.00). Together, these competencies reflect the operational foundations of generic self-employment.

Self-organisation and work discipline remains essential for managing irregular workloads, setting priorities, and ensuring continuity in self-directed work environments. Business relationship management highlights the importance of networking, trust-building, and maintaining client relationships as primary sources of repeat work and income stability.

The prominence of digital labour platforms and online content management reflects the strong digital embeddedness of generic freelance activity. Freelancers in this category rely heavily on online platforms to access work, manage visibility, and source information, making digital navigation skills a core requirement.

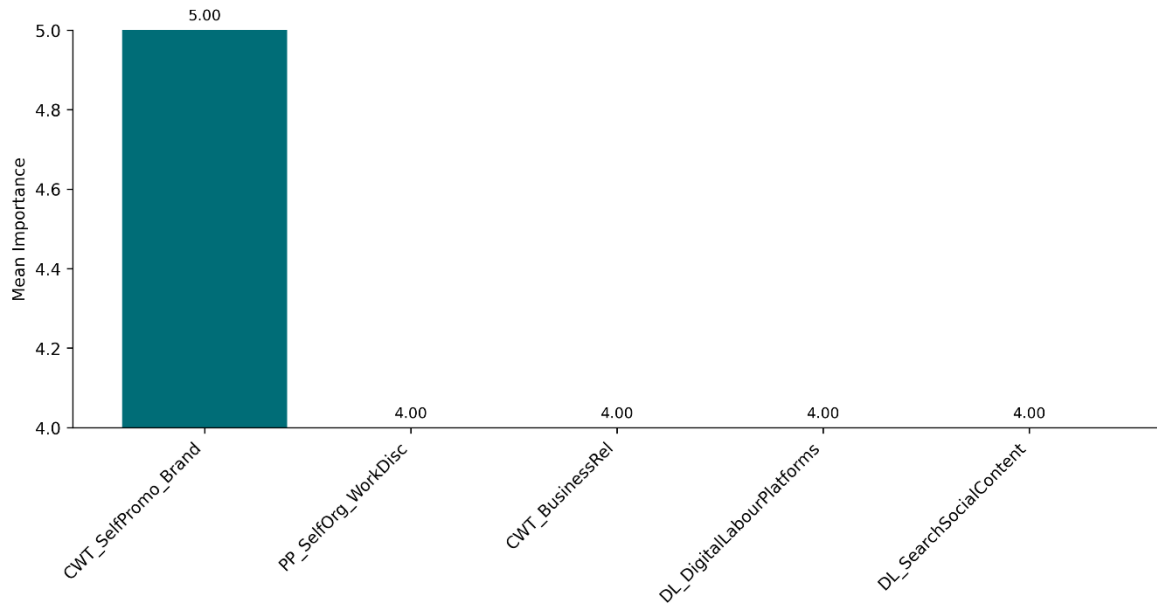


Figure 82. Top 5 skills by importance – Main freelancer activity=generic/self-employment.

The results indicate that Generic / Self-Employment is characterised by a market-driven competence profile, where personal branding, disciplined self-management, relationship-building, and effective use of digital infrastructures jointly underpin freelance sustainability. Unlike more specialised sectors, success in this category depends less on technical specialisation and more on visibility, adaptability, and continuous engagement with digital labour markets.

Cross-activity synthesis

Across freelance activities, distinct competence profiles emerge that reflect the nature of value creation in each domain. Problem identification and solving is most prominent in technical, engineering, and creative activities, where freelancers are primarily engaged to address complex, non-routine challenges. Learning and continuous skill expansion is particularly salient in knowledge-intensive fields, such as professional services, technical engineering, and writing-related activities, underscoring the need to adapt to evolving knowledge, tools, and client expectations.

In contrast, self-organisation and work discipline, together with communication and relational competences, play a central role in service-oriented, educational, sales-related, and generic self-employment activities, where coordination, client interaction, and autonomy are critical for sustained engagement. Overall, these

patterns highlight that competence prioritisation among freelancers is strongly activity-dependent, reinforcing the relevance of domain-specific training and upskilling strategies that account for the heterogeneous nature of freelance work.

3.1.6 Empirical analysis of importance-proficiency gaps

This subsection analyses the discrepancies between perceived importance and self-assessed proficiency across key competencies among Spanish freelancers. These importance–proficiency gaps indicate areas in which freelancers recognise a competency as critical for professional success, yet report comparatively lower levels of mastery, thereby highlighting priority domains for targeted upskilling and support measures.

The results reveal a clear gradient of competence gaps, with mean differences ranging from approximately 0.4 to 2 points on a five-point Likert scale. This pattern suggests that, while gaps are widespread, their magnitude varies substantially across competence domains.

The largest gaps are observed in competencies related to coping with uncertainty and stress and knowledge of formal and regulatory requirements, where mean differences approach 2 points. These findings reflect the structural pressures faced by Spanish freelancers, including income volatility, contractual uncertainty, and the complexity of tax and regulatory frameworks. Although these competencies are perceived as highly important for sustaining freelance activity, proficiency levels remain comparatively low.

Substantial gaps are also identified in self-promotion and personal branding and self-organisation and work discipline, with mean differences close to 1.8 points. These results highlight persistent challenges in market visibility, personal positioning, and effective management of autonomous work, despite the strong recognition of their relevance in competitive freelance markets.

A second tier of competencies exhibits moderate gaps, typically ranging between 1.2 and 1.5 points. This group includes communication and clarity of expression, task prioritisation, and negotiation skills. These competencies are essential for managing

multiple clients, coordinating projects, and securing favourable working conditions, yet freelancers report difficulties in fully meeting these demands.

By contrast, digital and technological competencies display smaller importance–proficiency gaps, generally below 1 point. Skills related to the use of digital labour platforms, cloud tools, collaboration platforms, and digital multitasking show relatively higher levels of proficiency in relation to their perceived importance. This suggests a comparatively mature digital skill base among Spanish freelancers, likely reflecting the widespread diffusion of digital tools in freelance work.

Finally, the smallest gap is observed in learning and continuous skill expansion, with a mean difference of around 0.4 points. This indicates a relatively strong alignment between perceived importance and proficiency, suggesting that Spanish freelancers feel reasonably capable of updating their skills, even if structural barriers may still exist.

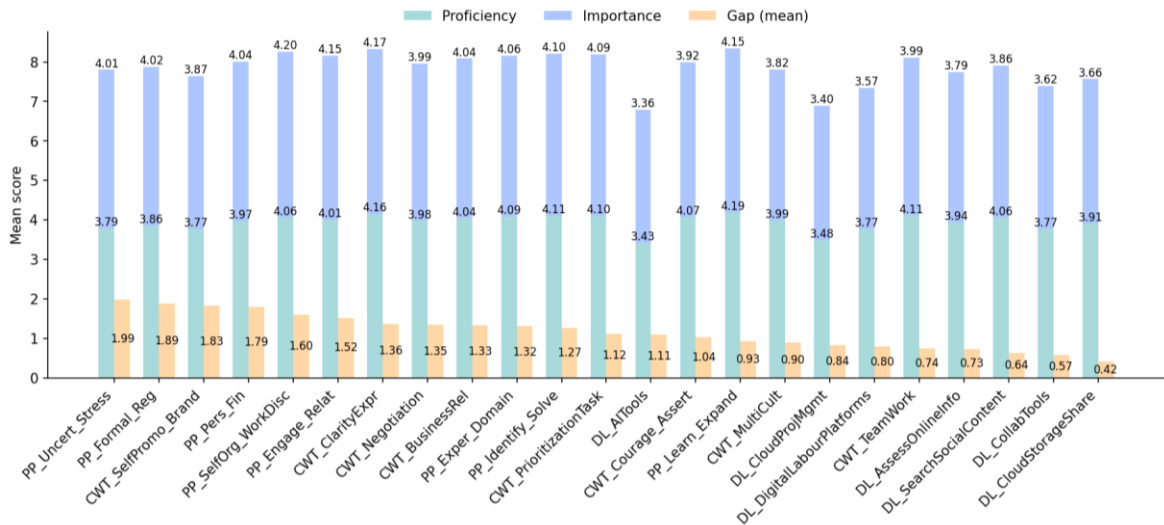


Figure 83. Proficiency/importance and gap per competence (global).

3.2 Companies

3.2.1 Top-ranked competencies by importance across main area of company activity

This subsection examines companies' assessments of competence importance, focusing on the highest-rated competencies by main area of company activity. By identifying competencies that companies consistently rate at very high or maximum importance levels, the analysis highlights critical demand-side expectations that shape freelancer selection, performance evaluation, and future skill requirements.

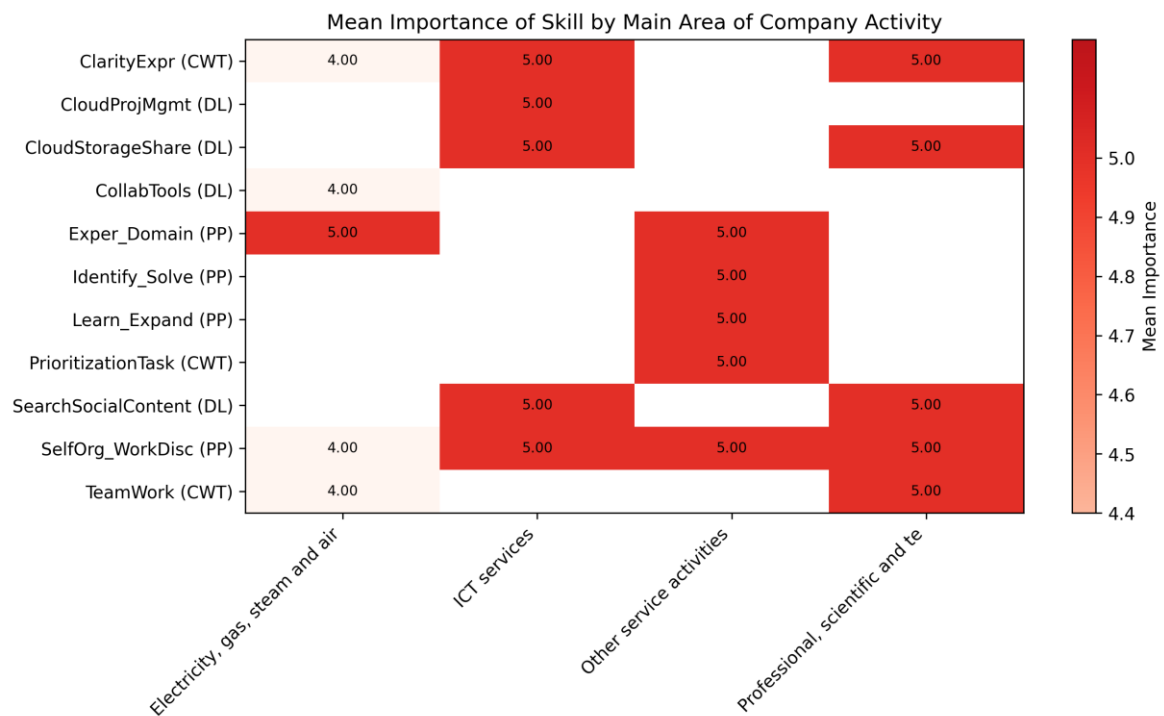


Figure 84. Mean importance of skill by main area of company activity.

The findings provide a necessary reference point for the subsequent computation of importance-proficiency gap scores, which will be formally derived and analysed in Section 5 (Gap Analysis), enabling a systematic comparison between company expectations and freelancers' self-assessed capabilities.

Electricity, gas, steam and air conditioning supply

In this sector, the number of competencies rated at the maximum importance level is relatively limited, indicating a more focused competence profile. The top-ranked competencies are:

- Expert knowledge in the domain
- Use of collaborative digital tools
- Clarity of expression and communication
- Self-organisation and work discipline
- Teamwork

This profile suggests that freelancers operating in energy-related activities are expected to combine strong technical expertise with the ability to collaborate effectively within structured projects. Clear communication, disciplined work practices, and teamwork are critical in environments characterised by operational complexity, safety requirements, and coordination with multiple stakeholders. Digital collaboration tools support these processes, enabling efficient coordination and information exchange.

ICT services

For companies operating in ICT Services, the table shows a strong concentration of competencies rated at the maximum importance level, reflecting the highly digital and knowledge-intensive nature of the sector. The most highly valued competencies include:

- Clarity of expression and communication
- Cloud project management tools
- Cloud storage and file-sharing tools
- Use of search engines, social media, and content platforms
- Self-organisation and work discipline

This competence set highlights the centrality of digital fluency, autonomous work management, and effective communication in ICT-related freelance work. Freelancers

are expected to operate independently while managing projects, sharing resources securely via cloud-based solutions, and communicating clearly with clients and teams in remote and digitally mediated environments.

Other service activities

In Other Service Activities, the competencies rated at the highest importance level reflect the client-oriented and problem-solving nature of these activities. The top-ranked competencies are:

- Expert knowledge in the domain
- Learning and continuous skill expansion
- Task prioritisation
- Self-organisation and work discipline
- Use of search engines, social media, and content platforms

This profile indicates that freelancers in service-oriented sectors must combine specialised expertise with strong organisational skills and a continuous learning orientation. The importance assigned to task prioritisation and lifelong learning reflects the need to adapt to diverse client demands, manage multiple projects simultaneously, and remain competitive in dynamic service markets.

Professional, scientific and technical activities

For Professional, Scientific and Technical Activities, the results reveals the broadest and most demanding competence profile, with a wide range of competencies rated at the maximum importance level:

- Clarity of expression and communication
- Cloud project management tools
- Cloud storage and file-sharing tools
- Use of search engines, social media, and content platforms
- Self-organisation and work discipline
- Teamwork

This pattern reflects the highly collaborative, knowledge-driven, and digitally intensive nature of professional and scientific freelance work. Freelancers are expected not only to possess advanced technical or scientific expertise, but also to collaborate effectively within teams, manage complex projects through digital platforms, and communicate clearly with clients, peers, and institutions.

The results reveal that while self-organisation and communication emerge as cross-cutting priorities across all sectors, the relative importance of digital tools, continuous learning, and teamwork varies according to sector-specific requirements. These findings underline the need for sector-sensitive training and upskilling strategies, rather than one-size-fits-all approaches, when addressing competence development in the Spanish freelance ecosystem.

3.2.2 Top-ranked competencies by importance across company size

This subsection analyses the competencies that companies in Spain rate as highly important, disaggregated by company size. Given the structure of the Spanish sample, the analysis focuses exclusively on micro-enterprises (1–9 employees), which constitute the dominant organisational category in the dataset.

Rather than absolute maximum scores, the results show a concentration of very high importance ratings, with mean values ranging between 4.6 and 4.8 on a five-point Likert scale. This pattern reflects the specific expectations of micro-enterprises, which typically operate with limited internal resources and rely heavily on freelancers as flexible and strategically relevant contributors.

The findings indicate that competence expectations in Spanish micro-enterprises are shaped by the need for autonomous task execution, effective communication, and immediate value creation, rather than by highly differentiated role structures associated with larger organisations. As such, freelancers are expected to combine strong self-management capabilities with domain expertise and adaptability.

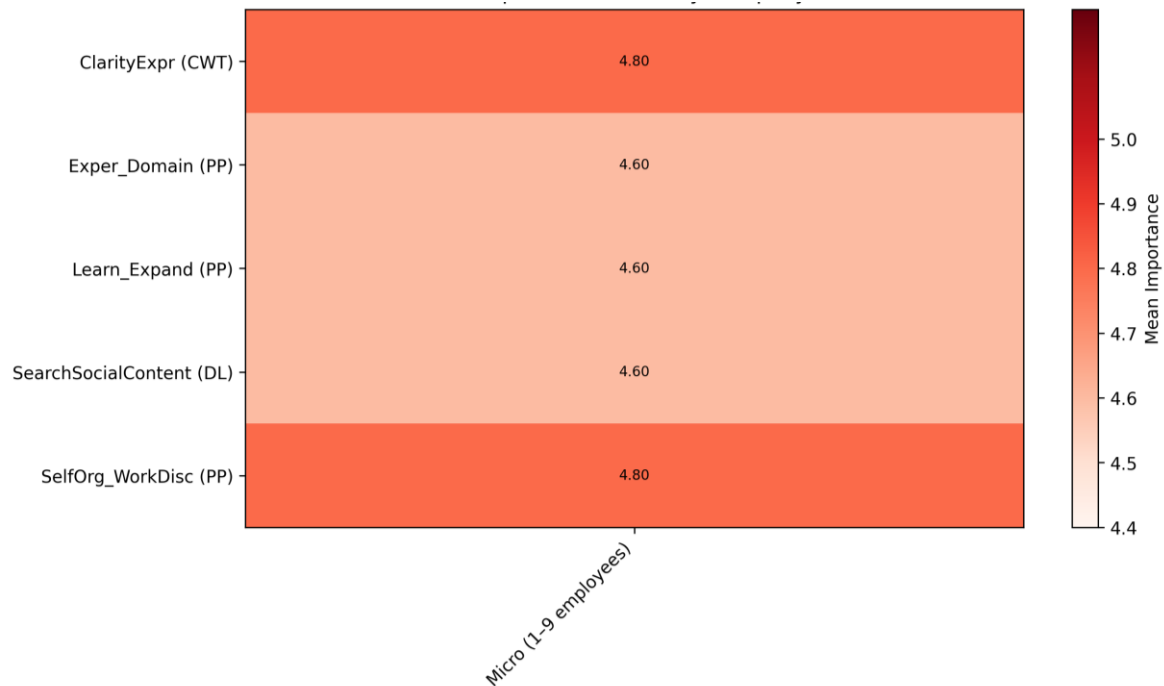


Figure 85. Mean importance of skill by company size.

Micro enterprises (1–9 employees)

For micro-enterprises (1–9 employees) in Spain, the analysis shows a high concentration of importance ratings at very elevated levels, with mean scores ranging between 4.6 and 4.8 on a five-point Likert scale. This indicates strong expectations regarding freelancers' ability to operate autonomously, contribute strategically, and integrate smoothly into very small organisational structures.

The competencies receiving the highest importance ratings are:

- Self-organisation and work discipline (Mean importance = 4.8)
- Clarity of expression and communication ($\mu = 4.8$)
- Expert knowledge in the domain ($\mu = 4.6$)
- Learning and continuous skill expansion ($\mu = 4.6$)
- Use of search engines, social media, and content platforms (μ importance = 4.6)

This competence profile reflects the structural characteristics of Spanish micro-enterprises, which typically operate with limited resources, flat hierarchies, and high

dependence on external expertise. Freelancers working with these firms are expected to manage their tasks independently, communicate clearly and efficiently, and provide immediate value through specialised knowledge.

The strong emphasis on self-organisation and communication highlights the absence of formal coordination mechanisms in micro-enterprises, making freelancers' autonomy and reliability particularly critical. At the same time, the importance assigned to continuous learning suggests that micro-enterprises value freelancers who can adapt quickly to changing needs and contribute updated knowledge without requiring extensive onboarding or supervision.

Finally, the relevance of digital information and content platforms underlines the role of freelancers in supporting visibility, market access, and information gathering, especially in contexts where micro-enterprises lack dedicated marketing or communication functions.

The results indicate that in Spanish micro-enterprises, freelancers are not perceived as peripheral service providers, but rather as highly integrated contributors, expected to combine autonomy, expertise, adaptability, and effective communication within compact and dynamic organisational environments.

3.2.3 Empirical analysis of importance-proficiency gaps

This subsection analyses the competencies for which Spanish companies report the largest discrepancies between perceived importance and freelancers' observed or expected proficiency. These importance–proficiency gaps capture areas where companies assign high strategic or operational relevance to specific skills, yet perceive freelancers' current proficiency levels as insufficient, thereby signalling demand–supply mismatches within the Spanish freelancing market.

The analysis identifies thirteen competencies with the most pronounced gaps, with mean differences ranging from approximately 0.6 to 3.2 points on a ten-point scale. This wide dispersion indicates that, while gaps are present across most competence domains, their magnitude varies considerably depending on the nature of the skill.

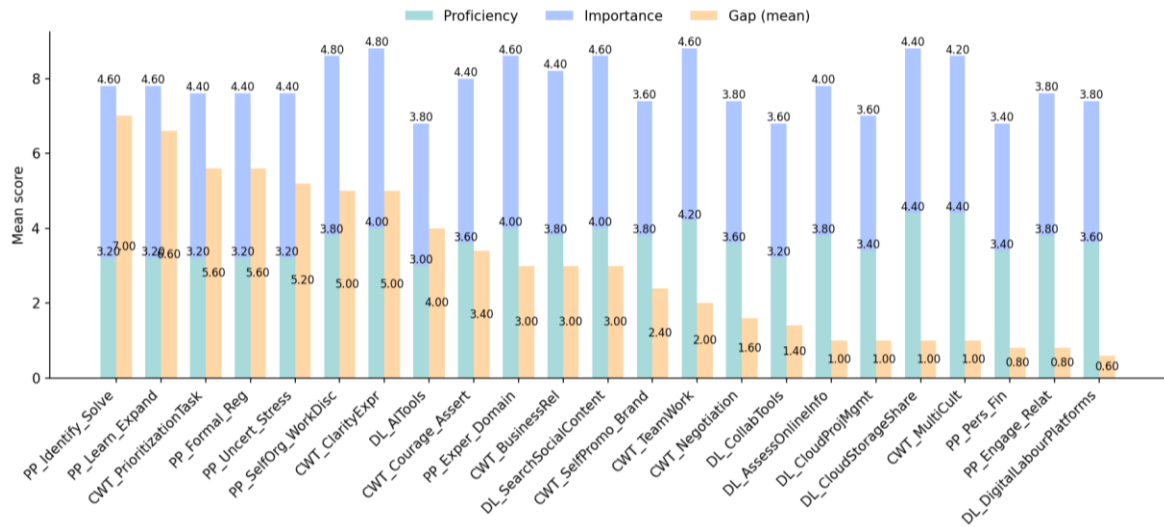


Figure 86. Proficiency/importance and gap per competence (global).

The largest gap is observed in the use of AI tools, with a mean gap exceeding 3 points. This result suggests that Spanish companies increasingly recognise AI-related competencies as critical for productivity, competitiveness, and innovation, while perceiving that freelancers' practical proficiency has not yet kept pace with these rapidly evolving expectations. The finding reflects the accelerated diffusion of AI technologies and the uneven adoption of AI skills within the freelance workforce.

Several collaborative and interpersonal competencies also exhibit substantial gaps, including teamwork, ability to keep good relationships in business collaboration, and clarity of expression and communication, with gap values typically around 3 points. Although these competencies are considered essential for the effective integration of freelancers into organisational workflows, the observed gaps point to persistent challenges in coordination, mutual understanding, and relationship management, particularly in remote or digitally mediated work settings.

A further cluster of gaps relates to organisational and workflow-related competencies. Notable discrepancies are identified in the use of collaborative digital tools, use of cloud storage and file-sharing tools, and task prioritisation, with gaps generally ranging between 2 and 3 points. These findings indicate that companies expect freelancers to operate seamlessly within digitally coordinated environments, yet perceive shortcomings in the consistent, efficient, or advanced use of such tools and practices.

A significant gap is also evident in learning and continuous skill expansion, with a mean difference close to 3 points. While companies strongly value freelancers' capacity to update skills and adapt to changing technological and market requirements, they perceive limitations in freelancers' ability to engage systematically in ongoing learning. This may be linked to time constraints, cost barriers, or the absence of structured learning pathways within freelance careers.

Regulatory and governance-related knowledge represents another area of concern. The gap observed for knowledge of formal and regulatory requirements (around 2.5–3 points) suggests that companies attach high importance to compliance, contractual awareness, and regulatory understanding, yet do not consistently observe adequate proficiency among freelancers. Such gaps may increase organisational risk and transaction costs.

Finally, several market-facing and self-management competencies display pronounced gaps, including assertiveness and confidence in expressing viewpoints, negotiation skills, self-promotion and personal branding, and self-organisation and work discipline, with gaps typically between 2.5 and 3.2 points. Together, these discrepancies indicate that Spanish companies expect freelancers to engage proactively, negotiate effectively, manage themselves reliably, and clearly communicate their value, while perceiving uneven performance across these critical dimensions.

The results highlight that importance–proficiency gaps in Spain are not confined to technical or digital skills alone, but extend strongly into interpersonal, organisational, and self-management domains. These findings provide a robust empirical basis for prioritising targeted upskilling initiatives and inform the subsequent Gap Analysis section, where these discrepancies will be formally synthesised and operationalised.

Synthesis and subsequent analysis

Taken together, the Spanish results reveal a clear concentration of importance–proficiency gaps across three interrelated competence domains.

First, digital and AI-related competencies emerge as a primary source of mismatch. In particular, the use of AI tools displays the largest gap, reflecting the

rapid rise in companies' expectations regarding AI-enabled productivity and innovation, while freelancers' practical proficiency has not yet fully adapted to these demands. This highlights a critical lag between technological diffusion and skill acquisition in the Spanish freelance market.

Second, substantial gaps are identified in collaborative, communicative, and organisational competencies, including teamwork, relationship management, clarity of expression, task prioritisation, and the use of collaborative and cloud-based digital tools. These discrepancies indicate that, beyond technical expertise, Spanish companies place strong emphasis on freelancers' ability to integrate smoothly into coordinated workflows, communicate effectively, and operate reliably within digitally mediated organisational environments.

Third, self-management and market-interaction competencies also show pronounced gaps. Skills related to self-organisation and work discipline, negotiation, self-promotion and personal branding, and assertiveness are perceived as highly important, yet insufficiently developed. This suggests that companies expect freelancers to function as proactive, autonomous, and market-aware actors, while observing uneven performance in these dimensions.

In the following section, these discrepancies will be formalised through the computation of a competence gap score, defined as the difference between companies' importance ratings and perceived proficiency levels for each skill. This score will serve as a core analytical input for Section 5 – Gap Analysis, enabling the systematic identification of priority areas for targeted training initiatives, upskilling strategies, and policy interventions from the perspective of Spanish companies.

4 Cross-tabulation analysis of competency gaps (χ^2 Tests)

Within this section of the report, the results of the Chi-square tests conducted on the collected data are presented, in accordance with the defined methodological guidelines. The analysis was carried out on the freelancers' dataset, as the number of collected responses ($N = 141$) was more than sufficient to support reliable inferential statistical testing.

To ensure interpretability and focus, only results which directly capture misalignment between perceived requirements and self-assessed capabilities, meeting both statistical and practical relevance criteria are reported:

- statistically significant Chi-square tests ($p < 0.05$) and
- strong association strength, defined by Cramér's $V > 0.22$ for $df > 5$, following df -adjusted effect size thresholds.

Detailed outputs are provided in the following table:

Categorical Variable	Competence Gap* Score Variable	χ^2	df	p-value	Cramers'_V	Effect Size
Age	PP_Engage_Relat_gap	33.72	12	0.000	0.27	Strong
Age	PP_Exper_Domain_gap	26.21	12	0.010	0.22	Strong
Age	CWT_MultiCult_gap	28.45	12	0.004	0.24	Strong
Education_Level	PP_Pers_Fin_gap	14.99	6	0.020	0.17	Strong
Education_Level	CWT_BusinessRel_gap	13.34	6	0.037	0.16	Strong
Main_Freelancer_Activity	PP_SelfOrg_WorkDisc_gap	53.10	28	0.002	0.29	Strong
Main_Freelancer_Activity	PP_Engage_Relat_gap	52.69	28	0.003	0.29	Strong
Years_Experience_Freelancer	PP_Identify_Solve_gap	18.32	6	0.005	0.21	Strong

(*) Competence gap scores are computed for each competence C using the formula:

$$\text{Gap Score}_c = (\text{Importance } \mu_c - \text{Proficiency } \mu_c) * \text{Importance } \mu_c$$

Table 1. Significant Chi-square associations between freelancer characteristics and competence gap scores.

Following the predefined interpretation rule, only standardized residuals with absolute values greater than 2 were considered meaningful contributors to the overall Chi-square association.

4.1 Interpretation of significant associations

4.1.1 Age x PP_Engage_Relat_gap

The cross-tabulation analysis reveals a strong and statistically significant association between age and the competency gap related to engaging and maintaining professional relationships (PP_Engage_Relat_gap) among Spanish freelancers ($\chi^2 = 33.72$, $df = 12$, $p < 0.001$; Cramér's $V = 0.27$). This result indicates that the magnitude of this competency gap varies meaningfully across age groups, pointing to differentiated patterns in how freelancers at different career stages experience mismatches between the importance assigned to relational competences and their perceived proficiency.

The analysis of standardised residuals shows that this association is primarily driven by younger freelancers, particularly those under 24 years old and those aged

24–28, who display a significant over-representation in the High gap category (Std. residuals = 2.62 and 3.14, respectively). This suggests that younger freelancers strongly recognise the importance of engaging and sustaining professional relationships yet perceive substantial shortcomings in their own ability to do so effectively. These gaps likely reflect limited professional experience, weaker client networks, and lower exposure to complex collaboration dynamics.

In contrast, freelancers aged 29–36 are over-represented in the medium gap category (Std. residual = 1.47), indicating a transitional profile in which relational competences are still developing but partially consolidated through accumulated work experience and repeated client interactions.

Older age groups, particularly those aged 53–60 and 61 or more, tend to be under-represented in the High gap category (Std. residuals = -1.58 and -0.90, respectively). This pattern suggests that senior freelancers experience a closer alignment between the importance of relational engagement and their perceived proficiency, likely due to established professional networks, greater confidence in client interaction, and more stable collaboration routines.

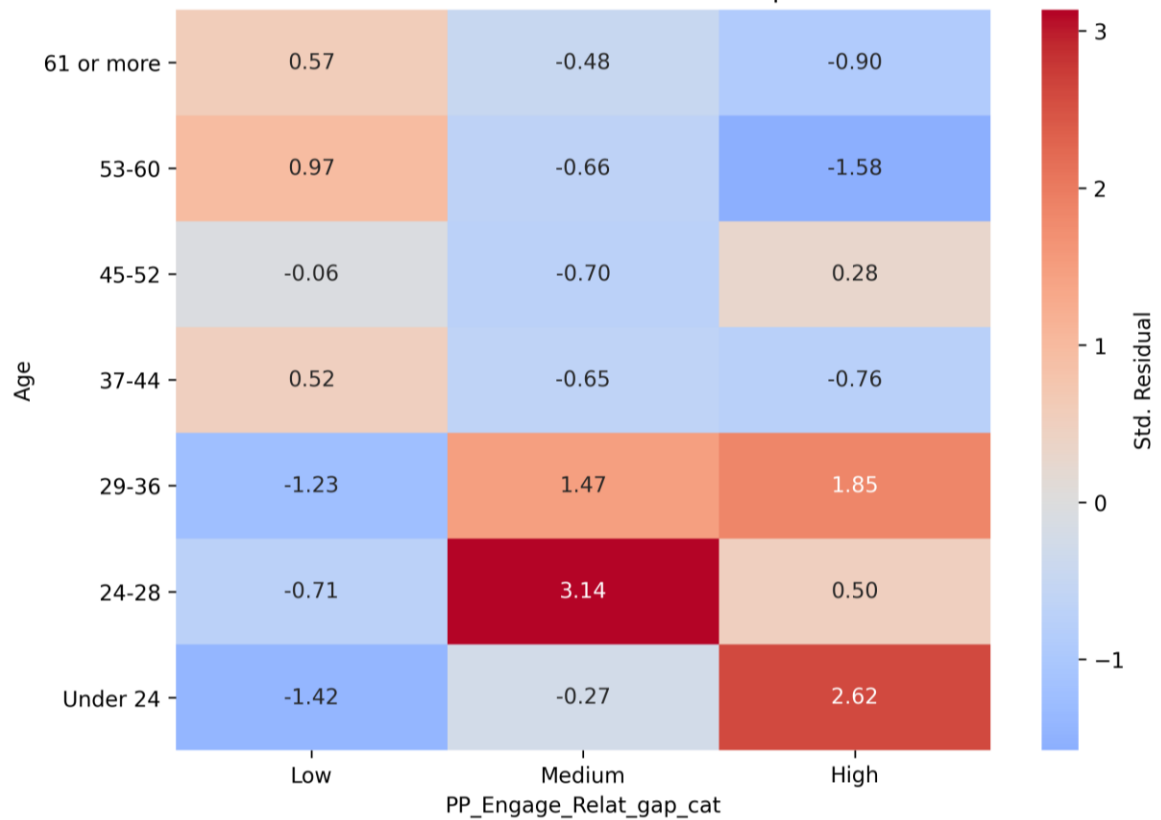


Figure 87. Age x PP_Engage_Relat_Gap standardized residual heatmap.

These findings indicate that relational engagement gaps are strongly age-dependent in Spain, with the most pronounced mismatches concentrated among younger freelancers. This highlights the need for age-sensitive training and support measures, particularly those aimed at strengthening networking, client relationship management, and professional communication skills at early stages of freelance careers.

4.1.2 Age x PP_Exper_Domain_gap

The cross-tabulation analysis reveals a strong and statistically significant association between age and the competency gap related to expert knowledge in the domain (PP_Exper_Domain_gap) among Spanish freelancers ($\chi^2 = 26.21$, $df = 12$, $p = 0.010$; Cramér's $V = 0.22$). This result indicates that perceived mismatches between the importance of domain expertise and freelancers' self-assessed proficiency vary significantly across age groups.

An examination of the standardised residuals shows that this association is primarily driven by younger age cohorts. Freelancers under 24 years old are strongly over-represented in the Medium gap category (Std. residual = 3.49), suggesting that while they recognise the importance of domain expertise, they perceive moderate but not extreme deficiencies in their own proficiency. This pattern is consistent with early-stage professional trajectories, where foundational knowledge exists but is still in the process of consolidation through practice.

Freelancers aged 24–28 display a pronounced over-representation in the High gap category (Std. residual = 2.13), indicating a sharper perceived mismatch between the importance of expert knowledge and current proficiency. This group appears to experience heightened awareness of the demands for specialised expertise as they transition into more complex or demanding professional roles.

The 29–36 age group shows a mixed pattern, with a slight over-representation in both the Medium (Std. residual = 1.47) and High (Std. residual = 0.71) gap categories. This suggests an intermediate stage in which freelancers continue to face competence demands exceeding their perceived mastery, despite accumulating experience.

By contrast, older age groups tend to be under-represented in the High gap category. Freelancers aged 37–44, 53–60, and 61 or more show negative residuals for high gaps (Std. residuals ranging from -0.38 to -1.24), indicating a closer alignment between the perceived importance of domain expertise and self-assessed proficiency. This pattern reflects the cumulative effects of experience, specialisation, and professional learning over time.

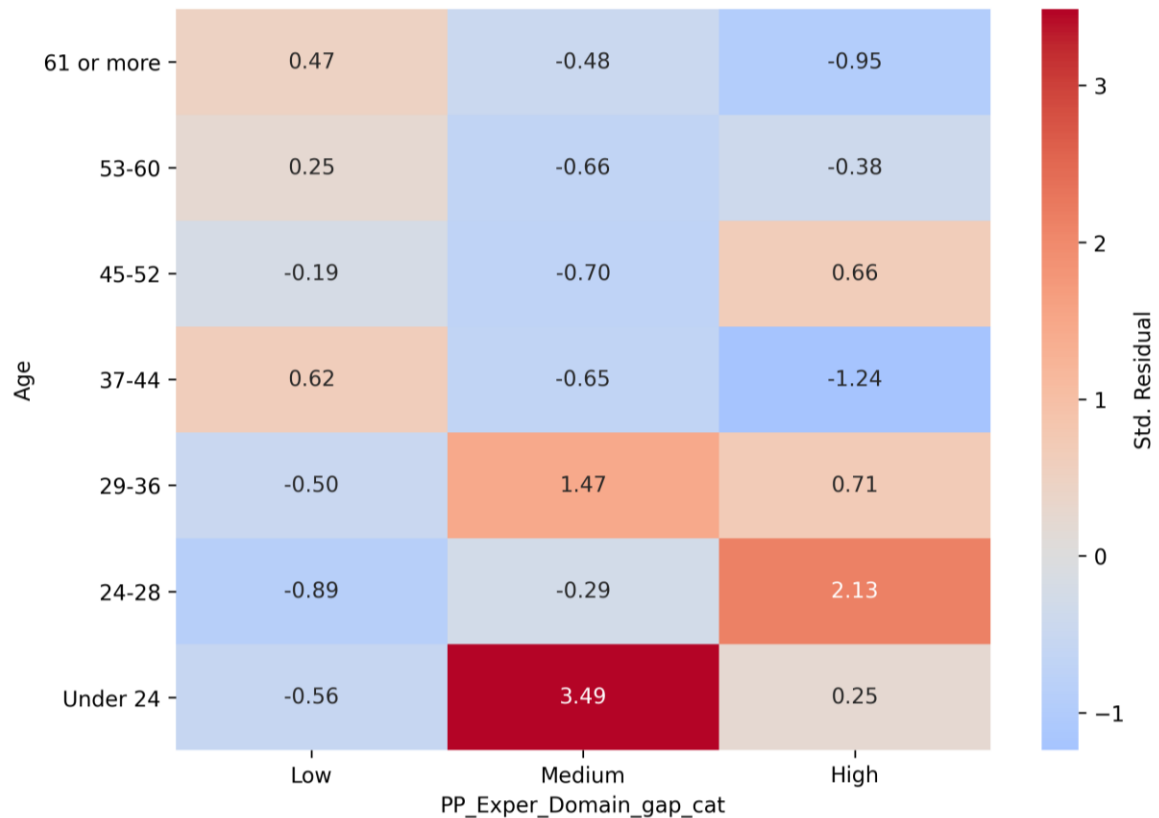


Figure 88. Age x PP_Exper_Domain_gap Standardized residual heatmap.

These findings suggest that gaps in domain expertise are strongly age-dependent in Spain, with the most pronounced mismatches concentrated among early- and mid-career freelancers. The results underscore the importance of career-stage-specific upskilling strategies, particularly those aimed at accelerating domain specialisation and applied expertise development among younger freelancers.

4.1.3 Age x CWT_MultiCult_gap

The cross-tabulation analysis shows a strong and statistically significant association between age and the competency gap related to the ability to work in multicultural environments (CWT_MultiCult_gap) among Spanish freelancers ($\chi^2 = 28.45$, $df = 12$, $p = 0.004$; Cramér's $V = 0.24$). This indicates that discrepancies between the importance assigned to multicultural competence and perceived proficiency vary meaningfully across age groups.

The inspection of standardised residuals reveals that this association is primarily driven by younger freelancers, particularly those under 24 years old, who show a

very strong over-representation in the High gap category (Std. residual = 3.91). This suggests that the youngest freelancers clearly recognise the importance of operating in multicultural and diverse professional contexts yet perceive substantial shortcomings in their own capability to do so effectively. This pattern likely reflects limited international exposure, reduced experience in cross-cultural collaboration, and fewer opportunities to engage in diverse professional environments at early career stages.

Freelancers aged 37–44 are over-represented in the medium gap category (Std. residual = 1.71), indicating an intermediate profile in which multicultural competence is partially developed but still perceived as not fully aligned with professional demands. This group may be increasingly exposed to international or culturally diverse work settings, particularly in digital and remote freelance markets.

In contrast, freelancers in the 53–60 age group are significantly under-represented in the High gap category (Std. residual = -1.62), suggesting a closer alignment between the importance of multicultural competence and perceived proficiency. Similarly, freelancers aged 29–36 and 24–28 also show negative residuals in the High gap category, indicating lower perceived mismatches compared to younger cohorts.

The 61 or more-age group shows a mild over-representation in the High gap category (Std. residual = 1.15), although this value does not reach the conventional threshold for strong deviation. This may reflect heterogeneous experiences within this group, combining extensive professional backgrounds with varying levels of recent exposure to multicultural or internationally mediated work contexts.

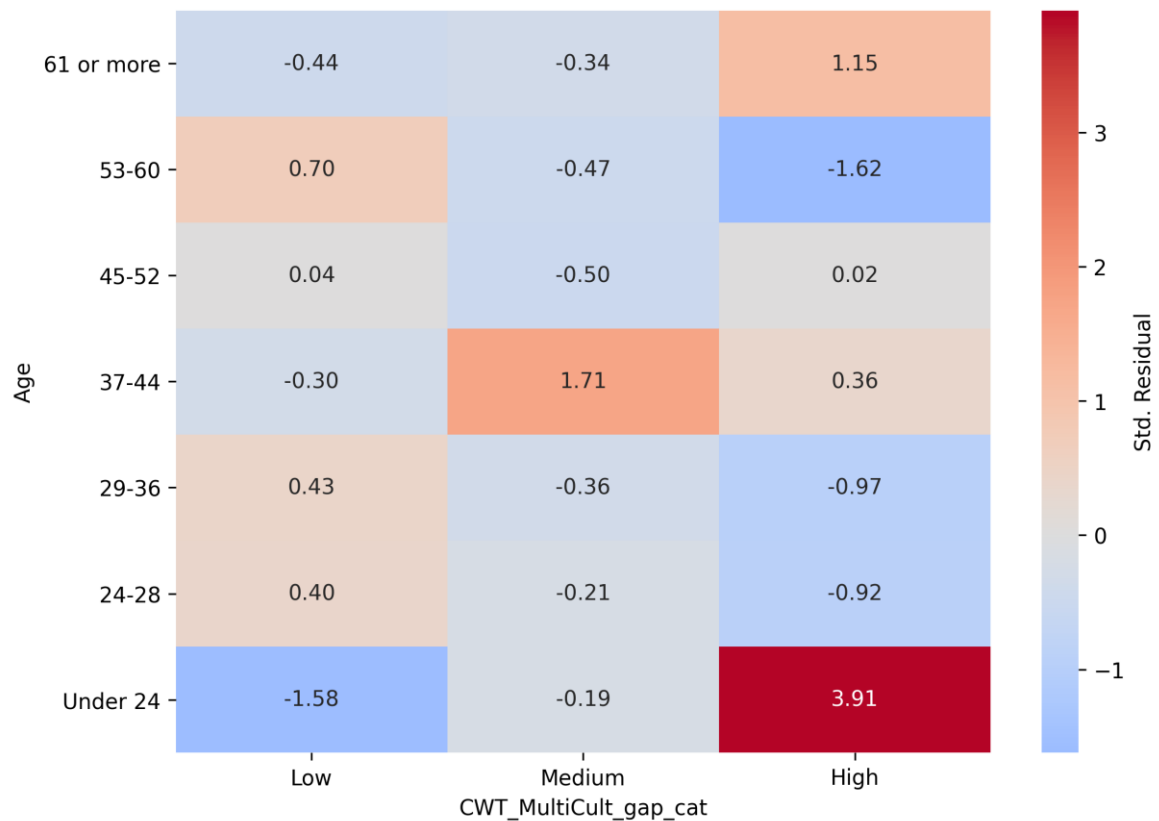


Figure 89. Age x CWT_MultiCult_gap Standardized residual heatmap.

These findings indicate that multicultural competence gaps in Spain are strongly age-related, with the most pronounced mismatches concentrated among the youngest freelancers. The results underscore the importance of early-career interventions, such as exposure to international projects, intercultural training, and mentoring, to support the development of multicultural skills in an increasingly globalised freelance labour market.

4.1.4 Education_Level x PP_Pers_Fin_gap

The cross-tabulation analysis reveals a strong and statistically significant association between education level and the competency gap related to personal financial management (PP_Pers_Fin_gap) among Spanish freelancers ($\chi^2 = 14.99$, $df = 6$, $p = 0.020$; Cramér's $V = 0.17$). This finding indicates that discrepancies between the importance assigned to financial management skills and freelancers' perceived proficiency vary meaningfully according to educational attainment.

An examination of the standardised residuals shows that this association is primarily driven by freelancers with higher levels of formal education. Those holding a Master's degree are strongly over-represented in the High gap category (Std. residual = 2.14), suggesting that they clearly recognise the importance of managing personal finances effectively, yet perceive substantial shortcomings in their own financial skills. This pattern may reflect heightened awareness of financial complexity and risk rather than absolute lack of competence.

Freelancers with a Doctorate or equivalent also display a mild over-representation in the High gap category (Std. residual = 1.01), indicating a similar but less pronounced mismatch between perceived importance and proficiency. At the same time, this group shows negative residuals in the Low and Medium gap categories, reinforcing the concentration of higher gaps among highly educated freelancers.

By contrast, freelancers with high school education or less are significantly under-represented in the High gap category (Std. residual = -1.71) and over-represented in the Low gap category (Std. residual = 1.18). This suggests that lower-educated freelancers perceive a closer alignment between the importance of personal financial management and their own proficiency, possibly due to more limited expectations, simpler financial structures, or reliance on informal financial practices.

Freelancers holding a Bachelor's degree display no strong deviations across gap categories, indicating a relatively balanced perception of financial management competence.

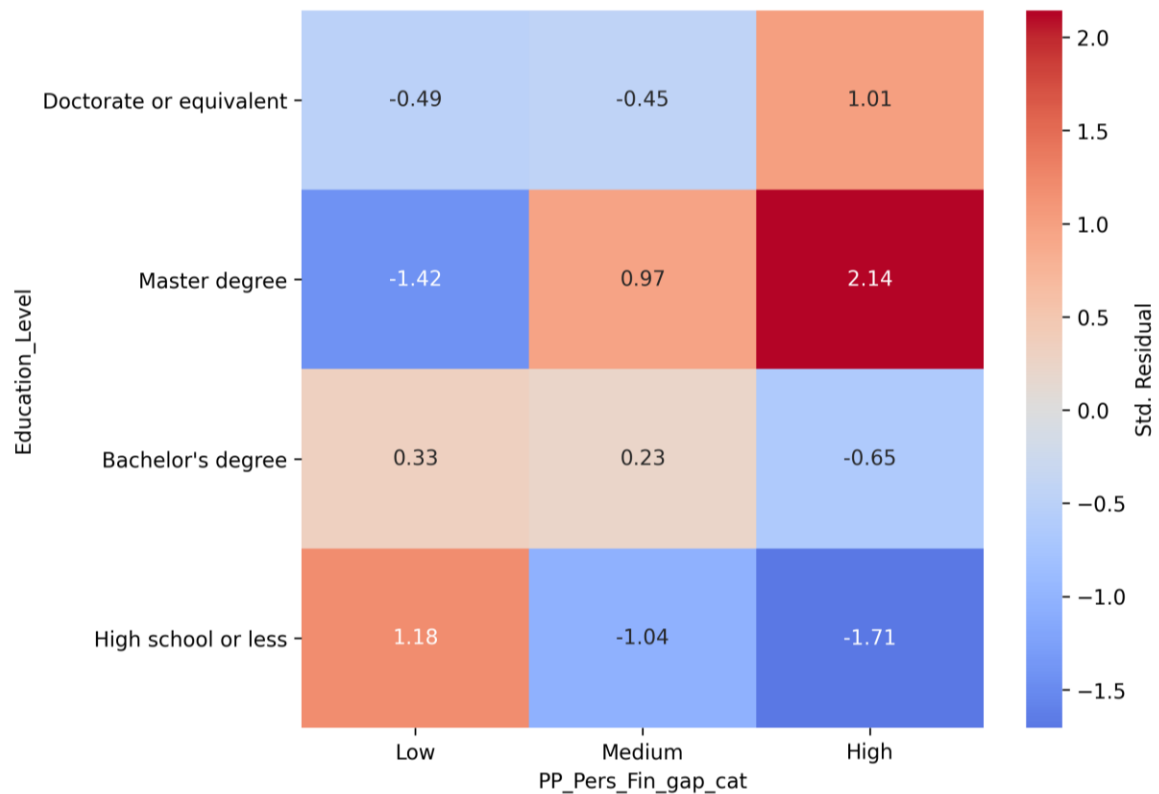


Figure 90. Education level x PP_Pers_Fin_gap Standarized residual heatmap.

These findings suggest that financial management gaps among Spanish freelancers increase with educational attainment, highlighting a paradox whereby more highly educated freelancers perceive greater mismatches in this domain. This underscores the need for targeted financial literacy and planning support, particularly for freelancers with advanced academic backgrounds, whose professional trajectories may not have provided adequate preparation for the financial complexities of self-employment.

4.1.5 Education_Level x CWT_BusinessRel_gap

Differences in the competency gap related to the ability to keep good relationships in business collaboration (CWT_BusinessRel_gap) are shown to vary significantly according to education level among Spanish freelancers ($\chi^2 = 13.34$, $df = 6$, $p = 0.037$; Cramér's $V = 0.16$), pointing to distinct patterns in how relational competences are perceived across educational backgrounds.

The analysis of standardised residuals indicates that this association is primarily driven by freelancers holding a Master's degree, who are strongly over-represented in the medium gap category (Std. residual = 2.55). This suggests that highly educated freelancers recognise the importance of maintaining effective business relationships yet perceive a moderate misalignment between expected and actual proficiency. Such a pattern may reflect heightened awareness of relational demands in complex professional environments rather than a complete lack of competence.

Freelancers with a Bachelor's degree show a mild over-representation in the High gap category (Std. residual = 0.88), indicating that a subset of this group perceives more pronounced challenges in business relationship management. Meanwhile, those holding a Doctorate or equivalent display a similar but weaker tendency towards higher gaps (Std. residual = 0.62), suggesting heterogeneous experiences within this highly specialised group.

In contrast, freelancers with high school education or less are clearly under-represented in the High gap category (Std. residual = -1.51) and slightly over-represented in the Low gap category (Std. residual = 0.88). This pattern indicates a closer perceived alignment between importance and proficiency in business relationship management among lower-educated freelancers, possibly reflecting simpler collaboration structures or more informal relationship dynamics.

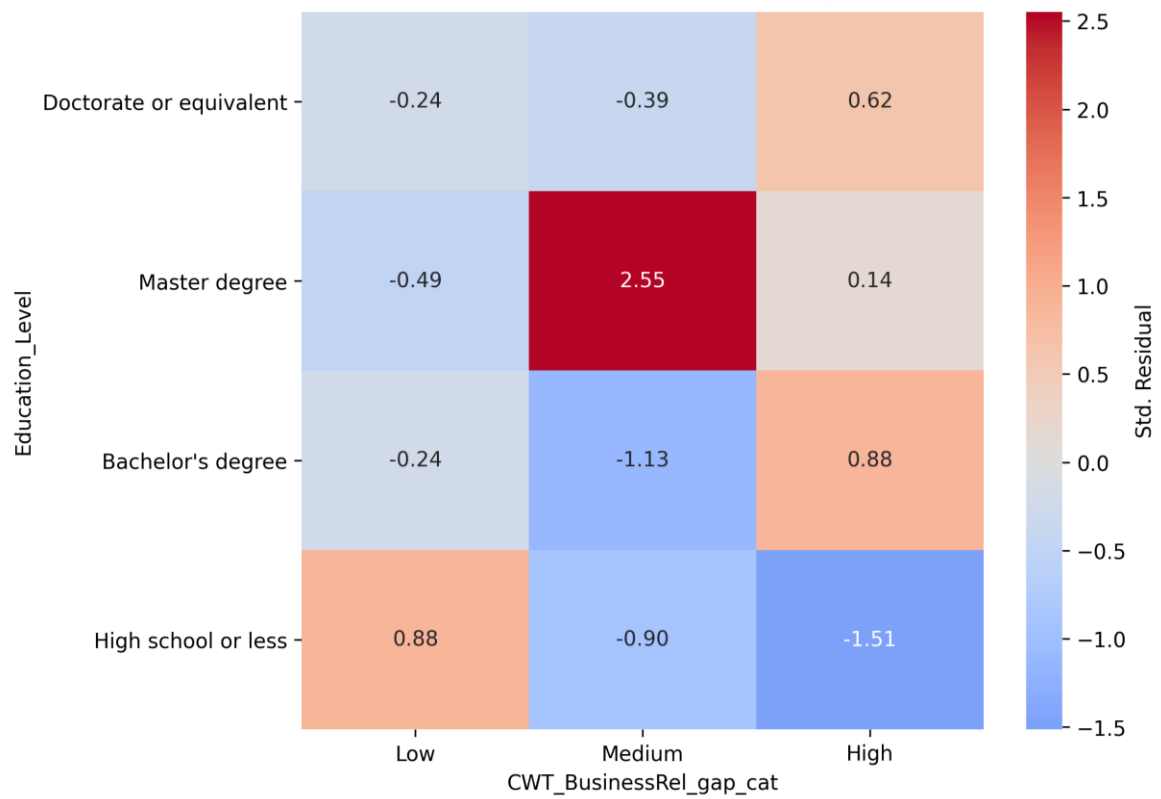


Figure 91. Education level x CWT_BusinessRel_gap Standardized residual heatmap.

Taken together, these results suggest that perceived gaps in business relationship competences tend to be more pronounced among freelancers with higher educational attainment, particularly at intermediate levels of misalignment. This finding highlights the relevance of education-sensitive interventions that support the development of relational and collaborative skills alongside technical expertise, especially for highly educated freelancers operating in complex professional networks.

4.1.6 Main_Freelancer_Activity x PP_SelfOrg_WorkDisc_gap

Marked differences emerge across main freelance activity categories with respect to the competency gap related to self-organisation and work discipline (PP_SelfOrg_WorkDisc_gap), confirming a strong and statistically significant association between both variables ($\chi^2 = 53.10$, $df = 28$, $p = 0.002$; Cramér's $V = 0.29$). This indicates that the extent to which freelancers perceive mismatches between the

importance of self-organisation and their own proficiency varies substantially depending on the professional domain.

The analysis of standardised residuals shows that this association is largely driven by a limited number of activity categories with pronounced deviations from expected frequencies. Freelancers engaged in Service and Support Work are strongly over-represented in the Medium gap category (Std. residual = 3.96), suggesting a widespread perception of partial but unresolved challenges in maintaining effective self-organisation and work discipline. This may reflect high workload fragmentation, time pressure, and reactive task structures typical of support-oriented roles.

An even stronger pattern is observed among freelancers in Writing and Translation, who display a very pronounced over-representation in the Medium gap category (Std. residual = 4.64) and a simultaneous over-representation in the High gap category (Std. residual = 1.41). This indicates that, despite recognising self-organisation as critical, many freelancers in this field experience persistent difficulties in structuring work, managing deadlines, and sustaining disciplined routines, possibly due to solitary work patterns and fluctuating project demands.

Several activity categories show moderate over-representation in the High gap category, including Sales and Marketing Support, Software Development and IT, Sports, Recreation and Performing Arts, and Construction and Manual Trades (Std. residuals ranging from 0.68 to 0.85). These patterns suggest that freelancers in these domains face elevated organisational demands that are not always matched by perceived self-management proficiency.

Conversely, freelancers in Clerical and Data Entry are significantly under-represented in the High gap category (Std. residual = -1.52) and over-represented in the Low gap category (Std. residual = 0.95), indicating a closer alignment between importance and proficiency in self-organisation. This likely reflects more routinised tasks and predictable workflows.

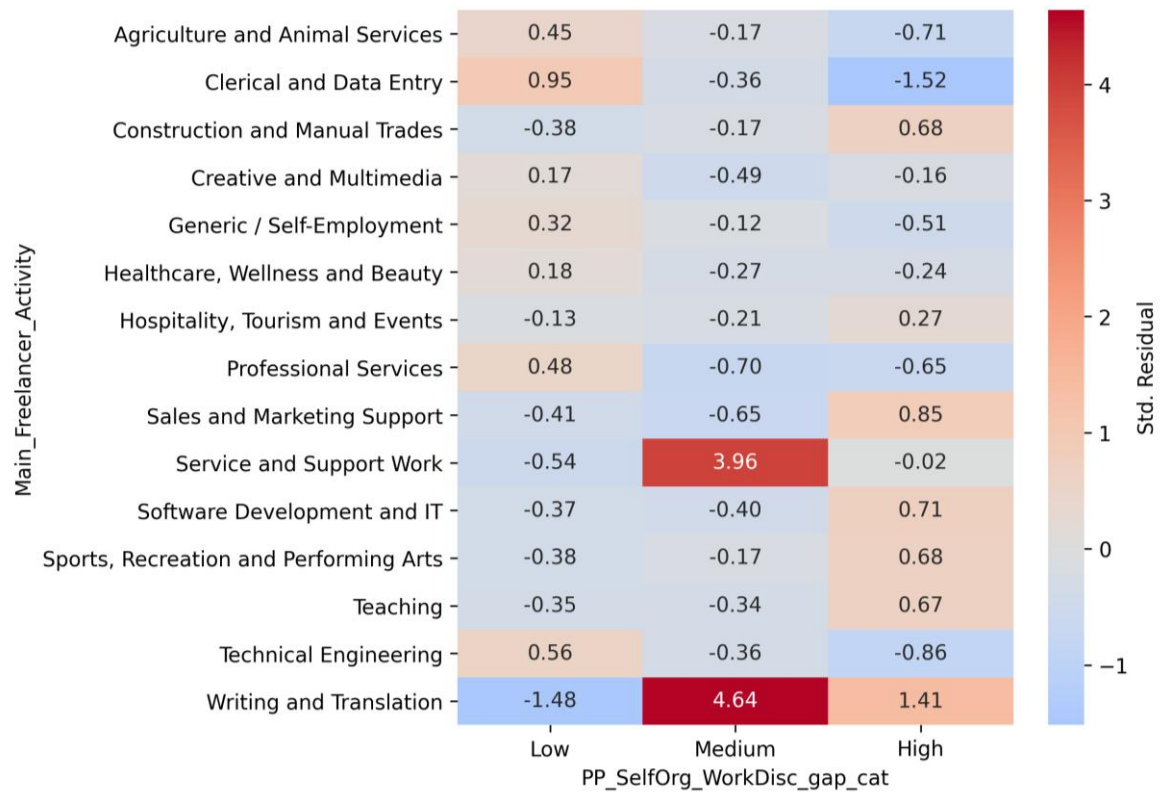


Figure 92. Main freelance activity x PP_SelfOrg_WorkDisc_gap Standardized residual heatmap.

The results demonstrate that self-organisation and work discipline gaps in Spain are highly activity-specific, with the most pronounced mismatches concentrated in freelance domains characterised by fragmented workloads, high autonomy, and weak external structuring. These findings highlight the need for sector-sensitive support measures, such as time-management training, workflow structuring tools, and mentoring initiatives tailored to the organisational realities of different freelance professions.

4.1.7 Main_Freelancer_Activity x PP_Engage_Relat_gap

A differentiated pattern emerges when examining the relationship between main freelance activity and the competency gap related to engaging and maintaining professional relationships (PP_Engage_Relat_gap), confirming a strong and statistically significant association ($\chi^2 = 52.69$, $df = 28$, $p = 0.003$; Cramér's $V = 0.29$). This result indicates that perceived mismatches between the importance of relational

engagement and freelancers' self-assessed proficiency vary considerably across professional domains.

The analysis of standardised residuals reveals that this association is primarily driven by a small number of activity categories with pronounced deviations. Most notably, freelancers working in Writing and Translation are very strongly over-represented in the Medium gap category (Std. residual = 4.64) and simultaneously over-represented in the High gap category (Std. residual = 1.55). This suggests that professionals in this domain widely recognise the importance of sustaining client relationships, yet perceive persistent challenges in engagement, interaction, and relationship continuity, likely linked to solitary work patterns and transactional client interactions.

A similar tendency toward High relational gaps is observed among freelancers in Generic / Self-Employment, Hospitality, Tourism and Events, and Software Development and IT, all of whom show notable over-representation in the High gap category (Std. residuals = 1.58, 1.55, and 1.51, respectively). These sectors often involve project-based or short-term collaborations, which may limit opportunities for stable relationship-building and intensify perceived engagement challenges.

In contrast, freelancers in Teaching are clearly over-represented in the Medium gap category (Std. residual = 2.63), indicating partial but not extreme misalignment between importance and proficiency in relational engagement. This may reflect structured interaction contexts where communication is frequent but relational depth is constrained by institutional or contractual frameworks.

Several activity categories, including Clerical and Data Entry and Writing and Translation, are under-represented in the Low gap category (Std. residuals = -1.45 and -1.50, respectively), reinforcing the finding that relational engagement challenges are relatively widespread in these domains.

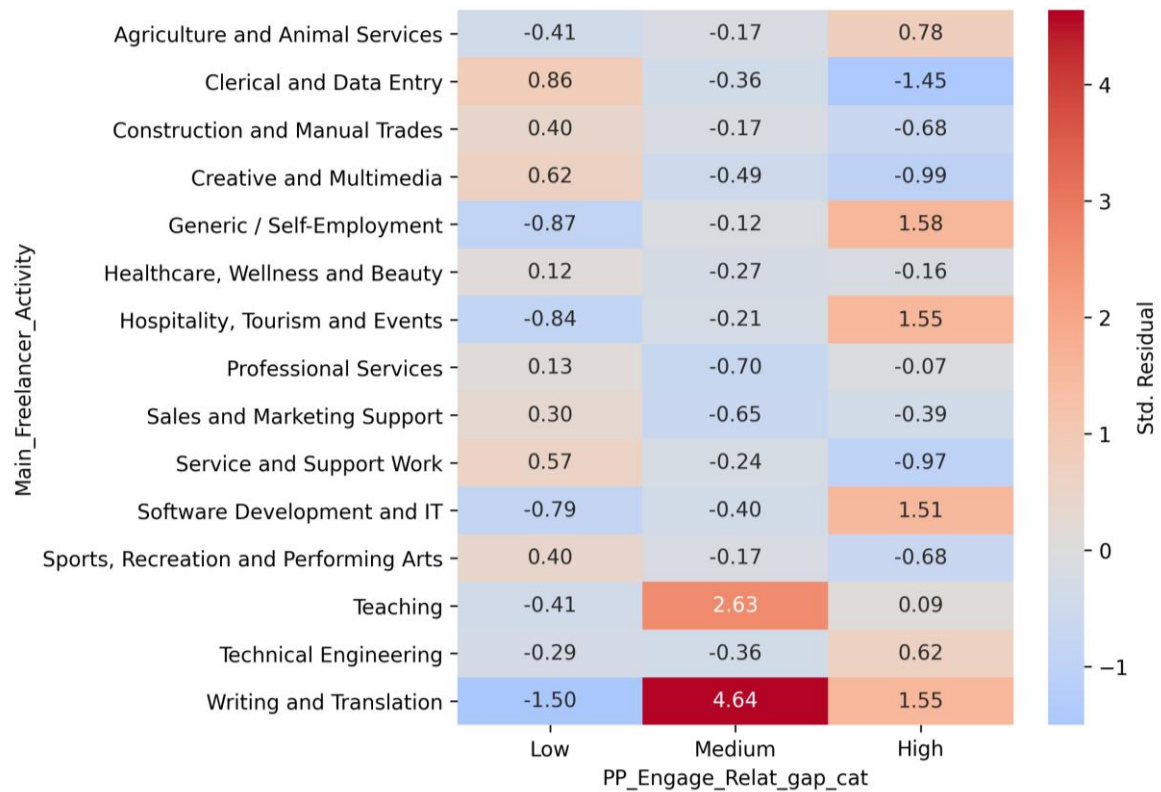


Figure 93. Main freelancer activity x PP_Engage_Relat_gap Standaridezed residual heatmap.

These findings demonstrate that gaps in professional relationship engagement among Spanish freelancers are strongly activity-dependent, with the most pronounced mismatches occurring in fields characterised by remote work, limited face-to-face interaction, and transactional client relationships. The results highlight the need for activity-specific interventions, such as client communication training, relationship management tools, and mentoring schemes, particularly in sectors where freelancers operate with weak relational continuity.

4.1.8 Years_Experience_Freelancer x PP_Identify_Solve_gap

Variation in the competency gap related to problem identification and solving (PP_Identify_Solve_gap) is significantly associated with years of freelance experience among Spanish freelancers ($\chi^2 = 18.32$, $df = 6$, $p = 0.005$; Cramér's $V = 0.21$), indicating that perceived mismatches between the importance of problem-solving skills and self-assessed proficiency differ across experience levels.

The inspection of standardised residuals shows that this association is mainly driven by freelancers with very limited experience. Those with less than one year of freelance experience are strongly over-represented in the Medium gap category (Std. residual = 3.71). This suggests that newcomers to freelancing clearly recognise the importance of identifying and solving problems autonomously yet perceive moderate but not extreme shortcomings in their own ability to do so, reflecting early-stage professional adjustment rather than severe competence deficits.

Freelancers with 6–10 years of experience exhibit an over-representation in the High gap category (Std. residual = 1.48), indicating a renewed perception of mismatch at more advanced career stages. This may reflect increasing task complexity, higher client expectations, or engagement in more strategic problem-solving roles that exceed previously developed skill sets.

By contrast, freelancers with 1–5 years of experience and those with more than 10 years of experience show no strong deviations across gap categories, suggesting a closer alignment between perceived importance and proficiency in problem-solving competences. For highly experienced freelancers, this alignment likely reflects accumulated expertise and repeated exposure to diverse problem contexts.

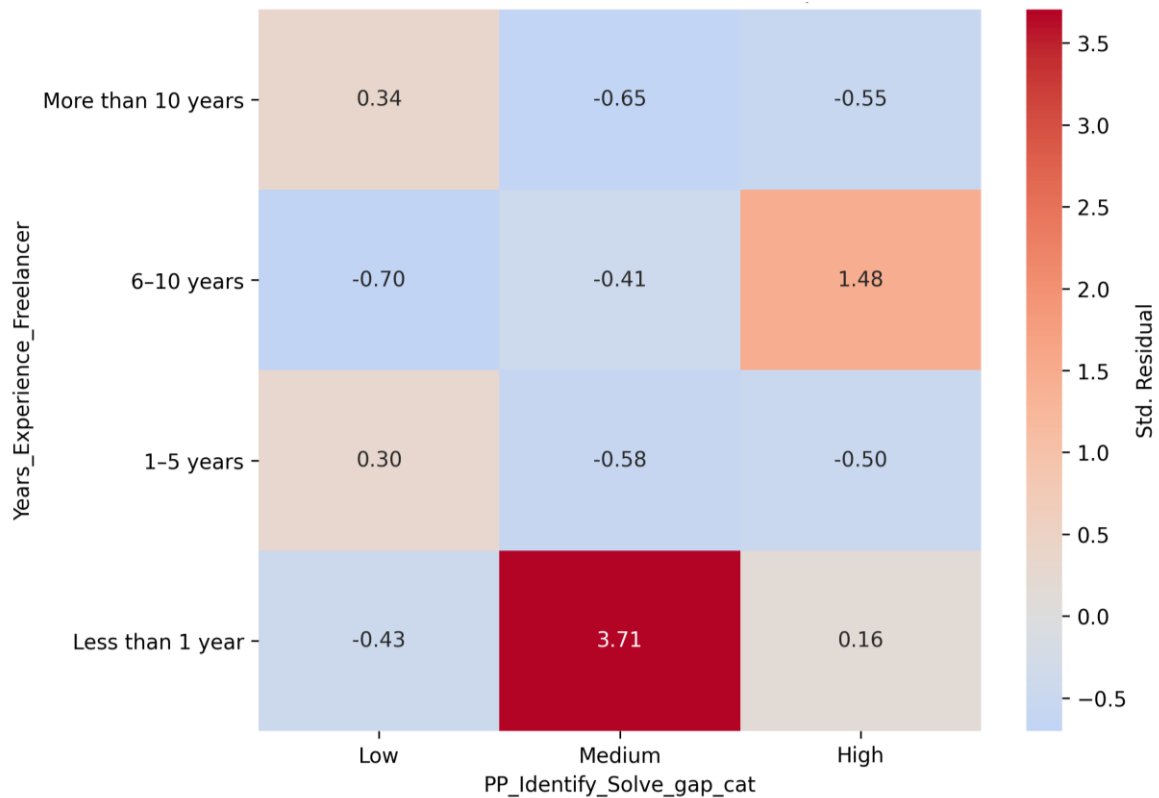


Figure 94. Years experience freelancer x PP_Identify_Solve_gap Standaridezed residual heatmap.

These results indicate that problem-solving competence gaps in Spain follow a non-linear pattern across the freelance career cycle, with pronounced mismatches at entry stages and at certain mid-career points. The findings highlight the relevance of experience-sensitive support mechanisms, such as onboarding programmes for new freelancers and advanced problem-solving training for mid-career professionals facing increasing task complexity.

4.2 Concluding interpretation

The cross-tabulation results for Spain demonstrate that competency gaps among freelancers are systematically shaped by age, educational attainment, professional activity, and career experience, rather than being randomly distributed across the freelance workforce. The observed patterns reveal clear structural differences in how freelancers perceive mismatches between the importance of key competencies and their own proficiency.

The findings show that early-career freelancers and younger age groups tend to experience more pronounced gaps in relational, multicultural, and organisational competences, while highly educated freelancers report stronger gaps in financial management and business relationship skills. At the same time, activity-specific patterns highlight that freelancers operating in fragmented, project-based, or highly autonomous domains face elevated gaps in self-organisation, work discipline, and professional engagement.

Importantly, the results indicate that competency gaps in Spain extend well beyond purely technical or digital skills. While digital and AI-related competencies represent a critical area of mismatch, substantial gaps are also observed in communication, collaboration, self-management, and problem-solving, as well as in psychosocial and market-interaction competences that are essential for sustainable freelance careers.

Taken together, these findings underscore the need for targeted, adaptive, and context-sensitive upskilling strategies in Spain. Effective interventions should be tailored to freelancers' career stage, educational background, and professional domain, addressing not only advanced digital and AI capabilities but also relational, organisational, and resilience-related competences that support long-term integration and performance in the freelance labour market.

5 Group mean differences in competency gaps (ANOVA)

This section examines group mean differences in competency gap scores using one-way ANOVA and Welch's ANOVA, conducted in accordance with the methodological guidelines.

The analysis was performed exclusively on the freelancers' dataset, as the number of company responses ($n = 8$) was insufficient to support reliable mean-comparison testing.

Only results meeting both statistical significance and practical relevance criteria are reported. Specifically, the section includes competency gap scores for which:

- the one-way ANOVA or Welch's ANOVA indicated statistically significant group differences ($p < 0.05$) and
- the associated effect size was large, defined as Partial $\eta^2 \geq 0.14$.

This dual filtering ensures that the reported findings reflect not only statistically detectable differences, but also differences of substantive magnitude.

For each significant result reported in the following, an analytical interpretation is provided, focusing on how competency gap levels vary across groups (e.g., age, education level, upskilling frequency, AI use).

Post-hoc analyses using Tukey's Honest Significant Difference (HSD) or Games-Howell tests will be incorporated subsequently to identify the specific group pairs driving the observed mean differences.

A summary of the corresponding statistical results is presented in the following table:

Grouping Variable	Competence Gap Score Variable	Test Type	Equal Variances Assumed	F	p-value	η^2	Effect Size
Age	PP_Engage_Relat_prof	ANOVA	true	4,86	0,000	0,18	Large
Age	CWT_MultiCult_gap	Welch	false	3,46	0,009	0,38	Large
Age	CWT_Courage_Assert_gap	Welch	false	4,20	0,003	0,43	Large
Age	PP_Identify_Solve_gap	Welch	false	4,76	0,001	0,43	Large
Age	CWT_ClarityExpr_gap	Welch	false	4,84	0,001	0,46	Large
AI_Use_Future	DL_AITools_imp	ANOVA	true	8,80	0,000	0,21	Large
AI_Use_Future	DL_AITools_prof	ANOVA	true	11,20	0,000	0,25	Large
AI_Use_Future	DL_CloudStorageShare_prof	Welch	false	4,96	0,002	0,33	Large
Main_Freelancer_Activity	PP_Identify_Solve_gap	ANOVA	true	2,36	0,006	0,21	Large
Upskilling_Frequency	DL_AITools_prof	ANOVA	true	7,74	0,000	0,19	Large
Upskilling_Frequency	DL_SearchSocialContent_gap	Welch	false	3,83	0,008	0,22	Large
Upskilling_Frequency	CWT_MultiCult_gap	Welch	false	4,96	0,002	0,27	Large

Table 2. ANOVA: Competency gaps.

5.1 Group mean differences in competence gaps by age

5.1.1 Competence: PP_Engage_Relat_prof

Differences in freelancers' proficiency in building and managing professional relationships (PP_Engage_Relat_prof) were analysed across age groups in Spain. This competence refers to the ability to establish, maintain, and develop effective business relationships with clients and partners, a core skill for sustainable freelance activity.

The analysis was conducted using a one-way ANOVA, as the assumption of homogeneity of variances was met. Results indicate a statistically significant effect of age on proficiency in business relationship management ($F = 4.86$, $p < 0.001$), demonstrating that mean proficiency levels differ systematically across age cohorts.

The associated effect size is large ($\eta^2 = 0.18$), indicating that age explains a meaningful proportion of the variance in this competence. This confirms that the

observed differences are not only statistically significant but also substantively relevant within the Spanish freelance population.

Descriptive pattern

The inspection of mean values and 95% confidence intervals reveal a clear age-related gradient in proficiency. Freelancers in the youngest age groups (under 24 and 24–28) report the lowest average proficiency levels, accompanied by relatively wide confidence intervals, suggesting greater heterogeneity and less consolidated relational skills at early career stages.

From the 29–36 age group onwards, mean proficiency increases steadily. Freelancers aged 37–44 and 45–52 display higher and more stable proficiency levels, indicating improved alignment between relational demands and skill development. The highest proficiency levels are observed among freelancers aged 53–60, followed closely by those aged 61 or more, reflecting the cumulative effects of long-term professional experience and repeated client interactions.

Interpretation

These findings suggest that proficiency in managing business relationships develops progressively with age and career maturity among Spanish freelancers. Early-career freelancers appear to be still consolidating key relational capabilities, such as client communication, trust-building, and long-term relationship management. In contrast, older freelancers benefit from accumulated experience, established professional networks, and greater confidence in client interaction, which translate into higher self-assessed proficiency.

Importantly, this pattern mirrors the competence gap results reported earlier, where younger freelancers exhibited larger mismatches between importance and proficiency. Taken together, the evidence points to age as a critical structuring factor in relational competences within the freelance labour market.

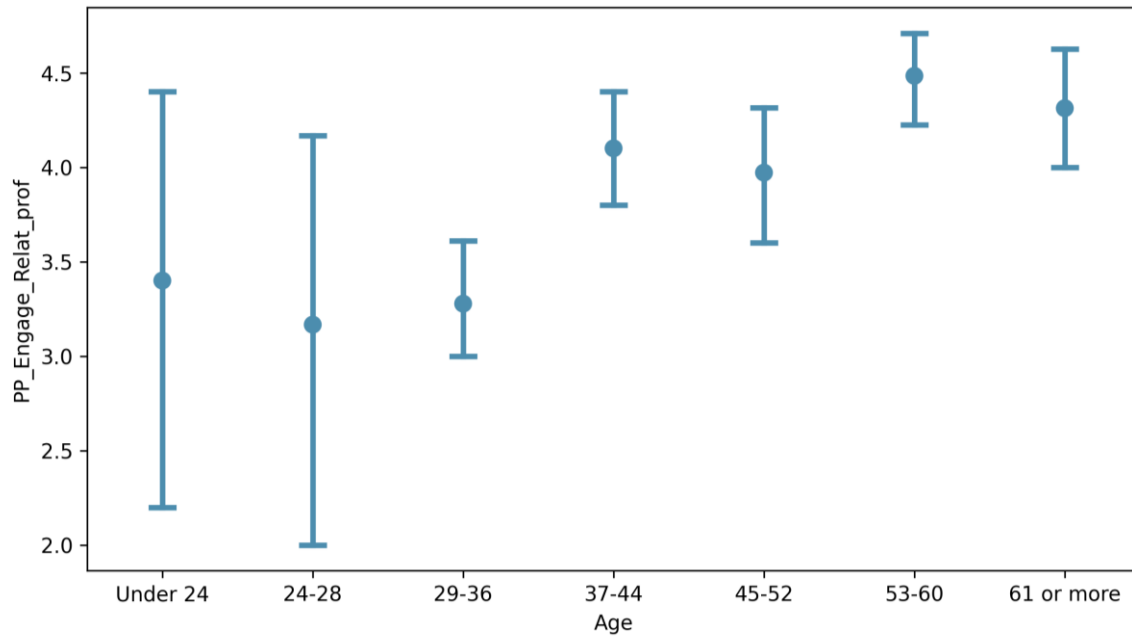


Figure 95. Mean \pm 95% CI PP_Engage_Relat_prof by age.

Conclusion

The ANOVA results demonstrate that age-related differences in business relationship proficiency among Spanish freelancers are pronounced and practically meaningful. These findings reinforce the need for early-career support measures, such as mentoring, networking facilitation, and targeted training in client relationship management, to accelerate the development of relational competences that are essential for long-term freelance success.

5.1.2 Competence: CWT_MultiCult_gap

Differences in the competence gap related to the ability to work in multicultural environments (CWT_MultiCult_gap) were analysed across age groups among Spanish freelancers. This competence gap reflects the mismatch between the perceived importance of operating effectively in culturally diverse contexts and freelancers' self-assessed proficiency.

Preliminary tests indicated that the assumption of homogeneity of variances was violated. Consequently, a Welch ANOVA was conducted. The results reveal a statistically significant effect of age on the multicultural competence gap (Welch's $F =$

3.46, $p = 0.009$), indicating that mean gap levels differ meaningfully across age groups.

The associated effect size is large ($\eta^2 = 0.38$), suggesting that age explains a substantial proportion of the variance in the perceived multicultural competence gap. This confirms that the observed differences are not only statistically significant but also substantively relevant in the Spanish freelance context.

Descriptive pattern

The analysis of mean values and 95% confidence intervals show a highly asymmetric age-related pattern. The youngest cohort (under 24) exhibits by far the highest mean gap, accompanied by very wide confidence intervals, indicating both a pronounced perceived mismatch and strong heterogeneity within this group.

From the 24–28 age group onwards, the mean gap drops sharply and remains consistently low across most age cohorts, including 29–36, 37–44, 45–52, and 53–60. These groups display relatively narrow confidence intervals, suggesting greater internal consistency and a closer alignment between perceived importance and proficiency in multicultural work contexts.

A slight increase in the mean gap is observed for freelancers aged 61 or more, although confidence intervals overlap with adjacent groups, indicating a more heterogeneous but not systematically divergent profile.

Interpretation

Taken together, the results indicate that multicultural competence gaps among Spanish freelancers are primarily driven by the youngest age group, rather than by a gradual linear progression across the life course. Freelancers under 24 appear to recognise the growing importance of multicultural and cross-cultural work environments yet feel insufficiently prepared to operate effectively within them.

The sharp reduction in gap levels observed from the mid-twenties onwards suggests a rapid adjustment process, whereby freelancers quickly acquire or consolidate multicultural competences through professional exposure, international collaboration, or repeated interaction in diverse digital work settings.

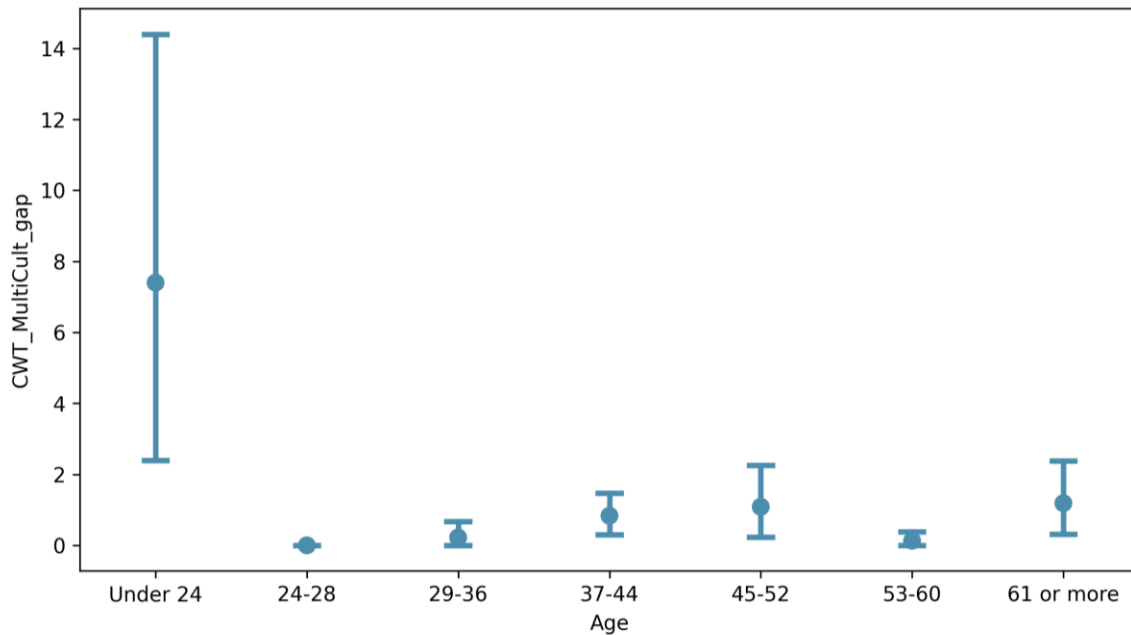


Figure 96. Mean \pm 95% CWT_Multicult_gap by age.

Conclusion

The Welch ANOVA and descriptive evidence demonstrate that age-related differences in the multicultural competence gap in Spain are substantial and highly concentrated at the earliest career stage. These findings highlight the importance of early-stage interventions, such as intercultural training, mentoring, and exposure to international or culturally diverse projects, to support young freelancers in developing competences that are increasingly critical in globalised freelance labour markets.

5.1.3 Competence: CWT_Courage_Assert_gap

Differences in the competence gap related to courage and assertiveness in communication (CWT_Courage_Assert_gap) were analysed across age groups among Spanish freelancers. This competence gap reflects the mismatch between the perceived importance of expressing viewpoints confidently, asserting professional positions, and negotiating effectively, and freelancers' self-assessed proficiency in these behaviours.

Preliminary diagnostics indicated that the assumption of homogeneity of variances was not met. Therefore, a Welch ANOVA was conducted. The results reveal a statistically significant effect of age on the courage and assertiveness competence

gap (Welch's $F = 4.20$, $p = 0.003$), indicating meaningful differences in gap levels across age cohorts.

The associated effect size is large ($\eta^2 = 0.43$), showing that age explains a substantial share of the variance in this competence gap. This confirms that the observed differences are both statistically robust and practically relevant within the Spanish freelance population.

Descriptive pattern

The inspection of mean values and 95% confidence intervals reveal a non-linear age-related pattern. The youngest freelancers (under 24) display one of the highest average gaps, accompanied by very wide confidence intervals, indicating both a pronounced perceived mismatch and considerable heterogeneity within this group.

A particularly low mean gap is observed for freelancers aged 24–28, suggesting a closer perceived alignment between importance and proficiency in assertive communication. However, gap levels increase sharply again for the 29–36 age group, which shows relatively high mean values and wide confidence intervals, pointing to renewed challenges in assertiveness as professional demands intensify.

From the 37–44 age group onwards, average gap levels decline and remain moderate to low across 45–52, 53–60, and 61 or more, with narrower confidence intervals. This suggests a gradual consolidation of assertive communication skills as freelancers accumulate experience, confidence, and negotiating exposure.

Interpretation

These findings indicate that gaps in courage and assertiveness among Spanish freelancers are particularly salient at early and early mid-career stages, rather than following a simple linear decline with age. Younger freelancers may struggle to express professional boundaries, negotiate conditions, and assert their value, especially when interacting with more experienced clients or operating in competitive markets.

The reduction in gap levels observed from mid-career onwards suggests that assertiveness is progressively internalised through professional socialisation, repeated client interactions, and accumulated negotiation experience.

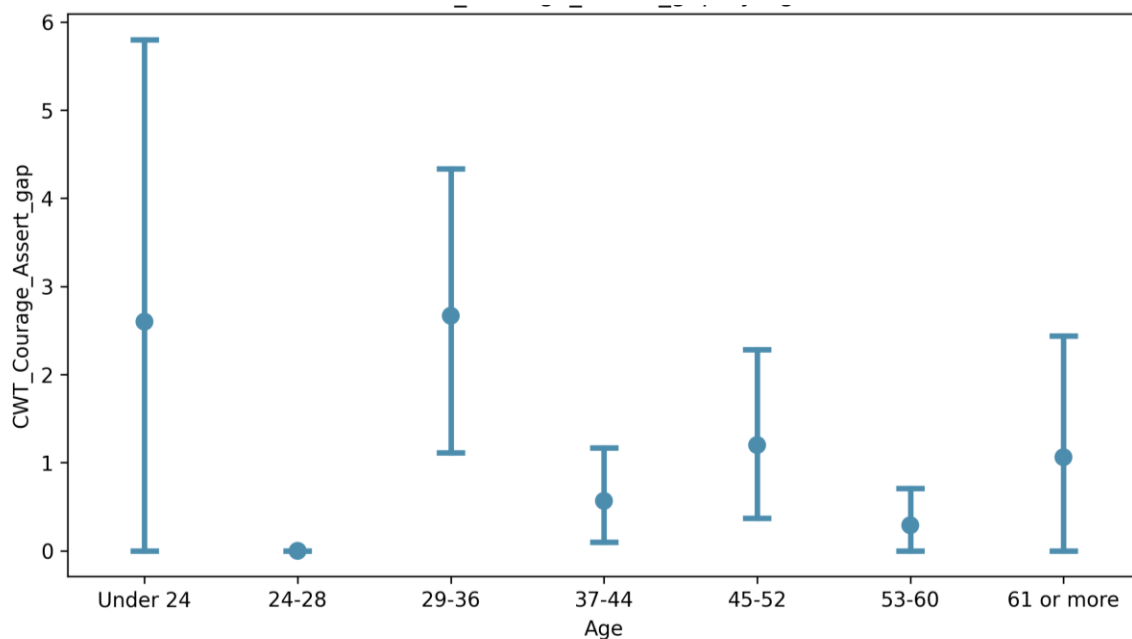


Figure 97. Mean \pm 95% CWT_Courage_Assert_gap by age.

Conclusion

The Welch ANOVA and descriptive evidence demonstrate that age-related differences in the courage and assertiveness competence gap are substantial and highly structured in Spain. The results highlight the importance of early-career and transition-stage interventions, such as negotiation training, confidence-building programmes, and mentoring, to support freelancers in developing assertive communication skills that are critical for fair working conditions and sustainable freelance careers.

5.1.4 Competence: PP_Identify_Solve_gap

Differences in the competence gap related to problem identification and solving (PP_Identify_Solve_gap) were analysed across age groups among Spanish freelancers. This competence gap captures the mismatch between the importance attributed to identifying problems autonomously and developing effective solutions, and freelancers' self-assessed proficiency in this domain.

Preliminary assumption checks indicated that the homogeneity of variances assumption was violated. Consequently, a Welch ANOVA was applied. The results reveal a statistically significant effect of age on the problem identification and solving

competence gap (Welch's $F = 4.76$, $p = 0.001$), indicating meaningful differences in gap levels across age cohorts.

The associated effect size is large ($\eta^2 = 0.43$), showing that age accounts for a substantial proportion of the variance in this competence gap. This confirms that the observed differences are not only statistically significant but also practically relevant within the Spanish freelance population.

Descriptive pattern

The examination of mean values and 95% confidence intervals reveal a distinctly non-linear age-related pattern. The lowest gap levels are observed among the youngest freelancers (under 24), suggesting either limited awareness of problem-solving demands or lower perceived importance–proficiency mismatch at very early career stages.

Gap levels increase notably for freelancers aged 24–28, and peak among those aged 29–36, who exhibit the highest average gap together with wide confidence intervals. This indicates a pronounced perceived mismatch during early–mid career stages, when freelancers are increasingly confronted with complex, less structured problems and higher client expectations.

From the 37–44 age group onwards, average gap levels decline substantially. Freelancers aged 45–52, 53–60, and 61 or more report moderate to low gaps, with narrower confidence intervals, suggesting improved alignment between the importance of problem-solving competences and perceived proficiency as experience accumulates.

Interpretation

These findings suggest that problem identification and solving gaps are most pronounced during the transition from early to mid-career among Spanish freelancers. While very young freelancers may still operate in more supervised or less complex contexts, those in their late twenties and early thirties face increasing demands for autonomous decision-making and strategic problem-solving, which may temporarily outpace their perceived competence.

The subsequent reduction in gap levels observed at later career stages indicates that problem-solving skills consolidate progressively through accumulated experience, exposure to diverse challenges, and repeated learning-by-doing processes.

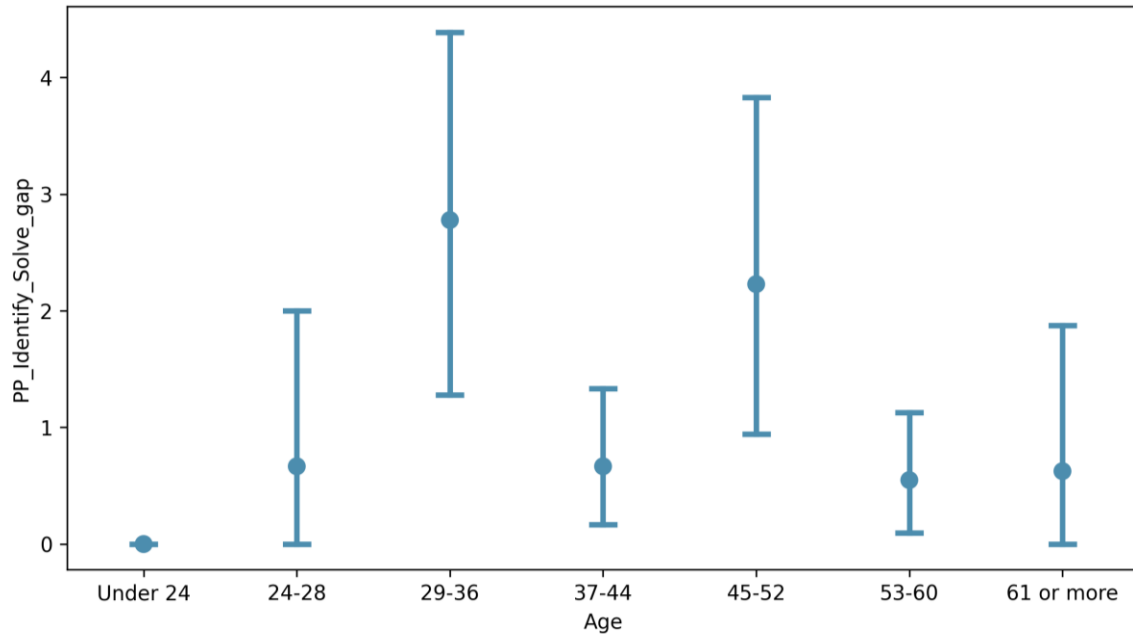


Figure 98. Mean \pm 95% CI PP_Identify_Solve_gap by age.

Conclusion

The Welch ANOVA and descriptive evidence demonstrate that age-related differences in the problem identification and solving competence gap in Spain are substantial and strongly structured by career stage. The results highlight the importance of targeted support for early-mid career freelancers, particularly those aged 29–36, through advanced problem-solving training, mentoring, and structured feedback mechanisms to support the transition toward higher levels of professional autonomy and competence.

5.1.5 Competence: CWT_ClarifyExpr_gap

Differences in the competence gap related to clarity of expression and communication (CWT_ClarifyExpr_gap) were analysed across age groups among Spanish freelancers. This competence gap captures the mismatch between the

perceived importance of communicating ideas clearly, accurately, and effectively, and freelancers' self-assessed proficiency in this area.

Assumption testing revealed that the homogeneity of variances assumption was violated. Accordingly, a Welch ANOVA was conducted. The results indicate a statistically significant effect of age on the clarity of expression competence gap (Welch's $F = 4.84$, $p = 0.001$), demonstrating that mean gap levels differ significantly across age cohorts.

The associated effect size is large ($\eta^2 = 0.46$), indicating that age explains a substantial proportion of the variance in this competence gap. This confirms that the observed differences are both statistically robust and practically meaningful in the Spanish freelance context.

Descriptive pattern

The analysis of mean values and 95% confidence intervals reveal a strongly asymmetric age-related pattern. The youngest freelancers (under 24) exhibit a markedly higher average gap than all other age groups, accompanied by very wide confidence intervals, indicating both a pronounced perceived mismatch and high internal heterogeneity.

From the 24–28 age group onwards, gap levels decrease sharply. Freelancers aged 29–36 and 37–44 display moderate gap values, suggesting partial alignment between the importance of clear communication and perceived proficiency. From mid-career onwards (45–52, 53–60, and 61 or more), average gap levels continue to decline and remain consistently low, with narrower confidence intervals, indicating greater stability and alignment.

Interpretation

These findings suggest that clarity of expression and communication gaps are particularly salient at the earliest stages of freelance careers in Spain. Very young freelancers may struggle to articulate ideas clearly, frame professional messages effectively, or adapt communication styles to diverse client expectations, especially in complex or high-stakes professional interactions.

The sharp reduction in gap levels observed from the mid-twenties onwards indicates a rapid learning and adaptation process, whereby communication competences are progressively refined through repeated client interactions, feedback, and professional socialisation. At later career stages, these competences appear to be largely consolidated.

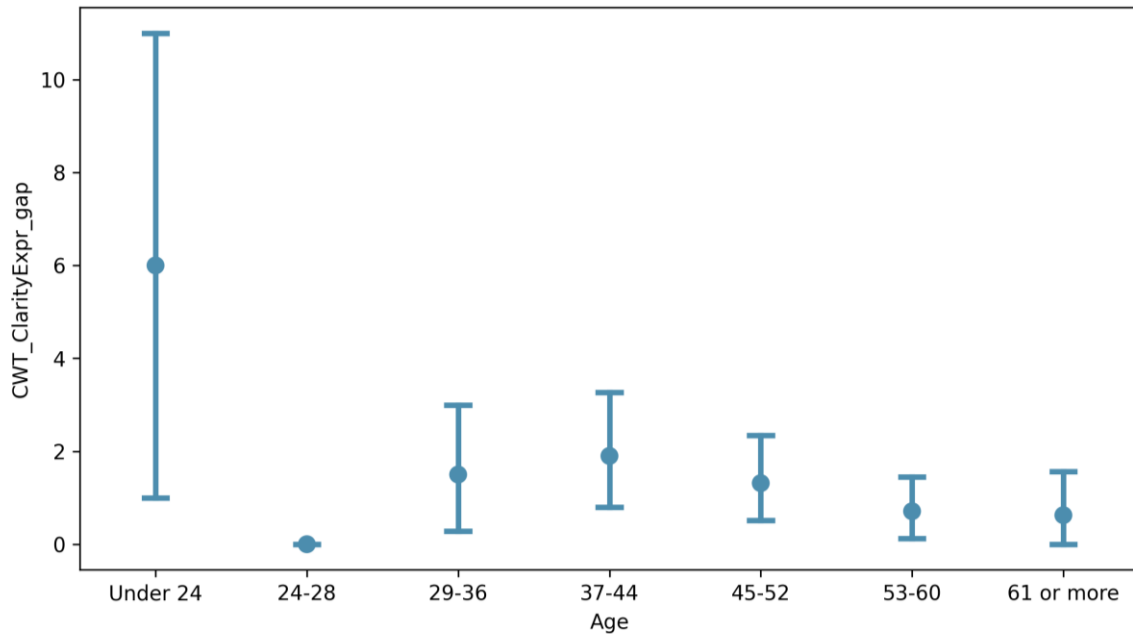


Figure 99. Mean \pm 95% CI CWT_ClarifyExpr_gap by age.

Conclusion

The Welch ANOVA and descriptive evidence demonstrate that age-related differences in the clarity of expression competence gap among Spanish freelancers are substantial and strongly concentrated at early career stages. These findings highlight the importance of early-stage communication training, including structured feedback, presentation skills development, and client-oriented communication coaching, to support young freelancers in acquiring a core competence that underpins effective collaboration and professional credibility.

5.2 Group mean differences in competence gaps by future ai use

5.2.1 Competence: DL_AITools_imp

Differences in the perceived importance of AI tools (DL_AITools_imp) were examined across groups of freelancers in Spain according to their expected future use of AI technologies. This competence reflects the extent to which freelancers consider AI tools to be important for their professional activity.

A one-way ANOVA was conducted, as the assumption of homogeneity of variances was satisfied. The results indicate a statistically significant effect of future AI use on the perceived importance of AI tools ($F = 8.80$, $p < 0.001$), demonstrating that importance ratings differ systematically depending on freelancers' anticipated engagement with AI.

The associated effect size is large ($\eta^2 = 0.21$), indicating that expected future AI use explains a substantial proportion of the variance in perceived importance. This confirms that differences between groups are not only statistically significant but also practically meaningful in the Spanish freelance context.

Descriptive pattern

The analysis of mean values and 95% confidence intervals reveal a clear and monotonic gradient. Freelancers who report that they never plan to use AI tools assign the lowest importance to these technologies. Importance ratings increase progressively among those who expect to use AI rarely or occasionally and reach their highest levels among freelancers who anticipate using AI often or regularly.

This pattern suggests a strong alignment between future-oriented technological engagement and the strategic value attributed to AI tools. Freelancers who foresee frequent AI use consistently perceive these tools as central to their professional performance and competitiveness.

Interpretation

These findings indicate that perceptions of AI importance among Spanish freelancers are strongly shaped by anticipated future use, rather than being uniform

across the workforce. Freelancers who intend to integrate AI more deeply into their work appear to recognise its potential for efficiency, innovation, and competitive advantage, while those less inclined to adopt AI assign it lower strategic relevance.

The results also suggest a self-reinforcing dynamic: higher perceived importance may encourage future adoption, while limited expectations of use may constrain perceived value. This dynamic may contribute to widening competence and adoption gaps within the freelance population.

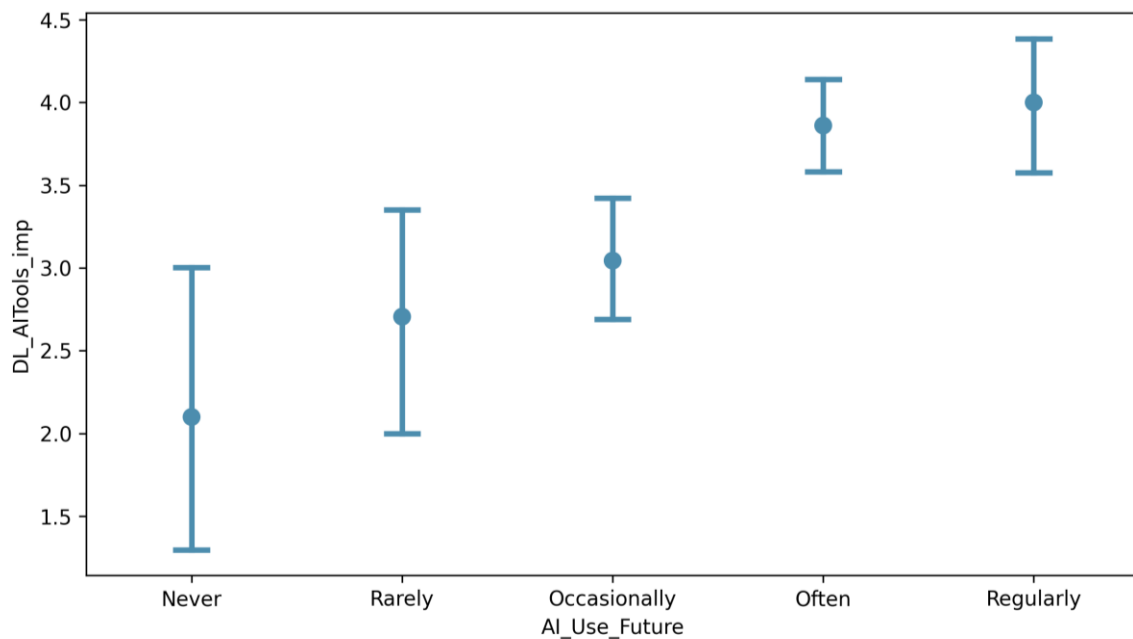


Figure 100. Mean \pm 95% CI DL_AITools_imp by AI_Use_Future.

Conclusion

The ANOVA results demonstrate that future AI use is a key differentiating factor in how Spanish freelancers perceive the importance of AI tools. The strong effect observed highlights the need for awareness-raising and capability-building initiatives, particularly targeting freelancers who currently assign low importance to AI, in order to reduce emerging digital divides and support more inclusive AI adoption across the freelance labour market.

5.2.2 Competence: DL_AITools_prof

Differences in freelancers' self-assessed proficiency in the use of AI tools (DL_AITools_prof) were analysed across groups defined by their expected future use of AI technologies in the Spanish freelance population. This competence reflects freelancers' perceived ability to effectively apply AI-based tools in their professional activities.

A one-way ANOVA was conducted, as the assumption of homogeneity of variances was met. The results reveal a statistically significant effect of future AI use on AI tool proficiency ($F = 11.20$, $p < 0.001$), indicating that mean proficiency levels differ markedly depending on freelancers' anticipated engagement with AI.

The associated effect size is large ($\eta^2 = 0.25$), demonstrating that expected future AI use explains a substantial proportion of the variance in perceived AI proficiency. This confirms that the observed differences are not only statistically significant but also highly relevant in practical terms.

Descriptive pattern

The inspection of mean values and 95% confidence intervals show a clear and progressive gradient across AI use categories. Freelancers who report that they never or rarely expect to use AI tools display the lowest levels of self-assessed proficiency. Proficiency increases noticeably among those who anticipate using AI occasionally and reaches its highest levels among freelancers who expect to use AI often or regularly.

The relatively narrow confidence intervals for the higher-use groups indicate greater internal consistency in perceived proficiency among freelancers who are already oriented toward frequent AI use. Conversely, wider intervals in the low-use groups suggest more heterogeneous skill profiles.

Interpretation

These findings suggest that AI proficiency among Spanish freelancers is closely aligned with future-oriented adoption intentions. Freelancers who foresee frequent AI use not only assign higher importance to these tools but also perceive themselves

as more capable of using them effectively. In contrast, those with limited expectations of AI use report substantially lower proficiency, potentially reflecting reduced exposure, lower confidence, or fewer learning opportunities.

This pattern points to a cumulative advantage dynamic, whereby anticipated use, perceived importance, and proficiency mutually reinforce one another, potentially widening skill gaps between AI-engaged and AI-reluctant freelancers.

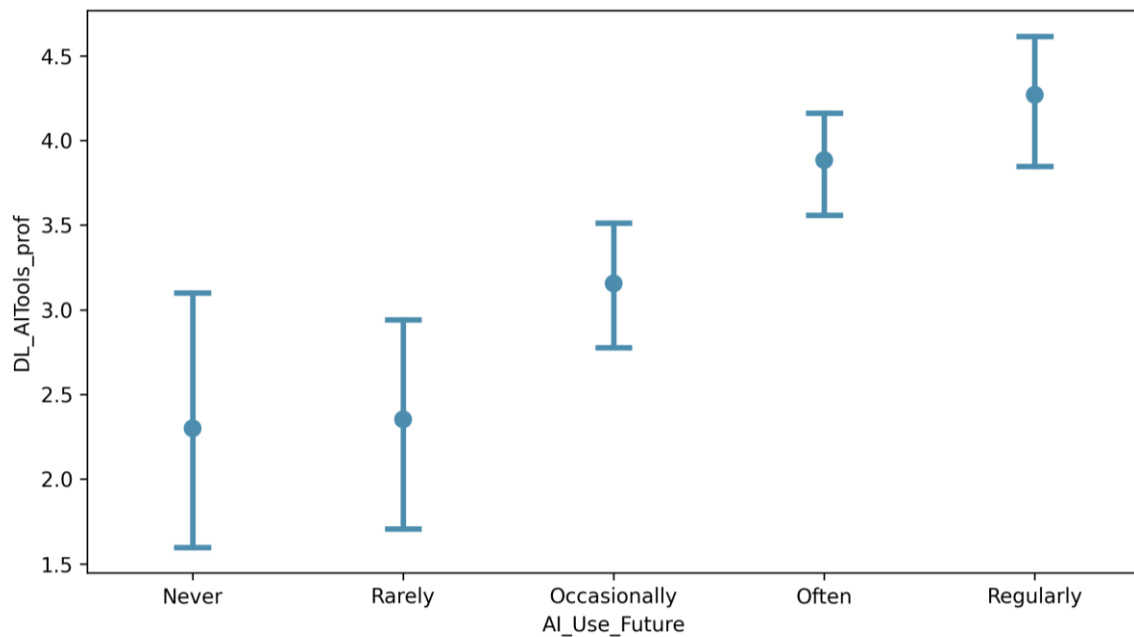


Figure 101. Mean \pm 95% CI DL_AITools_prof by AI_Use_Future.

Conclusion

The ANOVA results demonstrate that future AI use is a strong differentiating factor in freelancers' AI-related proficiency in Spain. The large effect observed underscores the importance of targeted training and support initiatives aimed at freelancers who currently anticipate limited AI use, in order to prevent the consolidation of AI-related competence divides and promote more inclusive and widespread AI capability development within the freelance labour market.

5.2.3 Competence: DL_CloudStorageShare_prof

Differences in freelancers' self-assessed proficiency in the use of cloud storage and file-sharing tools (DL_CloudStorageShare_prof) were analysed across groups defined by their expected future use of AI technologies within the Spanish freelance population. This competence reflects freelancers' ability to manage, share, and collaborate on digital content using cloud-based infrastructures.

Preliminary diagnostics indicated that the assumption of homogeneity of variances was violated. Therefore, a Welch ANOVA was applied. The results reveal a statistically significant effect of future AI use on proficiency in cloud storage and file-sharing tools (Welch's $F = 4.96$, $p = 0.002$), indicating that mean proficiency levels differ meaningfully across AI use intention groups.

The associated effect size is large ($\eta^2 = 0.33$), suggesting that expected future AI use explains a substantial proportion of the variance in cloud-related digital proficiency. This confirms that the observed differences are not only statistically significant but also practically important.

Descriptive pattern

The analysis of mean values and 95% confidence intervals show a clear upward trend across AI use categories. Freelancers who report that they never or rarely expect to use AI tools display comparatively lower levels of proficiency in cloud storage and file-sharing tools. Proficiency increases progressively among those who anticipate using AI occasionally and reaches its highest levels among freelancers who expect to use AI often or regularly.

Notably, the confidence intervals for the high-use groups are relatively narrow, indicating greater consistency in perceived proficiency. In contrast, wider intervals among low-use groups suggest more heterogeneous skill profiles.

Interpretation

These findings indicate that cloud-based collaboration skills among Spanish freelancers are closely aligned with future-oriented digital and AI adoption trajectories. Freelancers who anticipate frequent AI use not only report higher

proficiency in AI tools but also demonstrate stronger capabilities in adjacent digital infrastructures that support AI-enabled workflows, such as cloud storage and collaborative file management.

This pattern suggests that AI adoption is embedded within a broader digital competence ecosystem, where proficiency in foundational digital tools co-evolves with more advanced technologies. Conversely, freelancers with limited expectations of AI use may face cumulative disadvantages, not only in AI-specific skills but also in complementary digital capabilities.

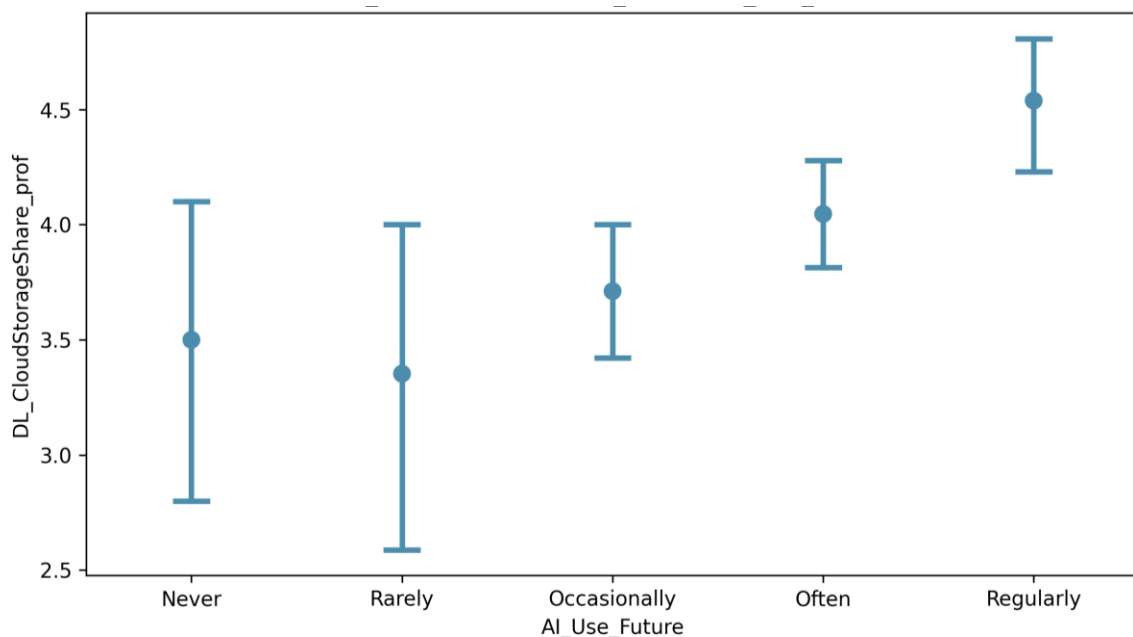


Figure 102. Mean \pm 95% CI DL_CloudStorageShare_prof by AI_Use_Future.

Conclusion

Overall, the Welch ANOVA results demonstrate that future AI use significantly differentiates freelancers' proficiency in cloud storage and file-sharing tools in Spain. The large effect observed underscores the importance of integrated digital upskilling strategies that address both AI tools and the underlying digital infrastructures on which they rely. Such strategies are particularly relevant for freelancers who currently anticipate low AI engagement, to prevent the emergence of persistent digital competence divides.

5.3 Group mean differences in competence gaps by activity

5.3.1 Competence: PP_Identify_Solve_gap

Differences in the competence gap related to problem identification and solving (PP_Identify_Solve_gap) were examined across main freelance activity categories in Spain. This competence gap reflects the mismatch between the importance attributed to autonomously identifying problems and developing effective solutions, and freelancers' self-assessed proficiency in this domain.

A one-way ANOVA was conducted, as the assumption of homogeneity of variances was met. The results indicate a statistically significant effect of main freelance activity on the problem identification and solving competence gap ($F = 2.36$, $p = 0.006$), demonstrating that mean gap levels differ systematically across professional domains.

The associated effect size is large ($\eta^2 = 0.21$), indicating that professional activity explains a substantial proportion of the variance in this competence gap. This confirms that the observed differences are not only statistically significant but also practically meaningful within the Spanish freelance labour market.

Descriptive pattern

The inspection of mean values and 95% confidence intervals reveal a highly differentiated activity-specific pattern. Most professional domains display low to moderate average gap levels, suggesting a relatively good alignment between the importance of problem-solving competences and perceived proficiency.

However, certain activities stand out with markedly higher gap values. Freelancers working in Writing and Translation exhibit the highest average gap, accompanied by very wide confidence intervals, indicating both a pronounced perceived mismatch and substantial heterogeneity within this group. Elevated gap levels are also observed in Hospitality, Tourism and Events and Healthcare, Wellness and Beauty, although with narrower confidence intervals than in writing-related activities.

By contrast, activities such as Clerical and Data Entry, Sales and Marketing Support, Service and Support Work, and Generic / Self-Employment display very low average gaps, suggesting a closer alignment between problem-solving demands and perceived proficiency. Technical and knowledge-intensive domains, including Technical Engineering, Software Development and IT, and Professional Services, show moderate gap levels, reflecting higher problem-solving demands but also stronger perceived competence.

Interpretation

These findings indicate that problem identification and solving gaps among Spanish freelancers are strongly activity dependent. Freelancers operating in domains characterised by unstructured tasks, high cognitive autonomy, and limited external feedback, such as Writing and Translation, appear to face greater challenges in aligning problem-solving demands with perceived competence. In contrast, roles with more standardised workflows or clearer task boundaries show lower perceived mismatches.

The substantial variability observed within some activity groups also suggests that problem-solving demands and learning trajectories differ widely even within the same professional domain, reinforcing the need for nuanced interpretation.

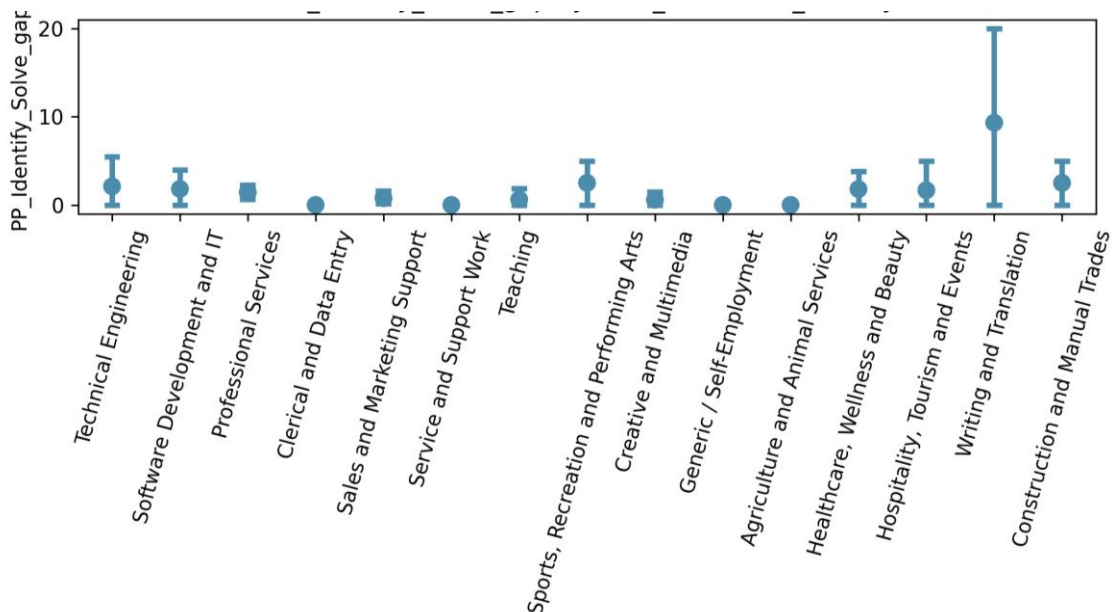


Figure 103. Mean \pm 95% CI PP_Identify_Solve_gap by Main_Freelancer_Activity.

Conclusion

The ANOVA results demonstrate that main freelance activity is a key differentiating factor in problem identification and solving competence gaps in Spain. The large effect size highlights the importance of activity-sensitive support and upskilling strategies, particularly for freelancers in highly autonomous and cognitively demanding fields. Tailored interventions focusing on structured problem-solving methods, peer learning, and feedback mechanisms may be especially beneficial in reducing competence gaps in these domains.

5.4 Group mean differences in competence gaps by upskilling frequency

5.4.1 Competence: DL_AITools_prof

Differences in freelancers' self-assessed proficiency in the use of AI tools (DL_AITools_prof) were examined across groups defined by their frequency of upskilling activities in Spain. This competence captures freelancers' perceived ability to effectively apply AI-based tools in their professional work.

A one-way ANOVA was conducted, as the assumption of homogeneity of variances was satisfied. The results indicate a statistically significant effect of upskilling frequency on AI tool proficiency ($F = 7.74, p < 0.001$), showing that mean proficiency levels vary systematically depending on how often freelancers engage in learning and skill development activities.

The associated effect size is large ($\eta^2 = 0.19$), indicating that upskilling frequency explains a substantial proportion of the variance in perceived AI proficiency. This confirms that the observed differences are not only statistically significant but also practically meaningful in the Spanish freelance context.

Descriptive pattern

The inspection of mean values and 95% confidence intervals reveal a clear and progressive pattern. Freelancers who engage in upskilling rarely or occasionally report the lowest levels of AI tool proficiency. Proficiency increases notably among

those who upskill often and reaches its highest levels among freelancers who report regular upskilling.

Interestingly, freelancers who report never engaging in upskilling display relatively high mean values, accompanied by very wide confidence intervals, indicating substantial heterogeneity within this group. This suggests that while some freelancers may rely on prior experience or informal learning, others may lack structured competence development, resulting in uneven proficiency profiles.

Interpretation

These findings indicate that frequent and sustained upskilling is strongly associated with higher AI-related proficiency among Spanish freelancers. Regular engagement in learning activities appears to facilitate not only the acquisition of AI-specific skills but also greater confidence in applying these tools effectively.

The heterogeneous pattern observed among freelancers who never upskill suggests the presence of divergent learning pathways, where some individuals compensate through experiential learning, while others risk falling behind as AI technologies evolve.

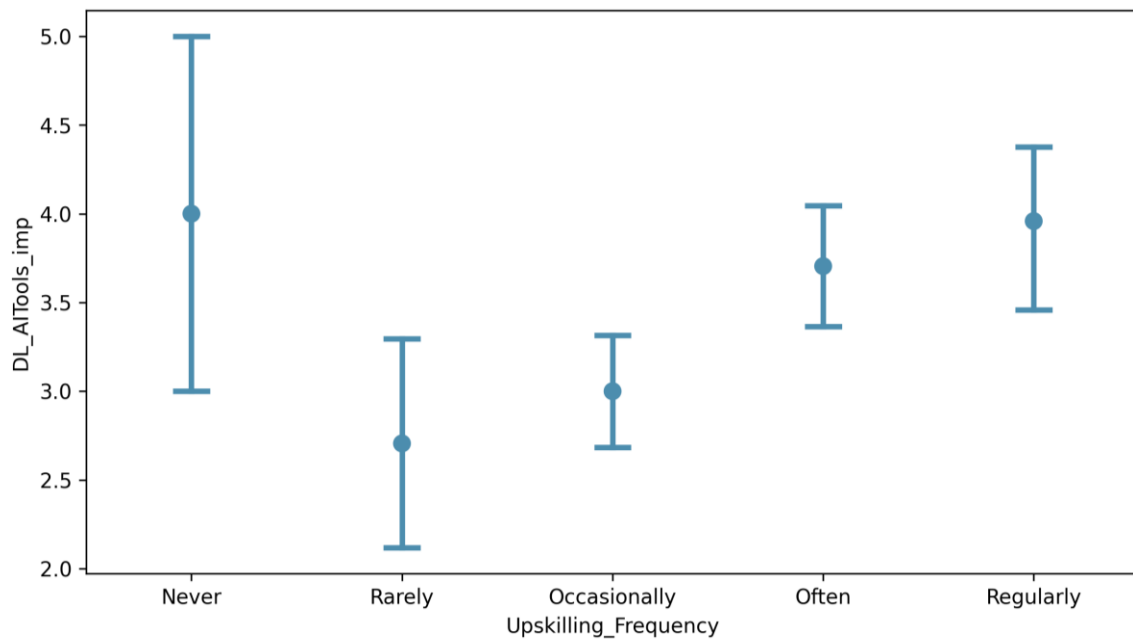


Figure 104. Mean \pm 95% CI DL_AITools_imp by Upskilling_Frequency.

Conclusion

The ANOVA results demonstrate that upskilling frequency is a key differentiating factor in AI tool proficiency in Spain. The large effect size underscores the importance of continuous and structured learning opportunities to support AI competence development. These findings highlight the need for policies and training initiatives that encourage regular upskilling, particularly for freelancers who currently engage infrequently in learning activities, in order to foster more inclusive and resilient AI skill development across the freelance workforce.

5.4.2 Competence: DL_SearchSocialContent_gap

Differences in the competence gap related to the effective use of search engines, social media, and digital content platforms (DL_SearchSocialContent_gap) were analysed across groups of Spanish freelancers according to their frequency of upskilling activities. This competence gap reflects the mismatch between the perceived importance of navigating, evaluating, and leveraging online content and freelancers' self-assessed proficiency in doing so.

Preliminary diagnostics indicated that the assumption of homogeneity of variances was violated. Consequently, a Welch ANOVA was applied. The results reveal a statistically significant effect of upskilling frequency on the digital search and content competence gap (Welch's $F = 3.83$, $p = 0.008$), indicating that mean gap levels differ meaningfully depending on how frequently freelancers engage in learning activities.

The associated effect size is large ($\eta^2 = 0.22$), suggesting that upskilling frequency explains a substantial proportion of the variance in this competence gap. This confirms that differences between groups are not only statistically significant but also practically relevant within the Spanish freelance workforce.

Descriptive pattern

The inspection of mean values and 95% confidence intervals reveal a non-linear pattern. Freelancers who report rare upskilling display the lowest proficiency levels relative to perceived importance, resulting in higher gap values. In contrast,

freelancers who upskill occasionally, often, or regularly show lower and more stable gap levels, indicating a closer alignment between the importance of digital content skills and perceived proficiency.

Interestingly, freelancers who report never engaging in upskilling display very high proficiency levels with minimal variability. However, this pattern should be interpreted with caution, as it likely reflects a small and highly selective subgroup with strong prior experience or informal learning trajectories rather than a generalisable trend.

Interpretation

These findings suggest that engagement in upskilling plays a key role in reducing gaps related to digital search and content competences among Spanish freelancers. Regular or sustained learning activities appear to help freelancers keep pace with evolving digital platforms, content strategies, and algorithmic environments, thereby improving alignment between perceived importance and actual capability.

The elevated gaps observed among freelancers who rarely upskill highlight a risk group that may struggle to adapt to the rapid evolution of digital content ecosystems, despite recognising their growing importance for visibility, client acquisition, and professional positioning.

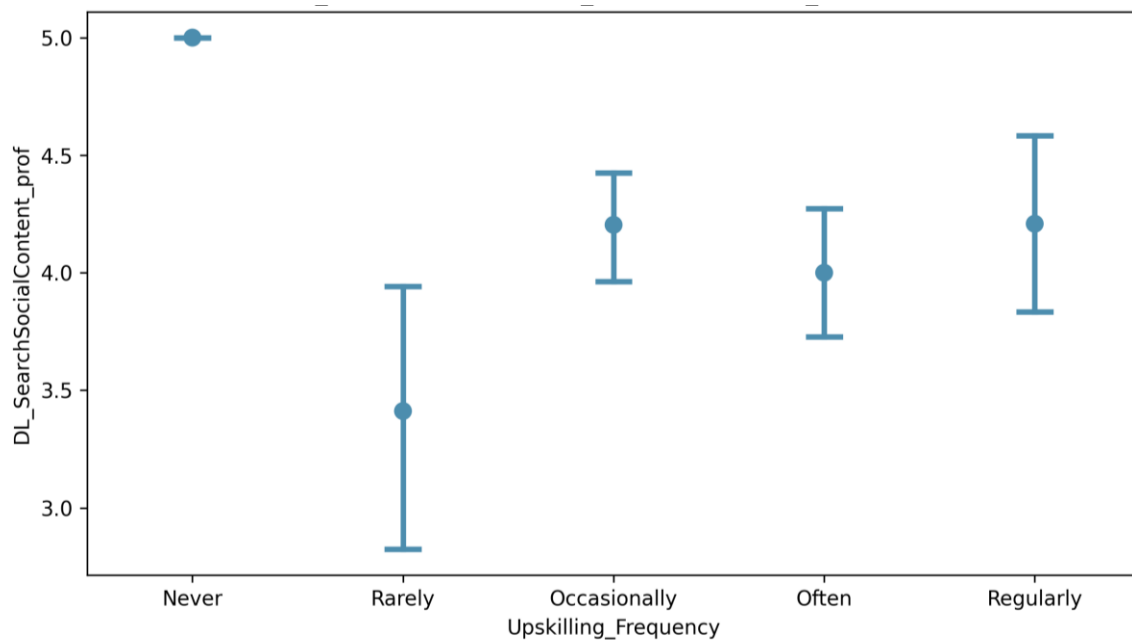


Figure 105. Mean \pm 95% CI DL_SearchSocialContent_prof by Upskilling_Frequency.

Conclusion

The Welch ANOVA results demonstrate that upskilling frequency is a significant differentiating factor in digital search and content competence gaps in Spain. The large effect size underscores the importance of continuous learning pathways, particularly for freelancers with low engagement in upskilling activities. Targeted interventions that promote accessible, practice-oriented digital training may be especially effective in reducing these gaps and supporting sustained competitiveness in the freelance labour market

5.4.3 Competence: CWT_MultiCult_gap

Differences in the perceived importance of the ability to work in multicultural environments (CWT_MultiCult_imp) were examined across groups of Spanish freelancers according to their years of freelance experience. This competence refers to the relevance attributed to operating effectively in culturally diverse and international professional contexts.

The descriptive analysis of mean values and 95% confidence intervals reveal a clear experience-related pattern in the importance assigned to multicultural competence.

Freelancers with less than one year of experience report moderately high average importance levels, but with very wide confidence intervals, indicating substantial heterogeneity in perceptions at the earliest career stage. This suggests that while some newcomers strongly recognise the relevance of multicultural work environments, others may still have limited exposure or awareness of such demands.

From 1–5 years of experience onwards, importance ratings become more stable and consistent, with narrower confidence intervals. Freelancers in the 6–10 years category assign slightly higher importance to multicultural competence, reflecting increased exposure to diverse clients, international collaborations, or cross-cultural work settings as careers develop.

The highest importance levels are observed among freelancers with more than 10 years of experience, who also display relatively tight confidence intervals. This pattern indicates a strong and consolidated recognition of multicultural competence as a critical professional requirement among highly experienced freelancers.

Interpretation

The descriptive evidence suggests that the perceived importance of multicultural competence increases progressively with freelance experience in Spain. While early-career freelancers show heterogeneous perceptions, more experienced professionals consistently recognise the strategic value of being able to operate in culturally diverse environments.

This trend likely reflects cumulative exposure to international markets, long-term client relationships, and the growing relevance of cross-border collaboration in mature freelance careers. As freelancers advance professionally, multicultural competence appears to shift from a contextual or optional skill to a core and non-negotiable professional asset.

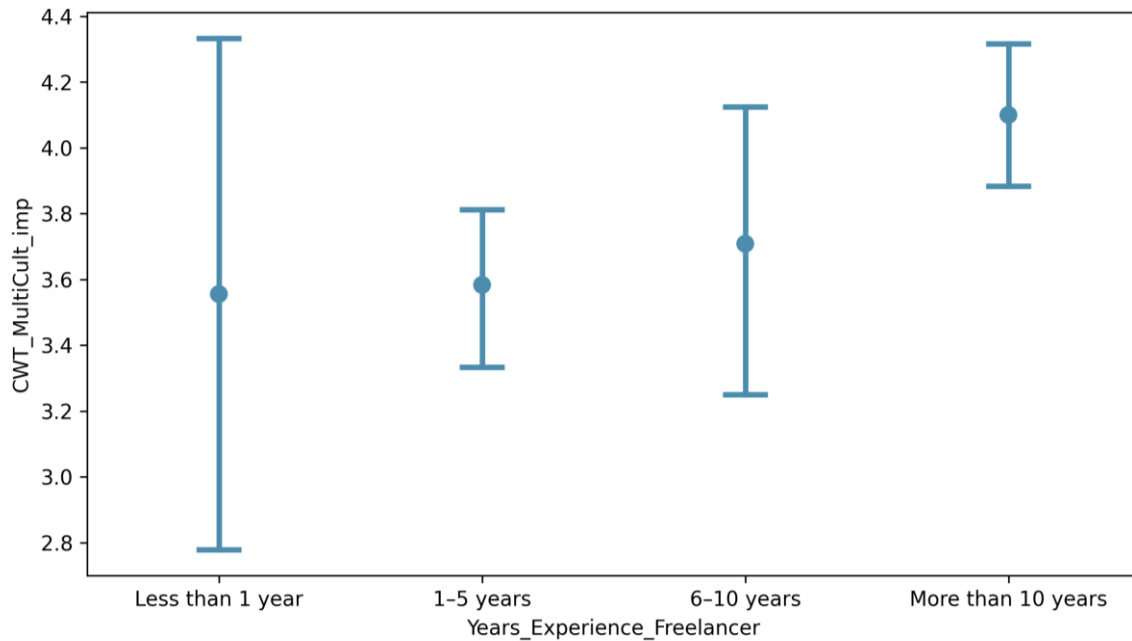


Figure 106. Mean \pm 95% CI CWT_Multicult_imp by Years_Experience_Freelancer.

Conclusion

Taken together, these results indicate that years of freelance experience are associated with increasingly strong and consistent recognition of the importance of multicultural competence among Spanish freelancers. This finding highlights the relevance of early awareness-raising and experiential learning opportunities, such as international projects, intercultural training, and mentoring, to help less experienced freelancers anticipate and prepare for the multicultural demands that become more salient as freelance careers progress.

5.5 Global discussion of group differences in freelancers' competences

The ANOVA-based analyses provide a comprehensive and consistent picture of how freelancers' competences and competence gaps in Spain are systematically structured by individual characteristics, professional trajectories, and learning behaviours, rather than being evenly distributed across the freelance population. Across all dimensions examined, the results reveal statistically significant and

substantively large group differences, highlighting the presence of well-defined patterns of heterogeneity.

A first key finding concerns the role of age and career stage. The analyses show that age is a major differentiating factor in both competence gaps (e.g., relational engagement, assertiveness, problem-solving, clarity of expression, multicultural competence) and proficiency levels. Younger freelancers, particularly those at early and early-mid career stages, tend to report larger gaps, reflecting a mismatch between the growing importance of these competences and their perceived ability to perform them effectively. In contrast, older freelancers display higher proficiency and lower gaps, suggesting that many transversal competences consolidate progressively through accumulated professional experience, repeated client interaction, and learning-by-doing processes. Importantly, these age effects are often non-linear, pointing to critical transition phases rather than smooth life-cycle trends.

A second central pattern emerges with respect to future AI use. Freelancers' expectations regarding their engagement with AI technologies strongly differentiate both the perceived importance and the proficiency of AI-related competences, as well as adjacent digital skills such as cloud storage and collaborative infrastructures. The monotonic gradients observed indicate that freelancers who anticipate frequent AI use not only value these technologies more highly but also perceive themselves as more capable of using them effectively. This suggests the existence of self-reinforcing adoption dynamics, whereby expectations, perceived relevance, and competence mutually shape each other, potentially leading to widening digital divides within the freelance workforce.

Closely related to this, the analyses highlight the decisive role of upskilling frequency. Regular engagement in learning activities is consistently associated with higher proficiency and lower competence gaps, particularly in AI tools and digital content management. Freelancers who upskill rarely or irregularly appear more exposed to competence mismatches, even when they recognise the strategic importance of these skills. At the same time, the heterogeneous patterns observed among freelancers who report never upskilling suggest the coexistence of informal learning trajectories and accumulated experiential capital, underscoring the need to

distinguish between absence of formal training and absence of competence development.

Differences by main freelance activity further reinforce the conclusion that competence gaps are context dependent. Certain professional domains, especially those characterised by high autonomy, unstructured tasks, and limited external feedback, exhibit systematically higher gaps in competences such as problem identification and solving or self-organisation. Conversely, activities with more standardised workflows or clearer task boundaries tend to show lower gaps. This finding confirms that professional context shapes not only competence requirements but also learning opportunities and perceived adequacy of skills.

Finally, years of freelance experience emerge as a complementary structuring factor, particularly in relation to the perceived importance of transversal competences such as multicultural skills. As freelance careers mature, competences that may initially appear peripheral increasingly become recognised as core professional assets, reflecting cumulative exposure to international markets, diverse clients, and complex collaboration environments.

Taken together, the ANOVA results strongly support the conclusion that competence development among Spanish freelancers follows differentiated and path-dependent trajectories, shaped by age, experience, professional context, technological orientation, and learning behaviour. These findings underline that one-size-fits-all approaches to training and policy intervention are unlikely to be effective. Instead, they point to the need for targeted, adaptive, and career-stage-sensitive strategies that simultaneously address digital and AI-related skills, transversal competences (communication, problem-solving, self-management), and psychosocial dimensions critical for sustainable freelance careers.

In this sense, the ANOVA evidence complements and reinforces the earlier cross-tabulation and gap analyses, providing robust empirical support for the design of segmented upskilling policies and support mechanisms tailored to the heterogeneous realities of the freelance labour market in Spain.

6 Gap analysis (paired t-tests)

This section presents the results of the competence gap analysis based on paired *t*-tests, conducted to assess within-respondent differences between perceived competence importance and self-reported proficiency. The analysis focuses exclusively on freelancers, as the corresponding dataset for companies is limited to only five observations, which is insufficient to support reliable inferential statistics and effect size estimation. Consequently, paired comparisons involving company data were excluded from this section to avoid statistically unstable or misleading conclusions.

6.1 Interpretation of paired mean differences between importance and proficiency ratings of competences by categorical variables

Paired-sample *t*-tests were conducted on subsamples defined by categorical attributes, including demographic factors, work-related characteristics, and patterns of engagement in upskilling activities. For each competence, comparisons between perceived importance and self-assessed proficiency were thus carried out within internally consistent subgroups, corresponding to the different categories of the explanatory variables. This strategy allows the analysis to uncover competence gaps that are structurally linked to specific freelancer profiles, rather than assuming that such gaps are evenly distributed across the overall freelance population.

To guarantee both statistical soundness and practical relevance, the analysis was limited to results satisfying two cumulative selection criteria. First, only paired comparisons yielding statistically significant differences ($p < 0.05$) were retained, ensuring that the observed discrepancies are unlikely to be due to random variation.

Second, only cases exhibiting large or very large effect sizes were considered, operationalised as Cohen’s $d \geq 0.80$, thereby focusing on competence gaps of substantive importance rather than effects that are statistically significant but trivial in magnitude.

In addition, a minimum sample size requirement of at least 15 paired observations was imposed. This threshold is grounded in established principles of statistical power. In the context of paired t-tests, sample sizes of this magnitude are generally necessary to achieve acceptable power (approximately 0.80) for detecting large effects at a conventional significance level ($\alpha = 0.05$) (Cohen, 1988; Lakens, 2013). Findings based on smaller subsamples were excluded, as estimates derived from very small samples are prone to instability and inflation of effect sizes.

By jointly applying thresholds related to statistical significance, effect size magnitude, and minimum sample size, the paired t-test analysis systematically highlights competences for which the mismatch between importance and proficiency is both empirically robust and meaningful for training prioritisation and policy analysis. Across all reported cases, negative values of Cohen’s d indicate that perceived importance exceeds self-assessed proficiency, signalling areas of unmet competence needs.

Detailed outputs are provided in the following table:

Competence Variable	Category	Level	N	μ Prof.	μ Imp.	μ Gap	t	p	Cohen’s d
CWT_PrioritizationTask	Age	24-28	6	4,50	3,33	0,00	7,000	0,001	-2,86
CWT_ClarityExpr	Age	24-28	6	4,33	3,33	0,00	2,739	0,041	-1,12
CWT_TeamWork	Age	24-28	6	4,50	3,50	0,00	2,739	0,041	-1,12
CWT_Courage_Assert	Age	24-28	6	4,33	3,50	0,00	2,712	0,042	-1,11
CWT_MultiCult	Age	24-28	6	4,17	3,33	0,00	2,712	0,042	-1,11
PP_SelfOrg_WorkDisc	Main_Freelancer_Activity	Clerical and Data Entry	9	4,44	4,00	0,00	2,530	0,035	-0,84
CWT_Negotiation	Years_Experience_Freelancer	Less than 1 year	9	3,67	3,22	0,00	2,530	0,035	-0,84
DL_CloudStorageShare	Main_Freelancer_Activity	Technical Engineering	9	4,11	3,67	0,00	2,530	0,035	-0,84

Table 3. Significant paired mean differences between importance and proficiency ratings across freelancer subgroups.

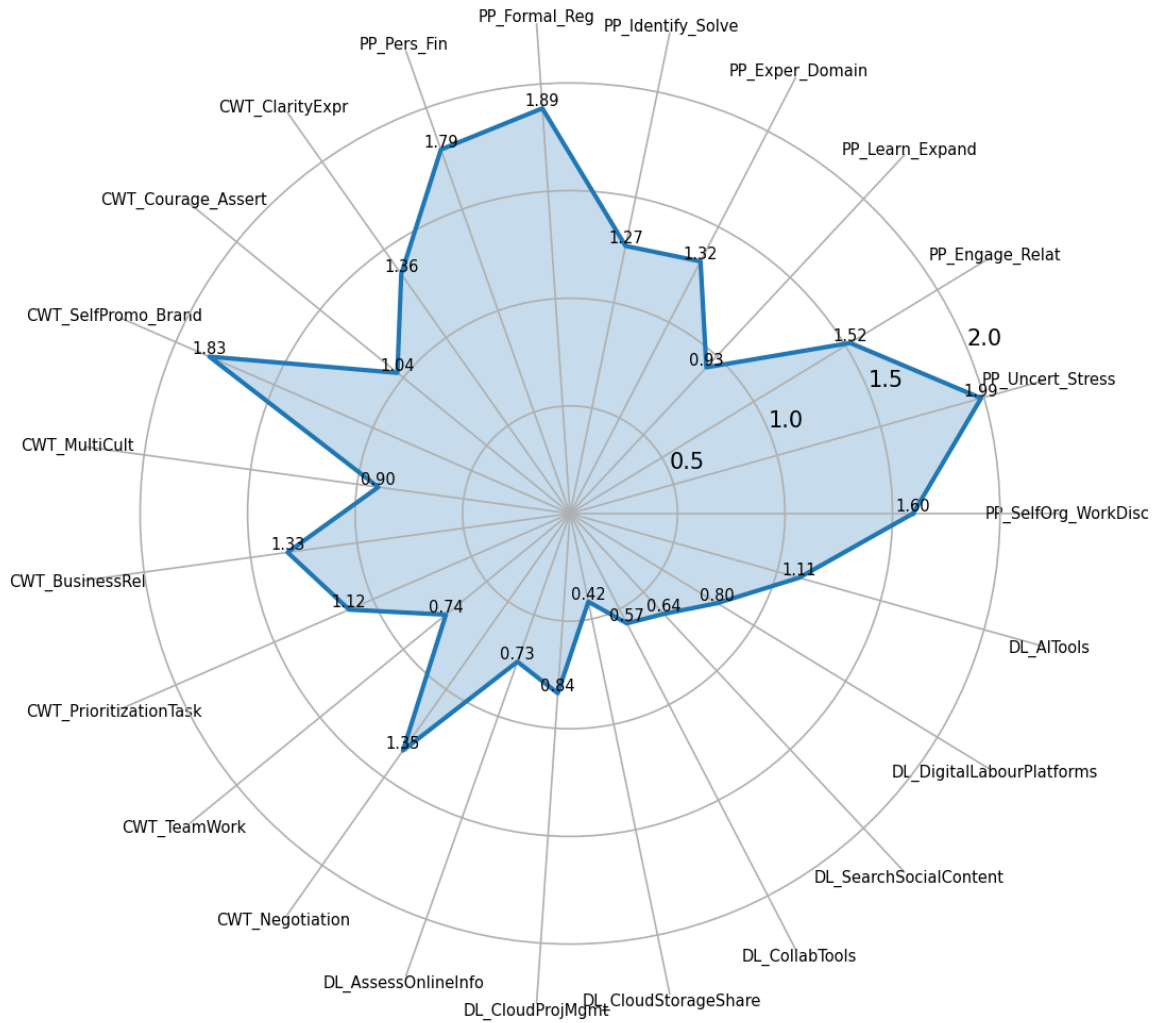


Figure 107. Mean gaps (global).

6.1.1 Task prioritisation (CWT_PrioritizationTask) – Age 24–28

A paired t-test was conducted to assess differences between perceived importance and proficiency in task prioritisation among freelancers aged 24–28 (N = 6). The analysis shows a statistically significant difference, $t = 7.00$, $p = 0.001$, with importance ratings clearly exceeding proficiency levels.

The effect size is very large (Cohen’s $d = -2.86$), indicating an extremely pronounced mismatch. This result suggests that young freelancers in this age group strongly recognise the importance of prioritising tasks and managing workloads effectively yet feel substantially underprepared in this competence. The magnitude of the effect highlights task prioritisation as a critical early-career development need.

6.1.2 Clarity of expression (CWT_ClarifyExpr) - Age 24-28

For freelancers aged 24-28 (N = 6), a paired t-test reveals a significant discrepancy between importance and proficiency in clarity of expression, $t = 2.739$, $p = 0.041$. Importance is rated higher than proficiency.

The associated effect size is large ($d = -1.12$), indicating that communication clarity represents a salient competence gap for this cohort. This finding suggests that younger freelancers may struggle to translate ideas into clear, professional communication despite recognising its relevance in client interactions.

6.1.3 Teamwork (CWT_TeamWork) - Age 24-28

A similar pattern emerges for teamwork skills among freelancers aged 24-28 (N = 6). The paired t-test indicates a statistically significant difference, $t = 2.739$, $p = 0.041$, with higher importance than proficiency.

The effect size is again large ($d = -1.12$), pointing to a meaningful mismatch. This result suggests that although teamwork is considered essential, younger freelancers may lack confidence or experience in collaborative work settings, particularly in digitally mediated or project-based teams.

6.1.4 Courage and assertiveness (CWT_Courage_Assert) - Age 24-28

For courage and assertiveness in communication, the paired t-test for freelancers aged 24-28 (N = 6) also yields a significant difference, $t = 2.712$, $p = 0.042$. Importance ratings exceed proficiency levels.

The effect size is large ($d = -1.11$), indicating that assertive communication and the ability to express professional viewpoints confidently constitute a notable competence gap at this career stage. This finding aligns with broader evidence that early-career freelancers may experience difficulties in negotiation, boundary-setting, and client-facing assertiveness.

6.1.5 Multicultural Competence (CWT_MultiCult) – age 24–28

A paired t-test conducted for multicultural competence among freelancers aged 24–28 (N = 6) shows a statistically significant difference, $t = 2.712$, $p = 0.042$, with importance again rated higher than proficiency.

The effect size is large ($d = -1.11$), suggesting that young freelancers perceive multicultural skills as increasingly relevant but do not yet feel adequately prepared to operate in culturally diverse or international work contexts.

6.1.6 Self-organisation and work discipline (PP_SelfOrg_WorkDisc) – Clerical and data entry

Among freelancers working in Clerical and Data Entry activities (N = 9), a paired t-test reveals a significant difference between importance and proficiency in self-organisation and work discipline, $t = 2.530$, $p = 0.035$.

The effect size is moderate to large ($d = -0.84$), indicating that while these freelancers recognise the importance of disciplined and autonomous work organisation, their perceived proficiency does not fully meet these demands. This gap may reflect the repetitive yet time-sensitive nature of such tasks.

6.1.7 Negotiation skills (CWT_Negotiation) – Less than 1 year of experience

For freelancers with less than one year of experience (N = 9), the paired t-test for negotiation skills indicates a statistically significant gap, $t = 2.530$, $p = 0.035$, with higher importance than proficiency.

The effect size ($d = -0.84$) is moderate to large, highlighting negotiation as a challenging competence for newcomers to freelancing. This finding suggests that limited exposure to client negotiations may leave early-stage freelancers feeling underprepared despite recognising the importance of this skill.

6.1.8 Cloud storage and file sharing (DL_CloudStorageShare) – Technical engineering

Finally, among freelancers in Technical Engineering (N = 9), a paired t-test reveals a significant difference between importance and proficiency in cloud storage and file-sharing tools, $t = 2.530$, $p = 0.035$.

The effect size is moderate to large ($d = -0.84$), indicating that even in technically oriented fields, there is a meaningful gap between the recognised importance of collaborative cloud tools and freelancers' perceived ability to use them effectively.

6.1.9 Synthesis

Across all eight analyses, the paired t-test results consistently show that importance ratings exceed proficiency ratings, as reflected by the negative Cohen's d values. The strongest and most systematic gaps are observed among young freelancers (24–28) across multiple communication and organisational competences, pointing to a clustered early-career vulnerability. In parallel, activity- and experience-specific gaps highlight targeted needs in self-organisation, negotiation, and digital collaboration tools.

Taken together, these findings reinforce the conclusion that targeted, subgroup-specific upskilling interventions, particularly for young and early-career freelancers, are likely to generate substantial improvements in competence alignment and professional effectiveness.

6.2 Global gap analysis (paired t -tests)

This section reports the findings of the global competence gap analysis based on paired-sample t-tests applied to the freelancer dataset. The analysis focuses on within-individual comparisons between perceived importance and self-assessed proficiency for each competence, with the objective of detecting systematic discrepancies between the relevance attributed to a competence and the level at which it is currently perceived to be mastered.

Paired t-tests were performed on the entire sample of freelancers to determine whether the average difference between importance and proficiency ratings for each competence significantly departs from zero. To ensure that the results discussed are both statistically sound and substantively meaningful, the interpretation is limited to competences that satisfy two cumulative conditions. First, only paired comparisons reaching statistical significance ($p < 0.05$) are considered. Second, only competences exhibiting medium to large effect sizes are retained, operationalised as Cohen's $d \geq 0.50$, thereby focusing on gaps that are not only detectable but also of practical relevance.

By jointly applying criteria related to statistical significance and effect size magnitude, this global analysis identifies priority competences for which the mismatch between importance and proficiency is particularly robust and relevant for training needs assessment and policy-oriented interpretation. Importantly, in all cases observed in this analysis, Cohen's d values are negative, indicating that importance ratings consistently exceed self-assessed proficiency levels. This uniform direction of the effect provides clear evidence of unmet competence needs, reinforcing the relevance of targeted upskilling interventions to bridge these gaps.

Detailed outputs are provided in the following table:

Competence Variable	μ prof.	μ imp.	μ gap	t	p	Cohen's d
CWT_MultiCult	3,78	3,11	0,22	3,367	0,004	-0,79
DL_AssessOnlineInfo	3,67	3,00	0,00	2,309	0,050	-0,77
DL_CloudStorageShare	4,00	3,24	0,24	3,054	0,008	-0,74
DL_CloudStorageShare	3,92	3,47	0,16	4,022	0,000	-0,65
DL_CloudProjMgmt	3,61	3,17	0,28	2,406	0,028	-0,57
CWT_MultiCult	3,93	3,57	0,17	3,003	0,005	-0,55
PP_Exper_Domain	4,47	4,24	0,00	2,219	0,041	-0,54
DL_CloudStorageShare	4,13	3,63	0,21	2,627	0,015	-0,54
DL_SearchSocialContent	4,17	3,63	0,38	2,600	0,016	-0,53
DL_CloudStorageShare	4,07	3,68	0,14	3,400	0,001	-0,51
DL_CloudStorageShare	3,97	3,60	0,13	2,796	0,009	-0,51

Table 4. Global competence gaps between perceived importance and self-assessed proficiency.

6.2.1 Multicultural competence

Multicultural competence (CWT_MultiCult) shows a statistically significant mismatch between perceived importance and self-assessed proficiency in the Spanish sample. Freelancers attribute a high level of importance to the ability to operate in culturally diverse contexts, while reporting comparatively lower levels of mastery. The paired t-test results are robust ($p = 0.004$ and $p = 0.005$ across subsamples), and the associated effect sizes are large (Cohen's $d = -0.79$ and -0.55).

The negative sign of Cohen's d confirms that importance ratings exceed proficiency levels, signalling an unmet competence need. This finding suggests that, although Spanish freelancers increasingly recognise the relevance of multicultural skills, likely driven by internationalisation and cross-border digital work, they may lack sufficient experience or training to feel confident in this domain.

6.2.2 Assessment of online information

The ability to critically assess online information (DL_AssessOnlineInfo) also exhibits a significant importance–proficiency gap. While freelancers report relatively high proficiency levels, the paired comparison indicates that importance ratings are still higher, resulting in a statistically significant difference ($p = 0.050$).

The effect size is moderate to large (Cohen's $d = -0.77$), pointing to a practically meaningful gap. The negative direction of the effect suggests that freelancers perceive the evaluation of online information as increasingly important, particularly in contexts of information overload and AI-generated content, yet do not feel fully prepared to meet these demands consistently.

6.2.3 Cloud storage and file-sharing tools

Competences related to cloud storage and file-sharing tools (DL_CloudStorageShare) emerge as one of the most recurrent sources of mismatch in the Spanish dataset. Across multiple paired t-tests, the differences between importance and proficiency are consistently statistically significant (p values ranging from < 0.001 to 0.015) and associated with moderate to large effect sizes (Cohen's d between -0.74 and -0.51).

Despite relatively high mean proficiency scores, freelancers still rate the importance of these tools higher, indicating that expectations regarding secure, efficient, and collaborative digital file management exceed current self-assessed capabilities. The consistently negative Cohen's d values underline a systematic gap, suggesting that cloud-based collaboration is a critical yet underdeveloped competence area in everyday freelance practice.

6.2.4 Cloud project management

A comparable pattern is observed for cloud-based project management tools (DL_CloudProjMgmt). The paired t-test indicates a statistically significant difference ($p = 0.028$), with a moderate effect size (Cohen's $d = -0.57$).

This result implies that freelancers recognise the growing importance of coordinating tasks, timelines, and deliverables through cloud-based project management systems, but perceive their proficiency as lagging behind these expectations. Again, the negative effect size confirms that importance exceeds proficiency, highlighting a need for more structured skill development in digitally mediated project coordination.

6.2.5 Use of search engines, social media, and content platforms

The competence related to search engines, social media, and content platforms (DL_SearchSocialContent) also displays a significant and meaningful gap. The paired t-test result ($p = 0.016$) is associated with a moderate effect size (Cohen's $d = -0.53$).

Although freelancers report relatively high proficiency in this area, the higher importance ratings suggest that the strategic value of digital visibility, content positioning, and platform navigation is increasing faster than perceived skill development. The negative Cohen's d once again indicates an importance-driven gap, reinforcing the relevance of targeted upskilling in digital content ecosystems.

6.2.6 Domain-specific experience

Finally, domain-specific experience (PP_Exper_Domain) shows a statistically significant difference between importance and proficiency ($p = 0.041$), with a

moderate effect size (Cohen’s $d = -0.54$). Although freelancers generally report high levels of expertise in their respective domains, the negative effect size suggests that importance slightly exceeds perceived proficiency, indicating continuous pressure to deepen or update domain knowledge.

This finding reflects the dynamic nature of freelance markets, where expertise is not static and where ongoing professional development is required to meet evolving client expectations.

6.2.7 Synthesis

Taken together, the paired t-test results for Spain reveal that all identified competence gaps are characterised by negative Cohen’s d values, indicating a consistent pattern in which perceived importance exceeds self-assessed proficiency. The most pronounced gaps are observed in multicultural competence and digital collaboration infrastructures, followed by critical evaluation of online information, cloud-based project management, digital content skills, and domain experience.

These findings provide clear empirical support for prioritising training initiatives that address both advanced digital competences and transversal skills, particularly in areas where freelancers already recognise high importance but feel insufficiently prepared to perform at the required level.

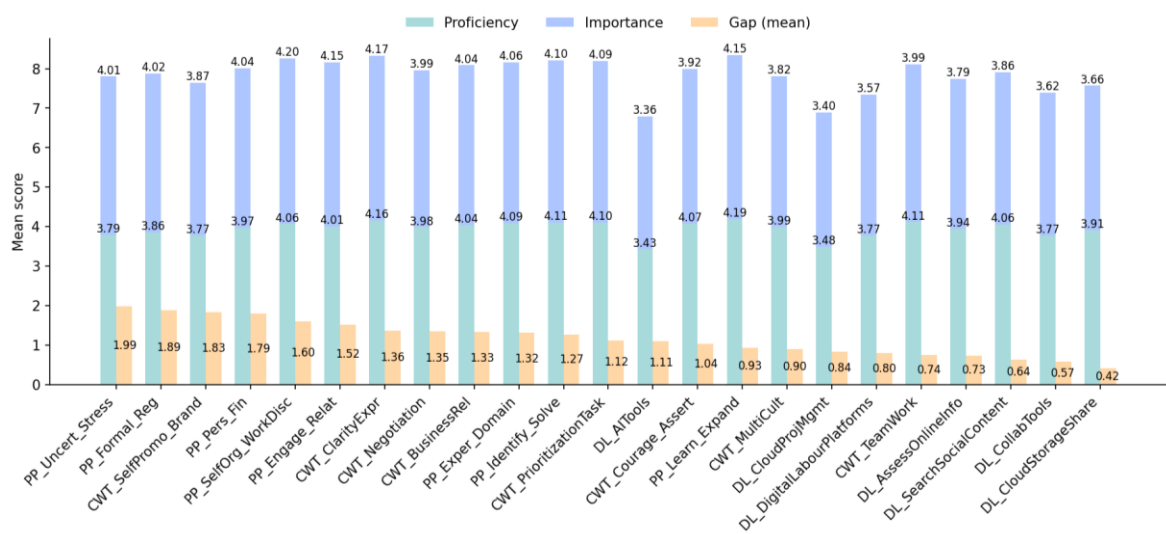


Figure 108. Proficiency/Importance and gap per competence (global).

To support the interpretation of the global competence gap analysis for Spain, the following radar chart is used to illustrate the relative magnitude of mean importance–proficiency gaps across key competences. By plotting all selected competences on a shared scale, the radar chart enables a clear visual comparison of gap intensities, allowing competences with more pronounced mismatches to be readily distinguished from those where discrepancies are comparatively moderate.

This graphical representation complements the paired t-test results by highlighting the overall structure and distribution of competence gaps, rather than focusing on individual statistical indicators. In doing so, it facilitates a more intuitive understanding of how different competences cluster in terms of unmet needs and helps identify priority areas for intervention at the system level.

In the Spanish context, the visual pattern reinforces the statistical evidence pointing to particularly salient gaps in multicultural competence and advanced digital collaboration skills, including cloud-based file sharing, project management tools, and digital content platforms. At the same time, it confirms the presence of meaningful gaps in domain-specific expertise and the critical assessment of online information, reflecting increasing performance expectations in complex and digitally mediated freelance environments.

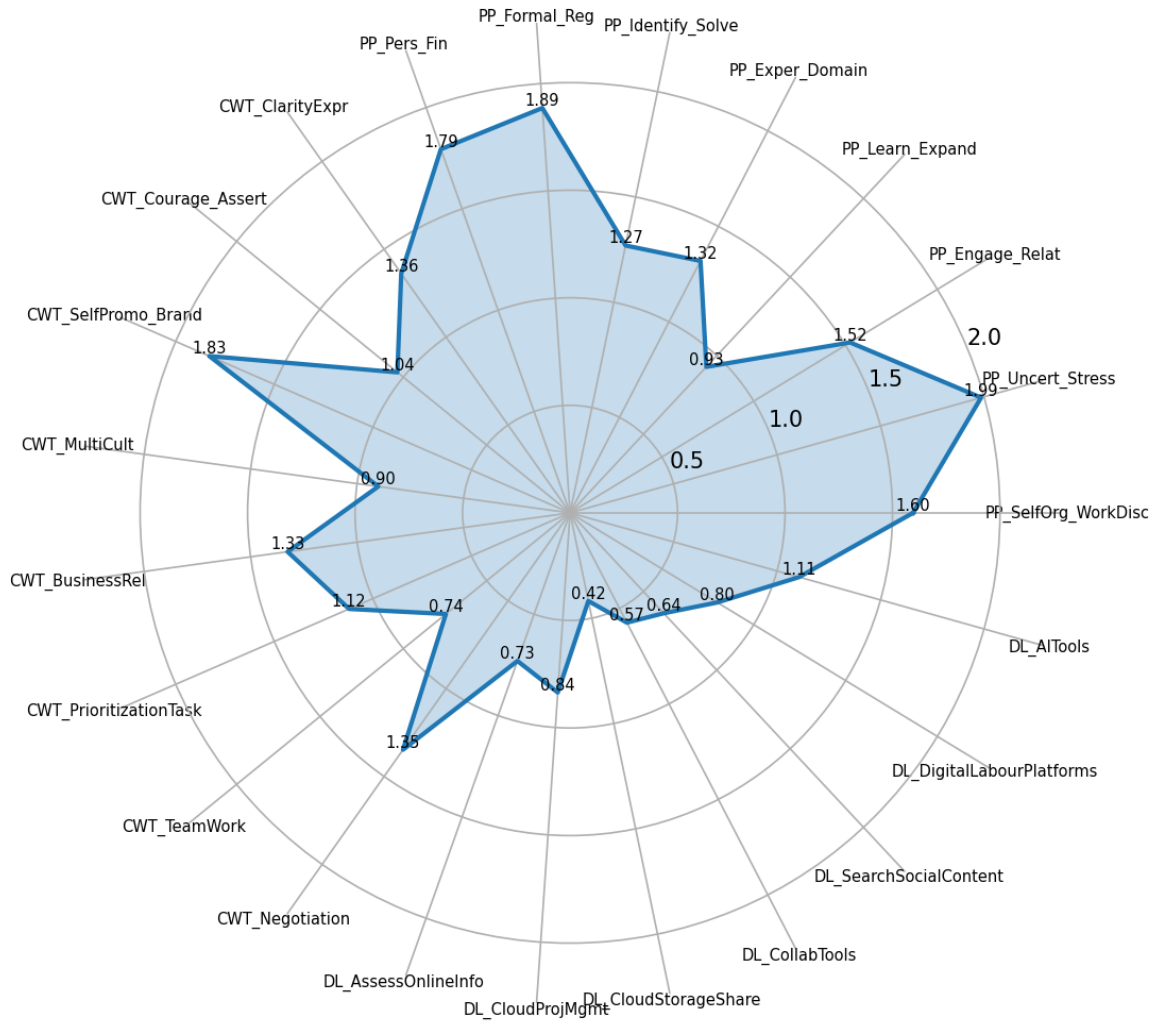


Figure 109. Mean Gaps (Global).

Taken together, these findings provide a robust empirical foundation for prioritising training and upskilling initiatives in Spain, especially those aimed at strengthening freelancers’ ability to operate effectively in international and multicultural settings, manage digitally coordinated workflows, and adapt to the growing demands of platform-based and AI-augmented work environments.

7 Segmentation and profile analysis (k-means and CHAID)

7.1 Cluster analysis for freelancer typologies

A k-means cluster analysis was conducted to identify latent freelancer typologies based on self-assessed competence proficiency variables, domain experience, freelance experience, AI orientation, and upskilling behaviour. The categorical variable *Main area of freelancer activity* was excluded to ensure that clusters reflect competence, experience, and technology-adoption patterns rather than occupational labels.

Ordinal variables for AI use and upskilling frequency were mapped onto a five-point scale (Never-Regularly), while freelance experience categories were converted to approximate numeric values (<1 year = 0.5; 1–5 years = 3; 6–10 years = 8; >10 years = 12.5). All variables were standardized (z-scores) prior to clustering.

Based on interpretability and internal validity diagnostics, a five-cluster solution ($k = 5$) was retained.

7.1.1 Internal validity of clusters

The Calinski-Harabasz index was used to assess cluster separation, with higher values indicating more distinct and compact freelancer profiles. Also, the Davies-Bouldin index was employed to evaluate cluster compactness and separation, with lower values indicating better-defined freelancer typologies.

Metric	Value	Direction	What it rewards
Calinski–Harabasz	19.35	Higher is better	Separation between clusters
Davies–Bouldin	2.32	Lower is better	Compact, non-overlapping clusters

Table 5. Cluster validity indices for the selected five-cluster solution.

The selected five-cluster solution achieved a favourable balance between cluster separation and compactness, as indicated by a comparatively high Calinski–Harabasz value and a low Davies–Bouldin index. Together with the substantive interpretability of the resulting freelancer profiles, these metrics support the robustness of the identified typology.

The following figure visualizes cluster profiles using a radar chart.

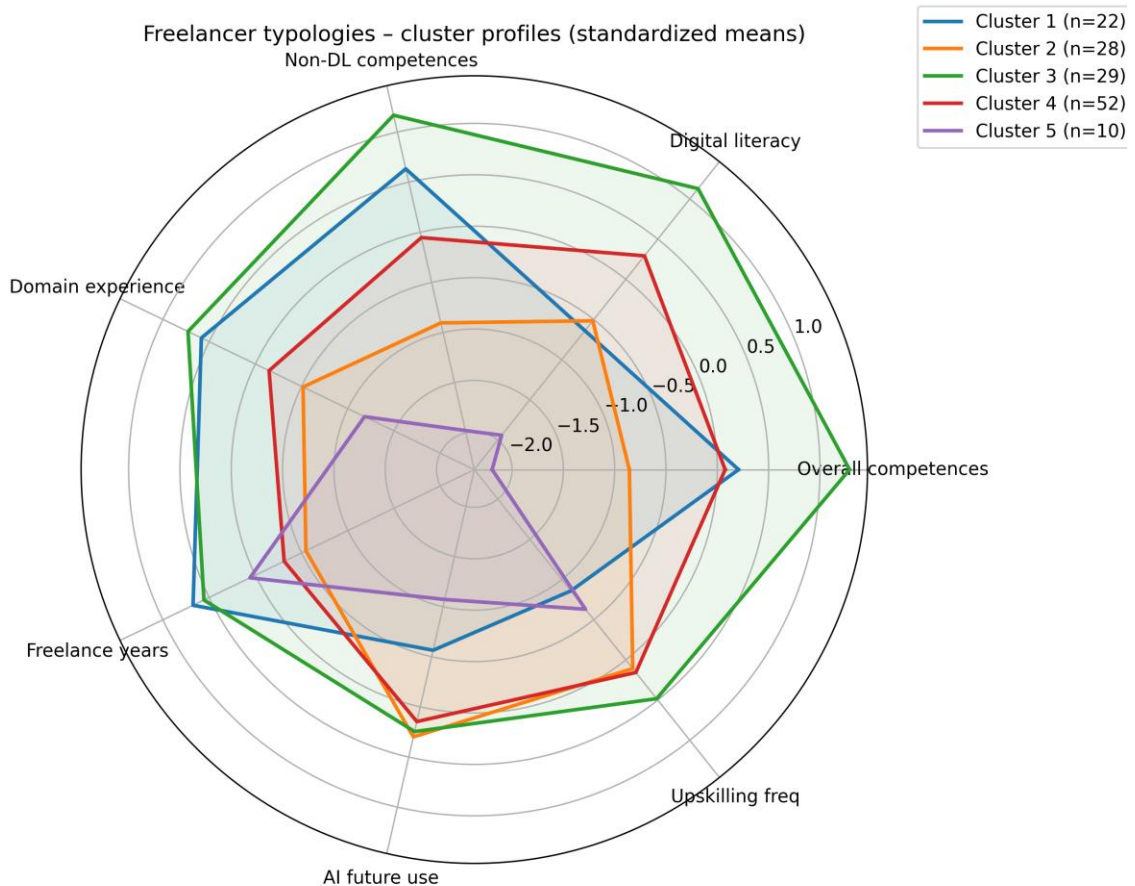


Figure 110. Freelancer typologies - cluster profiles (standardized means).

7.1.2 Cluster profiles

Cluster 1 – *Traditional Experts* (n = 15; 13.9%)

Freelancers in this cluster exhibit high domain-specific and non-digital competence proficiency and substantial freelance experience, but comparatively lower digital literacy and AI adoption. Upskilling activity is moderate. This profile reflects experienced professionals who rely primarily on accumulated expertise and established work practices rather than emerging digital or AI-based tools.

- Very high overall competence (4.38)
- Highest non-digital competences (4.63)
- Highest domain experience (4.73)
- High freelance experience (7.7 years)
- Lower AI orientation (3.67) than other advanced clusters
- Moderate upskilling (3.87)

Cluster 2 – *Early-Career Learners* (n = 11; 10.2%)

This cluster is characterized by lower overall competence proficiency, limited freelance experience, and moderate levels of AI interest and upskilling. Members of this group appear to be in an early or transitional career stage, actively building skills but not yet exhibiting strong specialization or technological leadership.

- Lowest overall competence (3.17)
- Lowest domain experience (3.55)
- Very low freelance experience (2.32 years)
- Moderate AI interest (4.00) but skills still developing
- Upskilling present but not intensive (3.55)

Cluster 3 – *AI-oriented Adopters* (n = 24; 22.2%)

Freelancers in this group demonstrate high digital literacy and the strongest orientation toward future AI use, combined with medium-to-high overall competence proficiency. Freelance experience is typically moderate. This profile represents freelancers who actively integrate AI and advanced digital tools into their

professional activities, even if they do not yet have the longest experience or the highest domain specialization.

- High digital literacy (3.94)
- High AI future use (4.13)
- Moderate-to-high overall competence (3.91)
- Medium freelance experience (5.56 years)
- Upskilling moderate (3.54)

Cluster 4 – *Digital-Native Innovators* (n = 33; 30.6%)

This cluster shows the highest levels of overall competence proficiency and digital literacy, together with frequent upskilling and strong AI orientation. Freelancers in this group combine advanced skills with continuous learning and openness to technological innovation, positioning them at the forefront of digital transformation in freelancing.

- Highest digital literacy (4.43)
- Very high overall competence (4.31)
- High non-digital competences (4.26)
- Highest upskilling frequency (4.36)
- Strong AI orientation (4.12)
- Moderate experience (4.24 years)

Cluster 5 – *Balanced Professionals* (n = 25; 23.1%)

The fifth cluster represents freelancers with consistently moderate-to-high scores across all dimensions, without extreme values on any single indicator. They show solid overall competence, adequate digital literacy, moderate AI adoption, stable upskilling behaviour, and mid-range freelance experience. This profile can be interpreted as well-established, pragmatically skilled professionals who maintain a balanced skill set and adopt new technologies selectively rather than aggressively.

- Moderate overall competence (3.63)
- Lower digital literacy (3.09) than clusters 3–4

- Very high freelance experience (10.1 years)
- Strong domain experience (4.40)
- Strong AI orientation (4.12)
- Moderate upskilling (3.68)

7.1.3 Synthesis and interpretation of cluster profiles

Table 6 summarises the main characteristics of the freelancer clusters identified in the Spanish sample through the k-means segmentation analysis.

Cluster	Assigned profile	Key characteristics
Cluster 1	Experienced Non-Digital Specialists	High domain experience and non-digital competences, long freelance trajectories, low AI orientation, low upskilling
Cluster 2	Developing Digital Learners	Moderate-to-low competences, shorter experience, strong AI orientation and active upskilling behaviour
Cluster 3	High-Competence AI-Engaged Professionals	Highest overall, digital, and non-digital competences, strong AI orientation, frequent upskilling, long experience
Cluster 4	Mainstream Digital Professionals	Balanced and consistently high competences, regular upskilling, moderate AI use, intermediate experience
Cluster 5	Low-Competence, Low-Engagement Freelancers	Low competences across all dimensions, weak digital skills, low AI use and upskilling frequency

Table 6. Summary of freelancer cluster profiles identified in the Spanish sample.

Although Experienced Non-Digital Specialists (Cluster 1) and High-Competence AI-Engaged Professionals (Cluster 3) both exhibit high levels of overall competence and extensive domain experience, they differ fundamentally in their adaptation and development strategies. Cluster 1 relies predominantly on accumulated professional expertise and established work practices, showing limited engagement with AI technologies and relatively low participation in continuous learning activities. In contrast, Cluster 3 combines experience with strong digital literacy, active upskilling,

and openness to AI, positioning these freelancers at the forefront of competence development and technological integration.

A similar contrast emerges between Mainstream Digital Professionals (Cluster 4) and Developing Digital Learners (Cluster 2). While both groups demonstrate engagement with digital tools and AI, Cluster 4 represents a stable and consolidated segment with balanced competences and pragmatic adoption of new technologies. Cluster 2, by contrast, reflects a transitional profile, where freelancers actively invest in upskilling and AI adoption to compensate for more limited experience and still-developing domain competences.

Finally, Low-Competence, Low-Engagement Freelancers (Cluster 5) constitute a small but critical segment characterised by consistently low scores across competence, digital engagement, AI orientation, and learning behaviour. Despite not being the least experienced in absolute terms, this group appears structurally disadvantaged in adapting to digitally intensive and AI-driven freelance markets, highlighting a potential risk of marginalisation without targeted support.

Overall, the Spanish cluster solution reveals a highly heterogeneous freelance ecosystem, structured not only by experience and competence levels, but also by distinct pathways of adaptation to digitalisation and AI. These findings reinforce the need for segment-specific training, policy measures, and support strategies, tailored to freelancers' differing profiles, learning behaviours, and technological orientations, rather than uniform approaches to competence development.

7.2 CHAID decision-tree segmentation for companies

To identify how organisational and contextual factors influence companies' perceptions regarding the availability of freelancers with the required competences, a CHAID (Chi-square Automatic Interaction Detection) analysis was conducted on the Spanish company sample (James et al., 2021). CHAID is a decision-tree-based machine learning technique that identifies statistically significant relationships between a categorical outcome variable and a set of explanatory predictors by recursively applying chi-square tests of independence. At each step, the algorithm

selects the predictor that exhibits the strongest association with the target variable and partitions the data, accordingly, generating increasingly homogeneous segments with respect to the outcome.

In the Spanish case, the dependent (categorical) variable is the availability of freelancers with the required competences, which captures companies' expectations regarding their ability to access adequately skilled freelancers soon. As potential predictors, a range of organisational and strategic variables were considered, including company characteristics and sectoral features. In line with CHAID requirements, all predictors were categorical or discretised prior to analysis.

The results of the CHAID analysis for the Spanish company sample are presented in Figure X. Given the very small sample size ($n = 5$), the findings should be interpreted as exploratory and descriptive, offering indicative insights for this specific group of companies rather than statistically generalisable conclusions for the Spanish economy.

7.2.1 Overall Structure of the CHAID Tree

Out of the five Spanish companies analysed, three report availability of freelancers with the required competences, while two indicate a lack of availability. The CHAID algorithm identifies a single, highly discriminating split at Level 1, with no further subdivisions required to explain the observed variance.

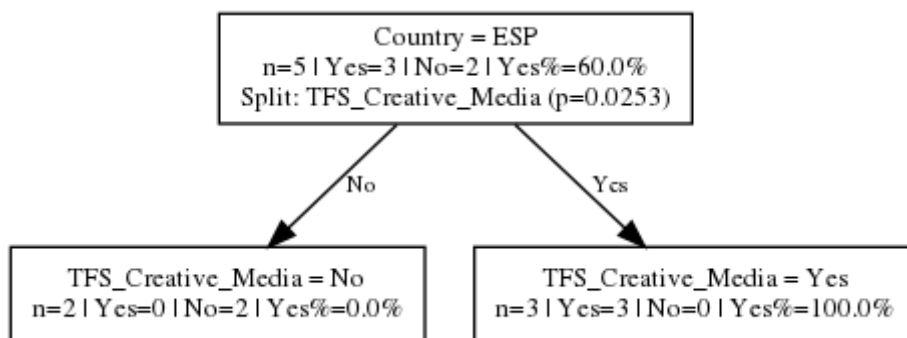


Figure 111. CHAID decision tree for perceived freelancer availability in Spain.

Level 1 Split: Creative and Media Orientation (TFS_Creative_Media)

The most significant predictor of perceived freelancer availability in Spain is whether the company operates within or is strongly oriented toward creative and media-related activities (TFS_Creative_Media) ($p = 0.0253$). This variable fully explains the outcome, producing two pure segments with radically different perceptions:

TFS_Creative_Media = Yes ($n = 3$): All companies in this group report full availability of freelancers with the required competences (100%). This indicates that, within the Spanish sample, companies operating in creative and media-related domains perceive the freelance market as well-aligned with their competence needs.

TFS_Creative_Media = No ($n = 2$): In contrast, all companies outside the creative and media domain report no availability of adequately skilled freelancers (0%). This group represents a completely negative segment in terms of perceived access to freelance competences.

No additional Level 2 splits were generated by the algorithm, as the initial split already yields perfect classification of the outcome variable.

7.2.2 Interpretation

The CHAID results suggest that, in the Spanish sample, sectoral orientation toward creative and media activities is the decisive factor shaping companies' perceptions of freelancer availability. Creative and media-oriented companies appear to operate within freelance ecosystems that are mature, specialised, and well-matched to their competence requirements, possibly due to long-standing reliance on project-based work, strong platform integration, and a large supply of freelance professionals in these fields.

Conversely, companies outside the creative and media domain perceive significant difficulties in accessing freelancers with the required competences. This may reflect a combination of structural mismatches, such as insufficient supply of specialised freelancers in non-creative sectors, higher specificity of skill requirements, or weaker integration of freelancing into these industries' labour strategies.

7.2.3 Conclusions from the CHAID analysis

The CHAID analysis for Spain identifies two clearly defined and internally homogeneous segments, entirely determined by companies' creative and media orientation. If a company operates within the creative and media domain, perceived availability of skilled freelancers is universally positive. If not, perceived availability is universally negative, regardless of other organisational characteristics.

Although these findings must be interpreted with caution due to the limited sample size, they provide strong exploratory evidence that freelancer availability in Spain may be highly sector-dependent, with creative and media industries representing a structurally advantaged segment. This result complements the freelancer-side segmentation and competence analyses, reinforcing the conclusion that freelance markets in Spain are unevenly developed across sectors, and that policy and support measures may need to be sector-specific rather than uniform

8 Identifying training needs

The identification of training needs for Spanish freelancers was conducted using a training-needs matrix approach, integrating the perspectives of both freelancers (supply side) and companies (demand side). This dual-perspective framework allows for a comprehensive assessment of competence mismatches in the digital labour market by jointly considering self-perceived proficiency gaps among freelancers and perceived performance gaps reported by companies.

In an initial phase, a common set of competences was selected and organised into three major competence families: Personal Profile (PP), Communication and Work in a Team (CWT), and Digital Literacy Skills (DL). The classification of competences and the corresponding codes used in the training-needs matrix were introduced earlier in Chapter 2.

Based on the responses of Spanish freelancers and companies, competence gap scores were computed for each skill. For freelancers, gaps were calculated as the difference between perceived importance and self-reported proficiency. For companies, gaps were computed as the difference between perceived importance and perceived fulfilment or performance standards. Mean gap values were then calculated separately for freelancers and companies, resulting in comparable measures that could be jointly analysed within a single matrix.

Training priorities were identified using two complementary decision rules:

Max-gap rule, which prioritises the competence with the largest gap identified by either freelancers or companies, thus focusing on the most severe unmet need from either side of the market.

Joint-gap rule, which assigns the highest priority level only when both freelancers and companies simultaneously report high competence gaps, while medium or high priorities are assigned when at least one side reports a significant gap.

Based on predefined threshold values on the gap scale, priority levels were encoded on an ordinal scale: 1 = LOW, 2 = MEDIUM, 3 = HIGH, and 4 = CRITICAL.

The resulting training-needs matrix for Spanish freelancers, based on individual competences, is presented in next table.

Competence	Freelancers_Gap_Mean	Companies_Gap_Mean	Priority_MaxGap	Priority_JointGap	TrainingNeed_MaxGap	TrainingNeed_JointGap
CWT_BusinessRel	1,33	3,00	3	3	HIGH	HIGH
CWT_ClarifyExpr	1,36	5,00	4	3	CRITICAL	HIGH
CWT_Courage_Assert	1,04	3,40	3	3	HIGH	HIGH
CWT_MultiCult	0,90	1,00	1	1	LOW	LOW
CWT_Negotiation	1,35	1,60	1	1	LOW	LOW
CWT_PrioritizationTask	1,12	5,60	4	3	CRITICAL	HIGH
CWT_SelfPromo_Brand	1,83	2,40	2	2	MEDIUM	MEDIUM
CWT_TeamWork	0,74	2,00	2	2	MEDIUM	MEDIUM
DL_AITools	1,11	4,00	4	3	CRITICAL	HIGH
DL_AssessOnlineInfo	0,73	1,00	1	1	LOW	LOW
DL_CloudProjMgmt	0,84	1,00	1	1	LOW	LOW
DL_CloudStorageShare	0,42	1,00	1	1	LOW	LOW
DL_CollabTools	0,57	1,40	1	1	LOW	LOW
DL_DigitalLabourPlatforms	0,80	0,60	1	1	LOW	LOW
DL_SearchSocialContent	0,64	3,00	3	3	HIGH	HIGH
PP_Engage_Relat	1,52	0,80	1	1	LOW	LOW
PP_Exper_Do main	1,32	3,00	3	3	HIGH	HIGH

Competence	Freelancers_Gap_Mean	Companies_Gap_Mean	Priority_MaxGap	Priority_JointGap	TrainingNeed_MaxGap	TrainingNeed_JointGap
PP_Formal_Reg	1,89	5,60	4	3	CRITICAL	HIGH
PP_Identify_Solve	1,27	7,00	4	3	CRITICAL	HIGH
PP_Learn_Expand	0,93	6,60	4	3	CRITICAL	HIGH
PP_Pers_Fin	1,79	0,80	1	1	LOW	LOW
PP_SelfOrg_WorkDisc	1,60	5,00	4	3	CRITICAL	HIGH
PP_Uncert_Stress	1,99	5,20	4	3	CRITICAL	HIGH

Table 7. Training-needs matrix for Spanish freelancers based on freelancer and company competence gaps.

Training needs based on the max-gap rule

When applying the Max-gap rule, a substantial number of competences emerge as critical training needs in the Spanish context. These critical gaps are predominantly concentrated in the Personal Profile and Communication and Work in a Team competence families, with one notable exception in Digital Literacy.

The competences identified as CRITICAL under the Max-gap rule are:

- Clarity of expression and communication (CWT_ClarityExpr)
- Task prioritisation and workload management (CWT_PrioritizationTask)
- Use of AI tools (DL_AITools)
- Knowledge of and compliance with formal and regulatory requirements (PP_Formal_Reg)
- Ability to identify, analyse, and solve problems (PP_Identify_Solve)
- Learning and continuous skill expansion (PP_Learn_Expand)
- Self-organisation and work discipline (PP_SelfOrg_WorkDisc)
- Dealing with uncertainty and stress (PP_Uncert_Stress)

These results indicate that, from a maximum unmet-need perspective, companies in Spain perceive particularly large gaps in freelancers' personal and cognitive competences, such as problem-solving, regulatory knowledge, adaptability, and self-management. In several of these areas, most notably problem-solving (Companies_Gap_Mean = 7.00) and learning and continuous development (Companies_Gap_Mean = 6.60), company-perceived gaps are substantially higher than those reported by freelancers themselves.

Conversely, freelancers tend to report relatively higher gaps than companies in certain relational or self-management competences, such as self-promotion and personal branding, although these do not reach the critical threshold under the Max-gap rule.

Training needs based on the joint-gap rule

When applying the more restrictive Joint-gap rule, which requires convergence between freelancers' and companies' perceptions, no competence is classified as CRITICAL in the Spanish sample. This indicates that there are no competences for which both sides simultaneously perceive extremely high gaps.

Nevertheless, a substantial number of competences, 13 out of 23, are classified as HIGH priority, reflecting areas where at least one side (and often both) identifies a significant mismatch. These high-priority competences are again predominantly drawn from the Personal Profile and Communication and Work in a Team groups, including:

- Business relationship management (CWT_BusinessRel)
- Clarity of expression and communication (CWT_ClarityExpr)
- Courage and assertiveness in communication (CWT_Courage_Assert)
- Task prioritisation (CWT_PrioritizationTask)
- Use of AI tools (DL_AITools)
- Use of search engines, social media, and content platforms (DL_SearchSocialContent)
- Domain-specific experience (PP_Exper_Domain)

- Formal and regulatory knowledge (PP_Formal_Reg)
- Problem identification and solving (PP_Identify_Solve)
- Learning and continuous skill expansion (PP_Learn_Expand)
- Self-organisation and work discipline (PP_SelfOrg_WorkDisc)
- Dealing with uncertainty and stress (PP_Uncert_Stress)

This pattern confirms a broad and structurally embedded need for competence development, even if perceptions of severity differ between freelancers and companies.

Interpretative insights

Several important insights emerge from the Spanish training-needs matrix. First, personal profile competences represent the most critical area of mismatch, particularly from the company perspective. Spanish companies consistently report very high gaps in freelancers' ability to learn continuously, solve problems autonomously, manage stress and uncertainty, and organise their work effectively. This suggests that companies value not only technical or digital skills, but also cognitive, emotional, and self-regulatory competences that underpin reliable freelance collaboration.

Second, while digital literacy competences are generally perceived as less problematic, AI-related skills constitute a notable exception. The use of AI tools is identified as a critical gap under the Max-gap rule and as a high-priority need under the Joint-gap rule, indicating that AI represents an emerging competence domain where expectations are rising faster than current capability levels.

Third, communication-related competences show asymmetric perceptions. Companies report particularly high gaps in clarity of expression and task prioritisation, while freelancers tend to perceive these gaps as more moderate. This divergence may reflect differences in performance expectations, feedback mechanisms, or communication standards in client–freelancer interactions.

Training needs by competence groups

Beyond individual competences, training needs were also aggregated at the competence-group level by averaging gap means within each group and reapplying the same priority rules.

Consistent with the individual-competence analysis, the Personal Profile (PP) group emerges as the highest-priority area for training interventions in Spain, with both freelancers and companies acknowledging substantial gaps. Communication and Work in Team (CWT) competences occupy an intermediate position, while Digital Literacy (DL) skills, despite generally lower gaps, remain strategically important due to the growing relevance of AI-related tools.

Conclusion

The training-needs analysis for Spain reveals significant and systematic competence gaps, particularly in personal, cognitive, and self-management domains, complemented by emerging needs in AI-related digital skills. While freelancers and companies do not always converge in their assessments of gap severity, both perspectives point to a strong potential for targeted training and upskilling interventions.

Beyond their immediate relevance for the development of training materials and learning programmes for freelancers, these findings also have broader implications for higher education curricula, labour market policies, digital labour platforms, and support initiatives led by public institutions or NGOs. Addressing the identified gaps requires not only technical training, but also a strategic focus on transversal competences that underpin sustainable and resilient freelance careers in the Spanish digital economy.

Conclusions

The National Analysis Report for Spain has been developed within WP3 (Research on Freelancer Competences) of the ENTEEF project and provides a comprehensive quantitative assessment of the Spanish freelance market. The analysis primarily addresses the supply side, represented by freelancers, while also incorporating the demand-side perspective of companies hiring freelancers, albeit based on a limited sample size. The report responds to the project's core research objectives by identifying key competences, analysing competence gaps and mismatches, and determining priority training needs relevant to freelancers' professional development and employability in Spain.

The empirical analysis is based on primary survey data collected in Spain, following the harmonised methodological framework defined at project level. This ensures full comparability with national reports produced by other partner countries. The Spanish sample is characterised by a predominantly mature and experienced freelance workforce, with a strong concentration of respondents aged 37 and above and a substantial share reporting more than ten years of freelance experience. This age and experience structure indicates that freelancing in Spain is largely a consolidated professional pathway, rather than an early-career or transitional employment option.

From an educational perspective, the Spanish freelance workforce is highly qualified, with nearly three quarters of respondents holding at least a Bachelor's degree. At the same time, the presence of freelancers with lower formal education highlights the heterogeneous entry pathways into freelancing and the relevance of experiential and self-directed learning. Freelance activity in Spain is predominantly concentrated in professional services, sales and marketing support, creative and

multimedia activities, and ICT-related fields, confirming the knowledge-intensive and service-oriented nature of the market.

On the demand side, the participating companies, exclusively micro-enterprises, illustrate how freelancers are strategically employed to access specialised skills, support commercial and creative activities, and maintain cost efficiency. Although the small company sample limits generalisation, the results offer valuable insight into the competence expectations, perceived risks, and AI-related concerns shaping freelancer demand in the Spanish context.

The competence analysis reveals a clear differentiation between digital, non-digital, organisational, and relational competences. Both freelancers and companies consistently rate a broad set of competences as highly important, reflecting rising expectations regarding freelancer professionalism, autonomy, and adaptability. Spanish freelancers generally report high levels of proficiency in core digital skills, particularly in areas related to digital communication, content platforms, and basic cloud tools.

However, the gap analyses, conducted using paired t-tests, cross-tabulations, and ANOVA, identify systematic mismatches between perceived importance and proficiency. In the Spanish case, all significant paired comparisons are characterised by negative effect sizes, indicating that importance consistently exceeds self-assessed proficiency. The most pronounced gaps are observed in advanced digital collaboration competences (e.g., cloud storage and project management tools), multicultural competence, critical assessment of online information, and domain-specific expertise under evolving market conditions. These gaps suggest that while freelancers are digitally capable, they face increasing pressure to meet higher performance standards in complex, internationalised, and platform-mediated work environments.

Importantly, the results indicate that competence gaps in Spain are not randomly distributed, but systematically associated with age, experience, activity sector, AI orientation, and upskilling behaviour. Younger and early-career freelancers tend to exhibit larger gaps in organisational and communicative competences, while more

experienced freelancers show gaps linked to advanced digital tools and continuous adaptation to new technologies.

The segmentation analysis using k-means clustering identifies five distinct freelancer profiles in Spain, ranging from highly skilled, innovation-oriented freelancers with strong digital and AI engagement to more vulnerable profiles with lower overall competence levels and limited upskilling intensity. These clusters demonstrate that the Spanish freelance market is highly heterogeneous, but also characterised by potential mobility between profiles, as competence gaps appear responsive to training and learning investments. Complementary CHAID analysis further highlights how company perceptions of freelancer availability are shaped by activity type and risk perceptions, reinforcing the relevance of trust, reliability, and competence signalling in freelancer–company relationships.

One of the most policy-relevant outcomes of the report is the identification of training needs through a combined freelancer–company training-needs matrix. The Spanish results clearly prioritise training in the following areas:

- Advanced digital collaboration tools (cloud storage and project management).
- Strategic and responsible use of AI.
- Understanding and adapting to multicultural and international work contexts.
- Continuous updating of domain-specific expertise.
- Organisational competences related to self-management and task coordination.

These findings provide a robust empirical foundation for the next phase of the ENTEEF project, particularly the design of MOOCs and targeted training interventions tailored to the specific needs of Spanish freelancers. Beyond the immediate project scope, the results also carry broader implications for curriculum design in higher education, lifelong learning strategies, and policy initiatives aimed at supporting sustainable, high-quality freelancing in Spain.

The Spanish National Analysis Report demonstrates that while freelancers in Spain are experienced, highly educated, and digitally competent, they face growing challenges linked to advanced digitalisation, internationalisation, and rising market expectations. Addressing these challenges through targeted and evidence-based upskilling initiatives is essential to enhance freelancers' resilience, competitiveness, and long-term professional sustainability within the evolving European freelance economy.

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