

# Freelancer Competences: National Analysis Report

## Poland

Version 3.1

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## Disclaimer

Co-funded by the European Union. Views and opinions expressed are however those of the author or authors only and do not necessarily reflect those of the European Union or the Foundation for the Development of the Education System. Neither the European Union nor the entity providing the grant can be held responsible for them.

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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# Introduction

This National Report presents the findings of the quantitative analysis conducted in Poland within the framework of the ENTEEF – *Fostering Entrepreneurship through Freelancing* project. The analysis, prepared by the Polish team follows the requirements of the *Freelancer Competences: Quantitative Analysis Guidelines*, in order to ensure full comparability with similar reports prepared by other project partners.

The report draws on data collected from Polish respondents using the ENTEEF *Questionnaire for Freelancers* and *Questionnaire for Companies*. Its primary aim is to deliver an evidence-based assessment of freelancer competences, identify skill gaps, and training needs among Polish freelancers.

The report aims to answer the following research questions:

- **RQ1:** What are the key competences (skills, knowledge, attitudes, and experience) required by freelancers across different sectors and countries?
- **RQ2:** How do freelancers and hiring companies perceive skill gaps and competence mismatches in the freelance economy?
- **RQ3** (adapted for data analysis purpose): How can freelancers' training needs be determined, aligned with their professional development goals?

The structure of the report adheres to the standardized analytical stages recommended in the ENTEEF guidelines. The first chapter describes respondents profile providing descriptive statistics of the demographic and professional characteristics of Polish freelancers and companies. This section establishes the contextual basis for interpreting the subsequent analytical results.

In the second chapter analysis focuses on the perceived importance of competences and levels of proficiency (or compliance with expected standards), identifying those competences considered critical by Polish freelancers and hiring companies. This stage supports the identification of nationally relevant competences and directly addresses Research Question RQ1.

Next chapters employ comparative and inferential statistical techniques, including cross-tabulations, Chi-square tests, ANOVA, and paired comparisons, to examine relationships between competences and key categorical variables such as age, education level, field of activity, company size, and the use of artificial intelligence. These analyses enable the systematic recognition of competence mismatches and statistically significant differences across respondent groups, thereby addressing Research Questions RQ1 and RQ2.

In chapter 6 the report further incorporates segmentation and profiling analyses. Cluster analysis is used to identify distinct typologies of freelancers in Poland, while CHAID decision-tree analysis is applied to explore organizational profiles associated with anticipated challenges in accessing skilled freelancers. Together, these methods provide an interpretable, data-driven understanding of heterogeneity within the Polish freelance market and support the formulation of targeted policy and training recommendations in response to Research Question RQ3.

The final part of the analysis synthesizes the findings into an assessment of training needs, presenting structured training-needs matrices that incorporate perspectives from both freelancers and companies. At this stage, the previously identified competence gaps are translated into prioritized training areas, providing direct input for the development of educational interventions, upskilling activities, and evidence-based recommendations tailored to the Polish context.

In general, this National Report applies the ENTEEF quantitative analysis framework for Poland and yields robust and comparable empirical evidence to the project's cross-country analysis. In line with the methodological guidelines, the results provide a validated empirical basis for the development of the Competence Assessment Tool (CAT) and for the elaboration of MOOCs and targeted training modules, thereby facilitating alignment between freelancers' professional development needs and companies' demand within the Romanian freelance economy.

# 1 Descriptive Statistics: Respondent Profiling

## 1.1 Freelancers

### 1.1.1 Overview

This section presents an overview of the demographic, educational, and professional characteristics of freelancers participating in the ENTEEF survey in Poland. The results of the analysis contribute to the context of further examination of skills gap and training needs presented in next parts of the report.

The descriptive statistics starts with the description of the demographic profile, focused such variables as age, gender which provided important data on the Polish freelance market. Then educational history and background is analysed with a focus on area and level education. Subsequent analyses are concentrated on such indicators as years of experience as a freelancer, main area of freelance activity, and number of clients in the past 12 months. This allows to examine the degree of development of particular freelancers and the freelancer sector in Poland.

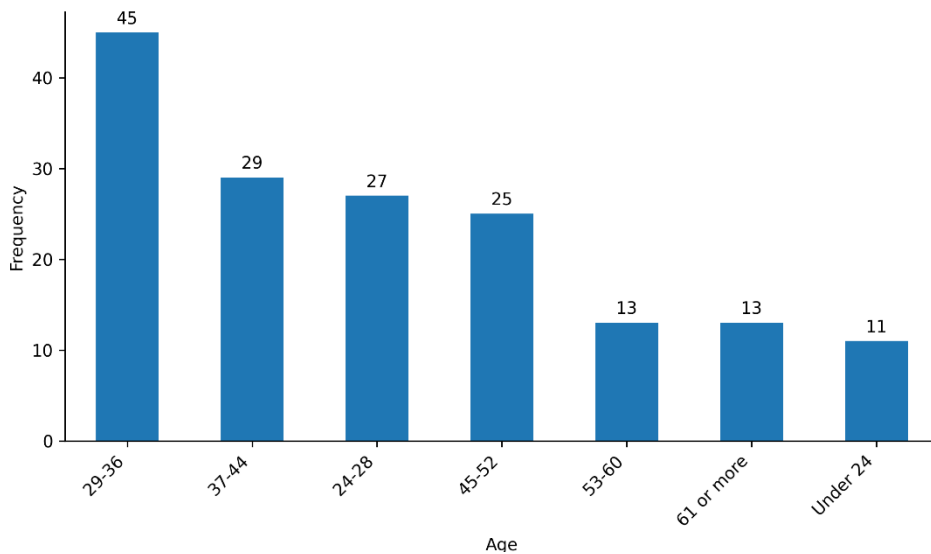
Next parts of the descriptive statistics present job search mechanisms, including also the role and importance of digital platforms and social networks. Then, freelancers' opinions on future challenges for the freelancer sector and the perception of AI usage in freelancer market is analysed. Another important part of the analysis was focused on such aspects as an investment in upskilling and reskilling, and preferred pathways for skill acquisition and development.

This part of the Polish national report helps to create a profile of a freelancer in Poland, providing contribution for the subsequent analysis of competence importance, proficiency, gaps, and training priorities of freelancers.

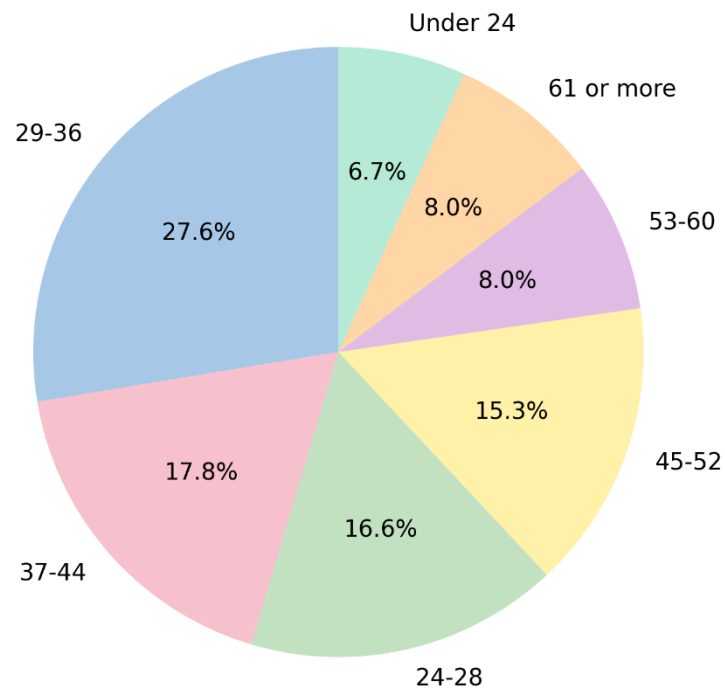
### 1.1.2 Age distribution

The age distribution of respondents indicates a clear dominance of people aged 29-36, who are the largest group in the survey. This may suggest that interest in freelancing is particularly high among people in the early and mid-career stages. Respondents aged 37-44 and 24-28 also have a significant share, indicating a broad interest in this form of work among young adults who have relatively recently entered the labour market. On the other hand, the significantly lower popularity of freelancing among people under the age of 24 may result from the fact that they are still in the process of education at higher forms of education, which makes it difficult to take up professional activity. The lack of sufficient competences and experience in areas that could be offered on the labour market in the form of freelancing is probably also important.

The 45-52 age group remains relatively well represented, demonstrating the continued importance of freelancing in the later stages of one's career.



**Figure 1. Freelancers: Age distribution.**

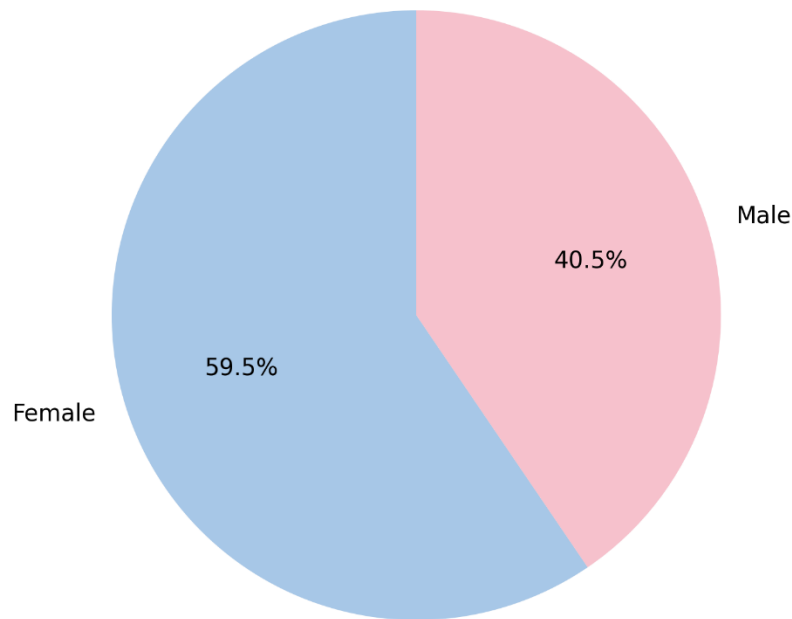


**Figure 2. Age distribution - Percentage.**

In general, the age distribution is decreasing with increasing age after the third decade of life. As far as gender is concerned, almost 60% of respondents were women.

### **1.1.3 Gender distribution**

The gender composition of Polish freelancers included in the analysis shows a higher representation of female respondents, comprising 97 individuals (59.51%), compared to 66 male respondents (40.49%). This distribution indicates a moderate predominance of female participation within the national sample.

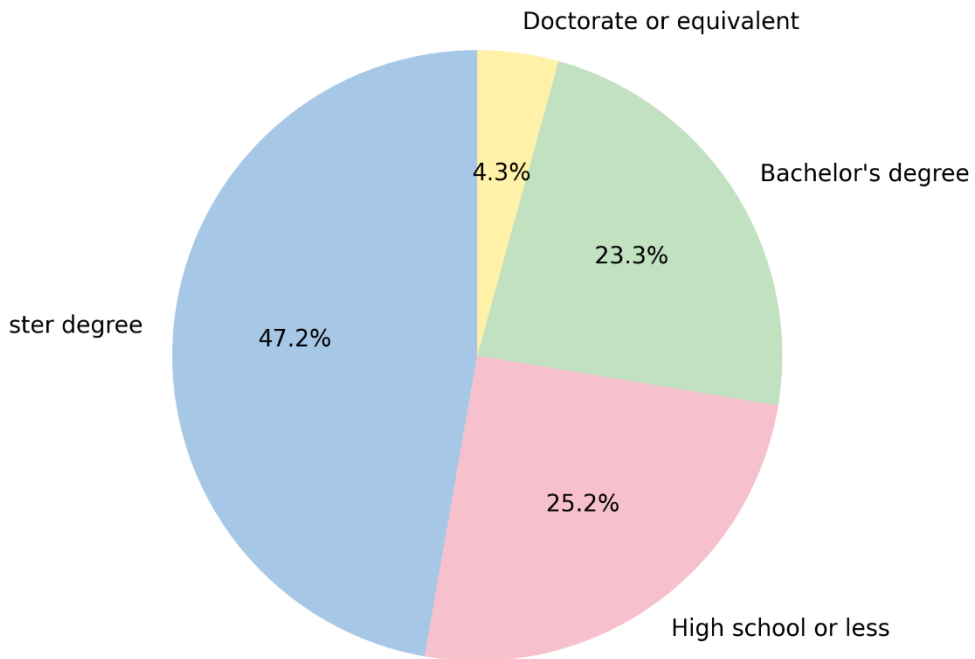


**Figure 3. Gender distribution – Percentage.**

This gender distribution within the studied freelance population is important for subsequent analyses conducted as part of the project, including, for example, assessments of competency needs and the relative importance of specific competence areas in freelancers' professional activities.

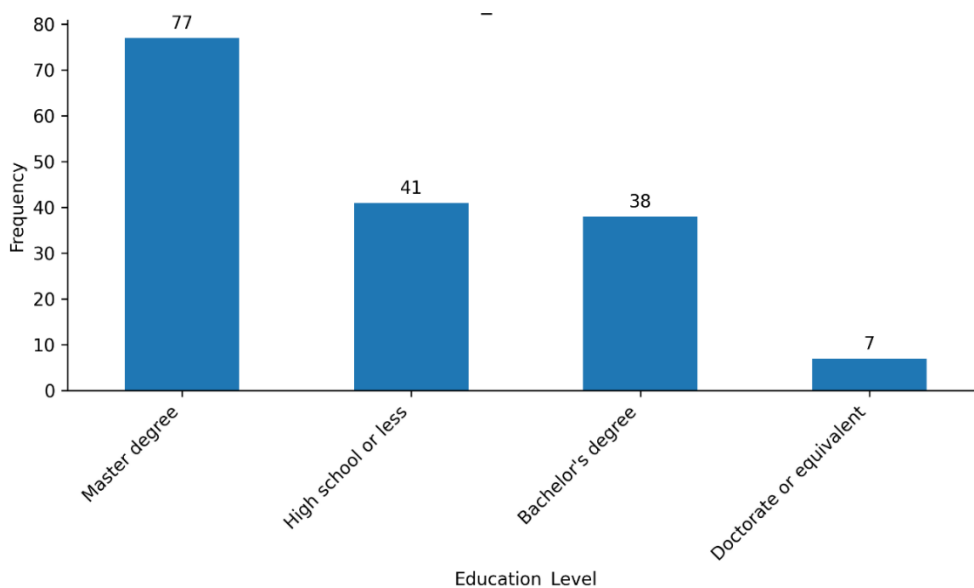
#### **1.1.4 Educational level**

Analysing the distribution of education levels, people with a master's degree make up the largest group with 77 respondents, covering almost half of the sample. Those with secondary education or less make up 41 respondents, making up the second-largest category, while bachelor's degree holders account for 38 people. Ph.D. holders make up the smallest group with only 7 respondents, which is expected due to the lower prevalence of doctoral degrees.



**Figure 4. Education level distribution – percentage.**

The total shows a clear shift towards higher education, with 122 out of 163 people holding at least a bachelor's degree. This distribution suggests that freelancing particularly attracts highly educated professionals seeking flexibility and autonomy in their work arrangements.



**Figure 5. Education level distribution.**

### 1.1.5 Area of education

The number of observations recorded for Area of Education (N = 224) exceeds the number of respondents reported for Education Level (N = 163). This discrepancy results from the design of the Area of Education variable, which permits respondents to indicate more than one field of study, thereby capturing multidisciplinary educational backgrounds. Consequently, the reported frequencies reflect the total number of declared educational fields rather than the number of individual respondents.

Accordingly, percentages for Area of Education are calculated based on the total number of reported fields and should be interpreted as representing the distribution of educational backgrounds, not the proportion of individuals. This methodological approach offers a more accurate depiction of the diversity and cross-disciplinary nature of educational profiles within the Polish freelance workforce.

Areas of Education - Percentage of 'Yes'

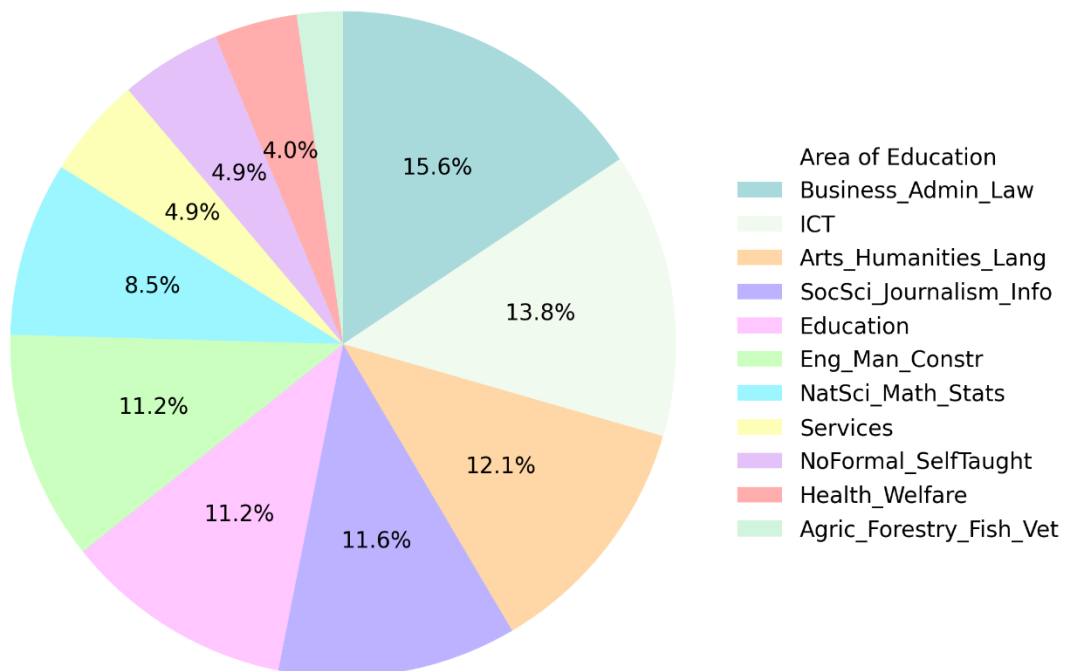
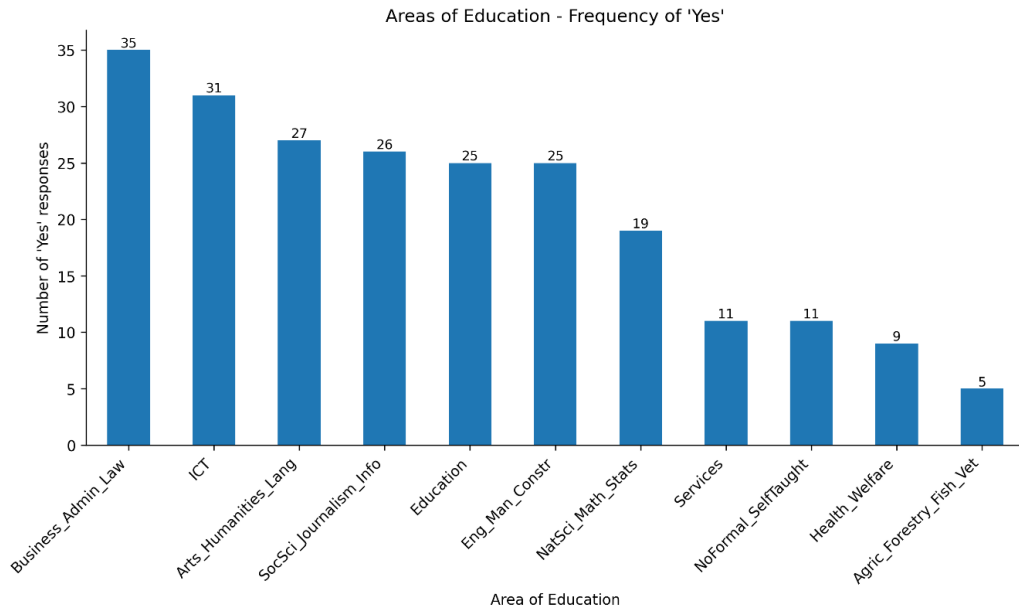


Figure 6. Areas of education – Percentage of 'Yes'.



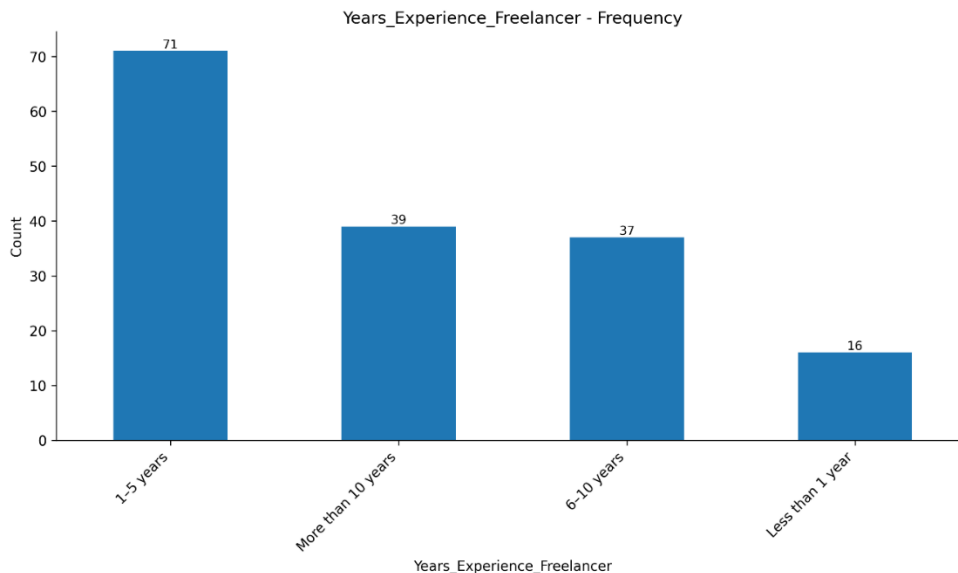
**Figure 7. Areas of education – Frequency of ‘Yes’.**

The structure of the respondents' education indicates the dominance of fields of study related to business and administration (15.62%), which received the highest number of indications. People with ICT education are also highly represented (13.84%), which confirms the strong link between freelancing and digital competences. There are also relatively numerous groups of respondents with education in Arts, Humanities and Languages (12.05%) and Social Sciences, Journalism and Information (11.61%).

Technical, engineering-construction and educational faculties achieve a moderate level of representation. The presence of respondents from the field of STEM is noticeable, although to a lesser extent than in the case of business and ICT. Much lower values were recorded for the service sector and people active in the area of self-education. The least numerous are groups related to health and social care, as well as agriculture, forestry and veterinary medicine. The resulting distribution suggests that freelancing is especially popular among people with education conducive to project and remote work.

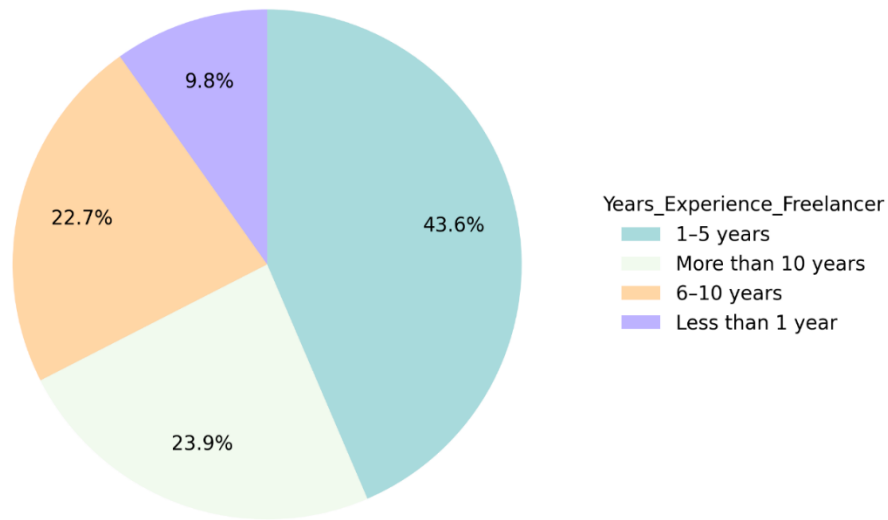
### 1.1.6 Years of Experience as a Freelancer

The distribution of experience in freelancing indicates that the largest group of respondents are people with experience from 1 to 5 years, including 71 freelancers among the surveyed population (43.56%). This suggests that the surveyed population is largely at the stage of consolidating its position in the freelancing market. A significant percentage of respondents also declare a very long experience, exceeding 10 years (23.93%), which proves the durability of this form of professional activity. People with 6-10 years of experience also make up a significant part of the sample, indicating a stable presence of experienced freelancers.



**Figure 8. Distribution of Polish freelancers by years of freelancing experience.**

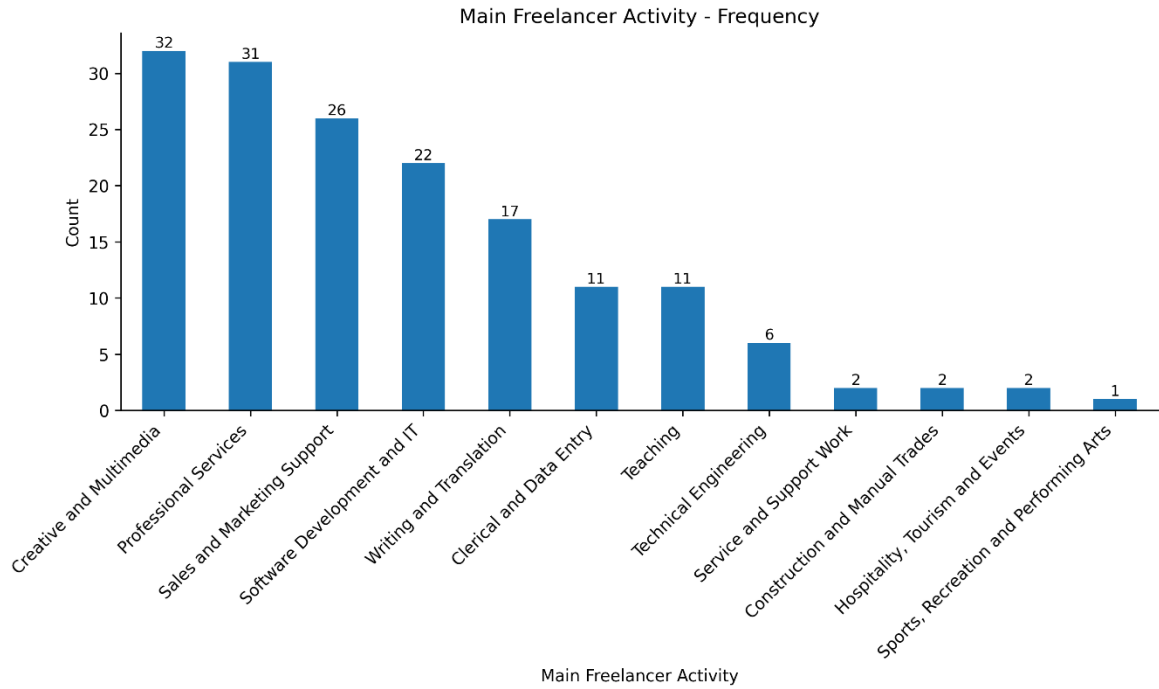
The group of respondents with less than one year of experience is the least numerous, which may mean a relatively small share of people just starting their freelance activity. This also indicates the nature of the surveyed group, in which people with experience in freelancing predominate in relation to those who are just starting their activity in this area. The overall distribution of experience is asymmetrical, with a clear concentration in the range of 1–5 years.



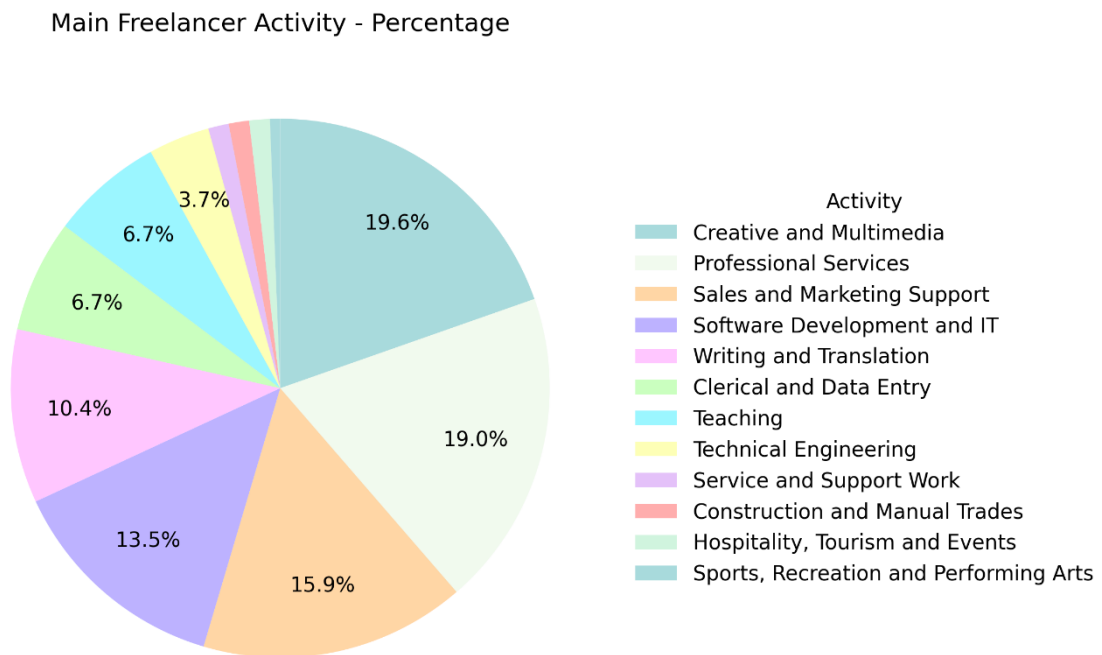
**Figure 9. Percentage distribution of Polish freelancers by main freelancing activity.**

### **1.1.7 Main area of freelancer activity**

The distribution of the main areas of freelancers' activity indicates a significant diversity of the services provided. Creative and multimedia activity dominates as the most popular category among respondents, indicated by 32 freelancers (19.63%). Other strongly represented areas of freelancers' activity are professional services (19.02%) and sales and marketing support (15.95%), which highlights the growing demand for business services on the labour market. Another important area is software and IT development, reflecting the strong presence of the technology sector in the studied form of employment. This is related, among other things, to the large share of ICT as a field of education, which is declared by the surveyed freelancers. Writing and translation represent a moderate proportion of the study population.



**Figure 10. Distribution of Polish freelancers by main freelancing activity.**



**Figure 11. Percentage distribution of Polish freelancers by main freelancing activity.**

Much smaller shares are held by Technical Engineering (3.68%), Service and Support Works, Construction and Manual Trades, Hospitality, Tourism and Events. The latter three areas were indicated by only 1.23% of the surveyed freelancers. The least

popular area of freelancers' activity on the Polish market is Sports, Recreation and Performing Arts, indicated by only less than 1 percent of the surveyed employees.

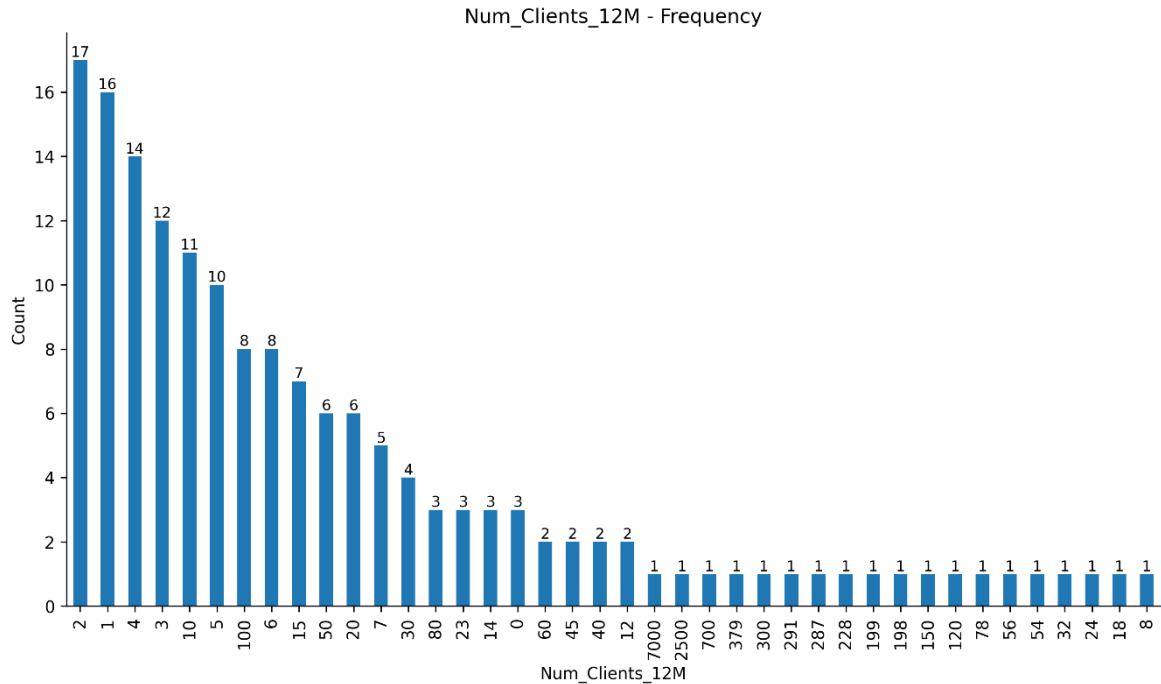
To sum up, it can be pointed out that in the case of the Polish freelance market, a large share is held by those areas that are related to the broadly understood digitization of the economy. Also, many indications regarding educational activity may result from the specificity of the Polish education market, where one can observe a high activity of individual forms of teaching and tutoring at earlier stages of education (primary and secondary schools) offered by the self-employed and freelancers.

### **1.1.8 Number of clients in the past 12 months**

The distribution of clients served over a 12-month period reveals a strong concentration among freelancers working with relatively few clients. The majority of respondents work with a small number of clients, with the highest frequencies occurring in the lower range of client counts.

The most frequent category is 2 clients, reported by 17 respondents (10,43%), followed closely by 1 client, reported by 16 respondents (9,82%), and 4 clients, reported by 14 respondents (8,59%). Taken together, these three categories account for 28,84% of the total sample.

There is a clear pattern showing that most freelancers maintain relationships with fewer than ten clients annually, suggesting a preference for deeper, more sustained client engagements rather than numerous brief projects. The frequency decreases progressively as the number of clients increases, indicating that managing larger client portfolios is less common among the surveyed population.

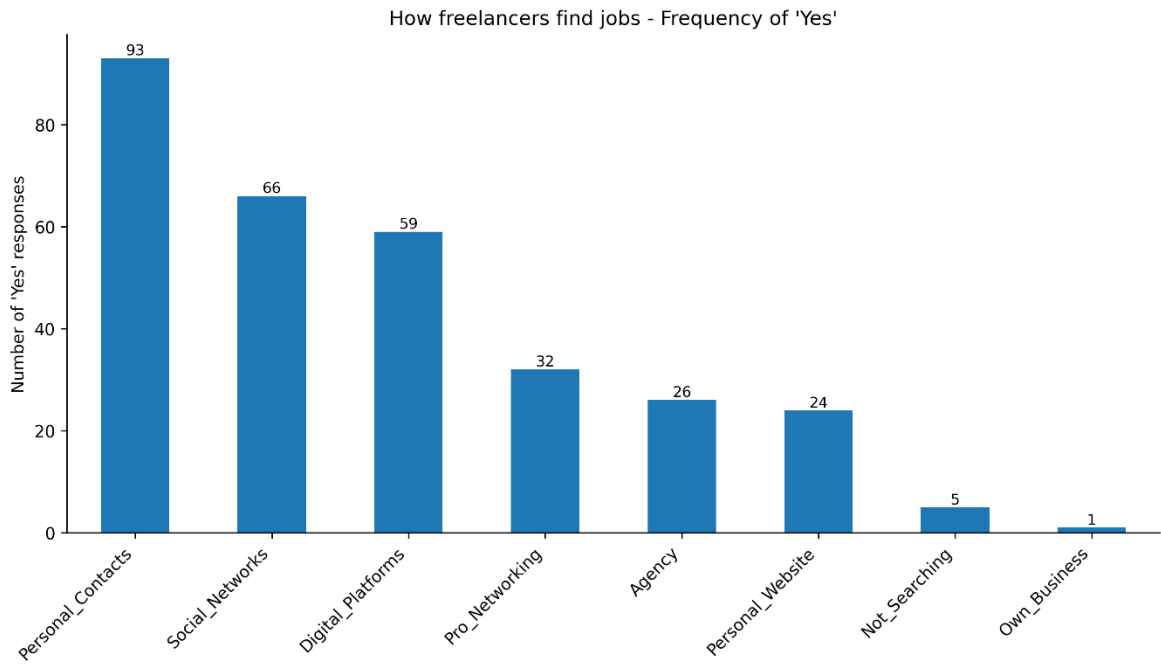


**Figure 12. Distribution of Polish freelancers by number of clients in the past 12 months (frequency).**

### 1.1.9 Freelancers' job acquisition channels

The study also provided data on the ways freelancers use to find new contracts and acquire customer orders.

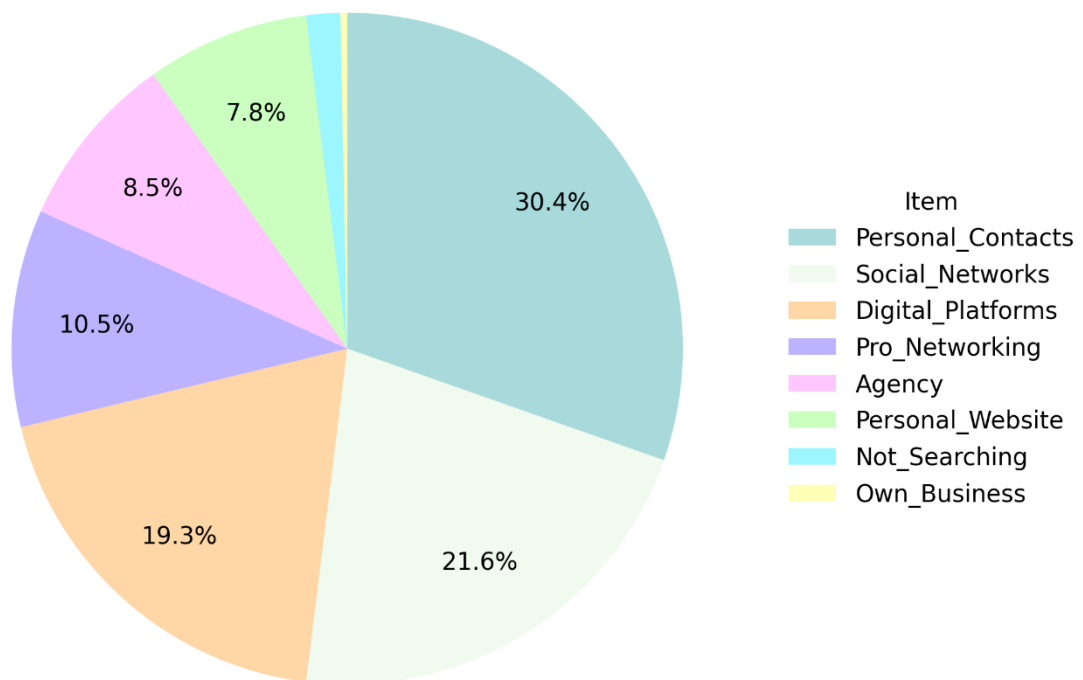
The research questionnaire allowed respondents to indicate different channels of obtaining orders. The analysis of the results allows us to indicate that the most frequently chosen method is personal contacts, indicated by 93 respondents (30.39%). This emphasizes the key role of social capital and professional relationships in freelancing on the Polish market. The second most frequently indicated channel is social media (21.57%), which highlights the growing importance of these new access channels in building a customer portfolio. Digital platforms dedicated to freelancing also play an important role (19.28%), which are an important source of orders for a significant part of the respondents. Professional networking, although less popular, remains an important mechanism for obtaining work.



**Figure 13. Distribution of Polish freelancers by job acquisition channels (frequency of 'Yes' responses).**

Orders obtained through agencies (26 respondents, 8.5%) and own websites (24 respondents, 7.84%) occur less frequently. Of marginal importance are the answers indicating passive waiting for the appearance of orders (1.63%). The overall distribution of responses suggests that relational and digital job acquisition channels clearly dominate formalized intermediaries.

### How freelancers find jobs - Percentage of 'Yes'

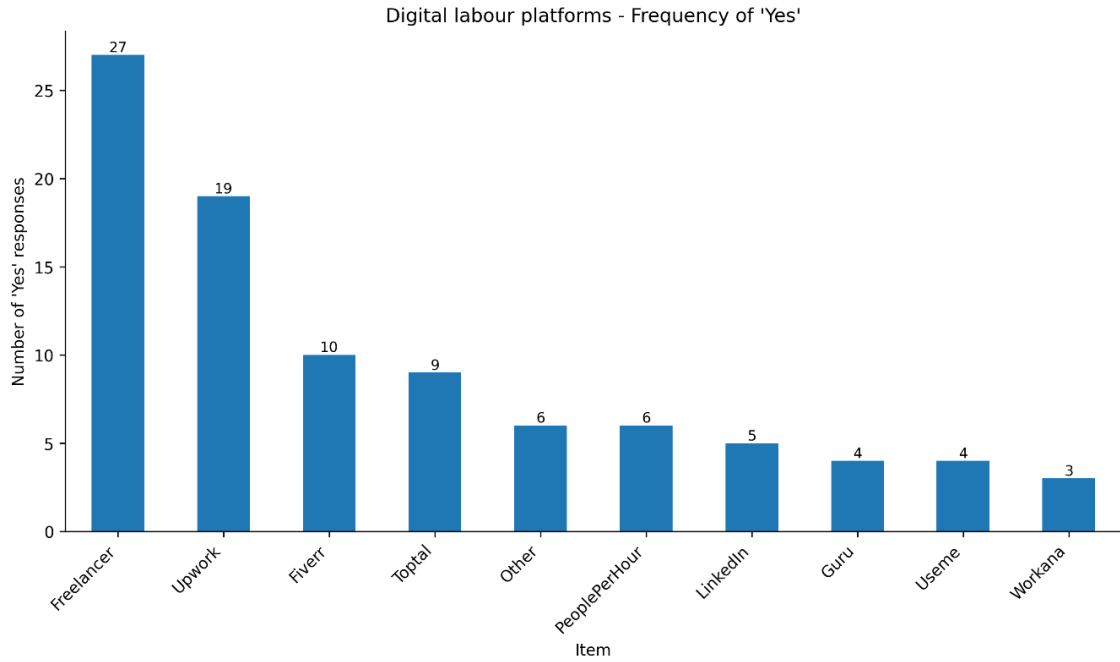


**Figure 14. Percentage distribution of Polish freelancers by job acquisition channels (share of 'Yes' responses).**

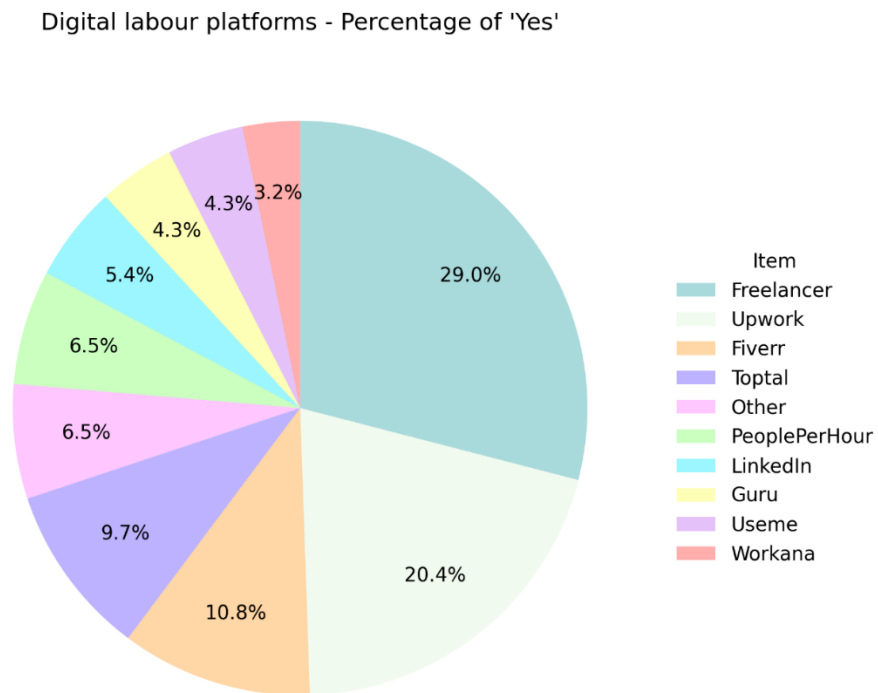
#### **1.1.10 Digital labour platforms used to find jobs**

This subsection analyses the digital labour platforms used by Polish freelancers to access work opportunities. It is important to note that 93 of the 163 respondents indicated that they use digital labour platforms. Consequently, all frequencies and percentages reported in this subsection are calculated with respect to this subgroup of platform users rather than the entire sample.

The results indicate that the most frequently used digital platform is Freelancer, which was indicated by the most, i.e. 27 respondents (29.03%). In second place was the Upwork platform with 19 indications (20.43%), which confirms the strong position of global digital work platforms in the examined sample. Fiverr (10 respondents, 10.75%) and Toptal (9 respondents, 9.68%), which are used by a limited but clearly differentiated group of freelancers, are noticeably less popular.



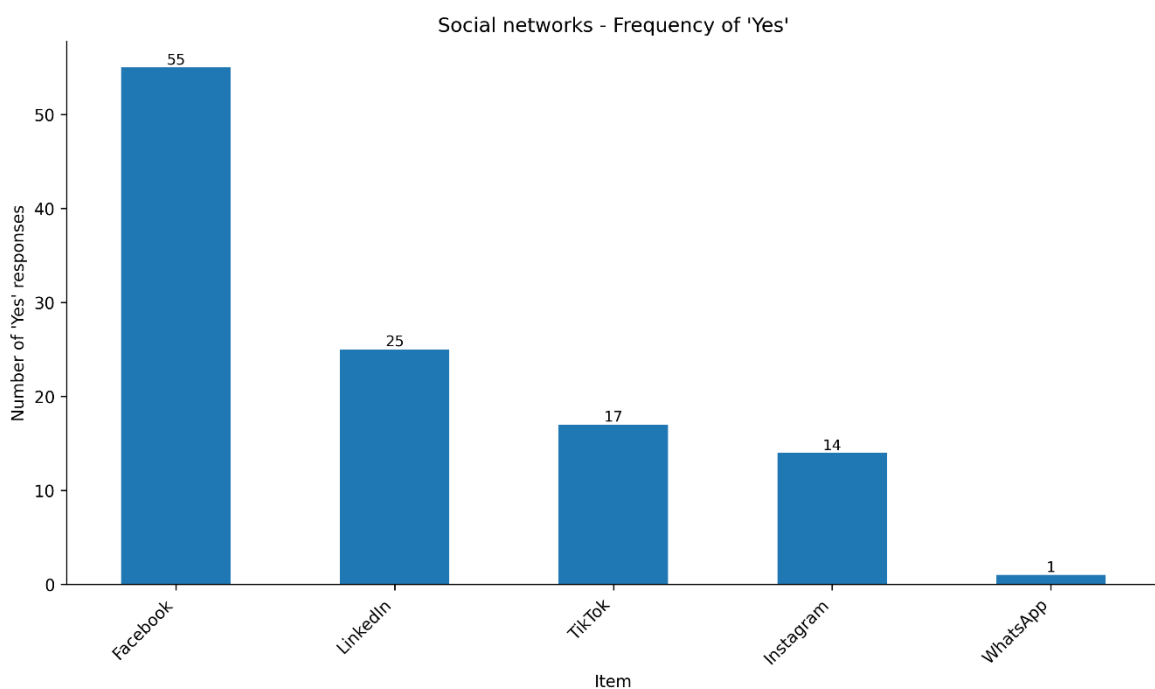
**Figure 15. Distribution of Polish freelancers by digital labour platforms used (frequency of 'Yes' responses).**



**Figure 16. Percentage distribution of Polish freelancers by digital labour platforms used (share of 'Yes' responses).**

Other platforms, such as PeoplePerHour, LinkedIn, Guru or Useme, are complementary and are indicated less frequently. The least used platform in the survey is Workana, which was covered by 3.23% of indications. The overall distribution of responses indicates a concentration of activity on several dominant platforms. Maybe it's about the advantage of recognizable brands in the digital work segment. The results also suggest limited diversification of platform channels among some respondents.

### 1.1.11 Social networks used to find jobs

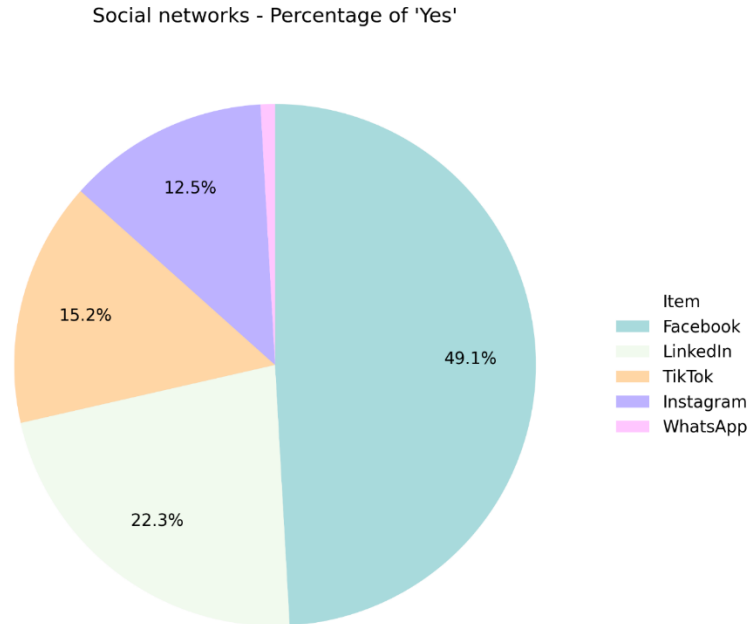


**Figure 17. Distribution of Polish freelancers by social networks used (frequency of 'Yes' responses).**

This part of the report refers to the social networks employed by Polish freelancers to search for work opportunities. Firstly, it should be mentioned that 112 out of the 163 respondents reported using social networks with the aim to find future contracts. Consequently, the frequencies and percentages presented below are calculated relative to this subgroup of social-network users, rather than to the full sample.

Within this subgroup, Facebook is the most popular platform, used by 55 respondents (49,1 %). This result highlights Facebook important function as a

professionally focused social networking platform that enhances visibility, supports professional networking, and enables access to freelance work opportunities.



**Figure 18. Percentage distribution of Polish freelancers by social networks used (share of 'Yes' responses).**

The second most frequently reported platform is LinkedIn, chosen by 25 respondents (22,32%). Even though not reported as primarily source, LinkedIn is the central professional-oriented social network which facilitates networking between professionals and provides convenient ways to contact freelancers. Other platforms like TikTok or Instagram play smaller role. The first one is reported by 17 respondents (15,18%) whereas the second was pointed by 14 freelancers (12,5%).

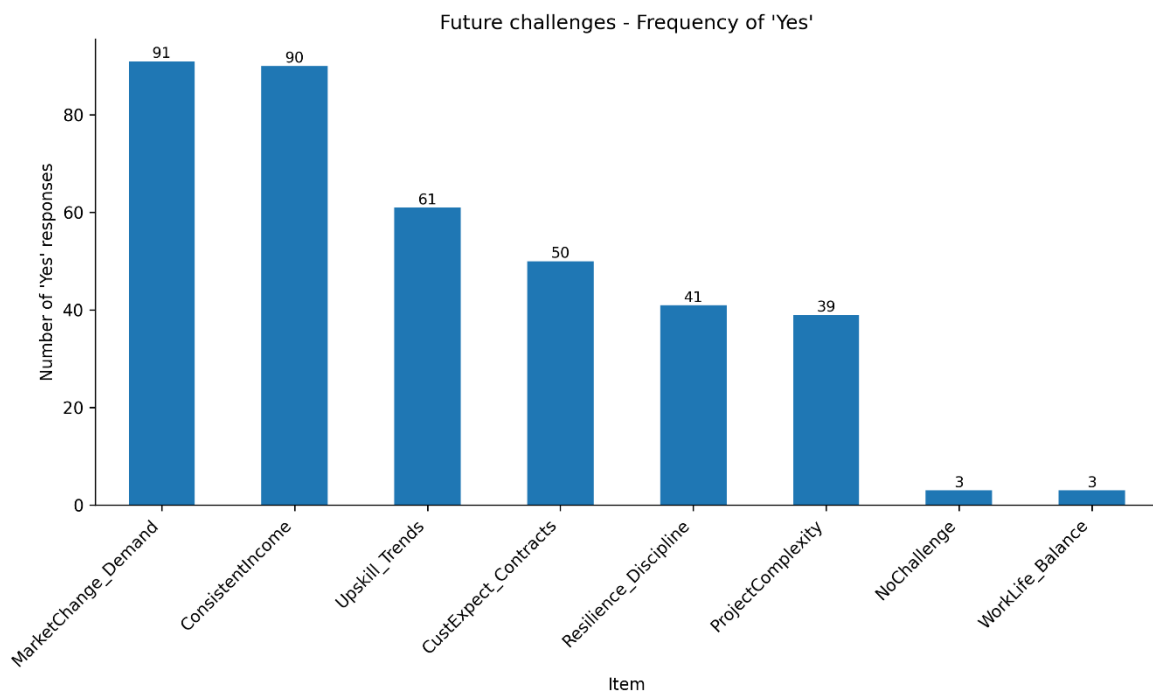
In summary, the analysis shows that major players in the general social networking market also hold dominant positions among freelancers when searching for job opportunities.

### **1.1.12 Freelancers' anticipated near-term challenges**

This subsection explores the near-term challenges identified by Polish freelancers. Respondents were permitted to select up to three challenges, resulting in 378 total

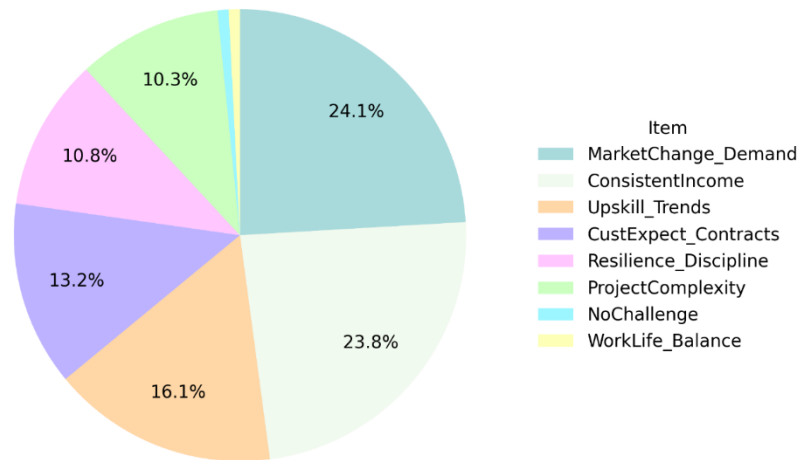
selections. Accordingly, the frequencies and percentages presented below represent the relative prominence of each challenge across all selections, rather than mutually exclusive respondent categories.

With regard to freelancers’ perceptions of future challenges, the results indicate that changes in market demand are most frequently identified (91 respondents, 24.07%), reflecting a high level of uncertainty in the economic environment. Maintaining a stable and predictable income (90 respondents, 23.81%) is an almost equally significant concern and remains a structural challenge of freelancing. The third most frequently indicated challenge is the need for continuous skills development and keeping pace with technological trends (61 respondents, 16.14%). In addition, a substantial number of respondents highlight changes in customer expectations and contractual arrangements (50 respondents, 13.23%).



**Figure 19. Distribution of Polish freelancers by perceived future challenges (frequency of 'Yes' responses).**

Future challenges - Percentage of 'Yes'



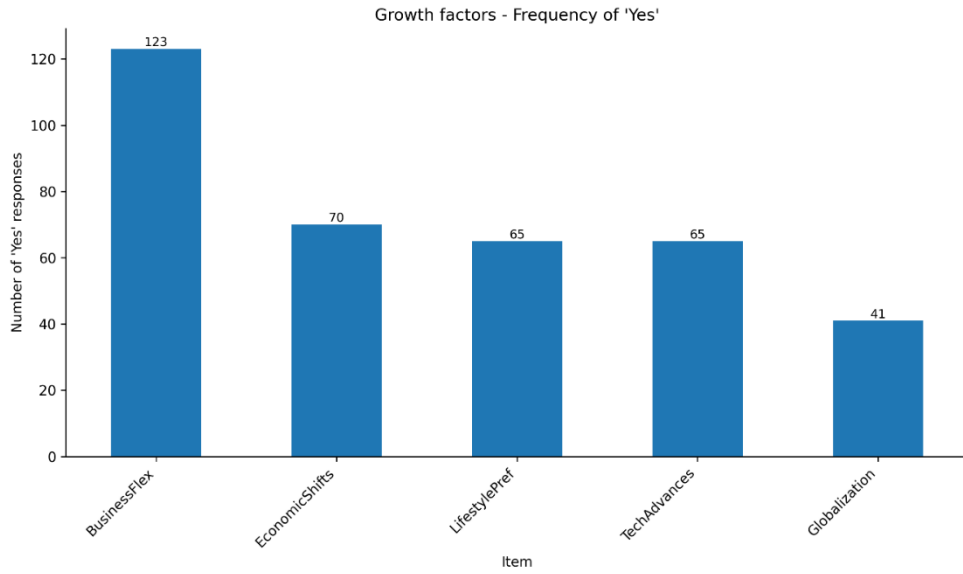
**Figure 20. Percentage distribution of Polish freelancers by perceived future challenges (share of 'Yes' responses).**

Although rated as less critical, mental resilience and self-discipline in independent work are still considered important. The complexity of the projects appears as a challenge of moderate intensity. Work-life balance issues (3 respondents, 0.79%) and lack of challenges (3 respondents, 0.79%) are marginally indicated. The overall picture indicates that the dominant challenges are market-economic and competency of nature.

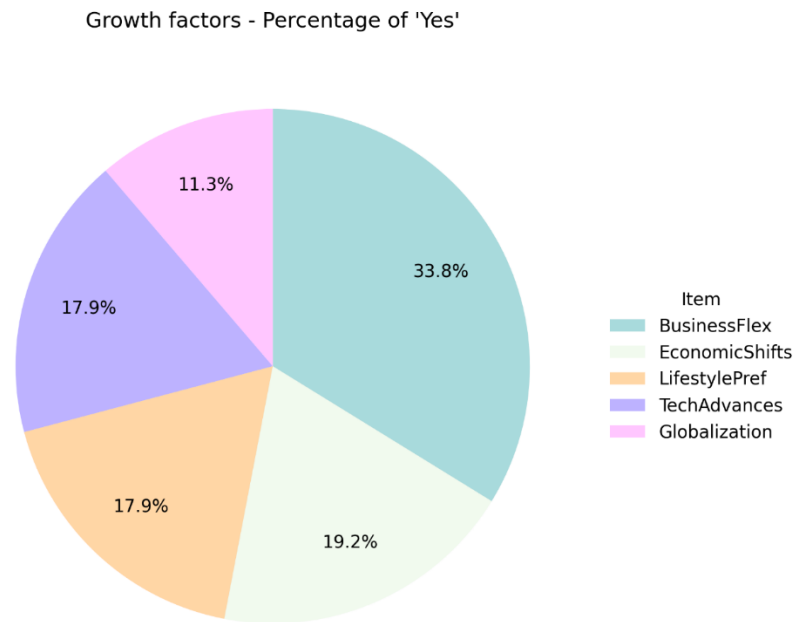
### 1.1.13 Freelancers' perceived drivers of freelancing growth

The survey also allowed to collect opinions on the factors determining growth in the area of freelancing. Respondents were allowed to select multiple factors, resulting in a total of 364 selections.

The responses indicate that the key factor driving the development of freelancing is the need for business flexibility (123 respondents, 33.79%), which definitely dominates the list of respondents' opinions. In second place are economic changes (70 respondents, 19.23%), perceived as an important foundation shaping the modern freelance labour market.



**Figure 21. Distribution of Polish freelancers by perceived growth factors (frequency of 'Yes' responses).**



**Figure 22. Percentage distribution of Polish freelancers by perceived growth factors (share of 'Yes' responses).**

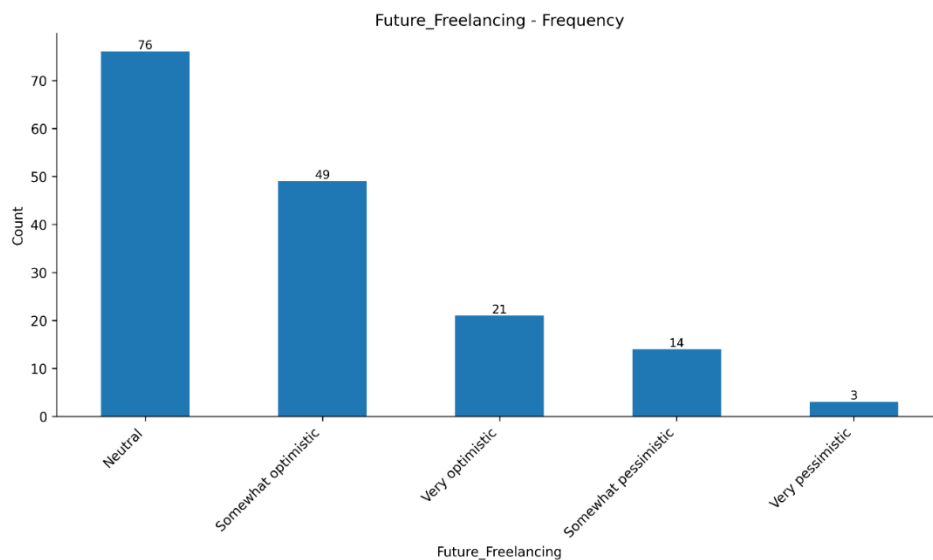
Technological progress and employees' lifestyle preferences are indicated as equally important impulses conducive to this form of professional activity (each pointed by 65 respondents, 17.86%). On the other hand, globalization, although present in the consciousness of the respondents, is the least mentioned reason for the

increase in the popularity of liberal professions (41 respondents, 11.26%). The overall picture suggests that the development of the sector is determined both by the evolution of the personal priorities of freelancers and by broader changes in the socio-economic environment affecting this form of activity.

### 1.1.14 Freelancers' perceptions of the future of freelancing

This section presents an analysis of the results regarding the opinions of Polish freelancers on the future of this type of activity. The distribution of responses mainly indicates a neutral approach to this issue, with a large share of optimistic opinions, which may suggest expectation of further positive development of the situation on the freelancing market.

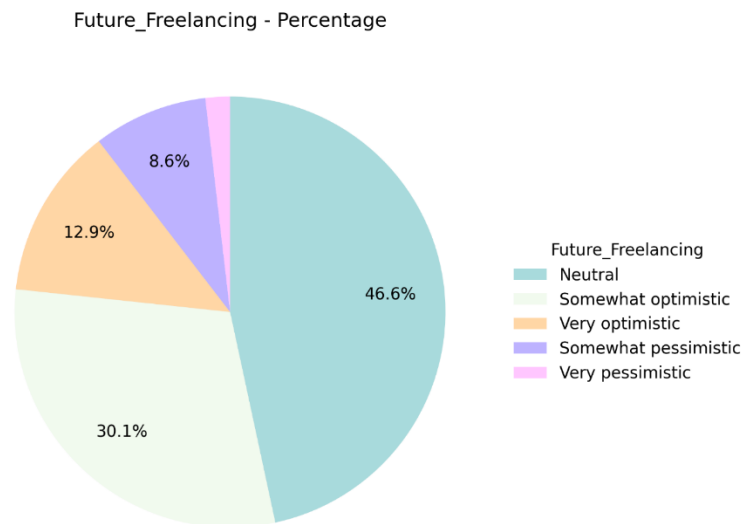
Among those declaring their predictions, a neutral approach clearly dominates (76 respondents, 46.63%), which significantly outweighs the voices expressing scepticism. The next group is the opinion indicating a certain degree of optimism (49 respondents, 30.06%) and the one indicating a high positive attitude (21 respondents, 12.88%).



**Figure 23. Distribution of Polish freelancers by expectations regarding the future of freelancing.**

Responses indicating a positive attitude are much more common than those suggesting concerns about the stability of freelance work. Extremely pessimistic visions of the development of the situation (3 respondents, 1.84%) and those

indicating general pessimism (14 respondents, 8.59%) constitute only a marginal fraction of all collected opinions, which proves the lack of widespread fear of the collapse of the freelance market. To sum up, the surveyed group is moderately optimistic, with a clear tendency to perceive the future of the liberal professions in bright colours.

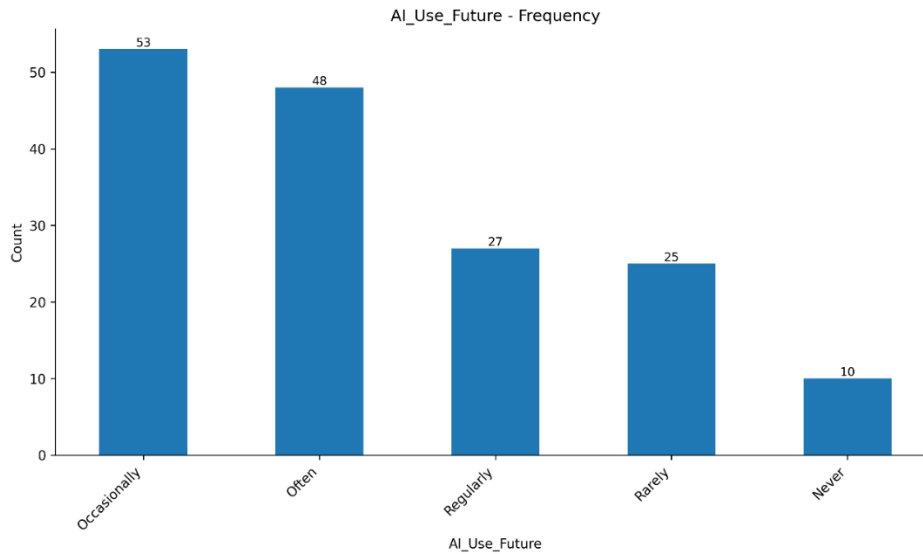


**Figure 24. Percentage distribution of Polish freelancers by expectations regarding the future of freelancing.**

### 1.1.15 Freelancers' expected future use of AI

This subsection analyses Polish freelancers' expectations concerning the adoption of artificial intelligence (AI) in their professional activities over the coming five years. The distribution of responses suggests clear expectation to AI integration into freelance work, accompanied by differing levels of expected intensity of its use.

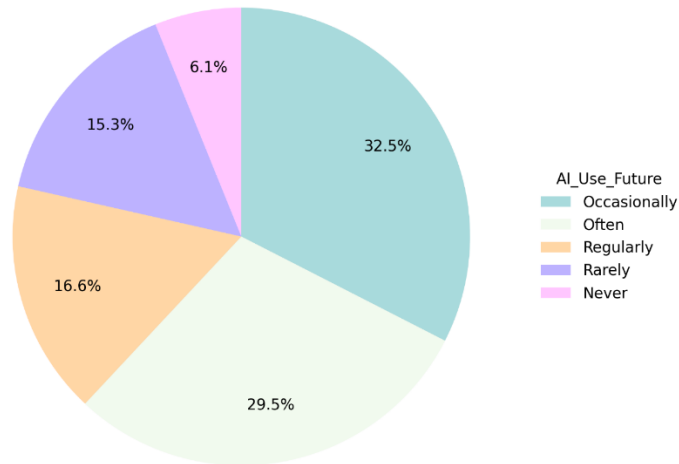
The distribution of responses indicates that the most frequently declared form of future use of AI is the occasional use of AI-based tools (53 respondents, 32.52%). Slightly fewer respondents anticipate frequent use of AI (48 respondents, 29.45%), suggesting a clear acceptance of AI technology in the daily work of freelancers. In addition, a significant group of respondents declare regular use of AI (27 respondents, 16.56%), which also proves the perception of AI as a permanent element among freelancers' work tools.



**Figure 25. Distribution of Polish freelancers by intended future use of artificial intelligence (frequency).**

Responses indicating the infrequent use of AI occur moderately often (25 respondents, 15.34%) and a relatively small percentage of respondents declare that they will not use AI at all in the future (10 respondents, 6.13%). The overall distribution of responses indicates the predominance of declarations assuming at least occasional use of AI. These results suggest a gradual but widespread adoption of AI tools in the freelance community.

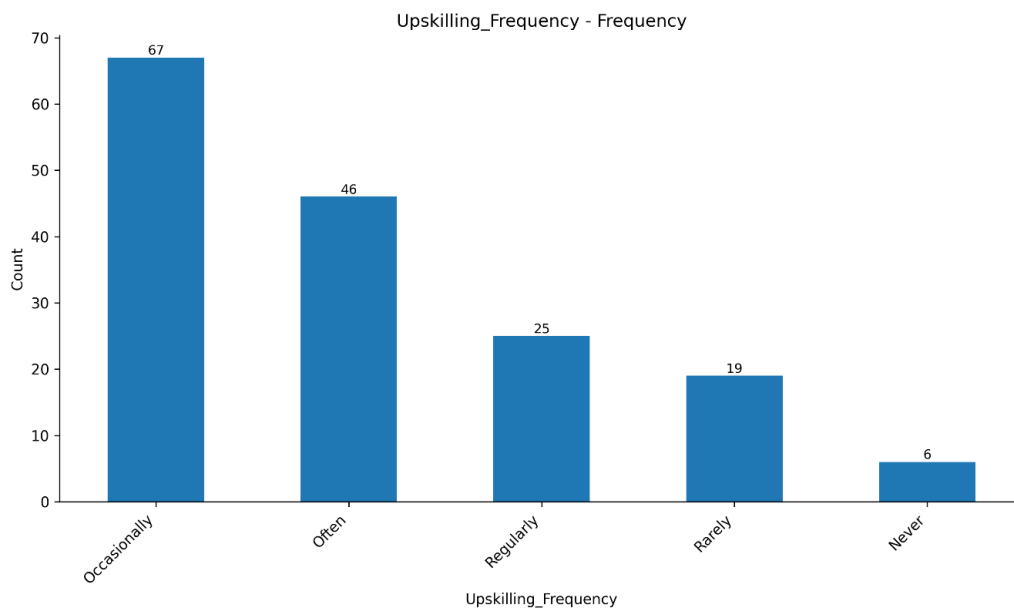
AI\_Use\_Future - Percentage



**Figure 26. Percentage distribution of Polish freelancers by intended future use of artificial intelligence.**

### 1.1.16 Investment in upskilling and reskilling by freelancers

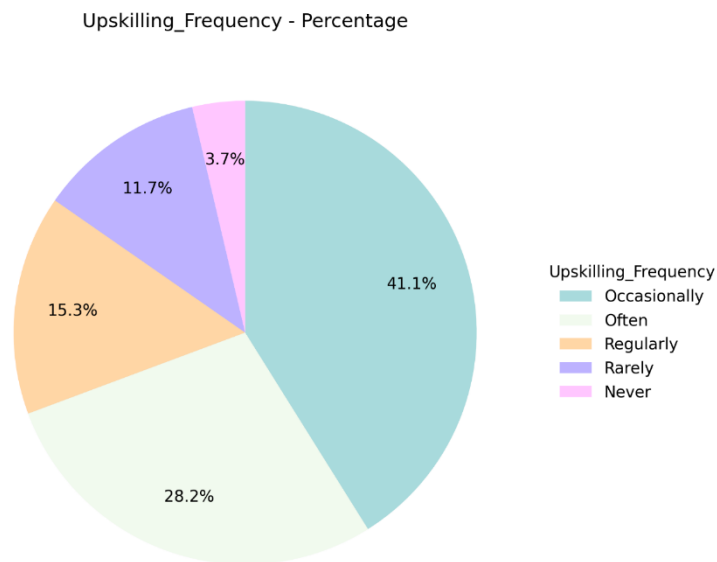
One area of the study focused on freelancers' activities related to the expansion of their qualifications. The distribution of responses indicates a high overall willingness to engage in continuous learning to broaden the skill sets required in the freelance market.



**Figure 27. Distribution of Polish freelancers by frequency of upskilling activities.**

A low share of responses indicating infrequent improvement of their skills (19 respondents, 11.66%) or lack of plans in this area (6 respondents, 3.68%) indicates a relatively high determination of freelancers to maintain a high level of competence in their areas of professional activity.

The results indicate that the largest group of respondents decide to invest in the development of their skills occasionally, which was indicated by 67 freelancers (41.1%). A significant part of the respondents plan to frequently (46 respondents, 28.22%) and regularly (25 respondents, 15.34%) improve their qualifications, which seems to be a necessary condition for quick adaptation to the dynamically changing requirements of the freelance labour market.

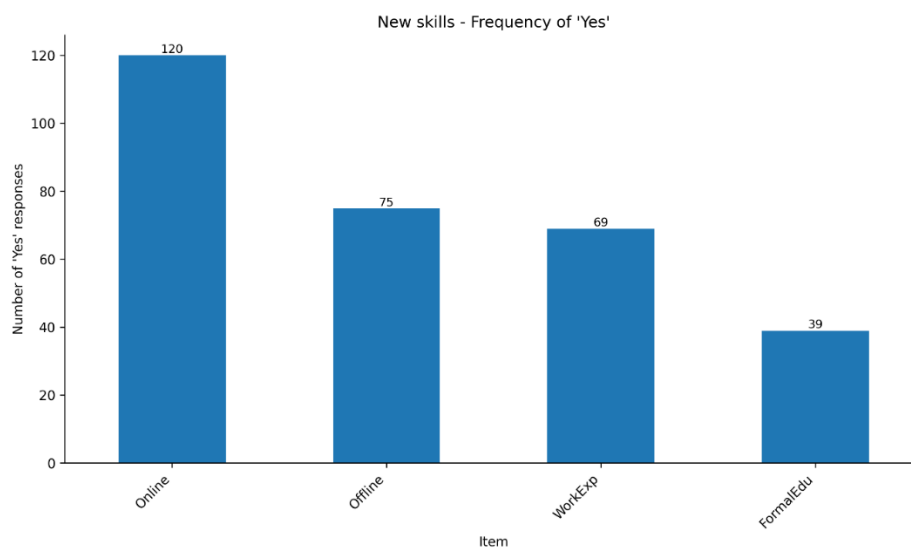


**Figure 28. Percentage distribution of Polish freelancers by frequency of upskilling activities.**

Overall, the results indicate that nearly 44% freelancers invest in upskilling or reskilling frequently or on a regular basis, while almost 85% engage in such activities at least occasionally.

### 1.1.17 Pathways to skill acquisition and development in freelancing

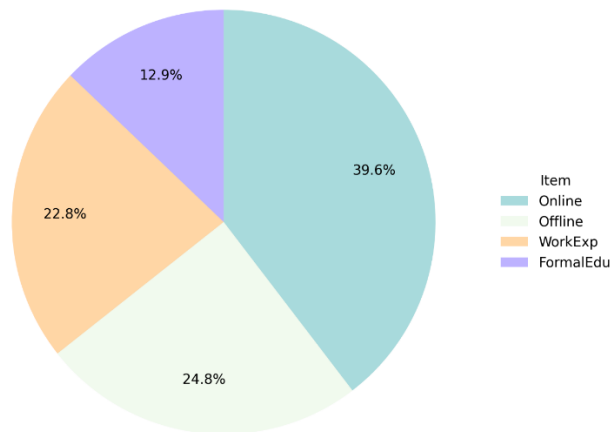
This subsection explores the mechanisms through which Polish freelancers acquire and enhance new competencies. Respondents were permitted to select multiple learning pathways, yielding a total of 303 selections from 163 participants. As a result, the frequencies and percentages reported below indicate the relative importance of each pathway among all selected options, rather than representing mutually exclusive respondent groups.



**Figure 29. Distribution of Polish freelancers by methods of acquiring new skills (frequency of 'Yes' responses).**

The results of the survey clearly indicate that online learning is the most popular form of professional development (120 respondents, 39.6%), dominating over all other methods. A much smaller, but still important, group of respondents relies on traditional offline methods and acquiring competences directly through professional experience, both of which are similarly popular. Formal education ranks last in the list (39 respondents, 12.87%), suggesting that in freelancing, diplomas are less important than specialized courses and internships.

New skills - Percentage of 'Yes'



**Figure 30. Percentage distribution of Polish freelancers by methods of acquiring new skills (share of 'Yes' responses).**

Therefore, it can be concluded that freelancers prefer flexible and modern learning paths that allow for quick adaptation to market requirements. Such a distribution of responses highlights the progressive digitization of the teaching process and the shift from inflexible educational frameworks to independent development.

## 1.2 Companies

### 1.2.1 Overview

This section offers a detailed overview of the organisational features, recruitment practices, and strategic orientations of companies participating in the ENTEEF survey in Poland. The descriptive analysis establishes an essential foundation for understanding firms' demand-side perspectives on freelance work, competency needs, and expected labour-market trends.

The section opens with an examination of companies' structural attributes, including their main field of activity, organisational size, and length of market presence. These indicators reflect the sectoral, organisational, and maturity-related characteristics of the surveyed firms and support the interpretation of differences in freelancer engagement across organisational profiles.

Subsequent subsections focus on companies' experience with freelance labour, addressing both the duration of freelancer engagement and the categories of services procured.

The analysis then turns to firms' motivations for employing freelancers and the perceived risks associated with this form of labour. Together, these dimensions illuminate the benefits and constraints of freelancer engagement and provide insight into organisational decision-making and risk management processes.

The section also examines companies' expectations regarding future developments, including anticipated short-term challenges in freelancer engagement and assessments of the influence of artificial intelligence on recruitment practices. These perspectives indicate how organisations foresee changes in workforce availability, cost structures, and skill requirements.

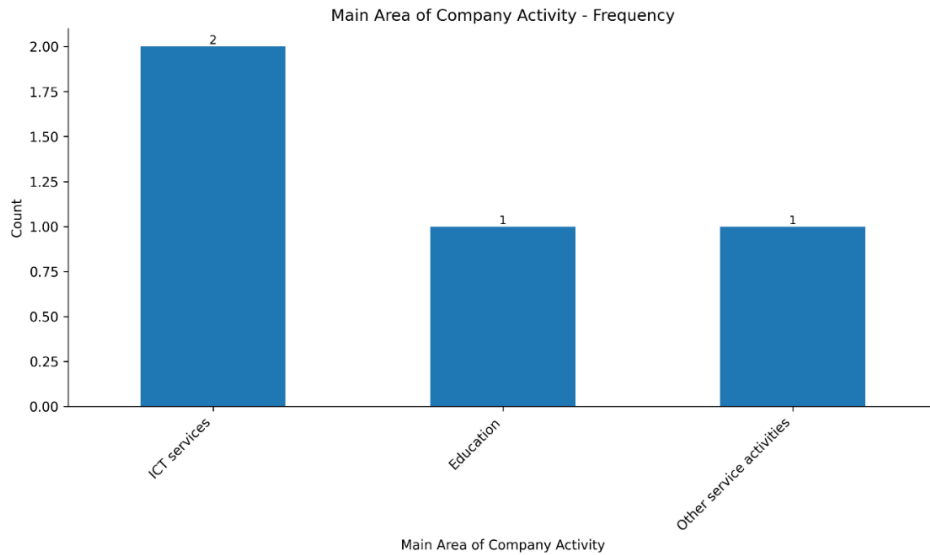
Finally, the section considers companies' views on the wider implications of AI technologies for the freelancing market, capturing perceptions of market-level transformations beyond individual hiring decisions.

Overall, this section presents a comprehensive account of the organisational context of freelancing in Poland. It provides a critical basis for subsequent comparative analyses and for assessing the degree of alignment between organisational demand and freelancers' skills, expectations, and professional development trajectories within the ENTEEF analytical framework.

### **1.2.2 Main area of company activity**

The data collected by the project identified the main areas of activity of the companies participating in the survey employing freelancers – classified according to the NACE system used in the questionnaire. The chart below shows the structure of the surveyed companies in terms of their main business profile. Among the analysed entities, the ICT services sector clearly dominates (50% of companies), which confirms a strong correlation between the technology industry and the model of cooperation with freelancers. Other areas of activity, including education and other forms of service activity, are less prevalent, while showing the same level of representation. Such a

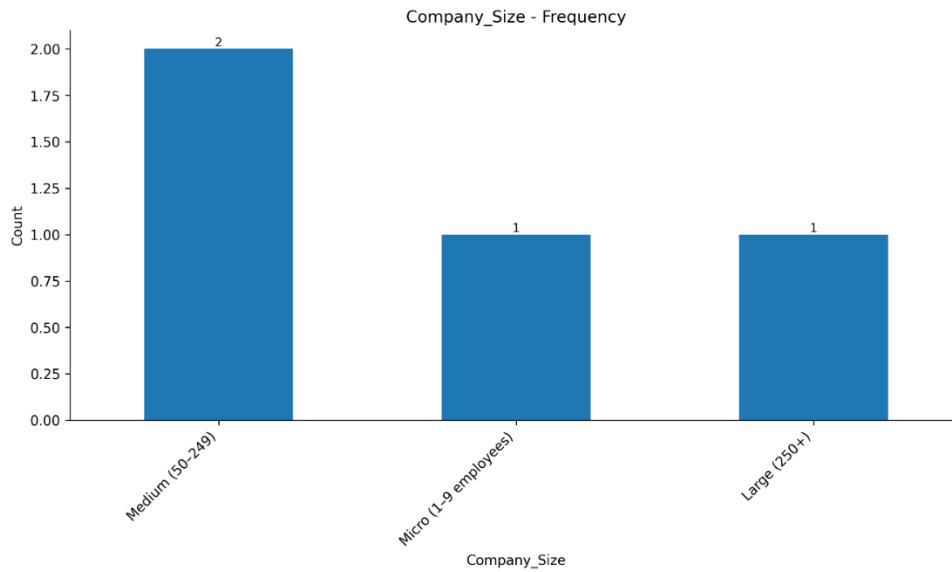
distribution suggests that the demand for freelance work is particularly concentrated in companies based on modern technologies and digital services.



**Figure 31. Distribution of Polish companies by main area of activity.**

### 1.2.3 Company size

This subsection examines the distribution of participating companies across standard employee-based size categories. The analysis provides background information on organisational scale and supports the interpretation of firms' approaches to engaging freelancers.



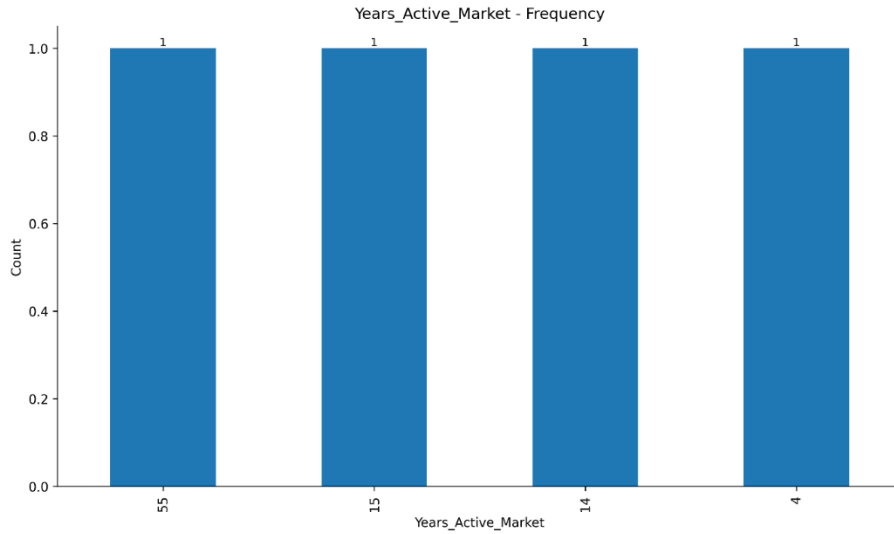
**Figure 32. Distribution of Polish companies by company size (frequency).**

An analysis of the size of the companies participating in the survey indicates a clear dominance of medium-sized enterprises in the collected research sample (50% of companies). At the same time, there is an even share of micro and large corporations, such a distribution suggests that the demand for freelancers is generated by both small units and entities of an extensive scale. This breakdown provides an important context for interpreting firms' hiring motivations, perceived risks, and anticipated challenges discussed in the subsequent sections of the report.

#### **1.2.4 Years active on the market**

This subsection analyses the distribution of surveyed firms by their duration of market activity, highlighting differences in organisational maturity and accumulated market experience among companies involved in the research.

The data relating to company profiles indicate that the examined sample includes both organizations with long market experience and relatively young firms. This diversity enables an analysis of freelancing across a broad cross-section of entities. The balanced representation of organizations at different stages of maturity suggests that cooperation with external specialists is a viable model regardless of a company's stage of development.

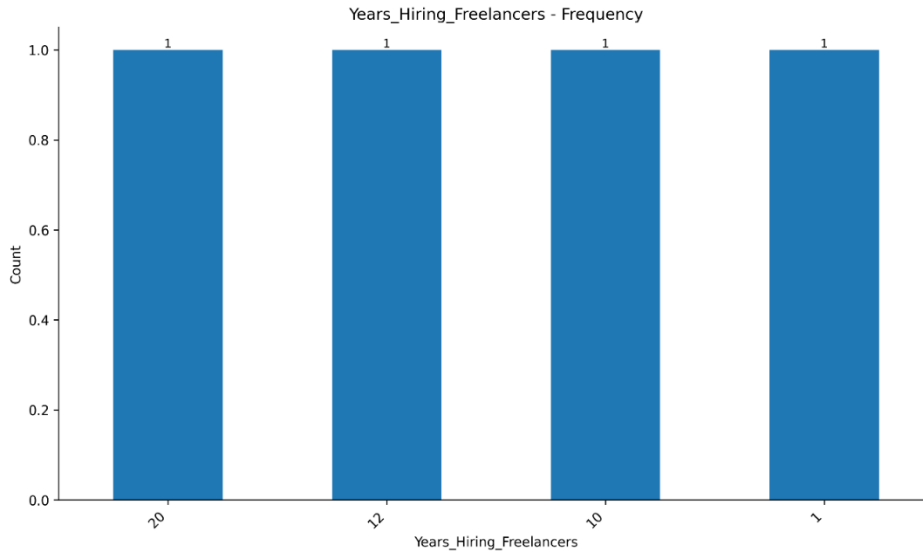


**Figure 33. Distribution of Polish companies by years active on the market (frequency).**

The level of organisational maturity offers valuable context for interpreting companies' freelancer engagement practices, skill requirements, and anticipated challenges, as more established firms may differ in their hiring strategies and expectations compared to younger organisations.

### **1.2.5 Years of freelancer hiring**

This subsection presents the distribution of surveyed companies by the length of time they have employed freelancers, shedding light on their organisational experience with freelance engagement. The study reveals a significant variation in the length of cooperation between companies and freelancers, which indicates the heterogeneous nature of the sample in terms of undertaking cooperation with the surveyed group of employees.

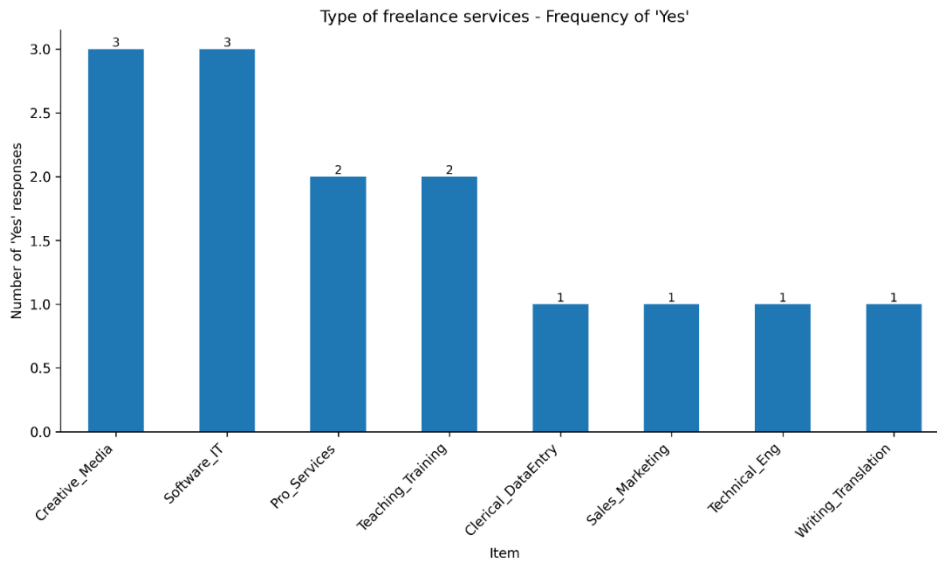


**Figure 34. Distribution of Polish companies by years of hiring freelancers (frequency).**

Some entities have a long tradition in using the services of freelancers (20 years), which proves the deep rooting of this model in their structures and the implementation of a long-term HR strategy. At the same time, the presence of companies with a very short tenure (1 year) suggests the continuous expansion of this model and its adaptation by new organizations. This is also confirmed by the frequent use of freelance services by the surveyed companies in the last 12 months preceding the survey.

### 1.2.6 Type of freelance services hired

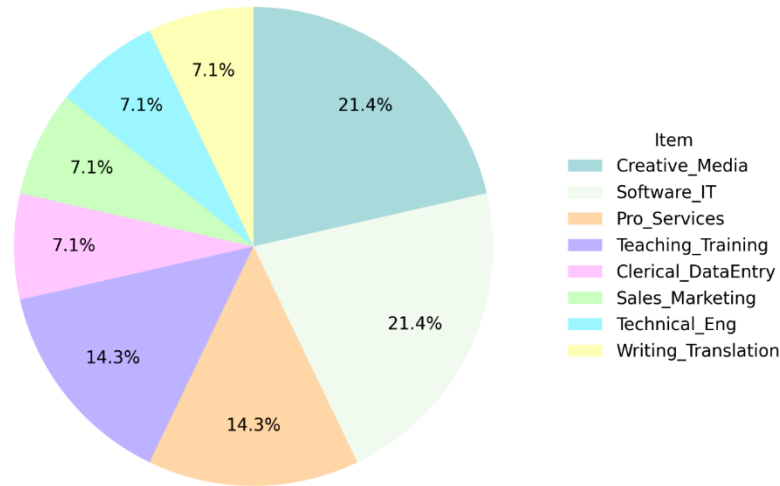
This subsection presents the range of freelance services employed by the surveyed companies. The analysis is based on a small sample, with respondents allowed to select multiple service types. Consequently, the reported frequencies and percentages indicate the relative prevalence of each service type rather than representing mutually exclusive company categories.



**Figure 35. Distribution of Polish companies by types of freelance services utilized (frequency of 'Yes' responses).**

The analysis of the structure of commissioned tasks indicates the dominance of the creative sectors (21.43%) and software development (21.43%) as the main areas generating demand for freelancers in the surveyed organizations, which confirms the strong market orientation towards digital competences. An important place in the list is also occupied by specialist professional services (14.29%) and the area of education and training (14.29%), which reflects the need of companies for the transfer of external expertise. Other categories, including administrative support, marketing, and technical engineering, show a lower prevalence, suggesting a more specific or project-based approach to outsourcing these functions. A holistic picture of the data allows us to formulate the conclusion that the modern freelance job market is closely linked to industries with a high degree of innovation and creativity.

Type of freelance services - Percentage of 'Yes'



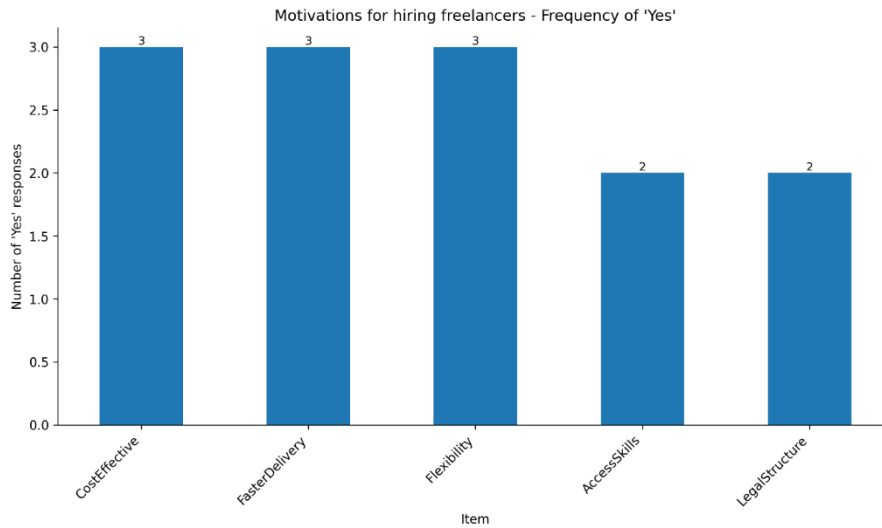
**Figure 36. Percentage distribution of Polish companies by types of freelance services utilized (share of 'Yes' responses).**

### 1.2.7 Motivations for hiring freelancers

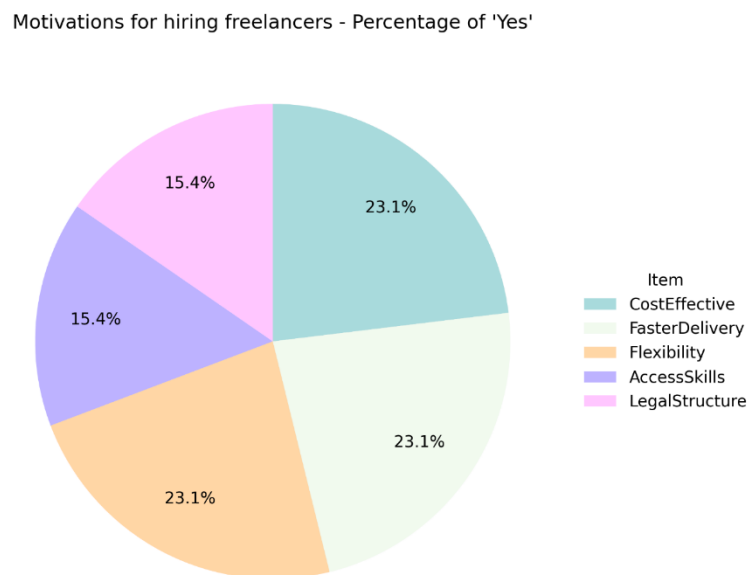
This subsection analyses the factors that motivate companies to hire freelancers. The findings are based on a small sample, and respondents were allowed to choose multiple motivations. As such, the reported frequencies and percentages illustrate the relative importance of each motivation rather than representing mutually exclusive company categories.

The survey indicates that among the main factors motivating organizations to cooperate with freelancers can be found the pursuit of cost optimization (23.08%), the speed of project implementation (23.08%) and broadly understood operational flexibility (23.08%).

An important, although less frequently indicated, reason is the desire to gain access to highly specialized competencies, which are currently lacking within the company. Issues related to the legal structure and specificities of forms of employment play the least role. The holistic picture of the data shows that freelancers are treated as strategic support, allowing companies to quickly adapt to dynamically changing needs.



**Figure 37. Distribution of Polish companies by motivations for hiring freelancers (frequency of 'Yes' responses).**

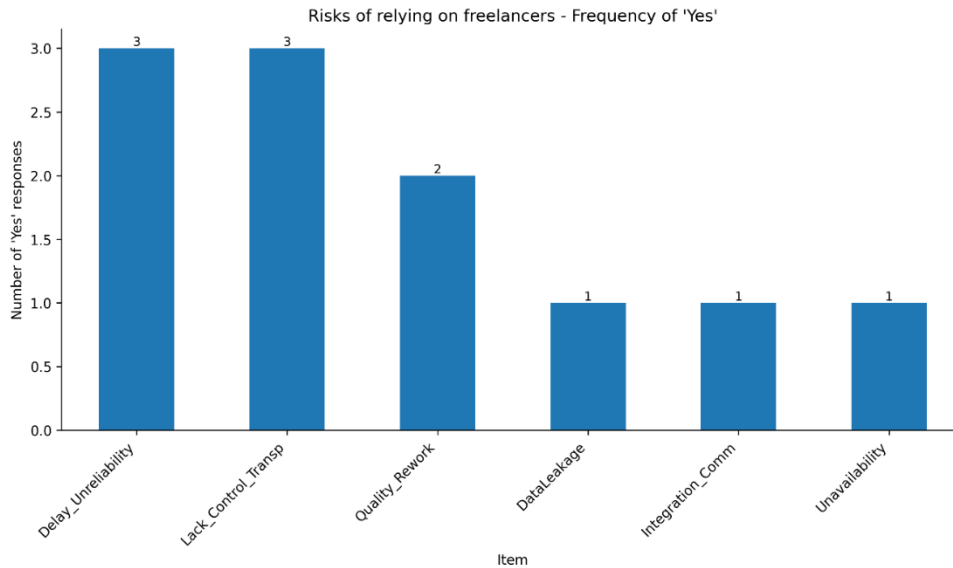


**Figure 38. Percentage distribution of Polish companies by motivations for hiring freelancers (share of 'Yes' responses).**

### 1.2.8 Risks of relying on freelancers

An important area of analysis was also the analysis of the risk associated with basing the company's activity on cooperation with freelancers. From this perspective, the key concerns of the organization in relations with this group of employees focus on

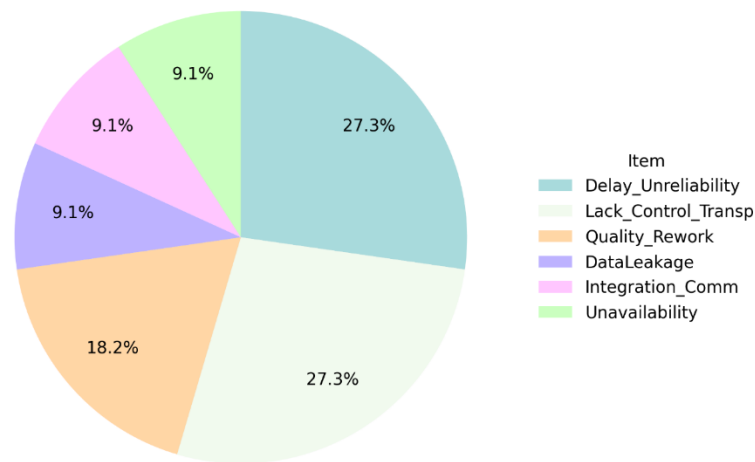
potential lateness and delays (27.27%) and the lack of direct control over the process of performing the tasks entrusted to them and the deficit of transparency (27.27%).



**Figure 39. Distribution of Polish companies by perceived risks of relying on freelancers (frequency of 'Yes' responses).**

The analysis also draws attention to the concern about the quality of the results delivered (18.18%), which, in the opinion of entrepreneurs, generates the risk of having to implement costly corrections. Relatively the least importance is given to difficulties in integration and communication, as well as risks related to data leakage and those related to the general availability of freelancers.

Risks of relying on freelancers - Percentage of 'Yes'



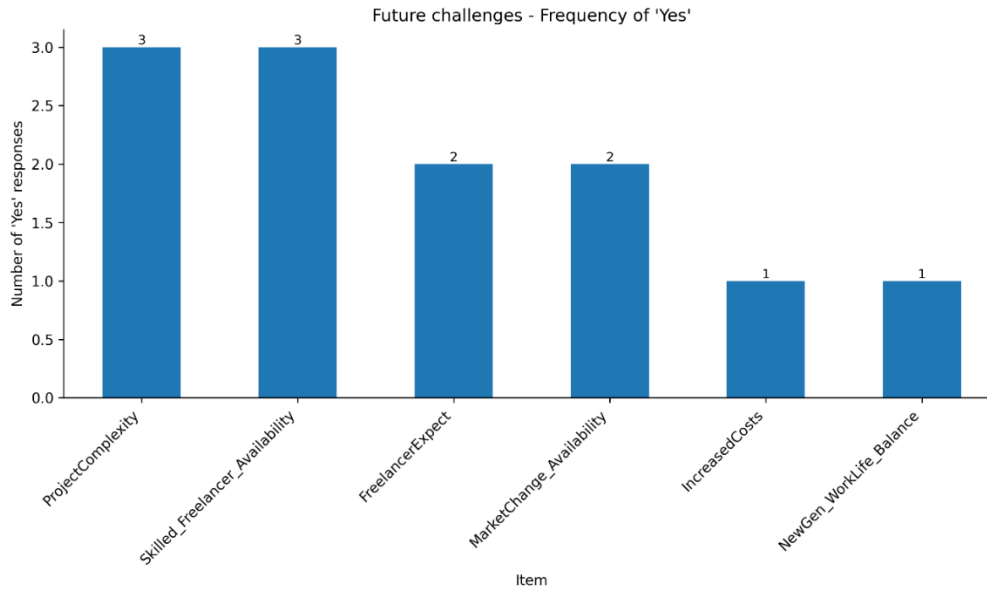
**Figure 40. Percentage distribution of Romanian companies by perceived risks of relying on freelancers (share of 'Yes' responses).**

### 1.2.9 Companies' anticipated near-term challenges

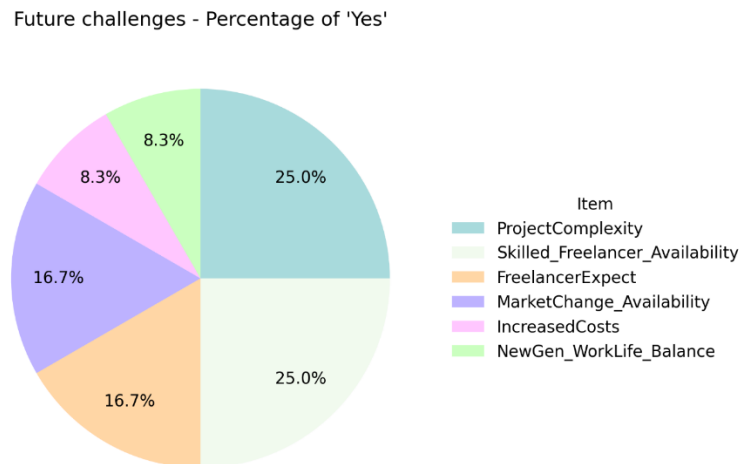
This subsection examines the short-term challenges companies foresee in relation to engaging freelancers. The analysis is based on a small sample, with respondents allowed to indicate multiple challenges. As a result, the reported frequencies and percentages reflect the relative importance of each challenge among all selections, rather than representing mutually exclusive company categories.

Among the key challenges, the growing complexity of implemented projects (25%) and difficulties in acquiring specialists with unique and high competencies (25%) were indicated.

Significant concerns are also raised by the evolving expectations of freelancers themselves (16.67%) and broader market and social changes, which, according to respondents, may realistically limit the overall availability of external contractors (16.67%). Less frequently reported concerns included rising costs of working with freelancers (8.33%) and the evolving approach of younger generations to maintaining work-life balance (8.3%).



**Figure 41. Distribution of Polish companies by perceived future challenges related to freelancing (frequency of 'Yes' responses).**

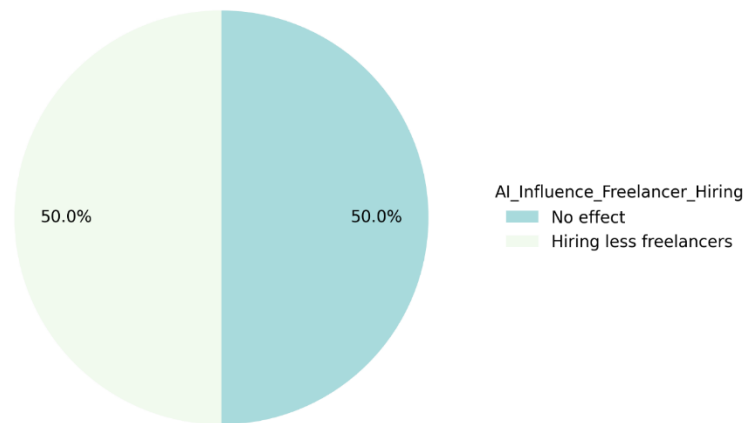


**Figure 42. Percentage distribution of Polish companies by perceived future challenges related to freelancing (share of 'Yes' responses).**

### 1.2.10 Perceived influence of AI on freelancer hiring

This subsection examines companies' views on the expected impact of artificial intelligence (AI) on their future freelancer hiring. As shown in the graph below, responses are evenly split between those who believe AI will lead to a reduction of the number of freelancers hired and those who do not anticipate any effect in this area.

AI\_Influence\_Freelancer\_Hiring - Percentage

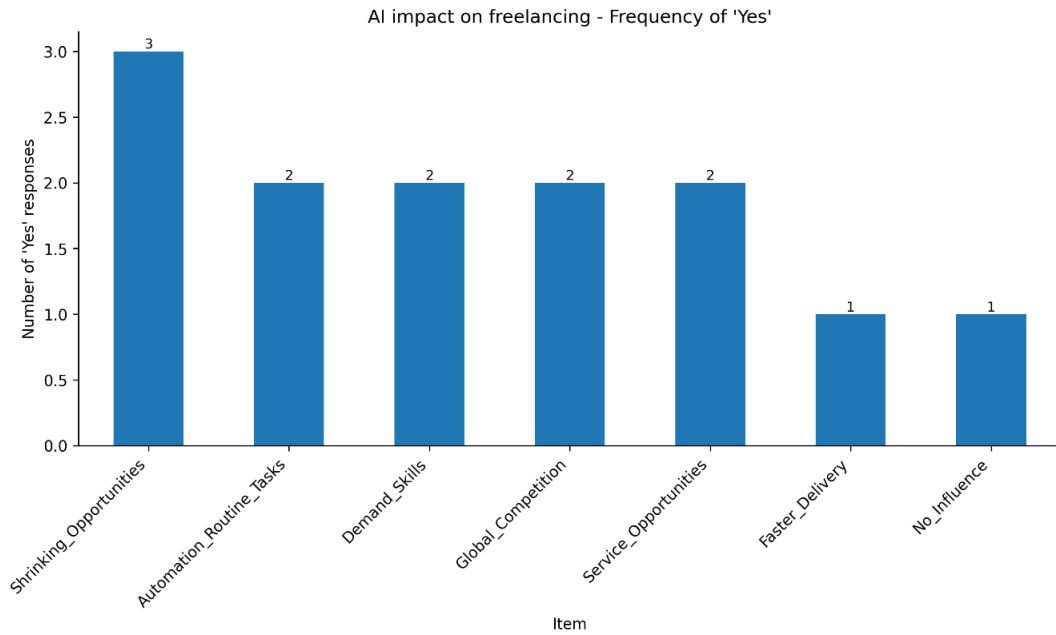


**Figure 43. Distribution of Polish companies by perceived influence of artificial intelligence on freelancer hiring.**

### **1.2.11 Perceived impact of AI technology on the freelancing market**

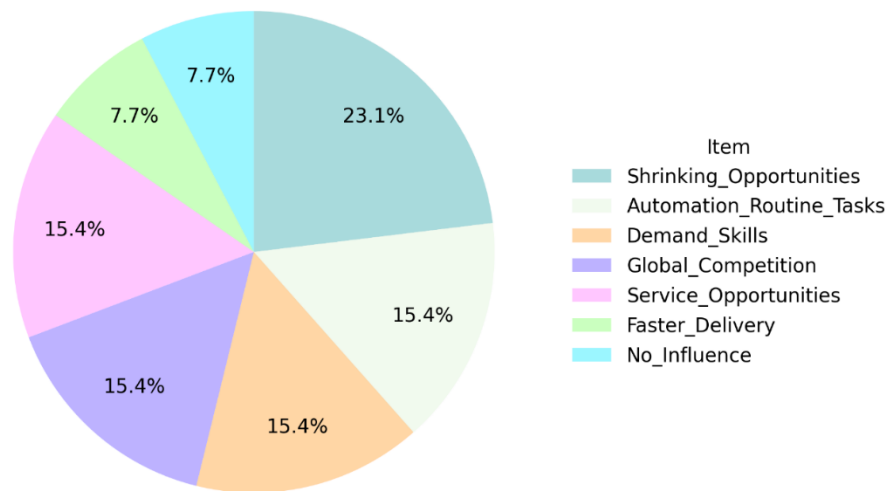
This subsection examines companies' perspectives on the effects of AI technology on the freelancing market. The analysis is based on responses from four companies, with respondents able to identify multiple perceived impacts. As such, the reported frequencies and percentages reflect the relative importance of each effect rather than distinct, mutually exclusive categories.

The results of the survey indicate a multidimensional impact in this area, with the most frequently indicated effect being the risk of shrinking available job offers (23.08%). At the same time, respondents see artificial intelligence as an effective tool for automating routine tasks (15.38%) and a key factor changing the demand for specific competencies of freelancers related to artificial intelligence (15.38%). From a research perspective, the impact of AI on the level of global competition (15.38%) is also important, which forces freelancers to look for new service niches and strategically redefine their offer. Although this technology is perceived by some respondents mainly as a way to accelerate the implementation of projects, only a marginal part of the indications points out an insignificant impact of AI on the functioning of the market (7.69%).



**Figure 44. Distribution of Polish companies by perceived impact of artificial intelligence on freelancing (frequency of 'Yes' responses).**

AI impact on freelancing - Percentage of 'Yes'



**Figure 45. Percentage distribution of Polish companies by perceived impact of artificial intelligence on freelancing (share of 'Yes' responses).**

# 2 Competency Analysis:

## Importance and Proficiency

### 2.1 Freelancers

#### 2.1.1 Top-ranked competencies by importance across age groups

This subsection examines the competencies considered most important across different freelancer age groups. The analysis highlights both core competencies consistently valued throughout the career span and age-specific priorities that reflect distinct career stages and professional objectives.

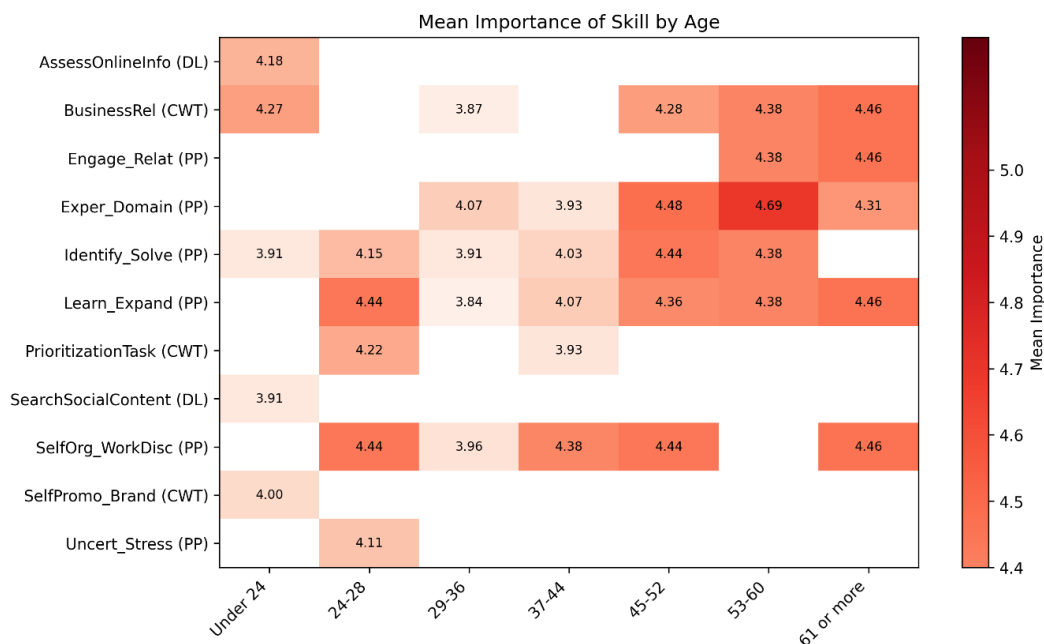


Figure 46. Mean importance of skills by age group among Polish freelancers.

#### Under 24

Among the youngest freelancers, the highest-ranked competencies are and **ability to keep good relationships in business collaboration** and **ability to assess the relevance of online information**

In addition strong emphasis is put on **self-promotion and brand building, solve problems, use of search engines, social media and content platforms** and **ability to identify, analyse and solve problems**

#### 24–28

Freelancers aged 24–28 show top importance for self-organization and work discipline and self-organisation and ability to learn quickly and expand knowledge. This combination suggests a transition from basic skill acquisition toward operational effectiveness, as freelancers begin handling multiple projects and client expectations independently. Right prioritization and task management also emerges, reflecting the growing need to cope with professional pressures.

#### 29–36

In this mid-career age group, experience in the work domain and problem identification and self-organization and work discipline rank highest. In addition , the emphasis is put on the ability to identify, analyse and solve problems which is important to strengthen problem-solving capabilities to manage increasingly complex tasks and client demands.

#### 37–44

For freelancers aged 37–44, self-organization and work discipline and self-organisation and the ability to learn quickly and expand knowledge are prominent. Attention is also put on the ability to identify, analyse and solve problems.

#### 45–52

In this age group, experience in the work domain, self-organization and work discipline and ability to identify, analyse and solve problems remain top priorities. Freelancers put importance also on the ability to learn quickly and expand knowledge.

#### 53–60

Freelancers aged 53–60 rank experience in the work domain as the most important set of competencies. All other skills are ranked equally (ability to engage in and maintain relationships, ability to learn quickly and expand knowledge, ability to

identify, analyse and solve problems, ability to keep good relationships in business collaboration).

### 61 or More

Among the oldest freelancers, self-organisation and work discipline, ability to engage in and maintain relationships, ability to learn quickly and expand knowledge, ability to keep good relationships in business collaboration and experience in the work domain are the top competencies.

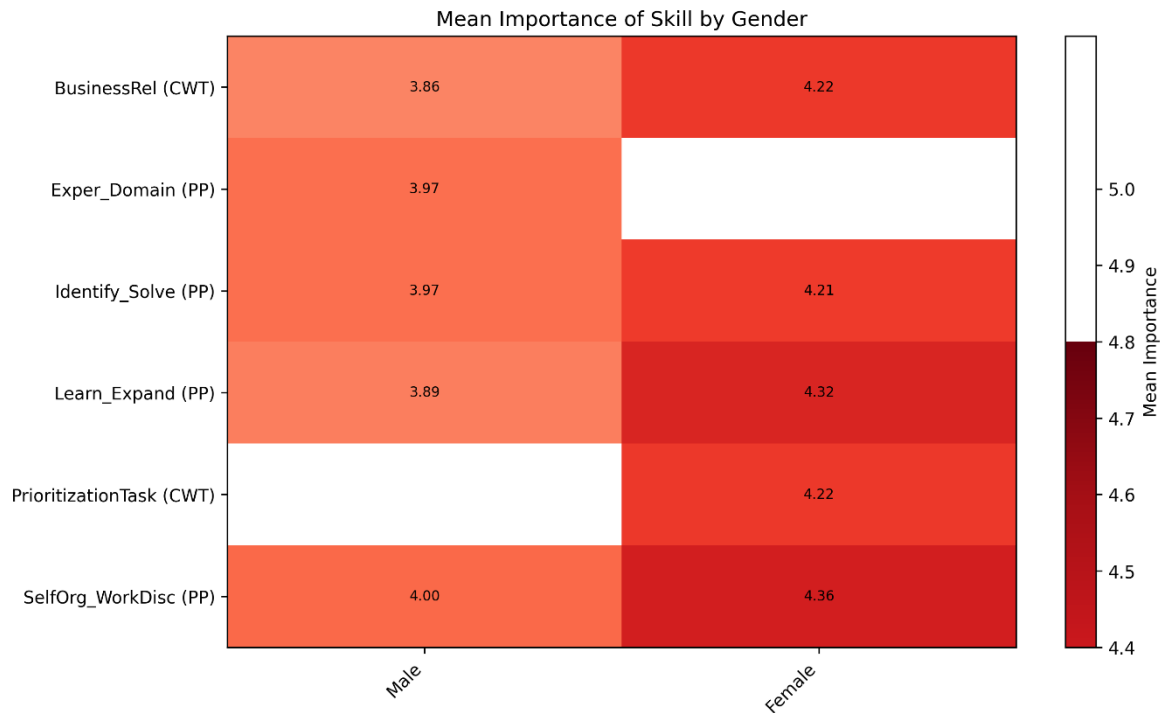
### Cross-Age Synthesis

Across all age groups, ability to engage in and maintain relationships, self-organization and work discipline, and experience in the work domain consistently appear among the top-ranked competencies. The least importance is linked with use of search engines, social media and content platforms and self-promotion and brand building.

This data provides important context for interpreting competence gaps and designing targeted training or upskilling interventions by career stage.

## **2.1.2 Top-ranked competencies by importance across gender**

This subsection analyses the competencies considered most important by male and female freelancers, revealing both shared priorities and gender-specific variations in the perceived significance of different skills.



**Figure 47. Mean importance of skills by gender among Polish freelancers.**

### Male Freelancers

Among **male freelancers**, the most highly ranked competence is **self-organization and work discipline**. The second-ranked competence is **experience in the work domain**. In third place, **ability to identify, analyse and solve problems** emerges as a key competence.

In summary, the top three competencies for male freelancers put both emphasis on organizational and management related skills but also stressing importance of relevant expertise in the domain relevant for each of the freelancers' activities.

### Female Freelancers

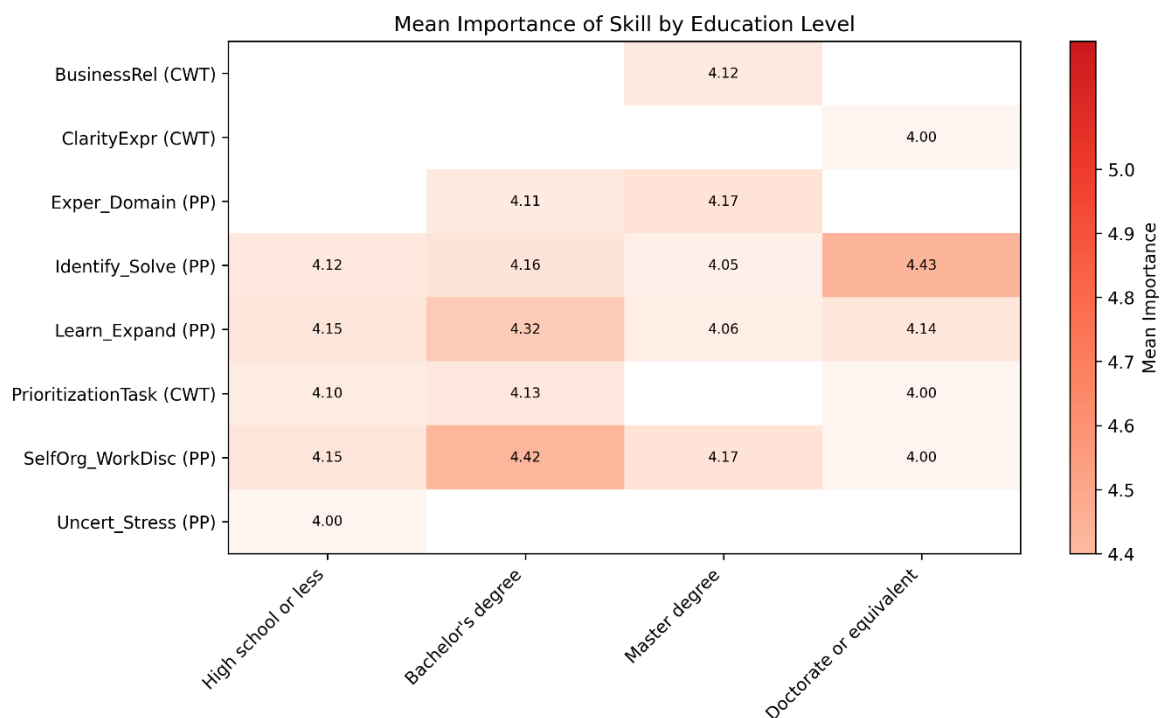
In case of **female freelancers**, the highest-ranked competence is **self-organization and work discipline**, next the ability to learn quickly and expand knowledge has been ranked. The third-ranked competence is right prioritization and task management, demonstrating a strong shared emphasis with male freelancers on adapting to the dynamic character of freelances' professional activity.

## Gender-Based Synthesis

Across both genders, **right prioritization and task management**, consistently appears among the most important competencies. However, differences in emphasis are observed: female freelancers put greater importance on **ability to learn quickly and expand knowledge**, whereas male freelancers prioritise **right prioritization and task management**.

### 2.1.3 Top-ranked competencies by importance across education levels

This subsection analyses the competencies considered most important across various education levels, revealing both shared priorities and education-specific emphases in freelancers' assessments of skill relevance.



**Figure 48. Mean importance of skills by education level among Polish freelancers.**

#### High School or Less

Among freelancers with high school education or less, the most important competencies are **self-organisation and work discipline** and **ability to learn**

**quickly and expand knowledge**, which share the top ranking with identical importance scores. This suggests that for this group, the foundation of freelance success is built on a dual pillar of strict personal accountability and a continuous drive to acquire new skills. The third ranked skill is the ability to identify, analyse and solve problems. The presence of **coping with uncertainty and stress** in the top five indicates that these freelancers may face higher levels of volatility or market pressure, making emotional resilience and adaptability critical survival skills in their professional landscape

### Bachelor's Degree

Similarly to the previous group, for freelancers holding a Bachelor's degree, **self-organisation and work discipline** ranks as the undisputed top competence, followed by **ability to learn quickly and expand knowledge**. The third-ranked competence is also **ability to identify, analyse and solve problems**.

### Master's Degree

Among freelancers with a Master's degree, **self-organisation and work discipline** shares the top rank with **experience in the work domain**, marking a distinct shift in priorities. This highlights that at this educational level, deep knowledge and specialized subject matter expertise are viewed as equally critical to success as the ability to manage one's time. **Business relationship management** appears as the third most important competence, distinguishing this group from others. This suggests that Master's-level freelancers place a higher premium on networking, client retention, and the commercial aspects of freelancing, balancing technical expertise with market connectivity.

### Doctorate or Equivalent

For freelancers holding a Doctorate or equivalent qualification, the profile shifts significantly: the most important competence is **problem identification and solving**, pushing self-organisation to a lower rank. This indicates that for highly specialized experts, the core value proposition is cognitive capability and the ability to address complex intellectual challenges. **Clarity of expression and communication** appears

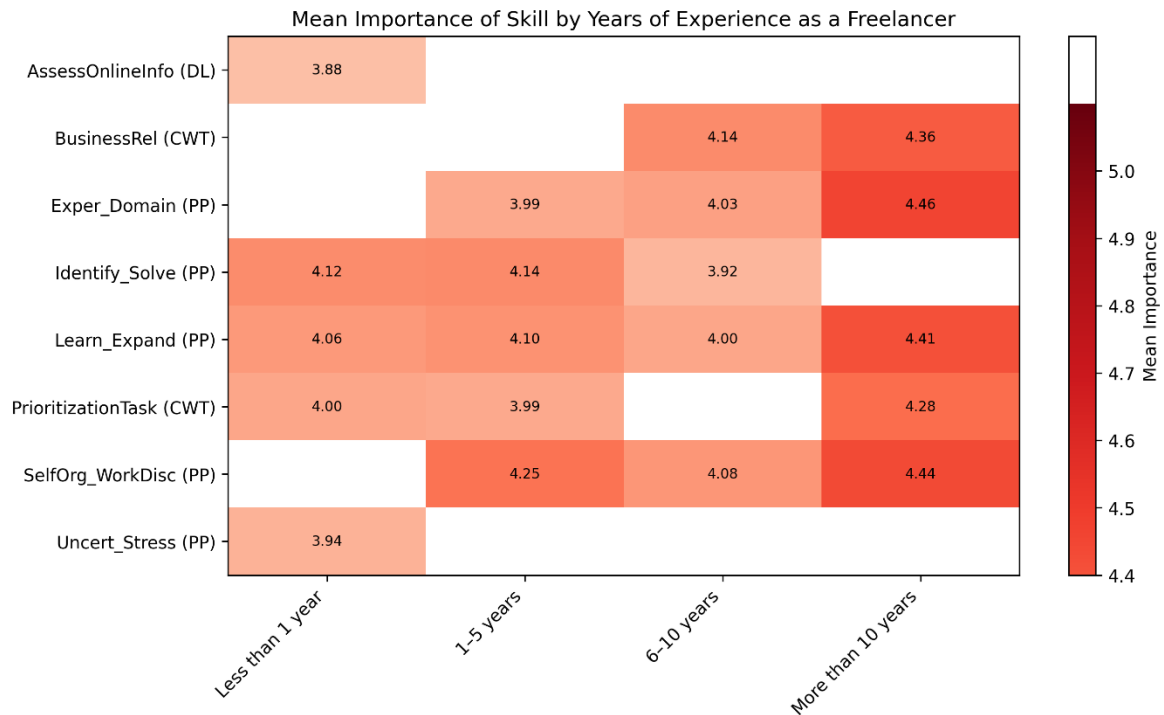
in the top rankings for this group, alongside **ability to learn quickly and expand knowledge**. This suggests a role often focused on consultancy, research, or advisory services, where the ability to not only solve complex problems but also articulate those solutions clearly is paramount.

### Cross-Education Synthesis

Across most education levels, ability to identify, analyse and solve problems, **self-organisation and work discipline** and **ability to learn quickly and expand knowledge** are foundational, appearing consistently as top priorities. However, a clear divergence occurs based on academic depth: freelancers with lower formal education prioritize resilience (coping with stress), those with Master's degrees prioritize **domain expertise and business relationships**, and those with Doctorates prioritize **communication**

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

This subsection examines the competencies considered most important across varying levels of freelance experience, highlighting how skill priorities shift as freelancers advance from entry-level to highly experienced stages.



**Figure 49. Mean importance of skills by years of freelancing experience among Polish freelancers.**

### Less than 1 Year

Among freelancers with less than one year of experience, the most important competence is **ability to identify, analyse and solve problems**. This is followed closely by the **ability to learn quickly and expand knowledge**, indicating that new freelancers prioritize the ability to troubleshoot immediate project challenges and rapidly acquire new knowledge to establish themselves in the market. Notably, this group is the only one to rank **assessing online information** and **coping with uncertainty and stress** within their top five, suggesting a high reliance on digital literacy and emotional resilience during the entry phase of a freelance career.

### 1–5 Years

For freelancers with 1–5 years of experience, **self-organisation and work discipline** emerges as the top-ranked competence. This shift indicates that as freelancers move past the initial entry phase, the ability to manage time, maintain structure, and ensure independent productivity becomes the primary driver of success. The **ability to identify, analyse and solve problems** remains highly valued in the

second rank, followed by the **ability to learn quickly and expand knowledge**, showing a continued focus on analytical skills and focus on professional growth.

### 6–10 Years

Among freelancers with 6–10 years of experience, the highest-ranked competence is the **ability to keep good relationships in business collaboration**. This marks a significant transition toward a relational professional profile, where maintaining a network and client trust is perceived as more critical than individual task execution. **Self-organisation and work discipline** and **experience in the work domain** follow in importance, suggesting an advance stage where success is based on self-organization and management and technical proficiency.

### More than 10 Years

For freelancers with more than 10 years of experience, **experience in the work domain** is the most important competence. **Self-organisation and work discipline** and the **ability to learn quickly and expand knowledge** follow in the second and third ranks indicating commitment to staying relevant through continuous development. Additionally, the **ability to keep good relationships in business collaboration** remains among priorities, underscoring the enduring value of a strong professional network.

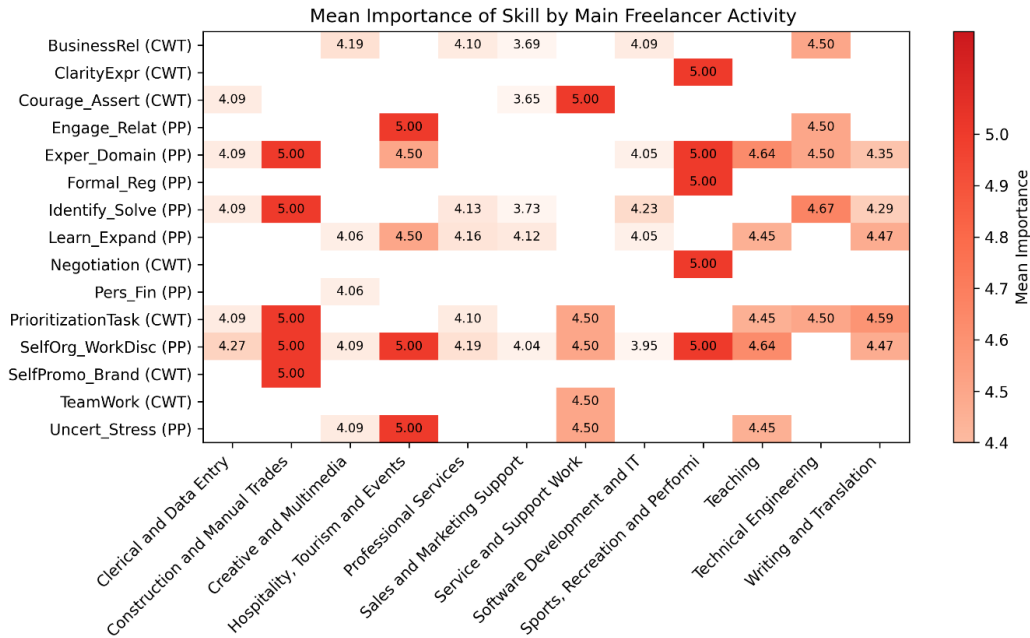
### Cross-Experience Synthesis

Across all experience levels, **self-organisation and work discipline** and the **ability to keep good relationships in business collaboration** appear consistently as top competencies. Regardless of age group, freelancers highly value experience in the work domain, ability to learn quickly and expand knowledge and right prioritization and task management.

## 2.1.5 Top-ranked competence by main freelancer activity

This subsection explores the competencies rated as most important within each primary freelance activity, highlighting how skill priorities differ across professional

domains and correspond to the specific requirements of various types of freelance work.



**Figure 50. Mean importance of skills by main freelancing activity among Polish freelancers.**

### Software Development and IT

For freelancers active in Software Development and IT, the top-ranked competence is the **ability to identify, analyse and solve problems**. The second rank is held by the ability to keep good relationships in business collaboration, suggesting that technical proficiency must be balanced with the ability to manage client expectations and collaboration.

### Professional Services

Within the Professional Services category, **self-organisation and work discipline** ranks as the most important competence. This is followed closely by the **ability to learn quickly and expand knowledge**, underscoring the necessity of staying updated with evolving professional standards. The top three is rounded out by **the ability to identify, analyse and solve problems**, which represents the core analytical value provided to clients seeking expert interventions.

### *Creative and Multimedia*

For Creative and Multimedia freelancers, the **ability to keep good relationships in business collaboration** emerges as the top-ranked competence. This indicates that success in creative fields is heavily dependent on networking, client trust, and interpersonal collaboration. **Self-organisation** and work discipline and the **ability to deal with uncertainty and stress** also rank highly, reflecting a work environment that is often project-based, deadline-driven, and commercially volatile.

### *Technical Engineering*

Within the Technical Engineering category, the **ability to identify, analyse and solve problems** is the top-ranked competence. This highlights the central role of solution-oriented thinking in tasks realization, which often involve addressing complex issues and problems. This is followed by the ability to **ability to engage in and maintain relationships** and **experience in the work domain**, suggesting that technical delivery must be supported by both deep hands-on knowledge and effective stakeholder involvement.

### *Teaching*

Freelancers engaged in Teaching rank **self-organisation and work discipline** and **experience in the work domain** as their highest-rated competencies. This reflects the dual requirement of being a subject matter expert and possessing the structured discipline necessary to manage project work. Additionally, the **ability to learn quickly and expand knowledge**, and **dealing with uncertainty and stress** share the third rank, indicating a demanding role that requires constant adaptation.

### *Sales and Marketing Support*

For Sales and Marketing Support, the top-ranked competence is the **ability to learn quickly and expand knowledge**. This suggests that success in these roles depends on staying ahead of rapidly changing market trends. **Self-organisation and work discipline** follows in the second rank, emphasizing the need for independent task management and the coordination of multiple activities under time pressure.

### *Writing and Translation*

Within the Writing and Translation category, **right prioritization and task management** is identified as the top-ranked competence. This highlights the critical relevance of managing multiple assignments and deadlines, which is essential in a field where freelancers often handle parallel projects for different clients. This is followed by **self-organization and work discipline** and the **ability to learn quickly and expand knowledge**, indicating that operational efficiency and the continuous refinement of subject-matter expertise are the pillars of the freelancer profession.

### *Construction and Manual Trades*

Within the Construction and Manual Trades category, several competencies attain the maximum importance score. **Self-organisation and work discipline**, **self-promotion and branding**, and the **experience in the work domain** are all perceived as critical prerequisites. This combination suggests that freelancers must not only be technically proficient but also highly disciplined in management of their project and active in marketing their specialized services to secure new contracts.

### *Clerical and Data Entry*

Within the Clerical and Data Entry category, **self-organisation and work discipline** is the highest-rated competence. This underscores the importance of accuracy, reliability, and structured work practices in task-oriented roles. Other top-ranked skills include **experience in the work domain**, **right prioritization and task management**, and the **ability to identify, analyse and solve problems**, suggesting that even in clerical work, freelancers are expected to resolve inconsistencies and manage their workflows with a high degree of autonomy.

### *Service and Support Work*

For Service and Support Work, **courage and assertiveness in communication** reaches the maximum importance score. This reflects the need for freelancers to communicate confidently with clients and stakeholders, particularly when setting boundaries or resolving service-related issues. Other critical competencies sharing a similar score include **self-organization and work discipline**, **dealing with**

**uncertainty and stress, ability to work in a team, and right prioritization and task management.**

### *Sports, Recreation and Performing Arts*

Within this category, several competencies reach a perfect score of 5, including self-organization and work discipline, negotiation skills, experience in the work domain, knowledge of and compliance with formal regulations, and clarity of expression while communicating with others. This suggests that freelancers in the performing arts and sports must balance their craft with the business realities of contract negotiation and strict adherence to professional or safety regulations.

### *Hospitality, Tourism and Events*

In the Hospitality, Tourism and Events domain, **self-organization and work discipline, dealing with uncertainty and stress**, and the ability to engage in and maintain relationships all receive the maximum score. This underscores the need for freelancers to remain composed and organized in the live, time-critical, and highly relational contexts typical of the hospitality industry.

### *Cross-Activity Synthesis*

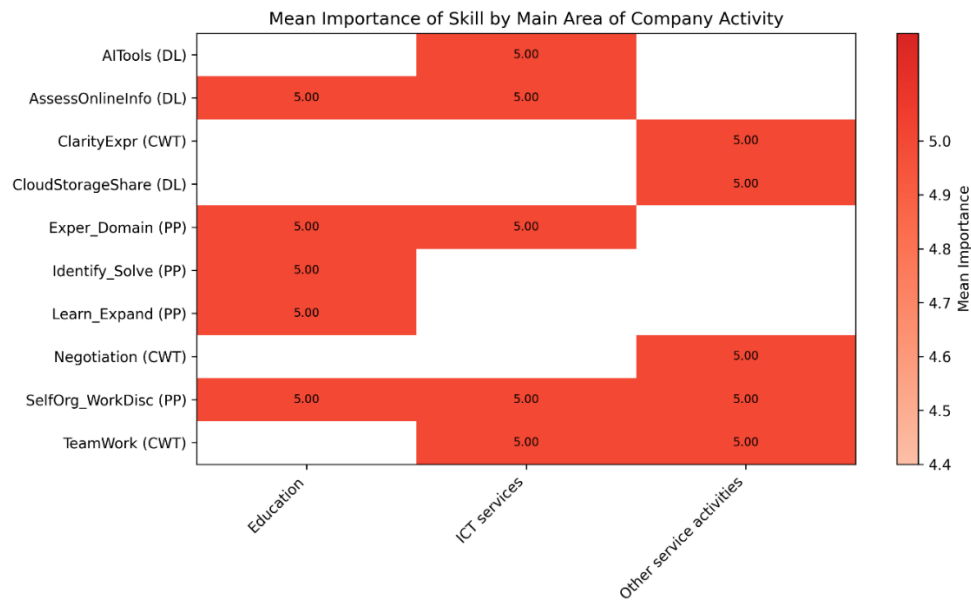
Across different freelancer activities, **self-organisation and work discipline, experience in the work domain** and the right prioritization and task management or the ability to identify, analyse and solve problems are ranked on top positions among skills assessed. Those who are perceived as the least important include the ability to work in a team, knowledge of and compliance with formal regulations, clarity of expression while communicating with others.

## **2.2 Companies**

### **2.2.1 Top-ranked competencies by importance across main area of company activity**

This subsection analyses companies' evaluations of the importance of competencies, with particular attention to the highest-rated skills within each main area of activity. By identifying competencies that are consistently assessed as having

very high or maximum importance, the analysis reveals key demand-side expectations that influence freelancer selection, performance assessment, and future skill development needs.



**Figure 51. Mean importance of skills by main area of company activity among Polish companies.**

The findings serve as an essential reference for the subsequent calculation of importance–proficiency gap scores, which will be formally derived and examined in Section 5 (Gap Analysis). This enables a systematic comparison between company expectations and freelancers’ self-assessed competencies.

### *ICT services*

For companies operating in ICT services, the following competencies are rated at the maximum importance level, representing the core pillars required for freelancers to thrive in high-stakes, technically demanding environments:

- Self-organisation and work discipline
- Domain-specific expertise and experience
- Ability to assess the relevance of online information
- Ability to work in a team
- Use of AI tools

This competence profile underscores the dual necessity of technical mastery and operational autonomy within the ICT sector. Beyond deep domain expertise, freelancers are expected to maintain rigorous work discipline while navigating the complexities of modern development and service delivery.

The high ranking of critical information assessment and AI tool proficiency reflects a shift toward "augmented" workflows, where the ability to vet digital data and leverage emerging technologies is as vital as the ability to work cohesively within integrated team structures.

### *Education*

In Education, companies and institutions assign maximum importance to a set of competencies that prioritize pedagogical integrity, self-directed professional growth, and analytical precision:

- Self-organisation and work discipline
- Ability to assess the relevance of online information
- Ability to learn quickly and expand knowledge
- Experience in the work domain
- Ability to identify, analyse and solve problems

This competence profile highlights the sector's shift toward high-quality, evidence-based instructional delivery. The emphasis on critical assessment of online information is particularly vital in an era of digital learning, where educators must curate and verify content from vast digital repositories.

Furthermore, the focus on continuous learning and problem-solving reflects a requirement for freelancers who can navigate evolving educational technologies and pedagogical methodologies. In this context, freelancers are not merely content delivery agents but are expected to be autonomous specialists capable of maintaining rigorous standards of expertise.

### *Other Service Activities*

In Other Services Activities, companies assign maximum importance to a multifaceted set of competencies, emphasising interpersonal communication, digital coordination, and administrative reliability:

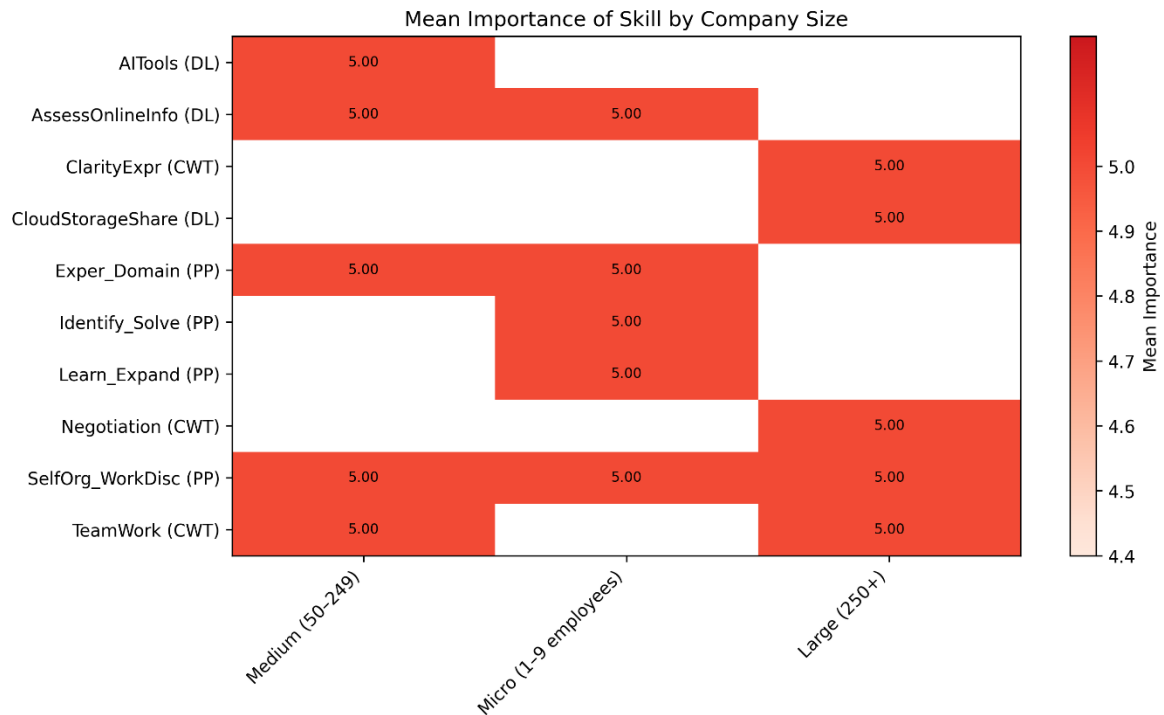
- Self-organisation and work discipline
- Clarity of expression while communicating with others
- Use of a cloud-based storage system
- Negotiation skills
- Ability to work in a team

This competence profile reflects the nature of the "Other Services" sector, where the ability to manage professional relationships is as critical as the service itself. The prominence of clarity of expression and negotiation suggests that freelancers in this field must navigate diverse client expectations and contractual boundaries with high social intelligence.

Furthermore, the inclusion of cloud storage proficiency alongside teamwork indicates that even in traditionally service-oriented roles, there is a strong reliance on digital workflows for coordination and documentation. This pattern highlights a need for versatile individuals who can balance "soft" interpersonal skills with the "hard" discipline of project management and secure data sharing.

### **2.2.2 Top-ranked competencies by importance across company size**

This subsection analyses the competencies that companies rate at the maximum importance level (score = 5), disaggregated by company size. The results reveal clear differences in competence expectations that reflect organisational scale, internal capacity, and modes of freelancer integration.



**Figure 52. Mean importance of skills by company size among Polish companies.**

### *Micro Enterprises (1–9 Employees)*

For micro-enterprises, the following competencies are rated at the maximum importance level:

- Self-organisation and work discipline
- Ability to assess the relevance of online information
- Ability to learn quickly and expand knowledge
- Experience in the work domain
- Problem identification and solving

This profile reflects the lean and agile nature of micro-enterprises, where freelancers must act as high-level, autonomous consultants. Freelancers are expected to bring ready-to-use expertise, solve problems without heavy oversight, and continuously update their skills to bridge the resource gaps inherent in very small teams.

### *Medium Enterprises (50–249 Employees)*

For medium-sized enterprises, the competencies rated at the maximum importance level emphasize technical integration and operational reliability:

- Self-organisation and work discipline
- Experience in the work domain
- Ability to assess the relevance of online information
- Ability to work in a team
- Use of AI tools

This profile suggests that as organizations grow in complexity, the freelancer's role shifts toward augmented collaboration. While domain expertise remains a baseline, there is a distinct expectation for freelancers to integrate into established team structures and leverage advanced technologies, such as AI tools, to maintain productivity. This indicates a move toward more "technologically mature" workflows where digital literacy is a prerequisite for professional contribution.

### *Large Enterprises (250+ Employees)*

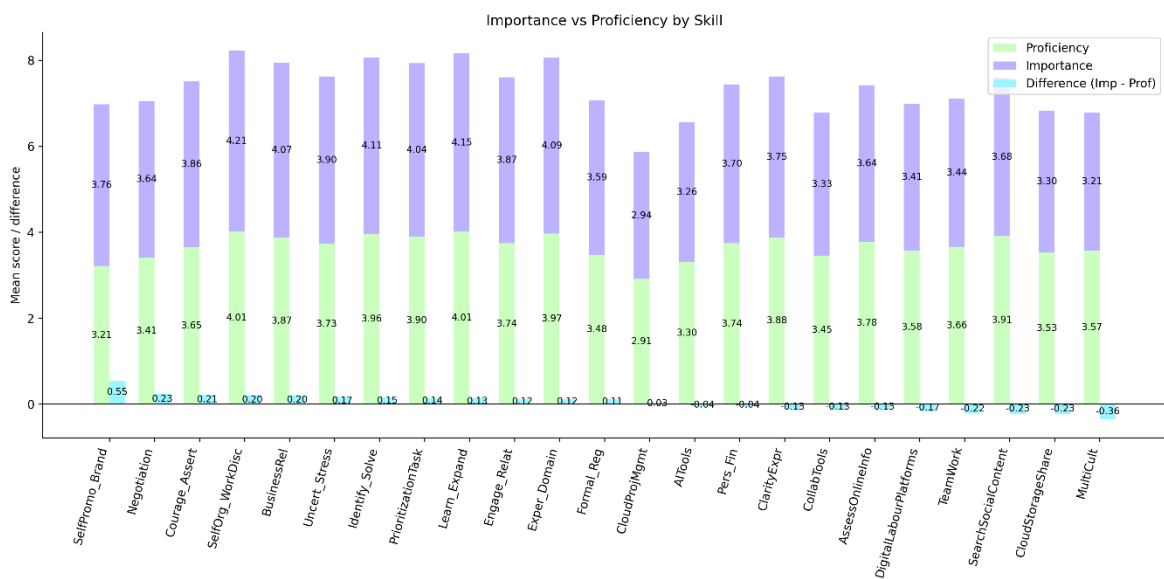
In large enterprises, the competencies rated at the maximum importance level focus on communication, administrative coordination, and interpersonal dynamics:

- Self-organisation and work discipline
- Clarity of expression while communicating with others
- Use of a cloud-based storage system
- Negotiation skills
- Ability to work in a team

This competence profile reflects the sophisticated, multi-layered environments of large organizations where success is defined by the ability to communicate clearly across departments, manage shared digital documentation, and negotiate boundaries within complex project teams to ensure seamless integration.

## 2.2.3 Empirical analysis of importance-proficiency gaps

This subsection examines the competencies exhibiting the largest gaps between perceived importance and observed or expected freelancer proficiency. These discrepancies highlight areas in which companies assign high strategic or operational value to particular skills while perceiving current freelancer proficiency as inadequate, thereby indicating critical demand–supply mismatches within the freelancing market.



**Figure 53. Mean importance, proficiency, and gap (importance–proficiency) by skill among Polish companies.**

A major gap is observed in **self-promotion and brand building**, indicating that while companies recognize the importance of freelancers effectively communicating their value and professional identity, they perceive a significant lag in actual proficiency. This reflects a challenge where freelancers may possess technical skills but struggle with the marketing and visibility aspects required in a competitive digital marketplace.

Several interpersonal and relational competencies also show notable gaps. These include **negotiation skills, courage and assertiveness in communication, and self-organisation and work discipline**. Although companies consider these traits essential for autonomous and reliable professional engagement, the reported

discrepancies suggest that freelancers often fall short of the high standards expected for navigating business interactions and managing their own workflows effectively.

Analytical and process-oriented competencies represent another cluster of concern. Gaps in **ability to identify, analyse and solve problems**, and **ability to keep good relationships in business collaboration** exhibit meaningful differences between importance and proficiency. This indicates that companies expect freelancers to serve as proactive, solutions-oriented partners, yet they perceive shortcomings in the freelancers' ability to manage complex tasks and good relations with business partners.

A significant gap is also identified for **ability to learn quickly and expand knowledge**. While companies strongly value the ability to adapt to new requirements, the data suggests a perception that freelancers are not keeping pace with the necessary speed of upskilling. Similarly, the gap in **experience in the work domain** suggests that even in core technical areas, companies feel there is room for greater depth and practical application.

Conversely, it is important to note that certain digital competencies show negative gaps, such as the Use of a cloud-based storage system, use of search engines, social media and content platforms, and understanding of multi-cultural environment. In these areas, freelancers' perceived proficiency actually exceeds the importance level assigned by companies. This suggests that freelancers are "over-skilled" in basic digital utility and cultural adaptability relative to current corporate requirements, while the more strategic "soft" and "advanced technical" skills remain undersupplied.

# 3 Cross-Tabulation Analysis of Competency Importance, Proficiency, and Gaps ( $\chi^2$ Tests)

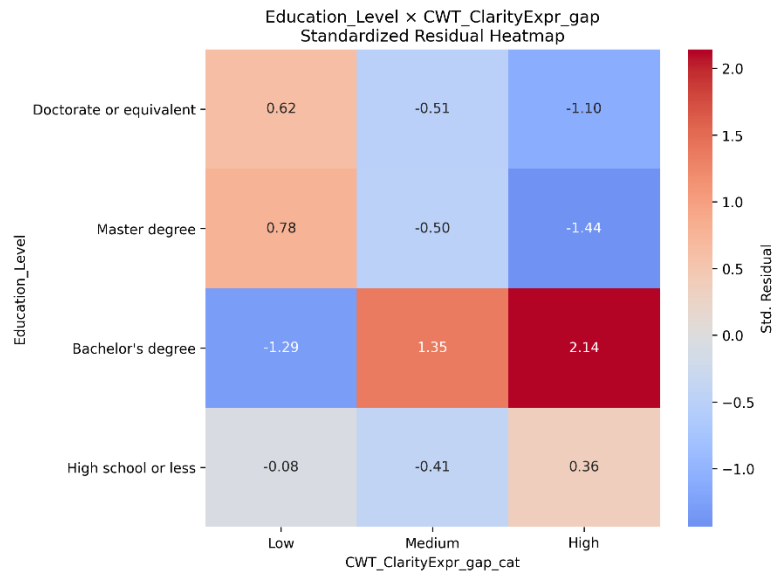
## 3.1 Freelancers

Categorical Variable	Competence_Gap Score Variable	$\chi^2$	df	p-value	Cramer's V	Effect Size
Education_Level	ClarityExpr (CWT)	13.15	6	0.041	0.15	Moderate
Gender	Formal_Reg (PP)	6.40	2	0.041	0.16	Weak
Gender	ClarityExpr (CWT)	6.50	2	0.039	0.17	Weak
Gender	Courage_Assert (CWT)	7.18	2	0.028	0.18	Weak
Gender	SelfPromo_Brand (CWT)	9.96	2	0.007	0.22	Moderate
Gender	Negotiation (CWT)	6.96	2	0.031	0.17	Weak
Gender	CollabTools (DL)	6.07	2	0.048	0.16	Weak
Upskilling_Frequency	Pers_Fin (PP)	16.23	8	0.039	0.16	Moderate
Main_Freelancer_Activity	ClarityExpr (CWT)	38.02	22	0.018	0.22	Strong
Years_Experience_Freelancer	Learn_Expand (PP)	14.31	6	0.026	0.16	Moderate

**Table 1. Significant associations between categorical variables and competency gap scores among Romanian freelancers based on Chi-square ( $\chi^2$ ) tests.**

### *Education\_Level × Clarity\_Expr*

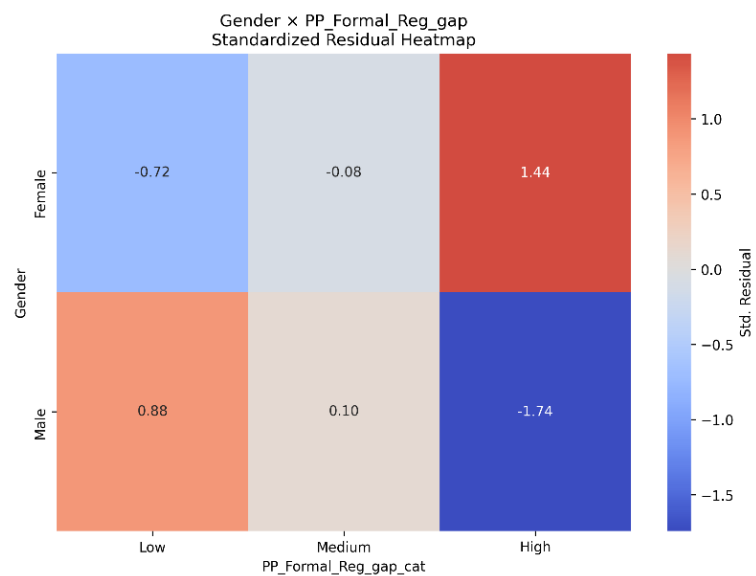
There is a statistically significant ( $\chi^2 = 13.15$ , p-value = 0.041, Cramer's V = 0.17) weak correlation between the variables: Educational Level and Clarity\_Expr. The greatest influence on the relationship between clarity of expression while communicating with others and the highest level of education is held by freelancers who have completed their education at a bachelor's degree.



**Figure 54. Standardized residual heatmap for the association between educational level and the clarity of expression gap among Polish freelancers.**

*Gender × Formal\_Reg (PP)*

Between gender and Formal\_Reg there is a statistically significant ( $\chi^2 = 6.40$ , p-value = 0.041, Cramer's V = 0.1646) weak interdependence. This indicates a differentiated attitude to knowledge of and compliance with formal regulations (e.g. law, taxes, accounting) depending on gender.

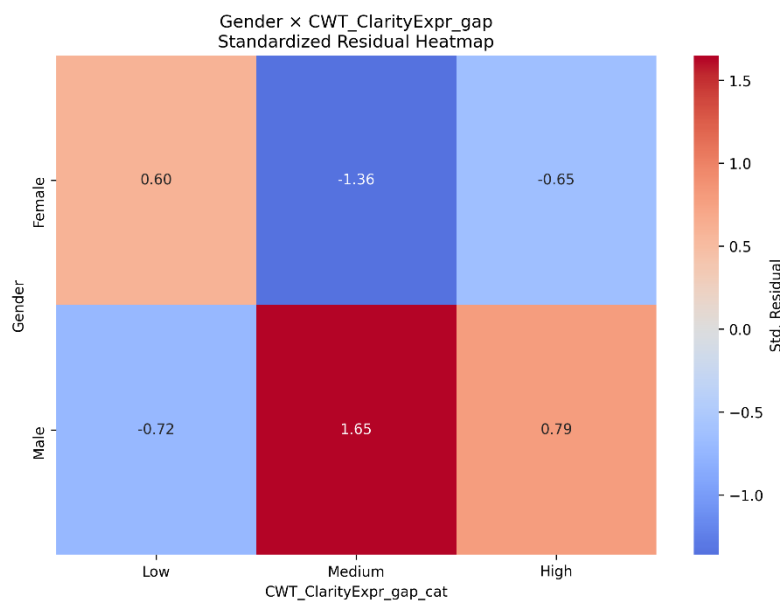


**Figure 55. Standardized residual heatmap for the association between gender and the knowledge of and compliance with formal regulations gap among Polish freelancers.**

The chart of standardized residuals indicates that the most underrepresentation of Male, which indicates a high level of Last Page (standardized residues of  $-1.74$ ) and Female, which show a higher representation of high level (standardized residuals of  $1.44$ ), contribute to the correlation of the two variables.

*Gender × ClarityExpr (CWT)*

A weak correlation was observed for the variables Gender and ClarityExpr ( $\chi^2 = 6.50$ , p-value =  $0.039$ , Cramer's  $V = 0.17$ ). The strongest contribution to the relationship between clarity of expression in communication and gender is observed among males reporting a medium level of clarity (standardized residual =  $1.65$ ). The distribution of standardized residuals further suggests that clarity of expression is more pronounced among male respondents

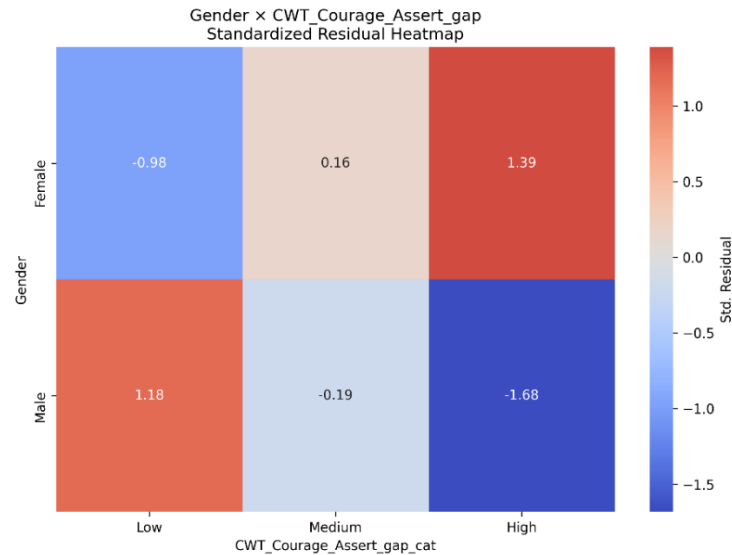


**Figure 56. Standardized residual heatmap for the association between gender and the clarity of expression gap among Polish freelancers.**

*Gender × Courage\_Assert (CWT)*

For the Gender and Courage\_Assert variables (CWT), a weak correlation was observed ( $\chi^2 = 7.18$ , df = 2, p-value =  $0.028$  Cramer's  $V = 0.18$ ). The greatest influence on the relationship between courage and assertiveness in communication and gender

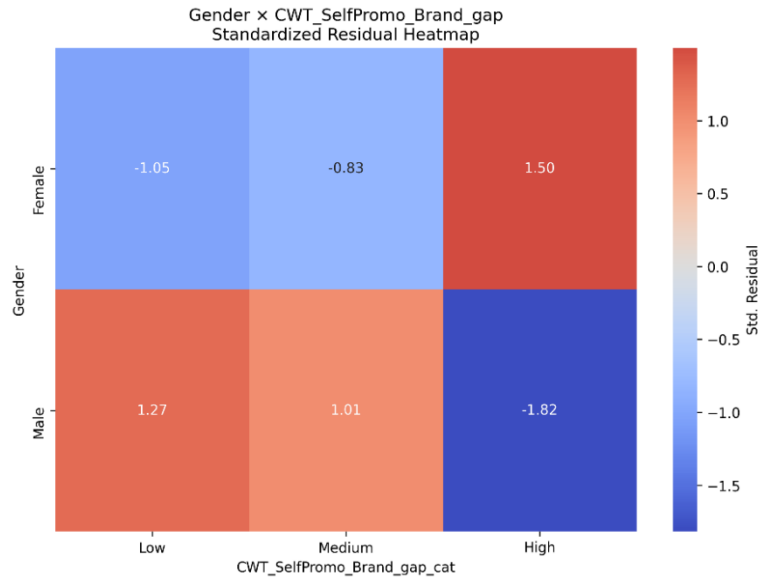
was had males indicating a high level of courage and assertiveness (standardized residual -1.68).



**Figure 57. Standardized residual heatmap for the association between gender and the courage and assertiveness in communication gap among Polish freelancers.**

#### *Gender × SelfPromo\_Brand (CWT)*

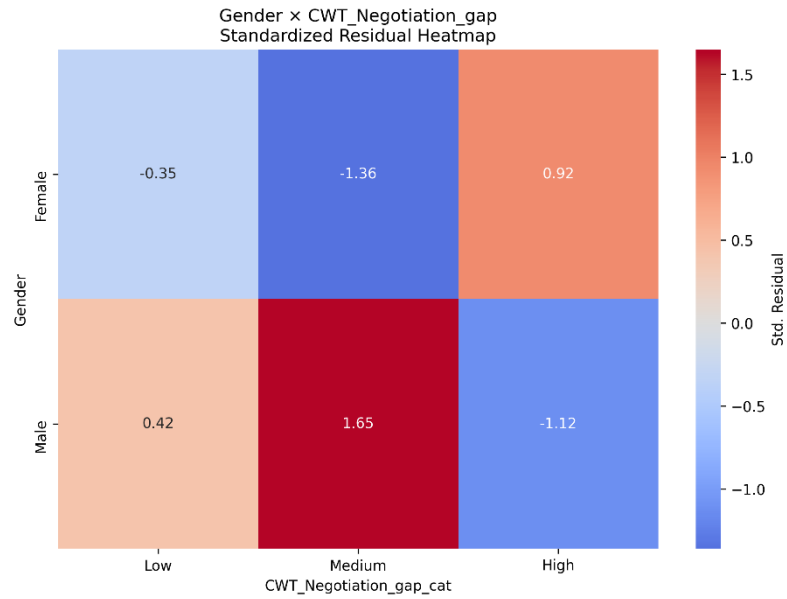
For the Gender and SelfPromo\_Brand variables (CWT), a moderate correlation was observed ( $\chi^2 = 9.96$ ,  $df = 2$ ,  $p\text{-value} = 0.007$ , Cramer's  $V = 0.22$ ). The greatest influence on the relationship between variables is exerted by males indicating a high level of Self-promotion and brand building (standardized residual -1.82) and females choosing a low level (standardized residual -1.05)



**Figure 58. Standardized residual heatmap for the association between gender and the self-promotion and brand building gap among Polish freelancers.**

*Gender × Negotiation (CWT)*

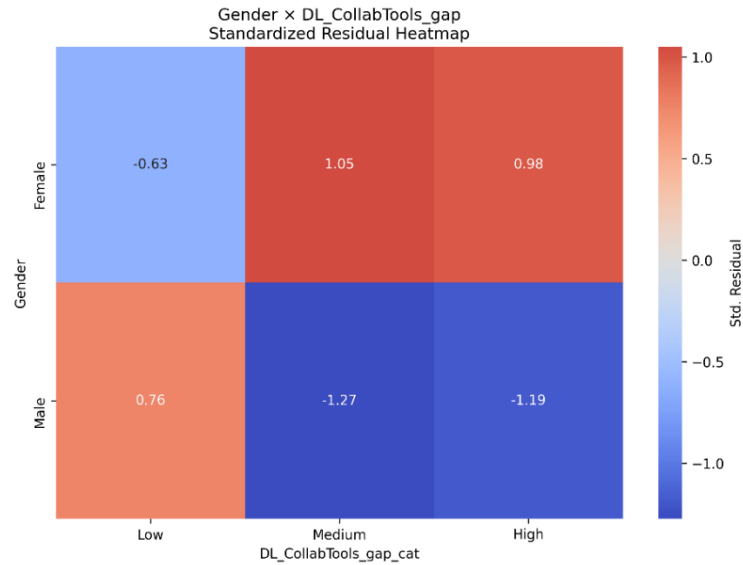
A weak correlation was observed for the Gender and Negotiation (CWT) variables ( $\chi^2 = 6.96$ ,  $df = 2$ ,  $p\text{-value} = 0.031$ ,  $Cramer's\ V = 0.17$ ). The greatest influence on the relationship between variables was shown by males choosing the medium level in Negotiation skills (standardized residual 1.65) and female (standardized residual -1.36).



**Figure 59. Standardized residual heatmap for the association between gender and the negotiation skills gap among Polish freelancers.**

#### *Gender × CollabTools (DL)*

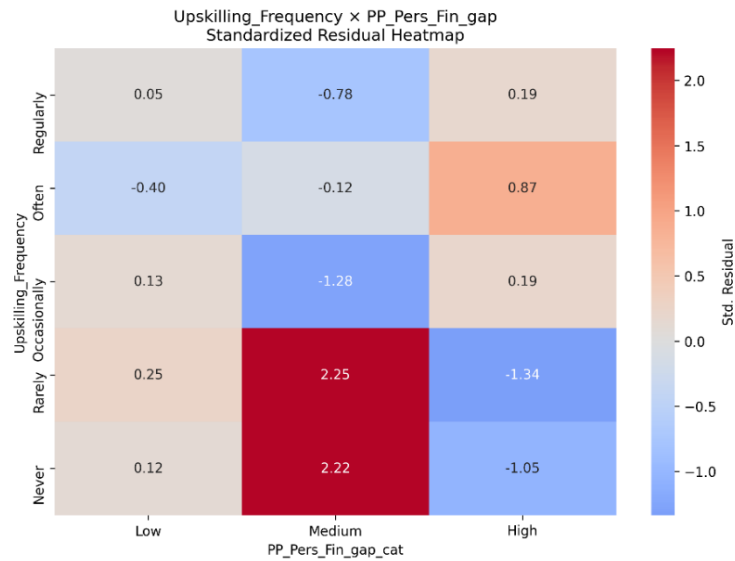
A weak correlation was observed for the variables Gender and CollabTools (DL) ( $\chi^2 = 6.07$ ,  $df = 2$ ,  $p\text{-value} = 0.048$ , Cramer's  $V = 0.16$ ). The greatest influence on the relationship between variables is male, indicating a high level for choosing the right tools for effective collaboration (standardized residual  $-1.82$ ) and female, indicating the same level (standardized residual  $0.98$ ).



**Figure 60. Standardized residual heatmap for the association between gender and the choosing right tools for effective collaboration gap among Polish freelancers.**

*Upskilling\_Frequency × Pers\_Fin (PP)*

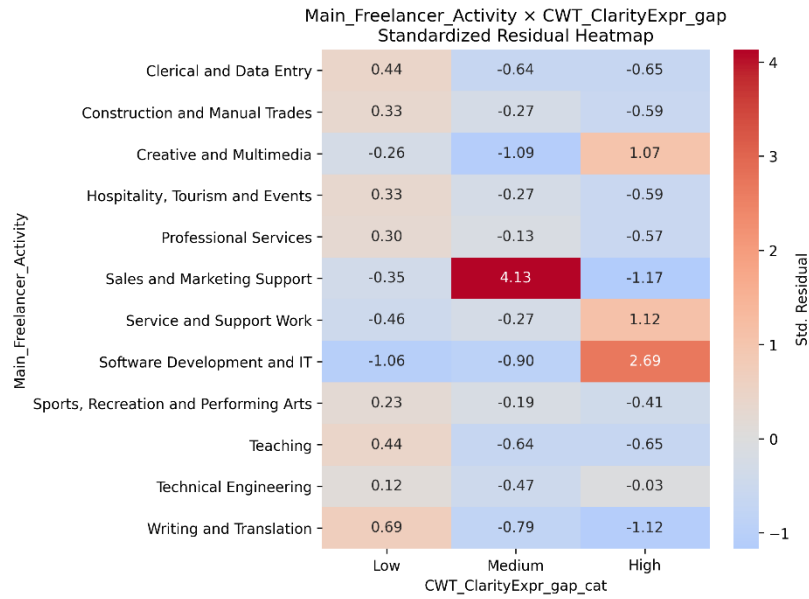
A moderate correlation was observed for variables Upskilling\_Frequency and Pers\_Fin (PP) ( $\chi^2 = 16.23$ ,  $df = 8$ ,  $p\text{-value} = 0.039$ , Cramer's  $V = 0.16$ ). The greatest impact on the strength of the relationship was experienced by those indicating a lack or infrequent investment in improving qualifications in the field of personal finance management skills (standardized residual 2.22 and 2.25, respectively)



**Figure 61. Standardized residual heatmap for the association between upskilling frequency level and the ability to manage personal finance gap among Polish freelancers.**

*Main\_Freelancer\_Activity × ClarityExpr (CWT)*

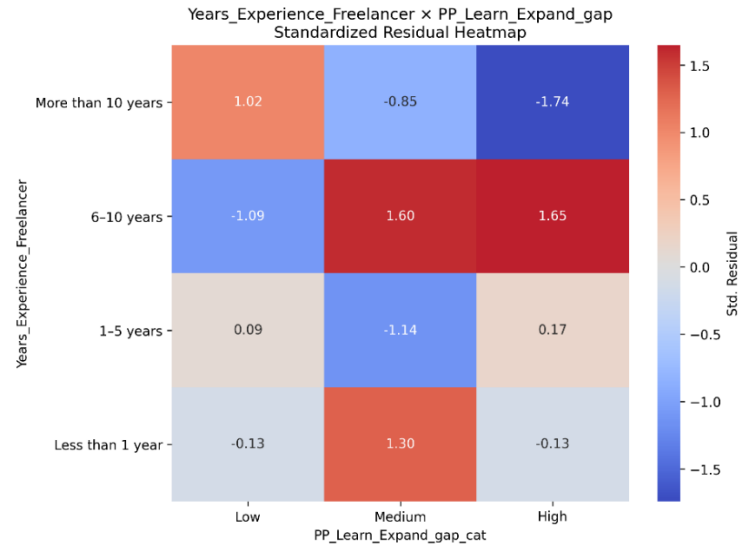
A strong correlation was observed for the Main\_Freelancer\_Activity variables × ClarityExpr (CWT) ( $\chi^2 = 38.02$ ,  $df = 22$ ,  $p\text{-value} = 0.018$ , Cramer's  $V = 0.22$ ). The respondents indicating Sales Marketing Support and Medium Clarity Expr as the main activity (standardized residuals = 4.13) and High (standardized residuals = 2.69) had the greatest impact on the relationship between Main\_Freelancer\_Activity and clarity of expression while communicating with others.



**Figure 62. Standardized residual heatmap for the association between main freelancer activity and the clarity of expression gap among Polish freelancers.**

*Years\_Experience\_Freelancer × Learn\_Expand (PP)*

For the variables Years\_Experience\_Freelancer and Learn\_Expand (PP), a strong correlation was observed ( $\chi^2 = 14.31$ ,  $df = 6$ ,  $p\text{-value} = 0.026$ , Cramer's  $V = 0.16$ ). The strongest contribution came from respondents with more than 10 years of experience, particularly in relation to the main area of freelance activity and the ability to learn quickly and expand knowledge (standardized residuals = -1.74).



**Figure 63. Standardized residual heatmap for the association between years of experience as freelancer and the ability to learn quickly and expand knowledge gap among Polish freelancers**

## 3.2 Companies

No statistically significant dependences between variables were found.

# 4 Group Mean Differences in Competency Importance, Proficiency, and Gaps (ANOVA)

## 4.1 Freelancers

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. The analysis was carried out only for freelancers due to the under-numbering for companies ( $n = 4$ ).

Grouping Variable	Competence Gap Score Variable	Test Type	Equal Variances Assumed	F	p-value	$\eta^2$	Effect Size
Years_Experience_Freelancer	PP_Learn_Expand	Welch	fals	4,06	0,01	0,19	Large
Upskilling_Frequency	DL_CloudStorageShare	Welch	fals	7,58	0,00	0,34	Large

**Table 2. Group mean differences in competency gap scores among Polish freelancers based on one-way ANOVA and Welch's ANOVA tests.**

### *Interpretation of Significant Group Mean Differences*

#### **Group mean differences Years of experience as a freelancer versus Ability to learn quickly and expand knowledge**

Since the assumption of uniformity of variance was rejected, Welch's test was used in further analyses. He points to the great influence of Years of experience as a freelancer on the Ability to learn quickly and expand knowledge (Welch's  $F = 4.06$ ,  $p$ -value = 0.01).

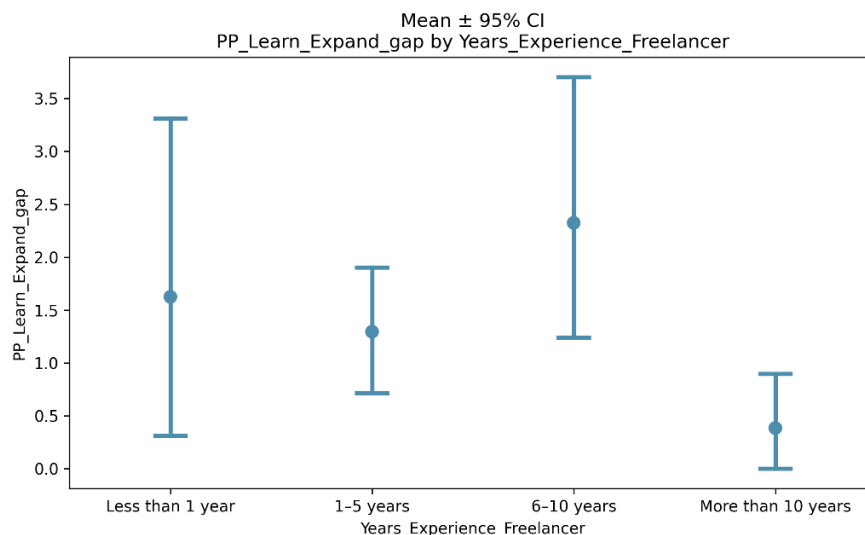
The effect strength factor ( $\eta^2 = 0.19$ ) indicates a significant impact of Years of experience as a freelancer on the variability of the Ability to learn quickly and expand knowledge.

#### **Post hoc analysis (Games-Howell)**

Games-Howell's post hoc analysis allows us to indicate which pairs Years of experience as a freelancer and show statistically significant differences.

### Significant pairwise difference

- 6–10 years vs. More than 10 years
  - Mean gap (6–10): 2.324
  - Mean gap (More than 10 years): 0.385
  - Mean difference: +1.94
  - $p = 0.037$  (Games-Howell)



**Figure 64. Mean competency gap (ability to learn quickly and expand knowledge) by years of experience as a freelancer with 95% confidence intervals among Polish freelancers.**

### Frequency of invest in upskilling or reskilling versus gap in use of a cloud-based storage system

Since the assumption of uniformity of variance was rejected, Welch's test was used in further analyses. It indicates a large impact of Frequency of invest in upskilling or reskilling versus gap in use of a cloud-based storage system (Welch's  $F = 7.58$ ,  $p$ -value = 0.00005).

The effect strength factor ( $\eta^2 = 0.34$ ) indicates the significant impact of Frequency of invest in upskilling or reskilling on the use of a cloud-based storage system.

A post-hoc analysis by Games-Howell has identified which pairs of Frequency of invest in upskilling or reskilling are statistically significant different from each other:

### **Significant pairwise difference**

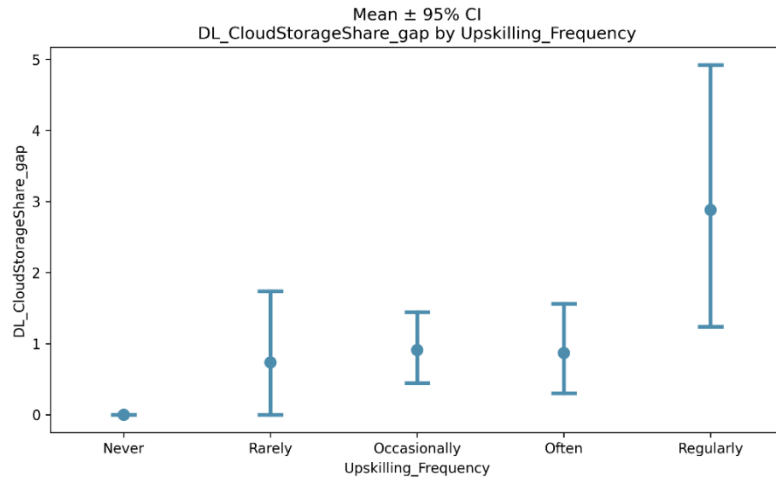
Never vs. Occasionally:

- Mean gap (Never): 0
- Mean gap (Occasionally): 0.9104
- Mean difference: -0.9104
- $p = 0.0075$  (Games-Howell)

Never vs. Regularly:

- Mean gap (Never): 0
- Mean gap (Regularly): 2.8800
- Mean difference: -2.8800
- $p = 0.0418$  (Games-Howell)

It can also be pointed out that freelancers who indicated Frequency of invest in upskilling or reskilling at the Regular level showed the highest level of gap in use of a cloud-based storage system. Unlike those pointing to Never's answer.



**Figure 65. Mean competency gap (use of a cloud-based storage system) by frequency of invest in upskilling or reskilling with 95% confidence intervals among Polish freelancers.**

## 4.2 Companies

The statistical data collected within this area do not provide information that is sufficiently relevant or analytically meaningful to support further stages of the analysis.

# 5 Gap Analysis (Paired t-tests)

## 5.1 Freelancers

Criteria of analysis:

- only statistically significant tests ( $p < 0.05$ ),
- Cohen coefficient  $d \geq 0.8$ ,
- minimum sample size  $N > 15$ .

In the case of Polish freelancers, no test meets the above conditions. The table below presents 5 highest Cohen's  $d$ .

Competance Variable	Category	Level	N	Mean Prof	Mean Imp	Mean Gap	t_stat	p value	cohen d
SelfPromo_Brand (CWT)	Age	45-52	25	3,3200	4,0800	3,8000	-3,7564	0,0010	0,7513
CWT_SelfPromo_Brand (CWT)	Years_Experience Freelancer	More than 10 years	39	3,2564	3,9744	3,6667	-4,1716	0,0002	0,6680
CWT_SelfPromo_Brand (CWT)	AI_Use_Future	Regularly	27	3,0000	3,8889	4,6296	-3,3760	0,0023	0,6497
Learn_Expand (PP)	Age	24-28	27	3,8889	4,4444	2,6296	-3,4069	0,0021	0,6557
Engage_Relat (PP)	Years_Experience Freelancer	Less than 1 year	16	3,1250	3,5625	2,0625	-2,4057	0,0295	0,6014

**Table 3. Results of paired-samples t-tests comparing perceived proficiency and importance across competencies within subgroup levels of demographic characteristics, work patterns, and upskilling behaviour among Polish freelancers (N varies by subgroup).**

## Global Gap Analysis (Paired t-tests)

Criteria:

- only statistically significant tests ( $p < 0.05$ )
- Cohen coefficient  $d \geq 0.5$

In the case of Polish freelancers, no test meets the above conditions. The table below presents 5 highest Cohen's  $d$ .

Competence Variable	N	Mean Prof.	Mean Imp.	Mean Gap	t	p	Cohen's d
SelfPromo_Brand (CWT)	163	3.21	3.76	3.57	-4.911	0.0000	0.38
SelfOrg_WorkDisc (PP)	163	4.01	4.21	1.71	-2.598	0.0102	0.20
Negotiation (CWT)	163	3.41	3.64	2.39	-2.481	0.0141	0.19
BusinessRel (CWT)	163	3.87	4.07	1.90	-2.464	0.0148	0.19
Courage_Assert (CWT)	163	3.65	3.86	2.33	-2.175	0.0311	0.17

**Table 4. Global competence gap analysis for freelancers based on paired t-tests comparing mean self-reported proficiency and perceived importance across competencies.**

## 5.2 Companies

The statistical data collected within this area do not provide information that is sufficiently relevant or analytically meaningful to support further stages of the analysis.

# 6 Segmentation and Profile Analysis (k-means and CHAID)

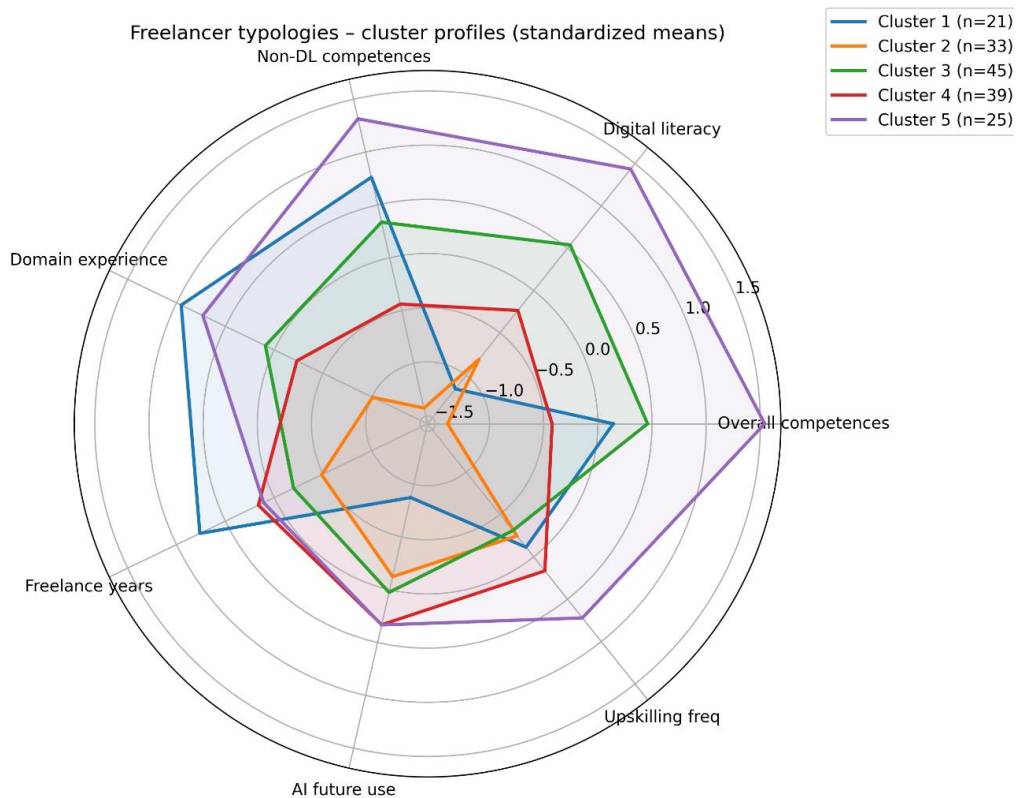
## 6.1 Freelancers

### Segmentation and Profile Analysis (k-means and CHAID)

Analysis of Polish freelancers indicated five clusters with distinct freelancer profile characteristics.

Metric	Value	Interpretation
Calinski–Harabasz Index	20.5046	Best separation for the obtained clusters
Davies–Bouldin Index	2.5704	Best separation and cluster content

**Table 5. Quality and validation metrics for the identified clusters.**



**Figure 66. Freelancer clusters in Poland.**

Cluster 1 (n = 21; 12.9%) groups freelancers with extensive experience who emphasize non-digital competencies. The profile of this group is characterized by the following indicators:

- Very low digital literacy (2.61)
- Low overall competence (3.75)
- Moderate upskilling frequency (3.29)
- Lowest AI future use (2.38)
- Very high freelance years (9.38)
- Very high domain experience (5.00)
- High non-DL competence (4.25)

Cluster 2 (n = 33; 20.2%) – groups freelancers at a very early stage of their professional careers. This cluster shows both the lowest professional experience and the lowest non-digital competencies. At the same time, it demonstrates an aspiration

to develop in the direction of AI and digital competencies. The profile of this group is characterized by the following indicators:

- Low digital literacy (2.87)
- Lowest overall competence (2.81)
- Low upskilling frequency (3.15)
- Low AI future use (3.21)
- Lowest freelance years (4.11)
- Lowest domain experience (2.88)
- Lowest non-DL competence (2.78)

Cluster 3 (n = 45; 27.6%) is a balanced group in which all examined competencies are developed relatively evenly. The profile of this group is characterized by the following indicators:

- High digital literacy (3.91)
- High overall competence (3.95)
- Lowest upskilling frequency (3.09)
- High AI future use (3.38)
- Low freelance years (5.32)
- Moderate domain experience (4.07)
- Moderate non-DL competence (3.97)

Cluster 4 (n = 39; 23.9%) includes a group of experienced freelancers oriented toward AI. This cluster is dominated by highly experienced freelancers who actively use AI tools. The profile of this group is characterized by the following indicators:

- Moderate digital literacy (3.32)
- Low overall competence (3.40)
- High upskilling frequency (3.56)
- Highest AI future use (3.72)

- High freelance years (6.85)
- Low domain experience (3.72)
- Low non-DL competence (3.44)

Cluster 5 (n = 25; 15.3%) comprises the most versatile freelancers. Having substantial professional experience, they have developed both digital and non-digital competencies. The profile of this group is characterized by the following indicators:

- Highest digital literacy (4.59)
- Highest overall competence (4.62)
- Highest upskilling frequency (4.12)
- Highest AI future use (3.72)
- High freelance years (6.62)
- High domain experience (4.76)
- Highest non-DL competence (4.63)

## **6.2 Companies**

The statistical data collected within this area do not provide information that is sufficiently relevant or analytically meaningful to support further stages of the analysis.

# 7 Identifying Training Needs

This section presents the analysis of training needs derived from the joint examination of competence gap scores at both freelancer and company levels. The assessment follows the predefined threshold classification: LOW (gap < 2.0), MEDIUM ( $2.0 \leq \text{gap} < 3.0$ ), HIGH ( $3.0 \leq \text{gap} < 4.0$ ), and CRITICAL (gap  $\geq 4.0$ ). The Joint-gap approach serves as the primary basis for prioritisation, while the Max-gap approach is used to identify asymmetric expectations between market sides.

Under the Joint-gap aggregation, no competence reaches a CRITICAL level of training priority. This indicates that no area simultaneously exhibits a very severe ( $\geq 4.0$ ) mismatch between perceived importance and current proficiency across both freelancers and companies. Nevertheless, a substantial number of competencies fall within the HIGH priority range, signalling structurally significant gaps requiring targeted intervention.

Within the Communication – Work in a Team (CWT) class, HIGH training needs are identified for clarity of expression, courage and assertiveness, self-promotion and personal branding, and teamwork. These results indicate persistent interpersonal and communication-related deficiencies recognised by both freelancers and companies. Notably, clarity of expression also reaches CRITICAL level under the Max-gap approach due to a very high company-side gap (4.75), suggesting a pronounced asymmetry in expectations. Similarly, prioritisation of tasks is classified as CRITICAL under the Max-gap perspective (company gap = 5), although it remains HIGH in the joint assessment. This pattern implies that companies perceive more acute deficiencies than freelancers themselves report.

In the Digital Literacy (DL) class, HIGH joint-priority training needs are concentrated specifically in the use of AI tools and the ability to assess online information. In contrast, operational digital competencies such as cloud storage, collaboration tools, and digital labour platforms remain LOW priority. This differentiation suggests that foundational digital skills are largely established, while

higher-order digital capabilities—particularly AI-related and critical evaluation skills—represent the primary developmental gap. Assessing online information reaches CRITICAL level under the Max-gap method (company gap = 5), reinforcing the strategic importance attributed to evaluative digital competence.

The Personal Profile (PP) class exhibits the broadest concentration of HIGH-priority competencies. Domain expertise, learning and professional expansion, personal finance management, self-organisation and work discipline, and managing uncertainty and stress all require substantial training intervention. Domain expertise and self-organisation reach CRITICAL levels under the Max-gap approach (company gap = 5 in both cases), indicating that employers perceive these deficits as particularly severe. The distribution of results within this class reflects structural challenges inherent in freelance work models, which demand high levels of autonomy, self-discipline, financial responsibility, and continuous skill development.

At the aggregated class level (CWT, DL, PP), the pattern indicates medium-to-high overall training need intensity, with priority determined by the specific high- and critical-gap competencies identified at the individual level. Consequently, training design should adopt a structured yet differentiated approach: prioritising communication clarity, domain expertise, AI usage, information assessment, and self-organisation as core intervention areas, while incorporating broader professional development components to strengthen sustainable freelance performance.

Competence	Prefix	Freelancers_Gap_Mean	Companies_Gap_Mean	Priority_MaxGap	Priority_JointGap	TrainingNeed_MaxGap	TrainingNeed_JointGap
CWT_BusinessRel	CWT_	1,901840491	1,25	1	1	LOW	LOW
CWT_ClarityExpr	CWT_	1,17791411	4,75	4	3	CRITICAL	HIGH
CWT_Courage_Assessment	CWT_	2,325153374	3,75	3	3	HIGH	HIGH
CWT_MultiCult	CWT_	1,006134969	0	1	1	LOW	LOW
CWT_Negotiation	CWT_	2,386503067	2,25	2	2	MEDIUM	MEDIUM
CWT_PrioritizationTask	CWT_	1,619631902	5	4	3	CRITICAL	HIGH
CWT_SelfPromo_Brand	CWT_	3,570552147	3	3	3	HIGH	HIGH
CWT_TeamWork	CWT_	1,098159509	3,75	3	3	HIGH	HIGH

Competence	Prefix	Freelancers_Gap_Mean	Companies_Gap_Mean	Priority_MaxGap	Priority_JointGap	TrainingNeed_MaxGap	TrainingNeed_JointGap
DL_AITools	DL_	1,484662577	3,75	3	3	HIGH	HIGH
DL_AssessOnlineInfo	DL_	1,147239264	5	4	3	CRITICAL	HIGH
DL_CloudProjMgmt	DL_	1,36196319	1	1	1	LOW	LOW
DL_CloudStorageShare	DL_	1,147239264	1,25	1	1	LOW	LOW
DL_CollabTools	DL_	1,196319018	1	1	1	LOW	LOW
DL_DigitalLabourPlatforms	DL_	1,17791411	1	1	1	LOW	LOW
DL_SearchSocialContent	DL_	1,049079755	0	1	1	LOW	LOW
PP_Engage_Relat	PP_	1,858895706	0	1	1	LOW	LOW
PP_Exper_Domain	PP_	1,760736196	5	4	3	CRITICAL	HIGH
PP_Formal_Reg	PP_	1,754601227	0	1	1	LOW	LOW
PP_Identify_Solve	PP_	1,613496933	1,25	1	1	LOW	LOW
PP_Learn_Expand	PP_	1,343558282	3,75	3	3	HIGH	HIGH
PP_Pers_Fin	PP_	1,748466258	3,25	3	3	HIGH	HIGH
PP_SelfOrg_WorkDisc	PP_	1,711656442	5	4	3	CRITICAL	HIGH
PP_Uncert_Stress	PP_	2,116564417	3	3	3	HIGH	HIGH

**Table 6. Training needs of Polish freelancers.**

# Conclusions

This national report includes results of the analysis focused on assessment of freelancer competences, skill gaps and training needs in Poland. The research conducted to collect the necessary data followed quantitative framework developed within the ENTEEF project. The main goal was to elaborate a comprehensive view of freelancers' capabilities and expectations of the labour market. Results of the research helped to identify the level of proficiency of Polish freelancers with regards to various skills of both hard and soft character. Moreover, assessing the importance of these skills for freelancers' professional activity - both from the perspective of freelancers themselves and from the companies engaging their services - generated valuable evidence for identifying competence gaps. These gaps will serve as the basis for further elaboration of the Competence Assessment Tool and, as the next step, courses whose aim is to help freelancers in the improvement of their competences to better respond to market requirements. Particular attention should be given to those competences whose training priority has been assessed as critical.

Cluster analysis allowed for the identification of five highly differentiated groups of freelancers. These clusters range from a group reflecting "traditionalist" freelancers, who use IT tools to a very limited extent, to a group focused on artificial intelligence tools and the ability to leverage digital technologies. At the same time, the boundaries between clusters may indicate a tendency for freelancers to move between clusters.

Using analysis of variance, it was possible to observe, among other things, a significant impact of years of experience as a freelancer on ability to learn quickly and expand knowledge, as well as on frequency of investment in upskilling or reskilling versus gaps in the use of a cloud-based storage system. Unfortunately, in the case of Polish freelancers, no test met the assumptions required for the global GAP analysis (paired t-test).

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