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THE IMPORTANCE OF COMPETENCIES CERTIFICATION FOR PROFESSIONAL DEVELOPMENT – STUDENT'S PERSPECTIVE BASED ON IPMA-STUDENT CERTIFICATION EXAMPLE

Joanna RZEMPAŁA[1*], Marcin OPAS[2], Aleksander OBERNIKHIN[3]

[1] University of Szczecin; joanna.rzempala@usz.edu.pl, ORCID: 0000-0002-0542-9370
[2] Kozminski University, Warsaw; mopas@kozminski.edu.pl, ORCID: 0000-0003-3941-1846
[3] Warsaw University of Technology; 45419@kozminski.edu.pl, ORCID: 0009-0007-6226-6292
* Correspondence author

Purpose: The primary aim of the research was to investigate the motivations, demographic characteristics, and career outcomes of participants in the IPMA-Student certification program. The study sought to understand what drives students and young professionals to pursue certification, how their educational background and professional aspirations influence this decision, and what barriers may limit their progression to higher certification levels. By doing so, it aims to highlight the role of certification in early career development. It provides educators, employers, and certification organizations insights to support young professionals' professional growth.
Design/methodology/approach: The research objectives were achieved through a combination of literature review and empirical data collection, focusing on the IPMA-Student certification program. The paper's theoretical and subject scope focus on the significance of professional certification, particularly the IPMA-Student certification, in developing competencies for students and early-career professionals.
Findings: The research revealed several key insights into the motivations, demographics, and career impacts of the IPMA-Student certification for students and early-career professionals.
Research limitations/implications: The research focused specifically on the IPMA-Student certification program in Poland. This narrow scope may only partially reflect trends in project management certification in other countries or within different certification frameworks.
Practical implications: The research underscores the importance of recognizing certifications as a skill benchmark and offering support (e.g., funding or incentives) for employees to pursue them.
Social implications: The data suggests that certifications significantly support gender equality in the workplace by empowering women to overcome barriers like the "glass ceiling".
Originality/value: The paper offers a detailed examination of the IPMA-Student certification, a relatively understudied area within project management certification. This paper is valuable to several audiences, such as students and early-career professionals, educators and universities, certification bodies, employers, researchers, and policymakers.
Keywords: professional certification, competencies, IPMA.
Category of the paper: Research paper.

1. Introduction

Employers increasingly value industry-recognized certifications to assess candidate competencies and readiness for professional roles in today's competitive job market. For students and early-career professionals, certifications can serve as vital tools for bridging the gap between academic learning and industry standards, validating theoretical knowledge and practical skills. In project management, where effective planning, execution, and evaluation are essential, certifications such as IPMA-Student offer individuals a structured path to demonstrate their capabilities.

The International Project Management Association (IPMA) Poland developed the IPMA-Student certification to introduce students and young professionals to core project management competencies. While project management skills are widely applicable across industries, their structured validation through certification provides an advantage in fields that demand strong project coordination, such as information technology, finance, consulting, and engineering. Certification can signify a dedication to personal development that resonates with employers, especially in environments prioritizing accountability, leadership, and team coordination.

Research into students' motivations for certification often emphasizes "career advancement" as a primary driver. Studies indicate that students see certifications enhancing their marketability, potentially leading to higher salary prospects, promotions, or access to specialized project roles. Additionally, certifications offer intrinsic benefits, contributing to personal growth and professional identity development. However, while the benefits are recognized, factors like cost, time investment, and perceived value among employers can influence students' willingness to pursue or continue with certification programs.

This study investigates the motivations, demographic characteristics, and career outcomes of IPMA-Student certification participants, exploring how these factors shape their decisions to pursue or upgrade their certifications. Using survey data from 129 IPMA-Student participants, this research seeks to answer key questions: What are the primary motivations driving students and young professionals to certify? How do educational background and professional goals influence the decision to pursue project management credentials? Moreover, what challenges limit the progression to advanced certification levels?

This study contributes to a better understanding of certification's role in early career development by identifying the motivations and barriers faced by IPMA-student certification holders. It also highlights the potential for certifications to empower students and young professionals, particularly women, who use these credentials to enhance competitiveness and break into traditionally challenging career paths. The findings provide valuable insights for educators, employers, and certification bodies aiming to support young professionals in their journey toward career readiness and professional growth.

2. Review of the literature

2.1. The Needs of Students in the Area of Professional Competencies Certification

As the industrial era progressed to the post-industrial era, production shifted from material to intellectual. This transition significantly increased workers' demands, particularly regarding their competencies. The surge in the need for specialists with formal education, typically obtained from universities, was instrumental in preparing students for narrow specializations required for single-task production. However, the evolution of production products necessitated a broader set of competencies (Chemodanova et al., 2021).

Modern specialists find that their undergraduate or graduate-level knowledge needs to be improved to address complex problems in practice adequately. For instance, only 54% of respondents in a study by (Chemodanova et al., 2021) felt that higher education thoroughly prepared them for professional activities. The content of the disciplines included in educational programs does not meet employers' expectations regarding gained professional competencies. According to (Bogdanova, Slepneva, 2020), applying knowledge from different disciplines and merging ideas and methods from various sources is crucial. The knowledge gained at the university can be considered soft skills, emphasizing the ability to process and analyze information. Therefore, many employers value students' soft skills, such as teamwork and cross-cultural management, whereas, at the same time, they see the completion of university education as a good foundation for further training in more specific, hard skills, which are an essential part of a good specialist's competencies (Andrade et al., 2020). The need for various competencies, especially hard ones, results in novice specialists adapting to current educational trends by pursuing appropriate higher education and other methods of self-improvement (Kizi, 2022). Universities transform students from passive listeners to active, creative subjects of learning who independently undertake training courses and other educational activities (Toroev, Rasulova, 2023) and (Fry et al., 2008) have shown how students' skills of independent work acquired during university turn into their inner need to prepare themselves for professional activities, going through four stages:

- Level 1: Gaining knowledge of objects through comprehension of previously mastered material and performing simple actions based on them.
- Level 2: Reproducing actions following a pattern.
- Level 3: Reproducing actions in one's manner using critical thinking.
- Level 4: Performing activities aimed at independent learning.

Figure 1. Four stages of developing the need for learning.

Source: own figure based on (Fry et al., 2008).

As the market conditions have led employees to seek new educational opportunities beyond university, informal education is distinguished as a popular and independent category. Informal education is purposeful and planned, complementing formal education or sometimes even serving as its alternative. It can take the form of intensive training programs, workshops, and massive open online courses provided by specialized institutions or organizations (Chemodanova et al., 2021). Corporate training has recently become popular because rapid changes in the informational, technological, economic, and socio-cultural spheres have led to graduates being seen not as ready specialists but as potential resources. According to employers, a fully-fledged specialist is formed through actual practical activities in the workplace (Chemodanova et al., 2021).

Informal education often includes issuing a document confirming the training results, such as certification. Certification is essentially designed to verify that a person possesses the knowledge and experience necessary to perform their duties according to their chosen field's standards and ethical approaches (Pettersson, 2017).

2.2. Certification of Project Management Skills – IPMA-Student Model

Over the past years, numerous project manager competency models have emerged, aiming to define and assess the knowledge, skills, and abilities crucial for success in project management (Chen et al., 2008; Takey, Carvalho, 2015). However, the International Project Management Association Competence Baseline (ICB) is the only globally recognized and formalized project manager assessment (certification) body.

The ICB does not discuss competencies in terms of specific roles (e.g., project manager) but rather in terms of the domain (e.g., individuals working in project management). The rationale is that roles and role titles vary significantly by language, industry, and focus. Therefore, the ICB presents competencies essential for project management, program management, and portfolio management. Each domain may contain roles and titles that fit the overall competence domain. ICB is organized into three areas: technical competencies, behavioral competencies, and contextual competencies (*IPMA Individual Competence Baseline. Ver. 4.0.1.*, 2015).

Figure 2. IPMA's Eye of Competence.

Source: https://ipma.world/app/uploads/2023/01/IPMA_Individual_Standard_ICB4_assesment_areas-768x768-1.jpg)

According to ICB, people competencies are personal and interpersonal competencies required to participate successfully in or lead a project, program, or portfolio. Practice competencies are the specific methods, tools, and techniques used in projects, programs, and portfolios to realize their success. Perspective competencies are methods, tools, and techniques through which individuals interact with the environment and the rationale that leads people, organizations, and societies to start and support projects, programs, and portfolios. Within each competence area, generic competence elements (CE) apply to all domains. CEs contain lists of the pieces of knowledge and skills required to master the CE. Key competence indicators (KCI) provide the definitive indicators of successful project, program, and portfolio management for two or all three domains. Measures exist that describe highly detailed performance points in each KCI.

Competence in the project domain is broken into 28 CE with one to many KCI each.

Area No.	CE No.	Description
4.3 Perspective	4.3.1	Strategy
	4.3.2	Governance, structures and processes
	4.3.3	Compliance, standards and regulations
	4.3.4	Power and interest
	4.3.5	Culture and values
4.4 People	4.4.1	Self-reflection and self-management
	4.4.2	Personal integrity and reliability
	4.4.3	Personal communication
	4.4.4	Relationships and engagement
	4.4.5	Leadership
	4.4.6	Teamwork
	4.4.7	Conflict and crisis
	4.4.8	Resourcefulness
	4.4.9	Negotiation
	4.4.10	Result orientation
4.5 Practice	4.5.1	Project design
	4.5.2	Requirements and objectives
	4.5.3	Scope
	4.5.4	Time
	4.5.5	Organization and information
	4.5.6	Quality
	4.5.7	Finance
	4.5.8	Resources
	4.5.9	Procurement
	4.5.10	Plan and control
	4.5.11	Risk and opportunity
	4.5.12	Stakeholders
	4.5.13	Change and transformation

Figure 3. IPMA project KCIs

Source: own figure based on (*IPMA Individual Competence Baseline. Ver. 4.0.1.* , 2015)

To assess the project manager's competency, IPMA developed the IPMA Four-Level Certification (IPMA 4-L-C), where assessors trained in the IPMA certification assessment process evaluate a candidate's level of competence. The IPMA 4-L-C System operates in three domains: project, program, and portfolio management, and has four levels of competence.

		Domain		
Level		Project	Programme	Portfolio
	A	Certified Project Director	Certified Programme Director	Certified Portfolio Director
	B	Certified Senior Project Manager	Certified Senior Programme Manager	Certified Senior Portfolio Manager
	C	Certified Project Manager		
	D	Certified Project Management Associate		

Figure 4. IPMA 4-L-C system profiles.

Source: own figure based on (*IPMA Individual Competence Baseline. Ver. 4.0.1.*, 2015).

Applicant eligibility criteria and areas of responsibility expected for project, program, and portfolio management are identified for each role.

The project manager assessment process may vary depending on the certification level and National Certification Body regulations. This research is related to Polish rules and procedures (*IPMA Polska Certyfikacja; Https://Ipma.Pl/Certyfikacja/*, 2024). At level D, designed for individuals new to project management or with limited experience, the certification process involves completing a written exam and a self-assessment, which evaluate the individual's project management knowledge and skills. Level C is designed for project managers with several years of project management experience, and the certification process involves completing a written exam and assessment center (or individual interview). Level B is designed for senior project managers who have significant project management experience and have managed complex projects. The certification process involves completing a written exam, report, and an assessment center (or an individual interview). Level A is designed for individuals with extensive experience managing multiple projects or programs. The certification process involves the presentation of recommendation letters, a written report summarizing project management experience, and an assessment center.

In 2013, the International Project Management Association Poland (IPMA Poland) launched work on the accreditation system of educational programs and assumptions for certification of students in project management. Those actions resulted in developing the IPMA-Student Program, which has been jointly applied since 2014. The IPMA-Student competency model is based on ICB. It defines and standardizes the project management competencies a student should possess to be prepared for active and practical work in a project team and as a project manager. IPMA-Student includes 26 out of 28 ICB CEs, with two CEs excluded: Procurement (4.5.9) and Change & Transformation (4.5.13).

Through the IPMA-Student accreditation program, IPMA Poland offers universities the opportunity to confirm the compliance of education programs in project management, implemented as part of first and second-degree studies, with the competence requirements of the IPMA ICB standard. This also means unifying vocabulary and concepts related to project management and the possibility of using standard teaching tools. In addition, a network of coordinators appointed at universities enables students to verify and certify their competencies.

3. Methodology

Literature research included articles in the EBSCO, Web of Science, and ProQuest databases. Entries related to competencies and project manager certification were filtered. The following terms were analyzed: "student certification in project management", "student professional certification", and "popularity of certification among students". About 90 items were accepted for analysis. In addition, the authors of the article utilized data gathered in research university graduates' experience with the IPMA-Student certificate conducted in 2021 (Rzempała et al., 2023).

As part of the initiative, graduates' opinions were analyzed regarding the usefulness of both the certification itself and the importance and usefulness of accreditation in professional work. The study participants were people who passed the IPMA-Student exam from 2016 to February 2021. The questionnaire was sent to 964 people. Some e-mail addresses (76) from the IPMA-Student Portal, the tool for conducting exams, were already inactive.

The survey questionnaire was sent from March to July 2021 using the GetResponse tool. To reach better, it was decided that invitations to participate in the survey would be sent three times: on March 9, April 27, and June 2. The total number of openings of the e-mail containing the link to the survey was 724, of which 155 receivers (from three mailings) clicked the survey link.

As a result, 129 correctly completed surveys were received. Table 1 presents the process of sending survey e-mails at different times, indicating the detailed sending rates. MS Office 365 Excel software was used to develop the analysis results. Basic statistical analyses were performed. The group was purposeful and complete.

Table 1.
Reports of communication with the target group

Action	1st mailing	2nd mailing	3rd mailing
Number of emails sent	964	849	673
Number of emails delivered	888	802	626
Number of emails opened	339	260	125
The number of clicks on the hyperlink to the survey	81	46	28

Source: Own study based on reports generated via the GetResponse tool.

Participants provided information about their educational background, job sector, career motivations, and reasons for pursuing certification. The survey also explored participants' professional development activities, including their involvement in industry-specific networks and intentions regarding further certifications.

4. Research results

The study involved 129 individuals who completed the IPMA-Student course. Most IPMA-Student participants were pursuing or have completed higher education degrees, with a notable concentration at the master's level (52 participants). Additionally, many participants were engaged in postgraduate studies (30 participants), indicating interest in specialized knowledge and professional growth.

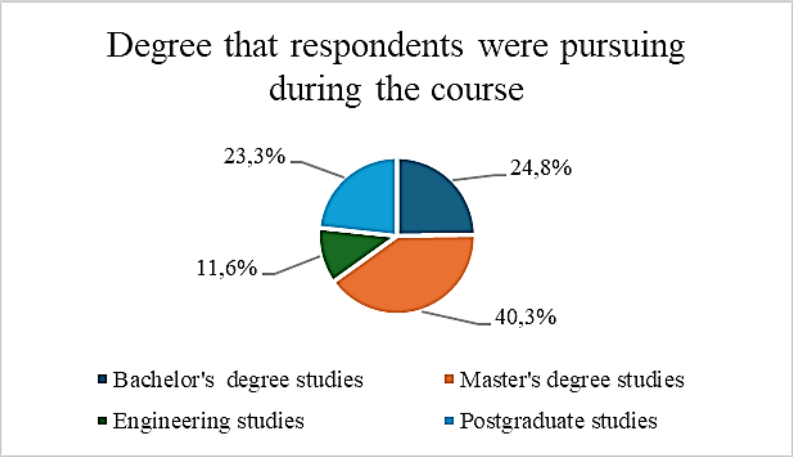

Figure 5. Study participants broken down by the degree of study.

The respondents group had a strong representation of women (82 out of 129), particularly among participants who chose to upgrade their certification to higher levels. Geographically, the program was most popular in regions with active project management communities, such as Zachodniopomorskie and Mazowieckie, highlighting possible regional variations in certification awareness and accessibility.

The respondents differed in their fields of study. Most came from management-related disciplines (80), especially project management, but there was also significant representation from technical fields such as IT and telecommunications. This variety suggests that the certification appeals to students in fields where project management principles are to career success.

The participants attended the course variously over eight years: 26 people completed the IPMA Student program in 2021, 20 in 2020, 24 in 2019, 24 in 2018, 12 in 2017, 9 in 2016, 13 in 2015, and 1 in 2014. Extrapolating this data, it can be stated that an increasing number of

individuals are enrolling in the course. This trend suggests a hypothesis that the market, along with the demands for employee competencies, is evolving and growing, prompting more students and even employees to pursue further training. A noticeable increase began from 2018 onward.

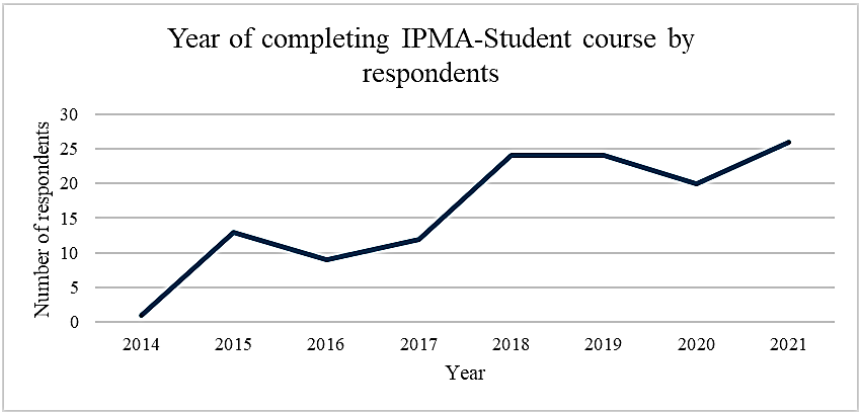

Figure 6. The distribution of course completion dates among the participants.

Most participants (82) were employed full-time, often in project-driven sectors where the certification is highly relevant. A smaller portion consists of part-time employees or interns who might be building foundational skills in project management as they begin building their careers. However, a significant segment of students (25) were still in formal education and were preparing to enter the workforce with certified project management skills.

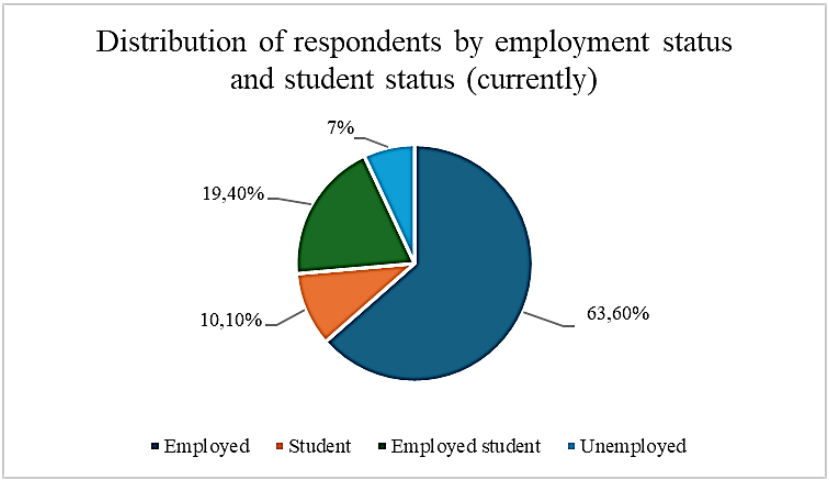

Figure 7. Study participants broken by employment and student status

The correlation between whether employers require a project management certification during recruitment is interesting. With only nine respondents indicating that their employers required certification, it appears that most participants pursued the IPMA-Student certification on their initiative rather than due to direct employer requirements. This suggests that, for the majority, certification may be a personal investment in career growth rather than a specific hiring prerequisite.

The primary motivation for participants was to enhance their competitiveness in the job market. Over 70% of participants pursued IPMA-Student certification as a personal investment in career growth rather than an employer-imposed requirement. This shows that students and early-career professionals increasingly recognize the importance of project management certification for achieving long-term career goals, even if their current roles do not explicitly demand it. Almost 23% of participants viewed IPMA-Student certification as a valuable credential that differentiates them from peers, particularly in industries where project management skills are critical. The research results confirm that the certification offers students an opportunity to formally validate their project management skills, as for more than 50% of respondents, the IPMA-Student credential is a structured way to benchmark their competencies against industry standards, which can boost their confidence in managing projects and improve their marketability to employers. This is particularly beneficial in technical and management fields where formal skills verification is valued. With a large portion of participants (38%) working in project-driven sectors like IT, finance, and consulting, the certification probably helps students prepare for project-oriented roles. For those already working part-time or as interns, the certification may complement their hands-on experience and signal readiness for more complex responsibilities.

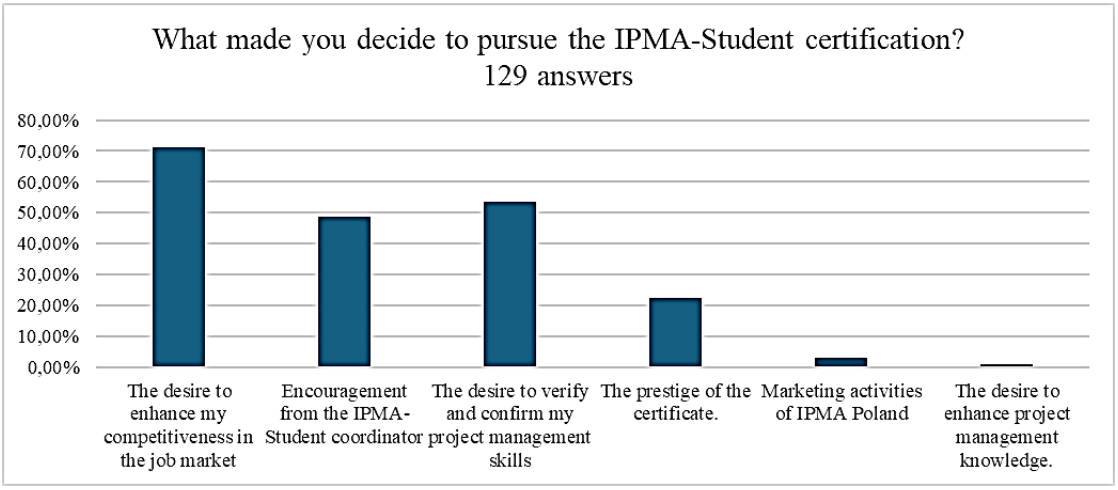

Figure 8. What made you join the IPMA-Student program?

The data reveals that more than 70% of students who pursued the certification are also involved in other professional development activities, such as additional coursework, workshops, or industry events. Certification seems to be part of a broader commitment to continuous learning and skill acquisition, suggesting that students view it as one component of their professional development strategy.

One of the key indicators confirming students' appreciation of IPMA certification value would be acquiring higher levels of certification. Interestingly, only 10% of students got further certified (12 at IPMA-D and one at IPMA-C level). Even though the dataset is significantly too small, analyzing the data on individuals who upgraded their IPMA-Student certification, several key trends emerged. Those who upgraded their certification are strongly oriented towards career

development. The most frequently cited motivation was the desire to increase their competitiveness in the job market. This may suggest that IPMA-student certification was seen as a tool for gaining a professional edge and improving career prospects. Most respondents (7) held a master's degree, indicating that individuals with higher education levels are more inclined to enhance their qualifications through certification further. Additionally, many were in project management-related fields, showing that certification is desirable to those already engaged in this area. Many respondents (54%) who upgraded their certification did so as part of postgraduate studies. This points to a trend where individuals continuing their education at the postgraduate level are more likely to invest in additional certifications to enhance their competencies and appeal in the job market. Women dominate this group, which may indicate a greater readiness or need among women to improve their qualifications in project management. This could also reflect broader professional trends where women seek to level their opportunities in the job market through additional qualifications. Those who upgraded their certification often earn above 6000 PLN gross. This may suggest that higher-income individuals see certification as an investment that can bring further financial benefits or that their earnings increase after obtaining it.

Due to the limited dataset of individuals who upgraded their certification, the authors analyzed "non-upgraders" and sought potential correlations that could provide more reliable conclusions. In terms of motivation for certification, similarly to those who upgraded their certification, the most common motivation among this group was the desire to increase their competitiveness in the job market. However, those who did not upgrade were more likely to mention external factors, such as encouragement from the IPMA-Student coordinator. Often, a combination of motivations was noted, suggesting that the decision to pursue certification was multifaceted. Considering the type of studies, the individuals who did not upgrade their certification most frequently pursued it as part of their master's degree studies. This aligns with the general trend that the IPMA-Student certification is popular among individuals at higher educational levels. Looking at the year of graduation factor, it turns out that respondents who did not upgrade their certification mostly graduated between 2018 and 2020. This suggests that the decision not to upgrade might be linked to the recent completion of education and possibly a lack of immediate need or experience to enhance their qualifications further. This group also predominantly studied management-related fields, but there was more diversity in their areas of study. This could suggest that individuals with a broader range of educational backgrounds pursue certification but may not consider upgrading it. Women also dominated this group (72 women compared to 44 men). This might indicate a broader trend where women are more likely to pursue certification but do not always choose to upgrade it. Most of those who did not upgrade their certification held a master's degree. This is consistent with the overall trend that individuals with higher levels of education are more likely to pursue certification but not necessarily to upgrade it. Furthermore, salaries in this group were varied. Still, most individuals earned over 6000 PLN gross, similar to "upgraders" which disproved the

hypothesis that higher-income individuals see certification as an investment. However, this may suggest that these individuals may already be well-compensated despite not upgrading their certification. This could indicate less perceived need for further qualification enhancement.

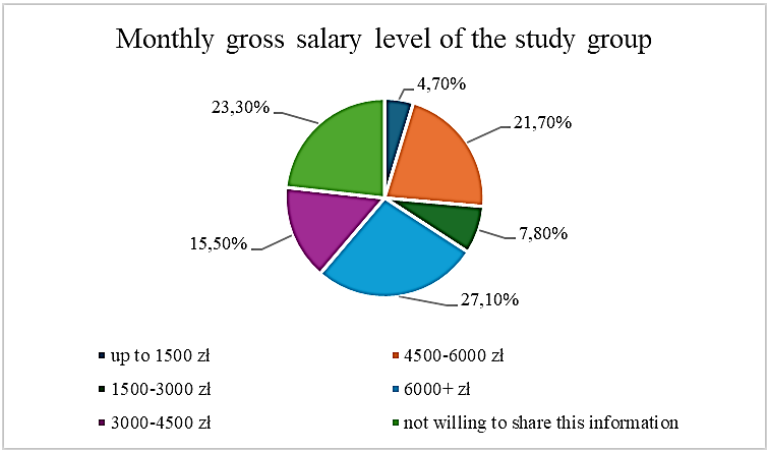

Figure 9. Monthly gross salary level of the study group.

Finally, the authors analyzed the reasons given by respondents for not upgrading their IPMA-Student certification. As a result, the following list was developed:

- lack of time was the most common reason, cited by 15 respondents, indicating that time constraints prevented them from pursuing an upgrade,
- 12 respondents mentioned that upgrading the certification was not necessary for their current job, suggesting that they did not see a direct benefit in their professional roles,
- the cost of certification was a significant barrier, with seven respondents citing it as the primary reason and ten others mentioning it alongside other factors like not needing it for their job,
- some respondents (6) stated that their employer did not require the certification, reducing their incentive to upgrade,
- a few respondents (6) also mentioned that the IPMA certification is not well recognized, which diminished its perceived value and usefulness,
- several respondents provided multiple reasons, such as cost, time constraints, and lack of necessity for their job. For example, eight respondents mentioned both cost and time as barriers,
- some respondents had specific reasons, such as focusing on other certifications (like TENSTEP), the impact of the COVID-19 pandemic, or waiting for a more opportune time in the future.

These reasons indicate that practical considerations, such as time, cost, and relevance to their current job, most significantly influence the decision not to upgrade the certification.

5. Discussion and Conclusions

The analysis of the obtained data shows that most students who take the IPMA-Student certification are active in other initiatives and forms of non-formal education, such as science clubs, internships, or conferences. Obtaining the certificate and the related increase in competitiveness in the labor market are the main motivations declared by students taking the IPMA-Student certification. Based on the research results, several key trends emerge.

Career Competitiveness and Differentiation

The data indicates that a primary motivation for pursuing the IPMA-Student certification is to increase "competitiveness in the job market." Many students and early-career professionals view certification as a way to stand out from peers, especially in fields where project management skills are highly valued. This aligns with the fact that, although only nine respondents reported employer certification requirements, most pursued certification proactively to enhance their employability and skillset.

Skill Validation and Professional Development

The certification allows students to formally "validate their project management skills". For many, the IPMA-student credential is a structured way to benchmark their competencies against industry standards, boosting their confidence in managing projects and improving their marketability to employers. This is particularly beneficial in technical and management fields where formal skills verification is valued.

Most respondents held at least a master's degree, which suggests that higher education students are more inclined to develop their qualifications further through certification. Additionally, many of these individuals were from project management-related fields, indicating that certification is desirable to those already engaged in this area. Many respondents who chose certification did so during or after postgraduate studies. This points to a trend in which those pursuing postgraduate education are more inclined to invest in additional certifications to enhance their competencies and marketability. Certifications are a natural career step for individuals advancing into senior management roles.

Preparation for Project-Oriented Roles

Many participants work in project-driven sectors like IT, finance, and consulting, so the certification helps students prepare for "project-oriented roles." For those already working part-time or as interns, the certification complements their hands-on experience and signals readiness for more complex responsibilities.

Proactive Career Growth

Many participants pursued IPMA-Student certification as a “personal investment in career growth” rather than an employer-imposed requirement. This shows that students and early-career professionals increasingly recognize the importance of project management certification for achieving long-term career goals, even if their current roles do not explicitly demand it. Most of these individuals are postgraduate students, and the most significant portion declared the highest income bracket. This may suggest that those advancing their qualifications aimed to move into higher positions, such as middle or top-level management, or to transition from operational to managerial roles.

Enhanced Professional Development Orientation

The data reveals that many students who pursued the certification are also involved in other “professional development activities”, such as additional coursework, workshops, or industry events. Certification seems part of a broader commitment to continuous learning and skill acquisition, suggesting that students view it as one component of their professional development strategy.

The IPMA-Student certification is of considerable importance for students and early-career professionals to meet immediate job requirements and as a strategic step toward building a competitive, well-rounded skill set. For most participants, it represents an investment in future career opportunities, professional credibility, and industry readiness, regardless of whether it is a formal requirement. Thus, the certification is valued primarily as a proactive tool for skill enhancement and career differentiation.

Gender Differences

Women dominate the group of individuals who upgraded their certification. This may suggest a greater readiness or need among women to enhance their qualifications in project management. Women are also more likely to pursue equal job opportunities and break the so-called "glass ceiling" by obtaining additional qualifications. Responses to salary questions indicate that these are mainly women with work experience who view certification as an investment leading to further financial benefits. However, some individuals who also upgraded did not disclose their earnings, which may suggest other motivations independent of monetary gain. When asked about their motivations for certification, respondents indicated the potential of using IPMA to gain a professional advantage and improve career prospects. It can also be suggested that IPMA's prestige and marketing activities serve as a desirable asset for those starting their careers.

Certification Timeline

All individuals who upgraded their IPMA level completed only the basic (D) level in 2017 or later. None of the earlier graduates among respondents continued their studies, which may suggest that IPMA certification was less popular 7-8 years ago than it is now. This may be attributed to lower globalization at that time, which drove fewer competency requirements in the workplace. However, only some individuals upgraded their certification from IPMA D to higher levels. They felt less need for accreditation or were satisfied with their current career status and earnings. It is also possible that their initial motivation for IPMA D came solely from encouragement by a program coordinator rather than intrinsic motivation.

6. Study Limitations and Future Research

This study provides insights into the motivations and career impacts of IPMA-student certification among students and early-career professionals. However, several limitations should be acknowledged. First, the sample size is relatively limited, and the study's participants are drawn from a specific certification program, which may only partially represent the diversity of students and professionals pursuing project management certifications globally. This limits the generalizability of the findings to other regions and certification programs.

Second, the study relies on self-reported survey data, which may introduce bias, as respondents may provide socially desirable answers or be influenced by retrospective evaluation of their career motivations and outcomes. Additionally, while the study explores motivations for certification, it does not capture detailed longitudinal data on participants' career trajectories over time, which would provide a more comprehensive understanding of how certification impacts long-term career development.

The study’s findings highlight several potential directions for future research. Expanding the sample size and diversity, including participants from multiple regions and various certification programs, would improve the generalizability of results and help identify trends across different demographic and industry contexts. A longitudinal study tracking certification holders over time would also provide valuable insights into the sustained impact of certification on career advancement, role transitions, and income growth.

Furthermore, future studies could explore the role of certification in helping professionals overcome specific career barriers, such as gender-related challenges or "glass ceiling" effects. Research focused on how certification influences career paths in particular industries, such as IT, healthcare, and engineering, where project management skills are highly sought after, would also be beneficial. Finally, examining the cost-benefit analysis from participants' perspectives, particularly how perceived financial and time investments influence certification pursuit and progression, could inform strategies for certification bodies and educational institutions to support and encourage certification uptake.

By addressing these limitations and exploring these areas, future research can contribute to a deeper understanding of certification's role in professional development, providing valuable insights for students, educators, employers, and certification organizations.

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