“What drives economics students to use generative artificial intelligence?”

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WHAT DRIVES ECONOMICS STUDENTS TO USE GENERATIVE ARTIFICIAL INTELLIGENCE?

Abstract

The increasing integration of Artificial Intelligence (AI) into education requires studying the motives for its use among students. This study aims to identify the key motivations for economics students to use AI and compare these motivations by grade level and gender. The study examines satisfaction with the use of AI and analyzes the number of AI tools used.

An anonymous empirical study was conducted among 264 students from the Faculty of Economics at Taras Shevchenko National University of Kyiv, Ukraine. Data analysis included descriptive statistical methods, non-parametric statistical methods, and exploratory factor analysis.

The study found that students' main motivations for using AI are the automation of routine tasks (34.2%) and the need to save time (21.5%), while 18.7% use AI to compensate for lack of experience. Among Bachelor's students, motivations such as automating routine tasks and saving time increased from 53% to 58% over the course of their studies, while lack of experience decreased from 22% to 15%. In contrast, Master's students showed a decrease in routine automation (from 36% to 28%) but an increase in the need to compensate for lack of experience (from 15% to 28%) and to save time (from 18% to 25%). In terms of gender, men are more likely to use AI for learning and personal development, while women are slightly more likely to use AI for work. More than 38% of respondents say they need to use at least 2 AIs to achieve their goals.

Keywords AI, motivation, ChatGPT, attitude, higher education, student engagement

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INTRODUCTION

Artificial Intelligence (AI) is set to transform society, and tools like generative AI such as ChatGPT are already making a significant impact. Education is one of the first sectors to embrace this emerging technology, as AI can generate text, solve different tasks, and answer a wide range of questions. In education, generative AI is being adopted by both teachers and students. Students, in particular, are highly receptive to new technologies and, due to the ease of use of this type of AI, have become early adopters at the forefront of its integration.

The motivations for students to use AI tools can vary widely. First and foremost, students today are overwhelmed with many tasks. As a result, generative AI can help with optimization, in particular, automating routine and large-scale tasks to save time and other resources and finding the best solutions to problems or tasks they cannot complete due to lack of time. In addition, mastering new time-saving technologies can also be a competitive advantage. As the younger generation is mentioned, trends and fashion also play a role in the motivation to use AI. Of course, the advantage of gen-

erative AI as an assistant/tutor is actively used by students to improve their qualifications and develop professional skills, as well as for tasks they cannot perform due to lack of experience and knowledge.

Most previous research has focused on identifying the AI usage and motivations of students in STEM fields (Science, Technology, Engineering, and Mathematics) due to their frequent interaction with technology and innovation. However, there is a significant gap in research exploring why and how economics students use AI. Therefore, this study aims to investigate the motivation for using generative AI among economics students, examine differences in motivation based on education level and gender, and assess satisfaction with AI use based on the frequency of applications.

1. LITERATURE REVIEW

Interest in research on students' use of AI began to grow in 2013, and the release of the open version of ChatGPT in 2022 evidently increased the number of users. Thus, the need to understand students' motivations for using AI was highlighted, leading to a surge in research in 2023. Yurt and Kasarci (2024) developed the "Questionnaire of AI Use Motives (QAIUM)," in which they proposed five groups of motives: utility value, expectancy, attainment, intrinsic/interest value, and cost. They include aspects such as whether a student can acquire skills that allow them to effectively use AI, how advanced their knowledge and skills in using AI are compared to others, the ability to effectively use AI, staying at the forefront of AI development, and enhancing efficiency and professional development. A significant emphasis is also placed on awareness and willingness to invest time in learning AI. Zou et al. (2023) surveyed Chinese students, revealing that the most popular motives for using AI-generated content tools are "time and effort saving" and "improving work quality" (p. 7).

Tiwari et al. (2023) based their study on students' attitudes towards ChatGPT and their behavioral intention to use ChatGPT on a research model that identified five groups of constructs: "perceived usefulness" (how much a person believes that using technology enhances their performance), "perceived ease of use" (how much a person believes that using a particular technology is easy and effortless), "perceived social presence" (the belief that the medium provides personal, sociable, and empathetic human interaction), "perceived credibility" (the feeling of engaging with a reliable, secure, and confidential agent), and "hedonic motivation" (the enjoyment or satisfaction gained from using technology) (p. 11). Of all the factors, the second one, "perceived ease of use," had an insignificant impact on students' attitudes toward ChatGPT because such tools often require additional effort from users (courses, training, self-learning) to master them. Yao and Chung (2024) found that students derive greater satisfaction from using AI in education when AI demonstrates "accuracy and efficiency" (p. 901), which subsequently translates into "learning efficiency" (p. 891) in education. Similarly, Urban et al. (2024) emphasize that using ChatGPT enhances the quality and originality of tasks solving proposed to students. It is noted that the use of chatbots like ChatGPT significantly improves students' writing style and quality, increasing their motivation to write (Li et al., 2024).

Hmoud et al. (2024) explore the factors that motivate students to use ChatGPT, identifying key drivers such as task enjoyment, reported effort (with an important aspect being the students' confidence that AI helps them save time on task completion), result assessment, perceived relevance, and interaction. Based on an empirical study, Bravo and Cruz-Bohorquez (2024) found that students are motivated to use AI for several reasons: to organize and systematize their knowledge, boost productivity, utilize AI as a tutor for explaining complex concepts, and receive feedback on completed tasks. Additionally, all students highlighted the significant role of AI in optimizing study time and enhancing efficiency. In the work of Jyothy et al. (2024), various uses of AI are explored, such as "simplifying complex theories" (as mentioned in the introduction, where a student noted that AI explained a concept better than the teacher or textbook), "facilitating problem-solving", and "efficient note preparation" (p.

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9). Al-Hafdi and AlNajdi (2024) showed that students are satisfied with using AI because they can get answers to their questions at any time and from anywhere while learning new material. The researchers also emphasized that students can ask questions as many times as needed, which is not always possible in a classroom with a teacher.

Rondon (2023) argues that AI in education can tailor the learning experience to meet the unique needs of each student, enhance assessments, and offer real-time feedback. However, it is highlighted that AI is not meant to replace teachers but rather to augment their role. Teachers remain vital in guiding, inspiring, and cultivating students' higher-order, critical, and reflective thinking skills, utilizing the opportunities AI provides to enhance teaching and learning. This assertion is supported by the results of an empirical study by Sadegh-Zadeh et al. (2023), which found that active student engagement in learning AI is related to the "novelty and challenge of the subject" (p. 7). According to students, the high level of satisfaction from interacting with AI is explained by the "personalized learning recommendations and real-time feedback, which showcase the synergistic potential of AI and education in the digital age" (p. 1). Wahba et al. (2024) also noted, based on a survey of 56 students from the Arab Open University in Jordan, that the implementation of AI in education increases student satisfaction and motivation in learning statistics.

At the same time, Romero-Rodríguez et al. (2023) emphasized the importance of teaching students the "ethical and responsible use of ChatGPT" (p. 335), understanding its potential and limitations, as well as the ability to formulate clear and specific questions and verify the answers.

The use of AI in self-learning or hobbies is a widespread area of AI application. Numerous studies focused on the role of AI in self-study, such as in learning foreign languages (An et al., 2023; Wu & Fan, 2024), mathematics (Jančařík et al., 2023), or even dance learning (Kang et al., 2023) or yoga skills performance (Hsia et al., 2023), for example. This popularity of using AI for self-learning is explained by the thesis of Lee and Lim (2023) that the interactive teachable agent could motivate students who might otherwise lack interest in learning by offering a more personalized approach that matches their skill level. However, according to the findings of Jin et al. (2023), the success of AI use depends on "three major pedagogical and psychological aspects," namely how well AI accounts for learner identity, learner activeness, and learner position (p. 13).

The level of satisfaction with AI use among students is also actively researched. This is because new technologies are much better accepted when users are satisfied with or interested in them. The empirical study by Ni and Cheung (2023) confirmed that perceived usefulness and price value directly and positively influence the intention to continue using AI.

Based on this review, it becomes evident that studying student motivation to use AI (RQ1) should consider a wide range of factors, from the desire to enhance productivity to the need to solve complex tasks. Additionally, it is important to examine how these motives may vary depending on the context and area of AI application (RQ2).

2. METHODOLOGY

To address the research questions, an anonymous empirical study was conducted based on a questionnaire in the Ukrainian language distributed via Google Forms at the following link: https://forms.gle/6jjjCaMQTj6rdfND8. The survey targeted first- to fourth-year undergraduate students and first- to second-year master's students from the Faculty of Economics at Taras Shevchenko National University of Kyiv, specializing in the following fields: 'Economics', 'Accounting and Taxation', 'Finance, Banking, Insurance and Stock Market', 'Marketing', and 'Business, Trade and Exchange Activities'. The administration of the Faculty of Economics provided written permission to conduct the survey. The questionnaire also included a statement of consent for data processing and use for research purposes: "By answering this questionnaire, you agree to the processing of the data and its use for research purposes."

The survey was conducted between May 27, 2024 and June 17, 2024 and included 264 students (9.2% of the total number of students in the Faculty of

Table 1. Sociodemographic profile of the sample (n = 264)

Year of study	Average age	Gender			Total
		Female	Male	I do not wish to answer	
Bachelor					
1	18.1	12.5	7.6	1.1	21.2
2	18.7	15.5	4.6	0.4	20.5
3	19.8	8.7	5.3	0.4	14.4
4	20.8	17.1	6.8	0.8	24.6
Master					
1	21.7	4.2	10.2	0	14.4
2	22.5	3.8	1.1	0	4.9
All groups	19.9	61.7	35.6	2.7	100

Economics). The average age of the respondents was 19.9 years, 80.7% were Bachelor students, and 19.3% were Master's students (Table 1). The gender distribution of the sample was as follows: 61.7% female, 35.6% male, and 2.7% participants whose gender was not specified. Due to time and resource constraints, the student sample was formed using non-probabilistic convenience sampling. Table 1 shows the sociodemographic profile.

The questionnaire comprises three sections. The first section examines students' motivation for using AI, their experience with it, satisfaction levels, and skill development. Participants rated their agreement with each item on a 10-point Likert scale. The second section uses the Artificial Intelligence Attitude Scale (AIAS), introduced by Grassini (2023), which consists of four statements (AIAS-4) based on the Technology Acceptance Model (TAM) (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2022). Considering that some respondents are students without work experience, an additional statement was included: "I believe that AI will improve my study". Each statement in this section was rated on a 10-point Likert scale from 1 (Not at all) to 10 (Completely agree). The third section covers sociodemographic details.

Before the survey, four experts reviewed the instrument to ensure the relevance and clarity of each item. Five students then participated in a pilot test. After their feedback, the survey was finalized with the approved wording.

Data analysis was carried out using descriptive statistical methods to estimate the popularity of different types of AI based on their motive for use, determine the number of AI systems used to achieve specific goals, and identify changes in students' motivations for using AI. Non-parametric statistical methods were used to determine the link between satisfaction with AI use and the number of systems owned by students.

Satisfaction with using AI in different areas was assessed under the influence of the gender factor. The primary analytical tool used to study students' responses was exploratory factor analysis (EFA). The application of the exploratory factor analysis model made it possible to identify and describe the specific characteristics of AI satisfaction factors for both men and women.

3. RESULTS

3.1. RQ1. What motivates students to use AI?

In the survey, students were asked to choose between five AI tools, which can be broadly categorized as general-purpose and specialized. The general-purpose category includes large language models with functions such as creative content generation, learning, planning, writing, problem-solving and others. This category includes ChatGPT (a language model developed by OpenAI in November 2022), Microsoft Copilot (launched in February 2023, integrated with Microsoft products), Gemini AI (introduced by Google in March 2023), Claude (developed by Anthropic and released in March 2023) (ChatGPT, 2024; Copilot, 2024; Claude, 2024; Gemini, 2024).

On the other hand, DeepL represents a more specialized AI tool. Initially launched in 2017 as a translation service, it was enhanced in January

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Table 2. Students' motivation in using AI, %

AI type	Routine automatization	Lack of time	Lack of experience	Best solutions	Skills Improvement	Competitive advantage	Prevailing trends
ChatGPT	33.5	22.4	18.3	17.4	3.8	3.0	1.7
Gemini	34.5	21.2	18.0	17.6	3.4	3.4	2.0
Copilot	35.2	21.0	18.2	18.2	3.4	2.3	1.7
Claude	33.8	21.5	21.5	13.8	3.1	4.6	1.5
DeepL	35.1	20.2	20.6	18.4	4.4	0.0	1.3
Total	34.2	21.5	18.7	17.5	3.7	2.7	1.7

2023 with AI-driven writing assistance, making it particularly valuable for academic assignments that require accurate translation and writing support (Louise, 2024).

The survey results revealed a strong preference among students for general-purpose AI tools, with 41.8% opting for ChatGPT, 28.5% for Gemini AI, 11.1% for Copilot, and 4.1% for Claude. However, a specialized AI tool is also popular among students – 14.4% of respondents choose DeepL. Still, ChatGPT, as an early market entrant (within the first five days, it had already reached 1 million users (Lawlor & Chang, 2024), which allowed humans to interact with machines in meaningful conversations, is the most popular among students. Other reasons are that ChatGPT is easy to use and doesn't require knowledge of a specific programming language. Of course, it later became clear that it was necessary to ask questions correctly to get more thoughtful and accurate answers. The absence of barriers to entry (free version, low price for advanced users, and no link to authorization in other systems) is also a factor that boosts ChatGPT's popularity among students.

The following motivations were identified that may encourage students to use AI: automate routine and large-scale tasks to save time and other resources (routine automation), find the best solutions to problems (best solutions), improve qualifications and develop professional skills (advanced training), gain a competitive advantage (competitive advantage), for tasks that I cannot perform due to lack of experience and knowledge (lack of experience), for tasks that I cannot perform due to lack of time (lack of time), due to prevailing trends or due to use by colleagues or competitors (prevailing trends).

The analysis revealed that the primary motivation for students to use AI is routine automatization, with 34.2% of respondents (Table 2). This is logically followed by the need to address the lack of time mentioned by 21.5% of students. Additionally, 18.7% of students indicated that a lack of experience motivates them to use AI, as exemplified by a student's comment from the introduction: "...I used AI to explore a topic in the course 'Probability Theory and Mathematical Statistics...". Furthermore, 17.5% of students use AI to find the best solutions.

In contrast, students rarely consider AI as a competitive advantage (2.7%) or turn to it due to prevailing trends (1.7%). Only 3.7% use AI for skills improvement, which aligns with the negative feedback regarding AI usage. Students noted issues such as: "First of all, if used incorrectly, AI produces low-quality data (sometimes even false)." "I had experience of using AI to find an error in software code - each time it gave a different answer, one opposite to the other." "Sometimes artificial intelligence does not understand even clearly formulated tasks very well".

The parallel use of several AIs has been observed among the students surveyed. In 93% of cases, ChatGPT is the first AI system chosen by the students (246 out of 264 respondents), of which 61% (150 out of 246 students) use Gemini after ChatGPT, 34% of students use DeepL (84 out of 246 students), 24% of students use Copilot (58 out of 246 students) and 9% use Claude (21 out of 246 students).

At the same time, there is no preference for using a particular AI tool to solve a specific task, which is explained by the fact that students do not see significant differences between them.

The choice of an AI tool or the use of another additional AI is most likely due to a lack of satisfaction or uncertainty about the quality of the result obtained by the previous AI or the expectation of a better performance of the task by the next AI.

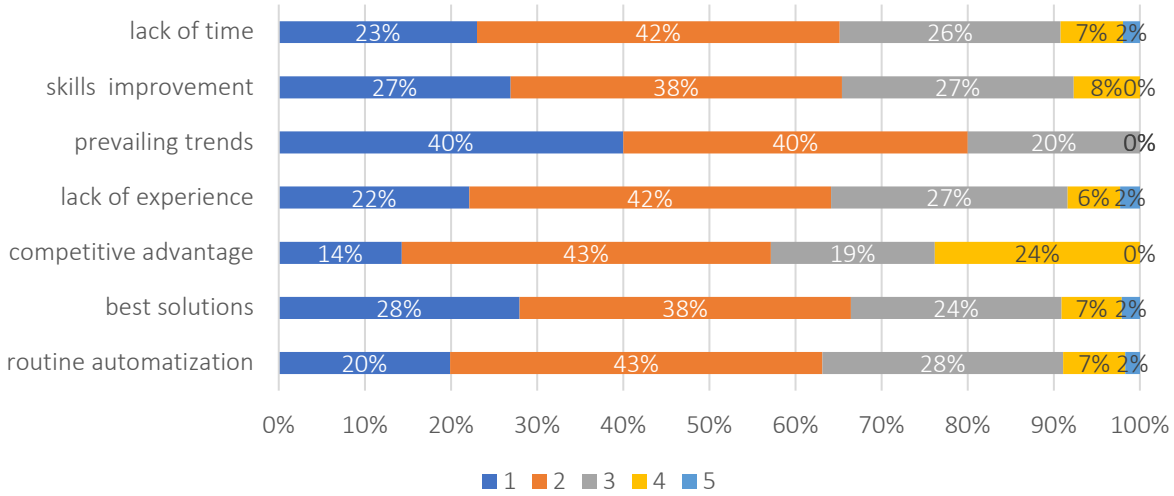

Figure 1. Quantity of AI tools used for different motivations

Figure 1 shows that no goal can be achieved with only one AI tool. In most cases, two AIs are used. Students are not limited to the result obtained by the first AI; they understand the imperfection of the results presented and look for better options for improvement, or have a feeling of dissatisfaction, they use the 2nd and 3rd AI additionally.

Bachelor's students consider routine automation and lack of time as the main motivations for using AI, and their share is gradually increasing from 53 to 58% (Figure 2). This may indicate that AI is becoming more effective at meeting these motivations. On the other hand, it is quite logical to see that with each year of study, lack of experience becomes less and less of a motive for using AI (from 22% to 15%), which indicates that students' skills are growing. As for the rest of the motives, they remain almost unchanged throughout the course of a bachelor's degree.

The situation with Master's students is different. The emphasis in Master's programs is on research (the ability to formulate scientific ideas, hold discussions, and prepare a Qualified study), which leads to a decrease in the routine automatization motive (from 36% to 28%) and an increase in the lack of experience motive (from 15% to 28%). At the same time, AI is very important for masters in terms of saving time, so the lack of time motive increases from 18% to 25%.

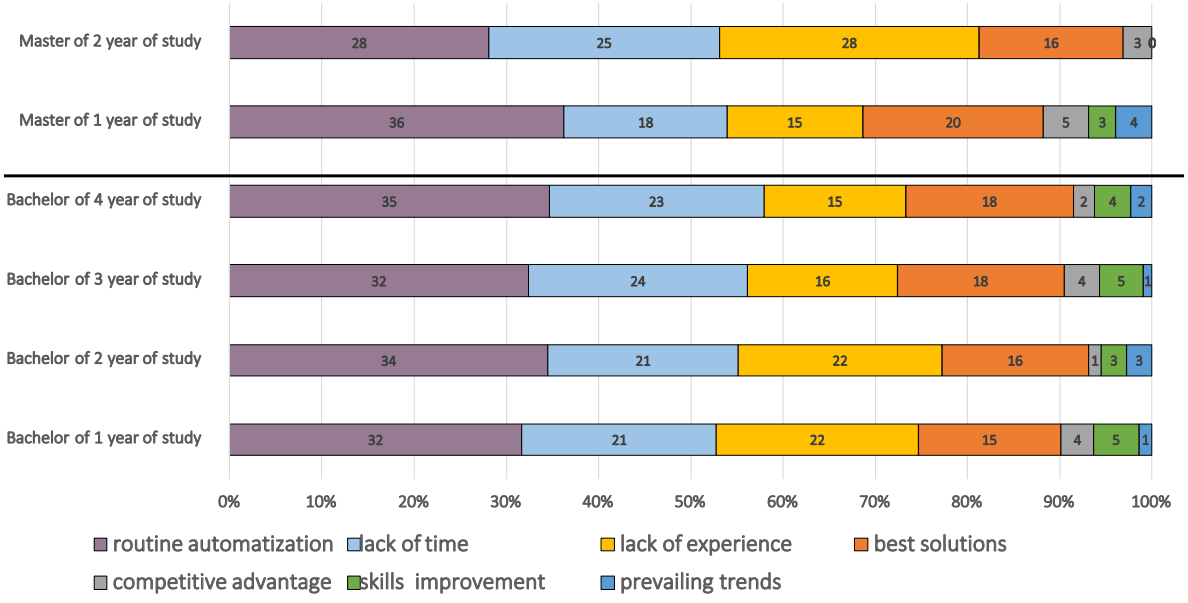

Figure 2. Motivation to use AI among Bachelor and Master students

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Table 3. Students' average satisfaction with AI usage based on the number of AI tools (Heatmap)

Number of used AI	Are you satisfied with the results of AI use?									Total	Average score
	1	3	4	5	6	7	8	9	10		
1	1	2	7	14	12	12	8	4	2	62	6.1
2	0	2	7	19	14	26	35	3	4	110	6.7
3	0	0	3	9	10	25	14	5	4	70	7.0
4	0	0	0	3	6	3	6	0	0	18	6.7
5	0	0	0	0	0	1	0	1	2	4	9.0
Total	1	4	17	45	42	67	63	13	12	264	6.7

The discussion of RQ1 is concluded with an analysis of the level of satisfaction with AI usage. The average satisfaction with AI usage is 6.7 out of a maximum of 10 points (Table 3). There is no significant variation based on gender or academic year of study. Among the surveyed men, the average satisfaction level is 6.9, while for women it is 6.6. The average satisfaction level among Bachelor students ranges from 6.6 to 6.8, and among Master students, it ranges from 5.7 to 6.9. Therefore, within each educational level, there is a sufficient level of satisfaction with AI usage.

If neither academic year nor gender significantly affects satisfaction ratings, attention should be paid to the reasons for using different types of AI as a factor influencing satisfaction with AI usage.

Using non-parametric statistical methods, a link between the number of AI systems used and the level of satisfaction with AI usage was established with parameters: Pearson Chi-square is 56.5 with $p = 0.005$, $df = 32$. The contingency coefficient indicates a moderate association between the variables at 0.4197575. Although the link is statistically significant, its strength is not high enough to assert that an increase in the number of AI systems used directly leads to higher satisfaction. Instead, the effect seems to lie in the ability to combine different types of AI to achieve the desired outcome.

Thus, students attempt to improve the results obtained from AI by combining several types of AI. For example, 110 respondents preferred using two AI systems with an average satisfaction level of 6.7 for using two AI systems, 35 of whom rated their satisfaction at 8 out of 10. Slightly fewer students (70 respondents) rated their satisfaction with using three AI systems at 7.0 on average. It can be explained by unsatisfactory or insufficient responses from the first AI used, leading to an increased need to query a second or sometimes even a third AI.

3.2. RQ2. Are there differences in how students use AI across different areas?

In Ukraine, students often combine studying with work, so questions were formulated about the areas of AI application. To assess the intensity of AI usage, a 10-point scale was introduced: "I do not use 1 2 3 4 5 6 7 8 9 10 I use 100% of it." The descriptive statistics results showed that the distribution of responses across different areas varied. The average intensity rating for AI usage was 6.2 in studying, 4.4 in self-development, 3.7 in work, 2.7 in entertainment with AI and hobbies, and 2.4 in other areas. This variation may indicate different motivations for using AI in these areas and indirectly reflect the level of satisfaction with AI usage. A higher level of AI usage might suggest a higher level of proficiency and, consequently, greater satisfaction with the results.

Among all the categories, entertainment with AI and hobbies showed the greatest similarity in response distributions. Despite the low average scores, there was significant skewness, indicating that in most cases, satisfaction ratings were lower than the average level of AI usage in these areas. Study and self-development can be considered similar processes, with significantly higher average ratings and a lower degree of skewness in their distributions. However, studying has a distribution closer to being uniform. The median for studying is 6, with the lower quartile at 4 and the upper quartile at 8, indicating a relatively narrow range of ratings and confirming the popularity of this area for AI usage. Self-development (median = 4) and work (median = 3) have wider interquartile ranges, indicating greater variability in AI usage. Entertainment, hobbies, and other areas have low medians (1) and narrow interquartile ranges, reflecting limited AI usage in these areas (Table 4, Figure 3).

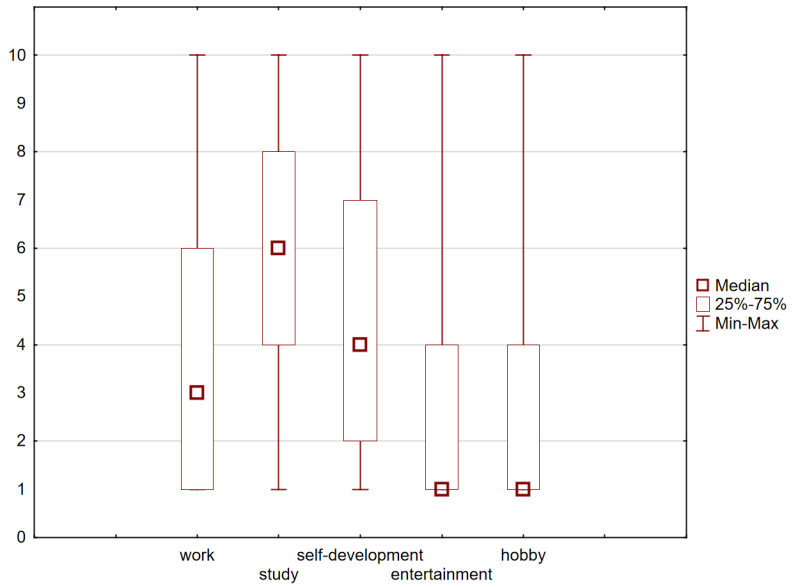

Figure 3. Boxplot for AI usage by area

Table 4. Descriptive statistics for AI usage by area

Variable	Mean	Skewness	Kurtosis	Median	Lower Quartile	Upper Quartile
Work	3.662879	0.851687	–0.43040	3	1	6
Study	6.242424	–0.184993	–1.09506	6	4	8
Self-development	4.378788	0.355245	–0.99077	4	2	7
Entertainment with AI	2.689394	1.509119	1.27866	1	1	4
Hobby	2.700758	1.440887	1.05655	1	1	4
Other	2.363636	1.751511	1.94863	1	1	3

From a gender perspective, both the mean and the median are very close in value, except for the hobby category (Table 5).

Table 5. Mean and median for AI usage by area across gender

Variable	male		female	
	Mean	Median	Mean	Median
Work	3.776596	3	3.625767	3
Study	6.223404	6	6.245399	6
self-development	4.638298	4	4.245399	4
entertainment	2.648936	1	2.693252	1
Hobby	3.202128	2	2.380368	1

Despite the high similarity in men's and women's assessments, there are differences in the patterns of distribution (Figure 4).

When considering study and self-development, with an equal central rating for AI usage in these areas, the Box 25%-75% for men covers a significantly larger area with higher values, indicating a higher level of engagement in AI usage. In the work area, the situation differs slightly in favor of women. In the entertainment area, there are no significant differences, except for some unusually high ratings, which may indicate that in rare cases, students of both genders are AI enthusiasts.

The most significant differences in AI usage distributions between men and women are observed in hobby. The Box, which is 25%-75% for men, shows significantly higher ratings and a low level of AI usage in women's hobbies. However, the presence of outliers in rare and very rare events does not indicate indifference from women towards AI usage in their hobbies. Instead, it suggests that women use AI in this area to a lesser extent, while the atypically high ratings for women indicate a desire to explore better applications of AI in the hobby.

The varying distribution patterns of AI usage levels across the studied areas indicate significant similarities, but the identified specific gender-re-

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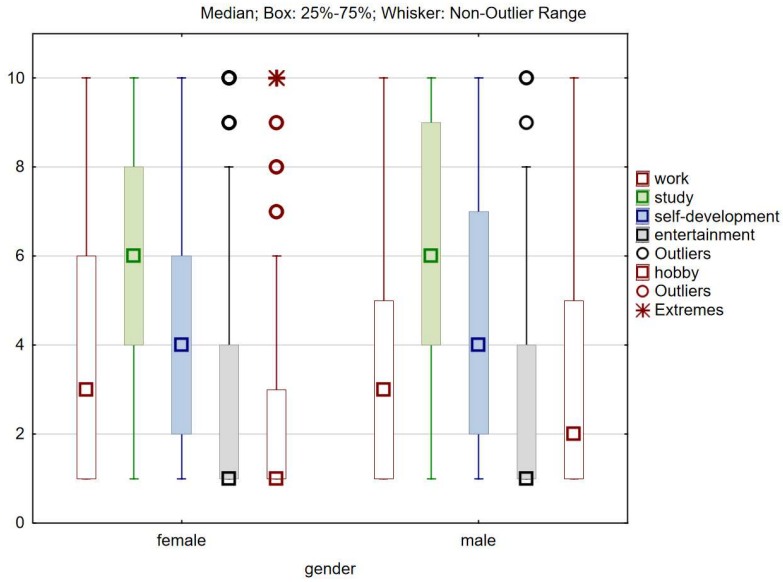

Figure 4. Box-plot of AI usage areas by gender

lated differences may suggest different factors influencing the level of AI usage.

Given that there was multicollinearity among all variables, which suggests the existence of latent factors, an exploratory factor analysis of the AI application areas was subsequently conducted. The resulting statistical model identified two factors that explain 66.8% of the variance in the variables. The factor loadings indicate strong factor influences with a relatively simple factor structure (Table 6).

As a result, the factor analysis identified two clearly defined blocks of factors: Factor 1 – leisure, and Factor 2 – professional activities (Table 7).

This analysis shows that students clearly differentiate between the areas of AI usage. The first factor – leisure – includes entertainment and hobbies, reflecting the level of AI usage during free time outside of work and study. In contrast, the second factor – professional activities (work and study) – logically contradicts Factor 1 in its content.

The variable "self-development" occupies an intermediate position in the factor ratings (Figure 5), indicating its importance in both aspects of life: leisure/hobbies and work/study.

Since gender differences were identified in the extent of AI usage across different areas (Figure 4), it

Table 6. Factor analysis results

Value	Eigenvalues (DataBase 21-06-24) Extraction: Principal components			
	Eigenvalue	Total variance, %	Cumulative Eigenvalue	Cumulative, %
Factor 1	1.988501	39.77003	1.988501	39.77003
Factor 2	1.353527	27.07055	3.342029	66.84058

Table 7. Factor loadings

Variable	Extraction: Principal components (Marked loadings are >.700000)	
	Factor 1	Factor 2
Work	–0.039974	0.804936
Study	0.052103	0.793938
Self-development	0.617965	0.494056
Entertainment	0.840208	–0.073406
Hobby	0.848998	0.036719

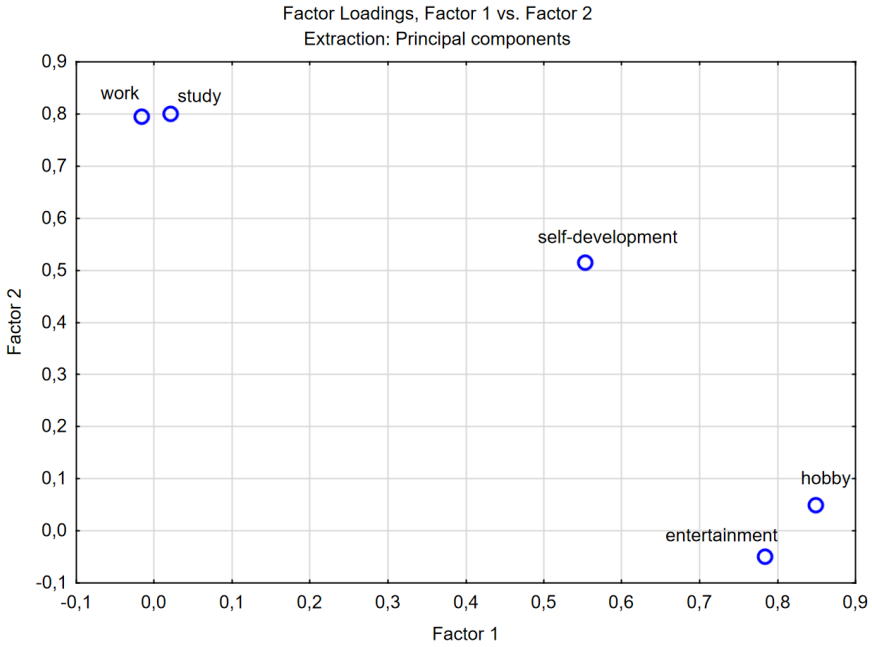

Figure 5. Factor loadings: Factor 1 vs Factor 2

was decided to conduct a factor analysis by gender to determine the differences in factor structure and factor loadings (Table 8).

Table 8. Factor loadings by gender

Variable	Male		Female	
	Factor 1	Factor 2	Factor 1	Factor 2
Work	–0.056874	0.862524	–0.024270	0.767018
Study	0.195448	0.785139	–0.057279	0.786058
Self-development	0.626953	0.501291	0.595623	0.525516
Entertainment	0.881647	–0.067133	0.822651	–0.035916
Hobby	0.826713	0.142815	0.860144	–0.052298

Table 8 shows that the nature of factor loadings for men and women is highly similar, with the difference lying primarily in the coefficient values that characterize the strength of the factor loadings: they are slightly higher for men than women. However, there is a noticeable difference in the importance of each variable for the genders. Scatter plots of the factors for each gender were created to illustrate this (Figure 6).

Although the distribution of variables on the gender-specific plots appears similar at first glance,

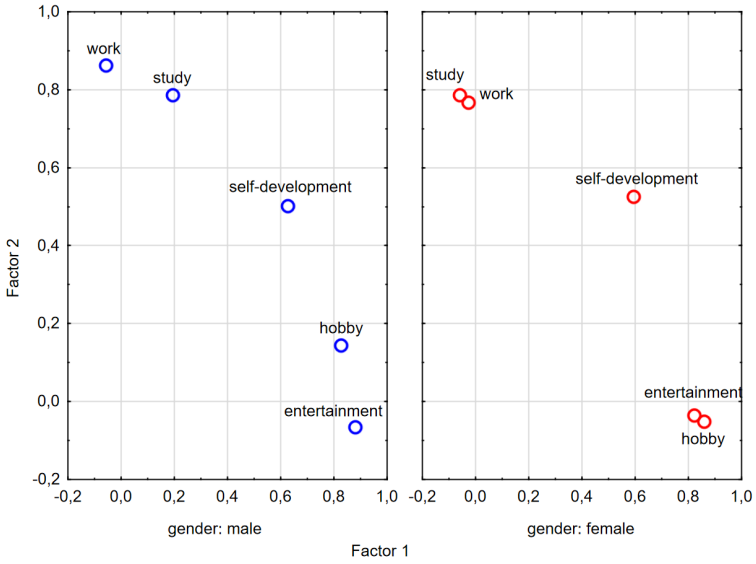

Figure 6. Factor loadings: Factor 1 vs Factor 2 by gender

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there are still meaningful differences. For men, the coefficient values are more dispersed, indicating differentiation: the highest value (on the Factor 2 axis) is observed for work, with a slight gap from the study. Hobbies and entertainment have the lowest factor loadings, but all variables are relatively distant from each other. For women, there is a higher similarity between study and work, as well as between entertainment and hobbies. While these differences are not strongly pronounced in the factor loading coefficients, they may still indicate the presence of gender differences in the formation of factors.

4. DISCUSSION

The debate surrounding students' use of AI lies in the fact that academics must pay attention to the motivations behind this use, as AI is a technology that will dominate in the coming decades. Indeed, many academics who support AI integration into education emphasize the positive effects of generative AI and acknowledge the futility of resisting technological advancements. Researchers are exploring ways to integrate these technologies into educational practices (Ng et al., 2024; Opesemowo & Adekomaya, 2024; Qu & Wu, 2024; Niu et al., 2024; Meyer et al., 2024). However, there is an opposing view among some academics who focus on the potential drawbacks of AI. These concerns center on over-reliance on AI for writing essays, crafting qualified theses, solving mathematical problems, or even coding. They argue that over-dependence on AI could diminish students' ability to think critically and develop essential problem-solving skills. Consequently, some have called for strict limitations or even bans on AI use in educational settings. Yet, given AI's growing presence, these restrictions are becoming increasingly difficult to enforce. As Maphoto et al. (2024) point out, the challenge of detecting AI use in education is significant, and the technology's widespread adoption threatens academic integrity (McIntire et al., 2024).

Despite these differing viewpoints, artificial intelligence will continue to evolve and have a profound impact on education. Therefore, rather than opposing its use outright, it is essential to establish clear guidelines and ethical standards to govern its use in learning environments. This could include reintroducing traditional evaluation methods, such as in-person assessments, interviews, or other time-tested techniques prioritizing critical thinking and personal accountability.

While the perspectives of academics are important, understanding students' motivations for using AI is critical to designing effective educational policies. Our research focused on identifying these motivations. This study proposed the statement: "If you have any thoughts on the use of artificial intelligence, please share them here." One response reflects a nuanced understanding of AI's role in education: "I believe that artificial intelligence, like any other thing in our lives, has advantages and disadvantages. The biggest disadvantage I've identified for myself is that by constantly using AI, we are taking away our ability to think, assuming it won't have any consequences, though this is far from the truth. At the same time, we live in an era of technology, and many people simply cannot do without AI, which is why AI can be used for the benefit of humans. As a student, I see several advantages in involving AI in learning. Firstly, AI can explain material in more detail that was unclear during a lecture; for example, I used AI to explore a topic in the course 'Probability Theory and Mathematical Statistics.' Secondly, AI is excellent at organizing project plans and suggesting topics to consider in the work to ensure nothing is missed. I usually use AI for these purposes." This response highlights that students are not only motivated by the practical benefits of AI but are also aware of the potential risks involved. Many students, like the one quoted above, value AI's ability to enhance their learning process by providing deeper insights and helping to organize their work more efficiently. Based on the findings, students' motivations for using AI appear to stem from its ability to supplement learning and improve task management. Future research should focus on the principles of ethical use of AI in education, the ways in which AI can be integrated into the educational process, and the changes in education in light of the challenges associated with the widespread use of AI.

CONCLUSIONS

This study aimed to investigate the motivation for using generative AI among economics students, assess differences in motivation based on educational level and gender, and evaluate satisfaction with AI use based on frequency of application.

The results showed that the primary motivations for using generative AI among economics students are the automation of routine tasks and lack of time, highlighting their focus on optimizing academic and professional responsibilities. Another key motivation is to overcome a lack of experience, especially with complex tasks, underlining the pedagogical potential of AI for self-directed learning. Notably, motivations such as gaining a competitive advantage or following trends were less significant, suggesting a more pragmatic approach to the use of AI. Differences between bachelor and master students were observed, with bachelor students relying less on AI as they gain experience, while master students engaged in research increasingly use AI to fill knowledge gaps. In addition, students often use multiple AI tools to meet their needs, as no single tool fully satisfies them. Gender differences were minimal, but highlighted differences in the importance of specific AI applications. Finally, AI use was most intense in educational contexts.

These findings provide valuable guidance for educators and developers of AI tools that aim to enhance the educational experience and support student development in different domains.

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