The Impact of AI on Business Students' Career Choices

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Abstract: The growing popularity and evolving nature of artificial intelligence (AI) technology have significantly influenced numerous industries and sectors in contemporary society. Concurrently, there has been a noticeable shift towards AI-related majors in higher education. Given the diverse range of business disciplines, the question of whether business students should acquire AI skills in their career choices merits thorough examination. This study relies on salary report data compiled by Kaggle, encompassing 6,704 samples from surveys, job boards, and other public sources. Utilizing regression analysis and data virtualization techniques, the study objectively assesses the impact of AI technology on business operations and its subsequent effect on compensation. The findings reveal that, aside from master's degree holders, there exists a notable association between the salary of undergraduate and doctoral graduates and the extent of AI involvement in their work. Furthermore, the study identifies a correlation between educational level and salary. Additionally, across all business-related professions, personal work experience is found to have a greater influence on salary than educational qualifications.

1 INTRODUCTION

The present situation of social employment is experiencing a marked deterioration. The COVID-19 pandemic has exerted considerable influence on the conduct of businesses, leading to a substantial decline in recruitment demand. Additionally, numerous small and micro-enterprises are confronted with a critical survival challenge. As the primary providers of employment opportunities for graduates, the struggling state of small, medium, and micro-enterprises has had a profound impact on the employment landscape. The Employment Market Sentiment Index (CIER Index) serves as a crucial metric to gauge the state of the job market. According to the "China Job Market Sentiment Report" issued by Zhaopin Ltd, the increase in the number of job applicants in the first quarter of 2022 surpassed the growth in recruitment needs, resulting in a decline in the CIER index. This indicates that the present employment situation is not optimistic (Yan, 2022).

Simultaneously, the widespread utilization of digital technologies, including artificial intelligence, big data, and cloud computing, has exerted a significant influence on diverse industries (Chen, 2019). Taking accounting work as an illustrative example, certain conventional roles such as fundamental accounting and cashiers might undergo gradual disappearance, whereas others will adaptively evolve alongside alterations in market demand. In order to acclimatize to the perpetual advancement of enterprise technology and business models, novel, comprehensive accounting positions will arise as necessitated by the evolving era (Wu, 2023).

College graduates, being a crucial segment in the job market, possess employment quality that is a fundamental prerequisite for the superior advancement of higher education. In the present challenging employment landscape, the employment difficulties faced by university students have become increasingly apparent. Being a susceptible segment of the workforce, their employment situation deserves greater consideration. Statistics indicate that in 2019, the number of individuals supported by various education funding schemes throughout the country reached 106 million, an increase of 8.05% year-on-

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year, with a total allocation of 212.6 billion yuan (Chen, 2022).

A preliminary examination of employment recommendations and adaptive strategies across various business sectors has been undertaken. Notably, sectors like finance and accounting have garnered significant attention due to their extensive workforce, long-standing history, and traditional stronghold status within the business world. Nevertheless, these industries also encounter challenges such as limited salary growth, rigid job responsibilities, and industry saturation. The evolving economic landscape has given birth to novel industries. Graduates born in the early 2000s have demonstrated a keen interest in emerging professions, attaching greater importance to salary scales and industry outlooks. According to a survey conducted by the United Questionnaire Network of the Social Survey Center of China Youth Daily, over 90% of the surveyed graduates born in the early 2000s expressed an interest in pursuing new careers, with more than 30% expressing considerable enthusiasm. Furthermore, their job search preferences have become increasingly diverse (Yan, 2022).

As such, the research will zero in on the evolving business landscapes and investigate their integration with AI technology. Through comparing various business roles, it strives to offer an accurate portrayal of the diverse professional landscapes prevailing in modern business schools, thus providing young individuals with ample references for pursuing either traditional or emerging career paths (Wei, 2023).

This article is grounded in Kaggle's salary report data, alongside surveys, recruitment platforms, and various public resources, to delve into the precise influence of AI on salaries within the business sector. With the ultimate goal of achieving optimal remuneration under identical circumstances, this research evaluates the necessity of AI proficiency among business students based on the analytical outcomes. Furthermore, the author considers multiple variables, including work experience and educational attainment, to offer tailored guidance for personal development among diverse student groups. This approach aims to equip them with the necessary skills to thrive in the age of AI.

2 METHOD

The primary source of data employed in this article originates from the Salary_Data dataset, which was procured from the Kaggle website. This dataset encompasses a diverse array of sources, encompassing surveys, recruitment websites, and other publicly accessible resources. A comprehensive collection of 6704 data points was compiled. The dataset encompasses six variables: age, gender, experience, job, education, and salary (Alekseeva, 2021). While these variables are rich in content, age, and gender are deemed irrelevant in this study due to the authors' focus on the broader context of the research. These two variables are particularly delicate when addressing social audience groups and are often influenced by geography or specific job restrictions without further reference.

Using Excel-based skill data processing techniques, including regression analysis and data virtualization, the author meticulously sifted through 6704 data points (Seamans, 2018). Recognizing the vast array of business-related professions, a focused selection of six mid-level positions was made, drawing from a comprehensive survey of business school graduates: Data Analyst, Digital Marketing Manager, Human Analyst, Marketing Manager, Operations Manager, and Product Manager. Notably, three of these roles - Data Analyst, Digital Marketing Manager, and Marketing Analyst - exhibit a high degree of integration with the AI industry, hence their classification as highly relevant. On the other hand, Operations Manager and Product Manager are deemed moderately related, while Human Resource Manager and Marketing Manager are considered less so. Following this filtering process, 1333 data items that met the established criteria remained. Subsequently, two non-pertinent variables, Age and Gender, were discarded. The refined dataset now comprises three independent variables: Education Level, Job Title, and Years of Experience, and the dependent variable: is salary.

2.1 Data Processing

2.1.1 Group A: Relevance of Job Wages to Jobs and AI

This study aims to investigate the influence of varying positions on salary scales. To ensure the precision of the findings, education level is introduced as an additional crucial variable. The educational level is categorized into three tiers: Bachelor's, Master's, and PhD. The data for each of these tiers is processed independently. To uphold the study's rigor, a confidence interval of 95% has been established.

In Table 1, solely undergraduate-level data is presented. Within this table, data is further segmented into high, medium, and low levels, and processed

accordingly. To facilitate statistical analysis, dummy coding is employed, assigning numerical values of 1, 2, and 3 to high, medium, and low levels, respectively. The data in Table 2 exclusively pertains to the master's level, and the processing approach mirrors that of Table 1. Similarly, the data in Table 3 solely concerns the doctoral level, adhering to the same processing methodologies as the preceding tables.

2.1.2 Group B: The Relationship Between Education Level and Salary

Unlike the processing approach employed by Group A, the author has categorized the data into three distinct groups: High, Medium, and Low, based solely on the Job Title. Each of these sheets has been assigned a confidence interval of 95%. By adjusting for job type, an independent and thorough analysis of educational attainment can be conducted.

Table 4 presents a detailed breakdown of the High-level data, encompassing the four distinct education levels: High School, Bachelor, Master, and PhD. To facilitate analysis, virtual data values have been assigned to each level: 0, 1, 2, and 3, respectively. Table 5 showcases Medium-level data, which includes three education levels: Bachelor, Master, and PhD. For these levels, the virtual data assignments are 1, 2, and 3. Table 6 solely focuses on PhD-level data, while still incorporating three education levels: Bachelor, Master, and PhD. Similarly, the virtual data assignments for these levels are 1, 2, and 3.

2.1.3 Group C: Work Experience or Education, Which One Has a Greater Impact on Salary?

In addressing this problem, given the involvement of multiple variables, the author deemed it necessary to employ the virtual data processing method again, building upon the foundation established by Group B. Specifically, the objective is to determine the mean value of "Years of Experience" across three distinct data categories: High, Medium, and Low. Subsequently, any data point with a mean value equal to or less than the computed mean will be assigned a value of 0, while those exceeding the mean will be assigned a value of 1. Notably, Variable 1 signifies education level, while Variable 2 represents work experience.

To assess which factor exerts a more significant influence on salary, a comparison of the P values across various groups is essential. In ensuring the reliability of the results, the authors have established a confidence interval of 95%. Referring to the data presented in Table 7, the average "Year of Experience" for the High level is 4.75. Consequently, any data point with a value less than or equal to 4.75 will be set to 0, while those exceeding 4.75 will be set to 1. Similarly, Table 8 reveals an average "Year of Experience" of 7.85 for the Medium level, resulting in a similar binary classification. Finally, Table 9 indicates an average value of 9.55 for the Low level, leading to the same binary assignment of data points.

2.2 Experimental Hypothesis

Group A: Education level directly correlates with the job salary's relation to AI. As education rises, so does its connection with AI-related salaries.
Group B: AI-reliant jobs show a positive correlation between salary and varying education levels. Higher education is linked to stronger salary correlations, while lower education is linked to weaker ones.
Group C: When considering both education and work experience's impact on salary, work experience has a greater influence than education.

3 RESULT

3.1 Data Results

Table 1: Regression Statistics of Bachelor's Level.

Regression Statistics				
Multiple R	0.10897396			
Observations	800			
	Coefficients	Standard Error	t Stat	P-value
Intercept	115541.7866	3401.052362	33.97236335	3.5603E-157
Panel Data	-6182.235018	1996.306423	-3.096836711	0.00202442

Table 2: Regression Statistics of Master's Level.

Regression Statistics				
Multiple R	0.070651773			
Observations	489			
	Coefficients	Standard Error	t Stat	P-value
Intercept	128990.2249	5178.532452	24.9086447	6.37301E-89
Panel Data	3353.428839	2145.432756	1.563054474	0.118689274

Table 3: Regression Statistics of PhD Level.

Regression Statistics				
Multiple R	0.461040894			
Observations	37			
	Coefficients	Standard Error	t Stat	P-value
Intercept	237887.3239	48651.95594	4.889573695	2.23849E-05
Panel Data	-52517.60563	17086.0054	-3.073720533	0.004080626

Table 4: Regression Statistics of High-level Data.

Regression Statistics				
Multiple R	0.043870473			
Observations	547			
	Coefficients	Standard Error	t Stat	P-value
Intercept	102188.6636	5037.271112	20.28651254	1.386E-68
Panel Data	4152.338037	4050.454961	1.025153489	0.305745563

Table 5: Regression Statistics of Medium-level Data.

Regression Statistics				
Multiple R	0.608148459			
Observations	427			
	Coefficients	Standard Error	t Stat	P-value
Intercept	52163.09322	5256.446047	9.923642847	5.15933E-21
Penal Data	56465.80508	3575.240803	15.79356698	1.52897E-44

Table 6: Regression Statistics of Low-level Data.

Regression Statistics				
Multiple R	0.146431147			
Observations	359			
	Coefficients	Standard Error	t Stat	P-value
Intercept	98218.30422	6145.214753	15.98289208	9.38245E-44
Years of Experience	8959.982982	3203.56013	2.796883036	0.005439286

Table 7: Regression Statistics of High-level Data.

Regression Statistics				
Multiple R	0.681154913			
Observations	547			
	Coefficients	Standard Error	t Stat	P-value
Intercept	111081.093	3717.679256	29.87914916	8.1448E-117
Variable 1	-22293.70502	3212.293588	-6.940120638	1.11855E-11
Variable 2	59093.6622	2728.927027	21.654541	1.84851E-75

Table 8: Regression Statistics of Medium-level Data.

Regression Statistics				
Multiple R	0.816162725			
Observations	427			
	Coefficients	Standard Error	t Stat	P-value
Intercept	52658.66536	3830.749238	13.746309069	8.0736E-36
Variable 1	37604.91234	2781.003443	13.522066608	6.83981E-35
Variable 2	55037.65919	2837.410618	19.397142894	1.85588E-60

Table 9: Regression Statistics of Low-level Data.

Regression Statistics				
Multiple R	0.588060 39			
observations	359			
	Coefficients	Standard Error	t Stat	P-value
Intercept	98428.26418	5031.590994	19.56205588	2.19329E-58
Variable 1	-486.1768246	2717.654546	-0.178895741	0.858121333
Variable 2	40726.11713	3065.321143	13.28608496	5.41459E-33

3.2 Experimental Results

The confidence intervals of the above charts are all set to 95%. With the above data, you researchers can find:

Group A: The results of Table 1 demonstrate statistical significance, albeit with a weak correlation. Conversely, the findings presented in Table 2 fail to exhibit significance, and the correlation is weak.

Lastly, Table 3 shows both statistical significance and a strong correlation.

After careful analysis, it is evident that the salary of individuals holding a bachelor's degree demonstrates a limited association with the AI sector. In contrast, graduates with a master's degree exhibit negligible correlation with the AI industry when it comes to salary. However, a strong link is observed between the salary of PhD graduates and the AI field.

Group B: The statistical significance of the data presented in Table 4 is lacking, indicating a non-significant correlation. Similarly, while the findings in Table 5 and Table 6 demonstrate statistical significance, they do not exhibit a strong correlation.

It is evident that in professions that are heavily reliant on AI, the influence of educational attainment on remuneration is relatively minor. Conversely, in professions that have a moderate association with AI, the link between salary and educational level is more pronounced, typically manifesting as higher levels of education leading to higher salaries. In professions that have a tenuous connection to AI, a certain degree of correlation exists between educational attainment and salary, albeit not a strong one.

Group C: Tables 7, 8, and 9 indicate that Variable 2 is smaller across all job types. Specifically, for high-level job types, work experience has a more significant influence on salary compared to educational experience. Similarly, for medium-level job types, the impact of work experience on salary surpasses the influence of educational experience. Lastly, for low-level job types, work experience remains the primary factor determining salary, outweighing the influence of educational experience.

Judging from these three situations, no matter what business-related occupation you are engaged in, the impact of work experience on salary is generally greater than the impact of educational experience on salary.

After a thorough examination, the disparities observed between Groups A and B can be attributed primarily to the varying levels of professional proficiency among their members. Research conducted by Fang Ning and colleagues has revealed that the marketplace holds a significant demand for undergraduate students. Specifically, 66.39% of employers express a preference for undergraduate students over master's degree holders. Conversely, only 13.68% of employers prefer master's degree holders over undergraduate students. This recruitment preference is primarily determined by the extent to which an individual's skills align with the requirements of the job, accounting for 60.05% of the decision-making process (Fang, 2020).

It is noteworthy that employers highly regard the diverse abilities of undergraduate and postgraduate students, encompassing self-motivation, values, self-confidence, oral communication skills, problem-solving proficiency, and team collaboration abilities. Notably, 55% of companies maintain that the work competency of master's students in similar positions does not significantly surpass that of undergraduates. Consequently, the majority of employers do not endorse the notion that only graduates with master's degrees can secure superior employment opportunities (Fang, 2020).

In terms of the specific perspectives held by enterprises, it is noteworthy that 42.04% of enterprises emphasize the importance of not solely focusing on academic qualifications, but rather giving greater consideration to personal abilities. Furthermore, 4.8% of enterprises believe that undergraduates possess considerable potential and room for development once they have undergone systematic training. Additionally, 43.38% of enterprises maintain that, apart from certain specialized technical positions, there is not a significant difference in quality between master's students and undergraduates. Notably, only 9.7% of companies hold the view that academic qualifications are of utmost importance (Fang, 2020).

From the perspective of talent demand within the AI industry, employers place a greater emphasis on candidates' personal abilities than on their academic qualifications. When evaluating candidates' abilities, employers prioritize professionalism, followed by professional ability. Notably, demands for professional ethics, self-motivation, initiative, and collaboration skills are particularly acute. These abilities are primarily shaped by an individual's fundamental character traits, perseverance, and work ethic, rather than being directly influenced by academic qualifications. While master's degree holders may possess superior professional abilities, these skills are relatively less in demand among employers.

From the employers' perspective on evaluation criteria, undergraduate students exhibit a high level of proficiency in work-related abilities. Notably, there is no significant difference in performance between undergraduate and master's degree students, indicating that academic qualifications do not solely determine an individual's practical capabilities. Indeed, over half of employers maintain that the work capabilities of undergraduate students are comparable to those of master's degree holders.

3.3 Personal Development Suggestions

For novice students entering the realm of business, selecting a major serves as a pivotal junction. Whether they opt for business analysis, which holds a strong nexus with AI technology, or major in finance and human resources management, which maintain a more tenuous tie with AI technology, it is imperative for students to ascertain their career aspirations and craft corresponding plans for academic advancement and professional development.

Firstly, those who opt for business analytics as their field of study are often drawn to it due to its close association with the prevalent AI technology. In this domain, the significance of personal practical proficiency is paramount (Liu, 2023). This necessitates, alongside theoretical knowledge, the mastery of practical analytical tools and techniques, enabling students to leverage data in decision-making and generate value for enterprises. This proficiency is not solely contingent upon academic qualifications but also hinges upon practical experience and skill enhancement. The diverse resources and avenues offered by the institution, including internships and project-based practice, furnish students with an ideal platform to hone these abilities. Consequently, for students pursuing business analysis as their major, the utilization of these resources and the accumulation of practical work experience hold the utmost importance in standing out during the job search process.

Certainly, this is not to suggest that the significance of academic credentials be disregarded by those pursuing a business analysis major. Indeed, within the realm of business analysis, the possession of an advanced degree frequently offers students a wider array of development opportunities. Nevertheless, alongside academic credentials, an individual's practical abilities hold equal significance. During the job search, companies tend to prioritize the actual skills and potential of candidates, surpassing mere academic qualifications. Therefore, alongside the pursuit of academic credentials, students majoring in business analysis must also prioritize the enhancement of their own abilities.

On the contrary, students pursuing majors such as finance or human resource management may not possess the same level of specialization as those majoring in business analysis. Nonetheless, this does not negate the significance of academic qualifications for these students (Liu, 2023). Quite the contrary, enhancing their academic credentials often affords them a competitive edge. This is attributed to the fact that these majors demand a profound academic foundation and knowledge reserve. For instance, finance majors must master intricate financial theories and analytical tools, whereas human resource management majors must comprehend organizational behavior, labor laws, and pertinent knowledge. By persevering in their studies, these students can not only acquire more structured academic training but also elevate their professional qualities and comprehensive abilities.

Furthermore, as technology continues to evolve, AI technology is increasingly infiltrating sectors like finance and human resources management. Consequently, it's crucial for students pursuing these majors to acquire a fundamental understanding and proficiency in AI technology (Huang, 2023). While they might not directly utilize AI technology in the same manner as business analysis majors, comprehending AI's applications, potential, and integration with their respective fields will undoubtedly afford them a competitive edge in their future professional pursuits.

Therefore, for novice students venturing into the realm of business, regardless of their chosen discipline, it is imperative to clarify their career aspirations and devise corresponding plans for academic pursuits and professional development. In sectors that prioritize artificial intelligence, personal, hands-on capabilities hold the utmost significance; whereas in domains like finance and human resources management, the enhancement of academic credentials and professional attributes is equally crucial (Li, 2023). Furthermore, comprehending and proficiency in AI technology stand as pivotal factors for future career advancement. By leveraging the resources and opportunities offered by the institution, and consistently enhancing their practical skills and professional attributes, students in the field of business can secure a rewarding position upon graduation and realize their career aspirations.

4 CONCLUSIONS

The research conducted by Group A has identified a potential trend: there appears to be no substantial direct link between the salary offered to master's degree graduates and their employment in the AI industry. This observation can potentially be attributed to the diverse factors that influence salary levels in the AI industry, encompassing work

experience, proficiency in skills, and the size of the employing company, among others. Consequently, when pursuing a career path, master's degree graduates should not solely prioritize the higher salaries offered in the AI industry, but rather, they should holistically consider various pertinent factors.

The research undertaken by Group B has also uncovered an intriguing trend: in professions that are closely aligned with AI, disparities in educational attainment do not significantly impact salary outcomes. This could be due to the fact that in the realm of AI, proficiency in skills and accumulated experience are deemed more crucial than academic qualifications. Regardless of one's educational level, as long as one possesses the requisite skills and experience, they are likely to be offered comparable salary levels. This revelation holds significant implications for both the education sector and individuals seeking employment. The education sector, particularly, ought to prioritize the cultivation of practical abilities and skills, while job seekers need to place a stronger emphasis on skill development and the accumulation of practical experience.

The experimental findings of Group C align with the widespread societal recognition that work experience holds greater significance than educational attainment. This finding echoes the results obtained by Groups A and B, further highlighting the importance of practical experience and skills in career advancement.

This experiment relied primarily on limited real-world data, which is accurate and representative but may be incomplete. Extreme values or insufficient data could influence the conclusion and deviate from the actual situation. Extreme values may be caused by errors or abnormal events, and if not handled properly, they could significantly impact the conclusions. For instance, limited data on doctoral job searches may lead to overly optimistic conclusions. Ignoring other factors, such as educational attainment, could also lead to biased or one-sided conclusions. Despite these limitations, careful design and in-depth analysis allowed the experiment to draw valuable conclusions. Future research will aim to improve methods and techniques for more accurate conclusions.

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