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College Degree vs Experience

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Abstract

Not attaining a college degree has become a social stigma and in the aviation industry, it is not clear if having one will lead to higher salary in the long run as compared to other industries. Previous literature does not address the aviation industry specifically but evaluates the general workforce. The purpose of this study is to determine if workers in the aviation industry with a college degree will receive higher salary throughout their career. A survey will be conducted at multiple aviation companies to determine if having a college degree outweighs the years of work experience in the relevant field in terms of salary in the long run.

Keywords: Aviation, salary, work experience, college degree

Introduction

Contrary to popular belief, many think that a degree takes up too much money and time for it to be worth it. Today, a college degree has become one of the main factors for employment and career progression and for good reason, people with a degree are able to secure a higher paying position. It is important because this one decision to attain a degree will inadvertently affect one's future salary. There are different researches that have shown that there is a significant difference between the income of a college degree and high school degree. With that being said, career industries such as law or medicine would generally require a degree in order for career progression and higher salary. On the other hand, being a musician or an artist doesn't really require a degree for their career progression, but rather their talents. Therefore, our research would focus on the aviation industry where there is little to no research or data on whether the workers in the aviation industry would require a degree for career progression and higher paying position. Solving this issue will paint a clearer picture on college degrees for those working or planning to work in the aviation industry, especially regarding the benefits of their future.

Literature Review

Cons

In today's world, there is a push and pressure for students to attain a college degree after highschool which stems from the idea that a degree will result in higher salary and better employability. However, such ideas and sources surfacing with regards to this issue have always been debated with differing perspectives. Prior research and studies in this field identified many benefits and detriments of a college degree in relation to salary in the long run. According to Cook, Watson & Webb (2018), from Boarding Schools Association data gathered in 2010, many

now feel that attending university will not yield any financial benefits as in the long run, with a college degree becoming less worthwhile financially. As once a graduate subtracts the cost of college education, the difference between what they will earn and what a similarly talented and hardworking high school graduate will earn is much less (Bennett & Wilezol, 2013). Vedder, Robe & Denhart (2016) researched how valuable a college degree is and its diminishing value since 1995. There is also the argument where students pay huge sums of money for what they could get for almost nothing, especially with technology getting so prevalent in this era (Bennett & Wilezol, 2013).

Difference in earnings

Pew Research Centre conducted a survey in the United States of 2,142 people above the age of 18 in 2011 (Taylor et al., 2011). It was regarding the value of a college degree and the survey results concluded that adults who had attended college earned an average of $20,000 more than those who lacked a college degree. In addition, according to Daly & Bengali (2014), the Economic Research Department states a college student earns $800,000 more than a high school graduate before retirement taking into account recoupment of tuition. This was concluded from data gathered by Panel Study of Income Dynamics since 1968. Brookings Institution researched if everyone should attend college and produced results in which the gap in annual earnings between young high school graduates and bachelor's degree holders working full time is $15,000 with the earnings premium associated with a college degree growing over a lifetime (Owen & Sawhill, 2016).

Employability

Most occupations with the strongest prospects currently are categorised as middle-skill, where a diploma is not sufficient but a four-year college degree is too much (Greeley, 2017).

National Skills Coalition had conducted a study in 2016 on prospective jobs in the United States which do not require a bachelor's degree which concluded that 30% of workers attain salaries with two years of work experience as compared to a person with a college degree which also allows them to avoid student debt (Greeley, 2017). American Community Survey (ACS) did a survey in the United States during 2009 to 2010 which concluded the differences in the income of people with and without a college degree. The data states that the pay gap between college graduates and everyone else reached a record high with a degree being one of the best weapons a job seeker can wield in the fight for employment and earnings which will pay off with greater earnings once the graduate enters the labor market (Carnevale, Cheah & Strohl, 2012). This suggests that while taking a college degree may prove to be financially disadvantageous in the short run, there will be a significant advantage in the long-term.

Summary of findings

Existing literature sources seem to share a common stance that college graduates tend to earn more as compared to individuals without a degree by stating the difference in pay grade over the length of their careers which only grows wider. However, there are contradictions where the time and money taken to pursue a college degree seems to yield less financial benefits than those who decide to use that time to work, arguing that the relevant work experience in the time taken to attain a degree can counterbalance the lack of one. Nonetheless, the past research and studies show irrefutable evidence that in general, having a college degree yields significant benefits in terms of pay grade as compared to opinions and perspectives of research that states otherwise. As most research used has had a very broad range of surveyees from various occupations, there is no data for specific industries. As such, in this study and research, we

survey workers with and without degrees who are currently employed within the aviation industry.

Study design

There has been separate research that shows a significant difference between the income one receives after attaining a college degree. According to Daly & Bengali (2014), The Economic Research Department states a college student earns $800,000 more than a high school graduate before retirement taking into account recoupment of tuition. However, according to Cook, Watson & Webb (2018), from Boarding Schools Association data gathered in 2010, many now feel that attending university will not yield any financial benefits as in the long run, with a college degree becoming less worthwhile financially. As such, in the aviation industry, it is not proven that a college degree leads to higher salary. In the time it takes to attain a college degree, work experience may or may not be able to put a person at the same footing. The aim of this proposal is to assess if workers in the aviation industry who have a college degree receive a higher salary throughout their career. This will provide clearer and deeper insight for future employees of the aviation industry on whether they should or should not attain a degree prior to working.

The null hypothesis is in the aviation industry, a college degree does not lead to a higher salary in the long run as compared to experience while the alternate hypothesis is in the aviation industry, a college degree leads to a higher salary in the long run as compared to experience. For this proposal, sample surveys will be handed out to employees of hand-picked companies in the aviation industry and they will be randomly selected using proportionate stratified sampling. Once the data is in, it will be analysed using t-test, ANOVA and regression analysis.

Population and Sample

The population size for our research study is 100 employees from the aviation industry. Due to differing numbers of employees within organisations within the aviation industry, stratified sampling ascertains enhanced precision and population depiction by ensuring each stratum is distinctive and the errors in results are drastically reduced. For example, Singapore Airlines compared to DNATA has a vast difference in number of employees and stratified sampling will ensure an accurate depiction of the organisations' demographics. Furthermore, surveying employees from different sectors of the aviation industry will also ensure a more accurate depiction of the entire industry, and not only the sectors which take up the vast populus of the industry.

Variables and Measures

The dependent variable identified for this study is salary. Salary will be measured on a numerical scale in thousands of Singapore Dollars at a thousand dollar increments. The key independent variables are years of work experience in the relevant field and the qualification of a college degree. The independent variables are age, nationality, gender, university and job position. Age would be measured on a range of six years starting from seventeen. Nationality will be measured to determine if it has an effect on wages received. This will be categorised by Singaporean, Permanent Resident and Others. Job positions will be categorised into nine categories (officials & managers, professionals, technicians, sales workers, office & clerical workers, craft workers, operatives, laborers, service workers and others) to provide a clearer image of the data received.

The moderating variable would be the university attended which will explain how having a college degree can affect the wages received. Comparing an Ivy league school such as Yale

compared to a small local school such as Singapore Institute of Management, it can show the influence of how the university attended can influence the relationship of having a college degree and the wages received. The intervening variable would be the job position as by comparing a laborer and a manager, it can explain the years of relevant work experience and wages received. For a person to be considered at the top of the job hierarchy, they would require a substantial amount of relevant work experience which relates to their wages received. These data would be gathered by conducting a survey to see if college graduates receive a higher salary. Through the survey, it can determine whether the dependent variable will be impacted by the independent variables.

Data Collection Methods

As a specific study on the aviation industry has not been conducted, we will not be using external descriptive statistics. This quantitative data will be collected with the use of a survey of small and big aviation companies in Singapore. We will use LinkedIn to disseminate our survey to Changi Airport Group, Singapore Airlines, Jetstar, Textron Aviation, Jet Aviation Singapore and Civil Aviation Authority Singapore personnel. We have chosen a variety of companies as they cover different aspects of the industry (Airport, Airline & General Aviation). A proportionate stratified sampling will be done based on the amount of employees in the respective companies to keep data objective. A copy of this survey can be found in Appendix A.

Data Analysis Methods

Different data analysis methods will be used for the data collected through the different questions.

T-Test Analysis

T-test analysis will be used to find out the significant differences in salary between the two groups of whether they have a college or they don't have a college degree. We will be collecting data through our survey to know whether one holds a college degree and since we are just comparing between just two groups, t-test analysis will be a more appropriate method for us to compare and it will be easier for us to examine the difference on whether more people hold a degree or they don't.

ANOVA

In our study, the use of ANOVA is to find out how the years of relevant work experience and different job positions can affect the salary of an employee. It is the appropriate method to use because we can use ANOVA to examine the relationship between work experience and job position with the salary of an employee and test whether their relationship is significant.

Regression Analysis

Regression analysis will be used to find and see the trendline comparison of the salary of someone with a college degree and one without a college degree. By doing so, we would be able to determine the degree to which particular independent variables are influencing dependent variables. In our study, the use of the regression analysis is to find out how the years of relevant work experience can influence one's salary.

$$Y_1=\alpha + \beta_1 \text{Work Experience}_1 + \beta_2 \text{Salary}_2 + \beta_3 \text{College Degree}_3 + \varepsilon_i$$

Conclusion

In our study, we feel that most college graduates tend to earn more than individuals that do not have a degree. It is rumored that the time and money required to pursue a college degree seems to yield less financial benefits than those who decide to start their career without a degree. As such, in this study and research, we survey workers with and without degrees who are currently employed within the aviation industry. There are several limitations present in our studies. Firstly, this study might not be a representation of the study as the research only takes into account Singapore's aviation career. Secondly, the sample size may not be broad enough to provide insight into the whole aviation industry. Lastly, our study does not account for job performance and that relevant work experience can have discrepancies. For example, working as a CEO for ten years is different compared to working as a service operator for ten years. If there is a strong correlation between college degree and salaries, it could implicate a demand in aviation courses and require funding from other sectors. If there is no correlation between a college degree and salaries, there could be fewer students enrolling into aviation courses. With the cost of pursuing a degree, the government may have to provide more subsidies to allow citizens to be more adept. Current policies can be revised as there are persistent gaps in income and the rising price of college and student debts can lead to students not being able to afford college degrees. As of now, scholarships are only given to students with high GPA, and a new policy can be implemented where scholarships are based on interview basis instead of good performance.

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Appendix A

Market Research Survey

1) Gender
   a) Male
   b) Female

2) Nationality
   a) Singaporean
   b) Permanent Resident
   c) Others: _____

3) Age
   a) 17-22
   b) 23-28
   c) 29-34
   d) 35-40
   e) 41-46
   f) 47-51
   g) 52 & Above

4) Do you have a College Degree?
   a) Yes
   b) No

5) If you answered Yes for **Question 4**, which university did you attend?

   a) NUS
   b) NTU
   c) SMU
   d) SUTD
   e) SIT
   f) SIM
   g) SUSS
   h) ERAU
   i) Private University
   j) Foreign University
   k) Others: _____

6) What is the salary you are receiving (if applicable, without CPF)?
   a) Below $2,000
   b) $2,001-$3,000
   c) $3,001-$4,000
   d) $4,001-$5,000
   e) $5,001-$6,000
   f) $6,001-$7,000
   g) $7,001-$8,000
   h) Above $8,000

7) How many years of relevant work experience do you have?
   a) Less than 1
   b) 1-3
   c) 3-5
   d) 5-7
   e) 7-9
   f) 9-11
   g) 11 and Above

8) What type of job position do you hold?
   a) Officials and Managers
   b) Professionals
   c) Technicians
   d) Sales Workers
   e) Office and Clerical Workers
   f) Craft Workers
   g) Operatives
   h) Laborers
   i) Service Workers
   j) Others: _____