Impact of Company-Sponsored Apprenticeships on Career Progression of Entry-level Employees within Tech

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Abstract

The purpose of this causal-comparative study is to investigate the career outcomes of those that participate in a company-sponsored apprenticeship and those who do not. This study seeks to examine how company-sponsored apprenticeships impact career growth over a 3-year period after the completion of the program, measured by the number of promotions, salary progression, and changes in job leveling and complexity. It is hypothesized that those who complete the company-sponsored apprenticeship will have better outcomes than those who did not complete the program and joined the company as external entry-level new hires.

Keywords: apprenticeship programs, career progression, entry-level employees

Background

Recently, many large companies have recognized the value of apprenticeship programs. Companies like Amazon, Google, J.P. Morgan Chase, and more have apprenticeship programs for roles like software engineering, UX design, and project management. These apprenticeship programs provide hands-on experience, mentorship opportunities, and technical skills for entry-level job seekers and career changers. Most of these programs require participants to have less than two years of work experience, including internship experience and a portfolio showcasing their work. These apprenticeship programs are meant to address the shortage of skilled labor and attract diverse talent (Christman, 2012). In an article written by Scott Christman (2012), apprenticeship programs have a positive impact on both the company and the program participant. Although the general impact of apprenticeships is positive, there isn't much research on the career outcomes of company-sponsored apprenticeship program participants and non-participants with similar educational backgrounds. Career progression, measured by promotions, salary increases, and job level complexity, are key indicators of employee and program success.

Statement of Purpose

The purpose of this study is to explore the career progression of entry-level employees who participate in company-sponsored apprenticeship programs at Amazon compared to non-participant peers with similar educational backgrounds. This study aims to identify if apprenticeship participants have a measurable difference in promotion, role complexity, and salary differences after completing the apprenticeship compared to those that did not participate in the apprenticeship. This study focuses on entry-level employees to gauge how participation in apprenticeship programs influence career trajectory and long-term success.

Literature Review

Apprenticeships are meant to provide job seekers a structured path to obtaining skills, real-world work experience, and guidance in how to conduct themselves in the workplace (Christman, 2012). Participants in apprenticeship programs receive direct instruction from experts in their field through structured learning, which includes both classroom time and hands-on training (Kuehn, 2019). These apprenticeship programs help companies develop highly skilled entry-level job seekers, address labor shortages, and foster company loyalty, while enhancing employability and job performance of apprentices (Christman, 2012). Apprenticeships help job seekers who lack skills transitioning into the workforce; they provide participants with the opportunity to acquire skills and secure permanent roles within the companies they are completing their apprenticeship with or through partner employers (Kuehn, 2019). Apprentices gain skills, while employers build skilled talent that meets specific workforce needs.

Positive of Impact Apprenticeships on Companies

Apprenticeship programs give entry-level job seekers the skills needed to meet workforce demands, address the labor shortage, and create qualified employees which benefit many companies. According to a case study conducted in the United Kingdom, apprenticeships provide companies with measurable business benefits, including increased productivity, higher staff retention rates, and cost savings (Kenyon, 2005). In Kenyon's (2005) case study, companies reported positive profits per apprentice, a significant positive difference in the quality of work produced by apprentices compared to external hires, and proof of retention and career advancement indicated through a significant portion of their employees being former apprentices. This study focused on blue-collar workers as apprentices, but conducting a similar study in large technology companies has the potential to yield similar results.

In a study that measured the impact of a pilot geospatial apprenticeship program on the Department of Labor, Gaudet et al. (2010) concluded that investing in that apprenticeship program had the potential for significant and sustainable economic growth. The Geospatial Technology Apprenticeship Program (GTAP) was quickly created to address the gap in the geospatial technology workforce and meet industry demands like shortages, performance, and skill. This study explored the GTAP pilot program, which included 10 apprentices, 3 instructors, and 2 journey workers. The findings indicated that the program required more clearly defined goals and competencies to achieve full success. Despite this, Gaudet et al. (2010) had interesting findings. The participants surveyed reported that productivity and employee satisfaction increased; some of the participants reported an increase in their ability to problem-solve. The apprentices had a positive outlook on the coursework and training they received, believing it was worth the investment, and they anticipated a positive improvement in their job performance (Gaudet et al., 2010). These results suggest that a well-planned program with well-defined objectives have the potential to improve the experiences and outcomes of apprentices while solving the problem of an industry-wide skills gap.

Impact on Wage growth

As stated before, apprenticeship programs provide job seekers structured learning opportunities which lead to positive outcomes for the apprentice. Kuehn (2019) studied the career advancement of service workers after completing an apprenticeship program using data collected over 20 years from the Registered Apprenticeship Partners Information Data System (RAPIDS). The goal of the study was to examine completion rates and exit wages of service worker apprenticeship participants in 33 states. Most people would consider wage growth an excellent indicator of career advancement, Kuehn's (2019) study, people that completed a 3-to-4-

year apprenticeship had higher wages compared to those that completed an apprenticeship that was 1-to-2- years. Those that participated in joint programs, which are programs that have multiple employer partners, saw the highest wage increases amongst service worker apprenticeship participants (Kuehn, 2019). This study focused on low-income service workers that completed apprenticeship programs, but with further research apprenticeship data in large technology companies have the potential to show similar results.

Anxieties and Apprenticeship Program Completion

While apprenticeship programs provide employers and participants many positive benefits, they do not come without the potential for anxieties from participants. Those anxieties have the potential to have the participant consider not completing the program, therefore, it is important for apprenticeship participants to choose a path that aligns with their interests long-term. A study conducted by Powers and Watt (2021), indicated that as apprenticeships progressed participants showed an increase in anxiety and a decrease in interest because of workplace demands. On one hand the decline in interest and increase in anxiety could be linked to apprentices believing that their work isn't challenging enough. Salzmann et al. (2017) found that commitment to apprenticeship programs were negatively impacted by the apprentices' perceived competence level, so if an apprentice thought that they were getting tasks that weren't challenging then they were likely to show less commitment. On the other hand, the decline in interest and decrease in anxiety could be related to participants receiving work that is too challenging or excessive (Powers & Watt 2021). Either way, both studies show the importance of addressing workplace demands and providing adequate resources to mitigate anxiety and sustaining interest.

For companies and job seekers, apprenticeship programs provide organized learning opportunities that allow businesses to address any skill shortages they might have, resulting in a highly skilled workforce. Apprenticeships lead to an increase in employee productivity, wages, and quality of work. However, many apprentices experience difficulties, including an increase in anxiety and a decrease in interest, which may have the potential to negatively impact their ability to complete the apprenticeship. This is important because many technology companies are very demanding, further contributing to anxieties. Further research into the success of apprenticeship programs at large technology companies is crucial; it is important to look at how apprenticeship programs within these tech organizations impact career growth over time.

Statement of Hypothesis

Entry-level employees who participate in company-sponsored apprenticeship programs show higher rates of career advancement, indicated by promotions, role complexity, and job level transitions, compared to those who do not participate in those programs. The hands-on experience, skill development, and professional networking opportunities gained through structured mentorship and training in apprenticeship programs lead to accelerated career growth.

Methods

Participants

Participants of this study are entry-level corporate employees at Amazon who completed software development, UX design, or information technology (IT) apprenticeships. The participants will be identified through Amazon's human resources (HR) database. All participants will have less than 2 years of work experience, including internship experience. Amazon doesn't always require entry-level employees to have a bachelor's degree, so the education levels of participants will vary from technology bootcamp certificate(s) to a bachelor's

degree. We will divide the participants into two main groups, Group 1 and Group 2. Group 1 will consist of the entry-level employees who are currently in a company-sponsored apprenticeship program, and Group 2 will consist of entry-level employees with similar job roles and educational backgrounds who are not participating in a company-sponsored apprenticeship program.

The participants will be further divided into subgroups. Participants in Group 1A are apprenticeship participants with at least a bachelor's degree; those in Group 2A are apprenticeship participants with a technology bootcamp certificate or similar, and those in Group 3A are apprenticeship participants with a bachelor's degree and a technology bootcamp certificate. Group 2A will consist of non-participants with at least a bachelor's degree; Group 2A are non-participants that have a technology bootcamp certificate or similar, and Group 3A are non-participants that have at least a bachelor's degree and a technology bootcamp certificate.

Measures

This study will focus on three main indicators of career progression over a three-year period after apprenticeship participants complete the program and begin working as full-time employees outside of the program, comparing them to non-participants. We will measure career progression by the number of promotions, salary progression, and changes in job leveling and complexity. The number of upward movements in the organizational hierarchy or job titles will determine the count of promotions. The differences in base pay over the three-year period will help understand financial growth connected to participating in apprenticeship programs. Analyzing the differences in job categories or leveling will help assess role complexities between participants and non-participants. Comparing these measures between non-participants and apprenticeship candidates will help to ascertain whether the program positively impacts career

progression and assess the impact that apprenticeship programs have on professional development inside the company.

Design

This is a causal-comparative study that involves two groups of people, those that participated in a company-sponsored apprenticeship and those who have not.

Procedure

Quantitative historical data from HR will be obtained, focusing on the frequency of promotions, salary changes, and job-level complexity among apprenticeship participants and non-participants. Employee data will be anonymized to protect identities, and educational differences among participants will be addressed.

Data Analysis

This study will compare more than two groups because of minor differences in educational attainment, so the data will be analyzed using Analysis of Variance (ANOVA). To compare the data between the two main groups, apprenticeship participants and non-participants, the data will be analyzed using a t-test.

Timeline

This study will last about three months, starting with a one-month period for obtaining required approvals and access to data from Human Resources (HR) and guaranteeing compliance with privacy and ethical requirements. After obtaining the required approvals, months two and three will consist of compiling career progression statistics for both apprenticeship participants and non-participants with similar educational backgrounds by rates of promotion, salary increases, and complexity of job leveling.

Anticipated Outcomes

Employees that participate in company-sponsored apprenticeships will show higher rates of career advancement compared to those that do not participate in company-sponsored apprenticeships. If those that participate in apprenticeships show a higher rate of career advancement, then this study will highlight the value of company-sponsored apprenticeship programs for both the company and employee.

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