

## People Break into Tech Professions and Master Distinctly New Technical Skills

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### Abstract

In the article there has been formulated the concept of a career change and there are contained results of studies regarding determinants of the tendency to introduce changes in the course of one's career, with a special consideration given to moving from non-tech to tech fields. Next, there have been presented results of the author's own research. The research results indicate differences among the computed groups regarding their decisions about career transition, analyzing professional migration of talent to the local market (Case of Georgia). Results from a research can draw several conclusions, that there is a huge interest in technology/ Growth of digital economy/ Technology is driven by novelty, and then - by pay and finally recommendations are presented for employers in terms of retaining existing talent.

**Keywords:** Career change, tech professions, technical skills.

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### Introduction

Career moves are an important mechanism for escalating skills and increasing earnings. Moving into a new role pays off—and even holding a new position could stretch one's own capabilities or represent a match that better utilizes your skills. Moves can involve employees assuming staying at the current employer, moving to different company, changing specialties or occupations, or pursuing a combination of these strategies.

In 1989, Charles Handy wrote the book called "The age of unreason" and predicted that career would be a portfolio of different jobs rather than one position that lasted for decades. In 2007, New York Times recognized, that when it comes to careers, change is the only constant. At that time, they predicted that people would change jobs an average of three times, but by 2010, the number had jumped to seven, by 2015 number jumped to 10 and in current year, US bureau of Labor statistics estimated 15 careers per person.

Changes in the course of one's career could be intentional, expected, developmental, or not planned. Before, even unexpected, yet they always take the form of turning points. Such transitions are a result of a alteration or a total

change in one's self-concept in the cognitive and motivational dimensions, and within a whole attitude. As a consequence, they affect varied relations and performed roles, they require a change in systems of functioning and rejection of previous job routine.

The middle period of life is related to multidimensional development and variability. People at this age appear to be often very active and fit. Transitions in this period of life present a significant challenge, yet a favorable move to other environment and new tasks may even fast-track one's professional and personal development and apply a long-lasting influence upon both an individual and the surrounding.

Career transition may be also a result of a progressive crisis that occurs in mid-life. Thus, it is sometimes discussed to as an equivalent of mid-life crisis. Redefinitions of values, restating of objectives and tasks lead to a change in life style. The phenomenon of mid-life with mid-career crisis. It has been confirmed by various studies that work and career are specifically important for professionally active persons in their mid-life. Realization of professional goals and striving to attain a success becomes more intense at the age between 36 and 45. This period in life is linked with changes in identifying your

professional role that are performed and with planning some further steps of a career ladder.

It's worth mentioning that there are psychological states experienced by individuals who are changing their work and also personal characteristics of those persons. If we compare persons who had planned to change their work but did not do it with those who were just changing or had changed it (the change criterion could be a transition to another job). The main aspect that differentiated persons who were only planning a change from those had introduced it comprised in willingness and ability to take risk. Psychological consequences of a crucial professional change, after a period of difficulties and experiencing psychological costs, covered development and satisfaction.

Changes both in jobs and in careers have become an accepted and essential part of modern career trajectories.

The notion of "one life—one career" is no longer relevant. The modern view of careers has required a change in the traditional view of employment choice as a one-time, permanent decision. Job change occurs relatively frequently and is considered to be a normal aspect of career evolution.

Understanding the bases and consequences of career change is relevant to individuals considering a career change, for organisations that are downsizing or restructuring, and for career theory and counselling. Therefore, it is necessary to discuss the relationship between individual and organisational factors that might have an influence on career change.

Career change can be defined as changing a work position in a different occupation or field, where previous skills and duties & responsibilities are largely irrelevant and new training is undertaken to acquire new set of skills and competencies. It is also important to note, that career change can be distinguished from a job change which is just a movement to a similar job or a job that is part of a previous career path. Career change typically involves considerable cost for the individual due to the additional training and human investment required, and lost time and income. On the other hand, changing jobs could be an asset in your career

development. It can show that you are flexible, adaptable, resilient.

Career changes usually are critical events in people's lives since they may affect economic, social and psychological dimensions of the person (Smith, 1997). Because of personal choice or because of organisational change in the world of work, the requirement to change jobs or occupations several times in one's life seems to be the rule rather than the exception. Although not generally accepted, we need to consider that career change has become increasingly common in the lives of young adults and that this trend has grown exponentially during the recent years.

#### **Review of a research done by McKinsey's Global institute in 2022**

Main purpose of the abstract is to analyze career moves from non-tech occupations to technological fields. The increasing importance of high-technology goods and services has stimulated job growth in these industries, through the expansion of existing firms and the birth of new ventures.

Worldwide demand for IT professionals is on the rise. The competition to appeal the most talented candidates to fill IT positions is brisk, with firms often request for the brightest minds. Midcareer IT professionals are currently the most favorable segment of the workforce, many are offered incentives to accept new jobs. Their combination of skills and experience are in high demand throughout the tech field.

Topic of the research is about analyzing research done by McKinsey's Global institute in 2022. McKinsey's analyzed 280,000 tech professionals in four countries. It turned out, that 44% of tech professionals started in non-tech occupations. While employees across all professions changed roles every 3.2 years on average, tech professionals moved almost 20 percent more often, switching roles every 2.7 years. Roughly 90 percent of the tech occupations that was analyzed deliver above-average lifetime earnings, which may be a main motivator for changing a career.

Millions of online job postings were studied to calculate the "skill distance" associated with specific job moves. By "skill distance" McKinsey means "the share of new or nonoverlapping skills

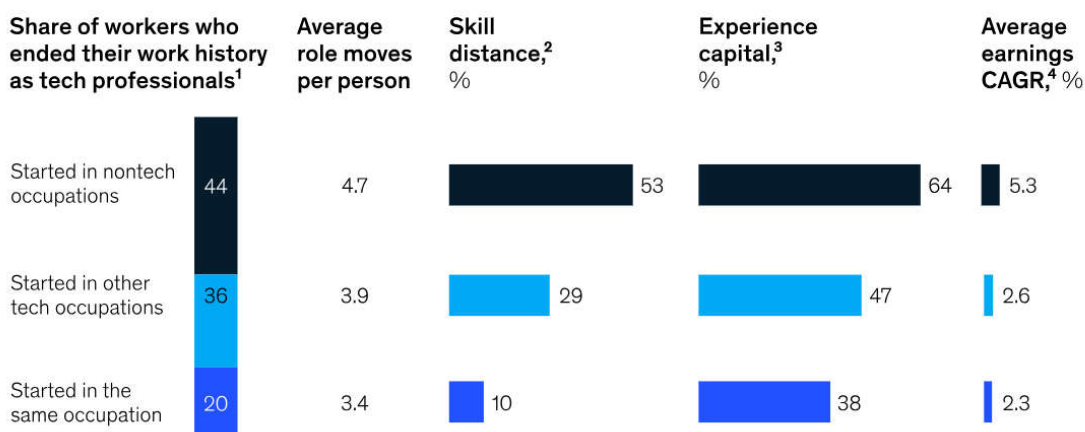
associated with the new job when someone makes a change”. The size of the differential reproduces someone’s opportunity to obtain or use additional skills when they accept a new role. People who start in tech typically overcome a skill distance of 27% every time they change roles.

More interesting for hiring managers is the number of tech professionals who started out in other types of occupations. These are not the specialists who earned computer science degrees and never deviated from their chosen path. These

are people who launched their career in entirely different lines of work and then reinvented themselves by accumulation of new abilities along the way, perhaps learning to code, developing applications or comprehend a web architecture.

44% of the individuals who held tech roles at the end of the period they were observed transitioned from non-IT occupations (Exhibit 1). Therefore, they had to master a greater share of distinctly new skills—and their reward for doing so was upward mobility.

### A substantial share of tech professionals entered the field from nontech occupations and added new skills learned through experience.



<sup>1</sup>N = 280,000 individuals in Germany, India, the United Kingdom, and the United States. Based on observed work history.  
<sup>2</sup>Measured as share of nonoverlapping skill requirements between two roles, which shows the proportion of new skills required when someone moves into a new role. Skill requirements for each role taken from job posting data, weighted by skill frequency, which gives more weight to skills that are specialized to a particular role rather than common across roles.  
<sup>3</sup>The share of lifetime earnings associated with skills learned through experience. For full methodology, See *Human capital at work: The value of experience*, McKinsey Global Institute, June 2022.  
<sup>4</sup>Average compound annual growth rate of earnings over observed work history.  
 Source: McKinsey’s proprietary Organizational Data Platform, which draws on licensed, de-identified, public professional-profile data, as well as 2018–19 job posting records; McKinsey Global Institute analysis

Exhibit 1

By making bold moves, newcomers to tech increase their lifetime earnings. Almost two-thirds of their lifetime earnings can be attributed overcoming 27% of skills gap.

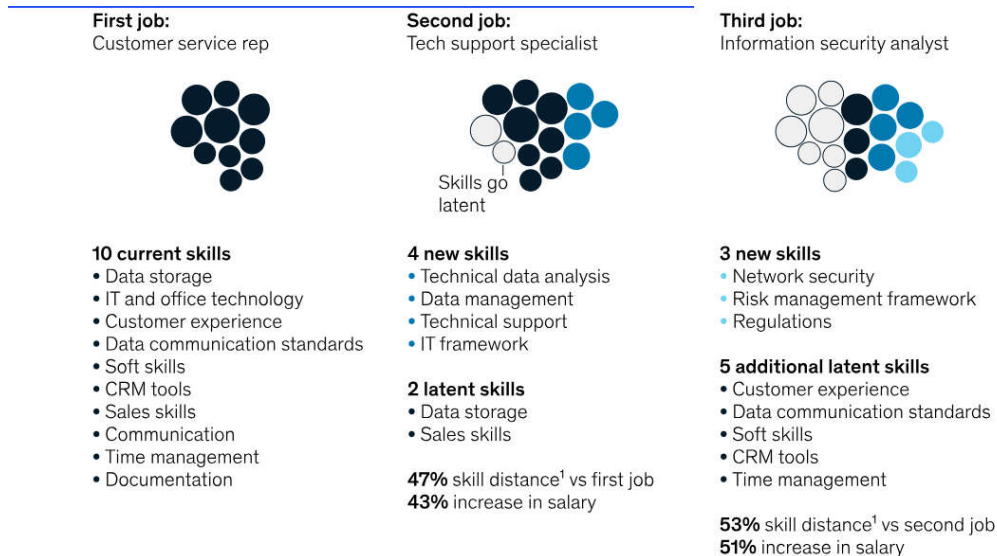
Seventy percent of the workers who rotated into tech roles started in professional services, healthcare, or other STEM fields. Within professional services, the most common occupations for those who moved into tech were general, operations, and marketing managers; management consultants; PR and market research specialists; office assistants; and

customer service reps. Mechanical and industrial engineers and social science researchers were among those who left other STEM specialties to enter tech. An additional 20 percent came from creative or education and community service roles; their most common paths started in graphic design or teaching and development. In general, workforce moving from non-tech to tech roles add skills like tech support, programming, application development, and web infrastructure.

Within the data are stories of people with a motivation to learn, grow, and move up the

earnings ladder. We can discuss an example of the worker who began her career as a customer service rep, a job that requires a list of the skills such as sales ability, customer relationship management (CRM) tools, documentation, and communication. Three years later, she became a tech support specialist, a position that required four new skills on top of those she was already using (in this case, technical data analysis, data

management, technical support, and knowledge of IT frameworks). This move involved a skill distance of 47%. Some years later, she made another strategic move to become an information security analyst, with a skill distance of 53 % from her previous role (Exhibit 2). These challenging moves brought her pay increases exceeding more than 50%.



<sup>1</sup>Weighted share of nonoverlapping skills required in each new role.  
 Source: McKinsey's proprietary Organizational Data Platform, which draws on licensed, de-identified, public professional-profile data, as well as 2018–19 job posting records; McKinsey Global Institute analysis

Exhibit N2

Insights from the finding is then linked to another research done by me personally, where I tried to survey professional migration of talent to the local market (Case of Georgia). The post-pandemic work environment was marked by three important changes: 1) preservation of the hybrid work model in most organizations; 2) increase in the number of employees in two or more jobs; 3) Labor force shortage, which is still an unsolved problem for companies.

Before the pandemic, the talent market was characterized by a shortage of tech talent, but after the pandemic, there was a shortage of so-called "front-line" personnel, tech talent and general talent of any profession.

If a LinkedIn user takes the time to pay attention to career change news in their network, they will find that many people are changing industries,

employers, and often even professions. The number of HR managers, financiers, marketers, social media managers, project managers and others has increased. Migration mostly in the field of technology. This change often happens in the current company of the employee, however, the transition to another company and to another job is also often fixed.

The subject of author's interest was the professional migration of talent to the local market. An online survey was sent to social media users. The survey was conducted through an online questionnaire and 174 users participated in it. Most of the research participants are female and are 31-35 years old.

Most of the respondents managed to change their profession once in the last 10 years, although a small number managed to change even four

times.

It was interesting that most of the respondents changed their profession in 2019-2022. The dynamics of changes are as follows:

67% of the respondents stated "interest in a new profession" as the reason for the change,

- 49.5% - "the possibility to change the employer",

- 17% indicated "the desire to work in an international company" as the reason for the change,

- 13.6% - "Desire to move to the international employment market,

- and 9.9% consider "the popularity of the profession" as the reason for the change.

It was found that migration occurred mostly in the field of technology. According to our respondents' answers, the top occupations from which the transition to other fields took place are as follows:

26.4% - manager, team leader – Software developer

11% - Sales manager: Project Manager – Computer Systems analyst

6.6% - Customer relations specialist – Computer Support specialist

6.2% - HR manager – Tech Recruiter

5.5% - PR specialist – Web designer

3.7% - Financial manager - A Technical Analyst

Although the research is only quantitative and its scale is small, the analysis of the results can draw several conclusions:

Huge interest in technology/ Growth of digital economy

Technology driven by novelty, and then - by pay  
Recommendations for employers in terms of retaining existing talent.

## Conclusion

In conclusion, we can assume that both researches offer some reassurance that could make it easier for companies to hire for potential rather than searching for an elusive perfect fit. Best place to look for people with aspirations and untapped potential may be within the boundaries of your organization. Internal opportunities don't need to be solely promotions. They can be lateral moves with greater tech specialization. The most essential element is helping employees gain more varied experience.

Employers could also use particular means of assessing candidates not only on their current responsibilities but also on their transferable skills, intrinsic capabilities, and potential to succeed in new roles. Evaluating candidate profiles against performance outcomes can help an organization improve its hiring criteria over time.

Those who intend to leave the field might be motivated by factors which differ from those who want a new position in the same discipline. Constant communication with the members of the organization and career counseling might lead to gain more specific information. Organizations may be able head off resignations by finding potential career changers new positions within the firm but outside the IT function. This would reserve organizational knowledge. It would also mean that any potentially-sensitive information that the employee may have stays within the company. Firms could also accommodate those who want to change jobs by varying work conditions, assignments, or financial incentives.

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