

Tendency for high automation rates



It should be noted that even if the activity could become automated it does not necessarily mean that it can be because broader economic aspects are considered. The occupations of the auditing clerks, accountants, and bookkeepers, for instance, need training and skills; this makes them scarcer than the basic cooks. Nonetheless, the activities which they perform have decreased cost with regards to their automation and this needs mostly basic computer and software. Considerations like these have triggered the tendency for high automation rates for activities that are common in various middle-skill jobs: for instance, in the collection of data and data processing. With the continuous advances in automation, the jobs that involve high skills might become automated at higher rates.

In all occupations within the United States economy, a third of the duration spent within a workplace entails processing and collecting data. These activities possess the technical potential of becoming automated that exceeds 60 percent. A long time ago, most companies automated activities like processing payrolls, administering procurement, using barcodes, calculating resource needs and generating invoices. However, the advancements in technology have led computers to assist in the increase of quality and scale of activities such as these. For instance, some companies now give solutions which automate entering the PDF invoices and paper into the computer systems or processing the loan applications. This does not just apply to the low-wage clerks and entry-level workers that process and collect data but to people whose yearly incomes go above 200, 000 dollars, they spend 31percent of this time performing those tasks.

Insurance and financial services are an example of such a phenomenon. The finance world depends on the professional expertise whereby the investment bankers and stock traders benefited from their wits. Nevertheless, around 50 percent of all the workforce time within insurance and finance is devoted to processing and collecting data whereby technical possibility for automation could be high. The insurance sales executives collect product or customer information while the underwriters verified the accuracy of the records.

Ultimately, the financial sector possesses a technical possibility to automate the activities that take up to 4 percent of the time of the workers. Here the potential is higher for various occupations as compared to the others. For instance, it is estimated that the mortgage brokers could spend 90 percent of the time needed to process applications. Highly sophisticated processes of verification for the credit applications and documents can reduce the proportion to over 60 percent. The other activities that fall into the category of being potentially automated entail huge amounts of machinery operation or physical activities in environments that are considered as unpredictable. These kinds of activities entail a large proportion of work within sectors like construction, forestry, and farming and could be located within most remaining sectors.

Some of the examples include the operation of a crane in a construction site, giving medical care, a collection of trash in the public areas, classroom equipment and materials set up, and the making of beds in the hotel rooms. The school children usually leave coats, books, and bags randomly; likewise, in hotel rooms, various guests throw their beddings randomly and they cannot or may leave their clothing on beds and the floor space may be

cluttered differently as well. Activities that need greater flexibility as compared to those in predictable environments are now much harder to automate especially with the current technologies that have been demonstrated; their potential of automation is ranked at 25 percent. If technology happens to advance enough to handle the unpredictable environments just like the predictable ones, then the chance for automation will rise to 67 percent. Right now, some of the activities within the less predictable setting are in construction and farming and they are more likely to become automated.

Some of the activities that are difficult to automate based on the current technologies are the ones that entail the development and management of people or which apply the expertise for creative work, planning and decision-making. Such activities are usually characterized as the work that needs knowledge and this can range from coding software, writing promotional documents and creating menus. Currently, the computers have performed excellently with activities that are well defined like optimization of the tracking routes, but human workers need to identify proper goals, give commonsense checks or interpret results for solutions. The significance of the human interaction can be found in two main sectors which involves significantly lower technical potential with regards to automation: education and healthcare.

Generally, healthcare has the potential of being automated and this is ranked at 36 percent; however, this potential could be lower for the health professionals whose everyday lives need direct contact and expertise with patients. For instance, it is estimated that lower than 3p percent of the

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activities done by registered nurses can be automated on the basis of just the technical considerations. Altogether, various healthcare activities which include preparation of food in the hospitals as well as administering medications which are non-intravenous can become automated if the modern technologies can be adapted. The data collection also accounts for an important section of the working time within this sector and this can be automated also.

The nursing assistants, for instance, spend almost two-thirds of all their time collecting the health information. Some complex activities which doctors do like administering the anesthesia during the simple procedures can be automated based on their technical potential. Of all sectors which have been studied, automation's technical feasibility is lower when it comes to education, for now. Digital technology has transformed this field which is evident by the myriad of learning vehicles and myriad classes that are available online. The teaching essence is a deep expertise that entails complex interactions with other individuals. Even so, the 27 percent of all educational activities, mainly those which take place outside a class, have a potential of becoming automated with modern technologies. The cleaners and janitors, for instance, monitor and clean the building premises. The cooks serve and prepare the school food, administrative assistants keep personnel and inventory record information. Automation of the data processing and collection activities could assist in the reduction of administrative expenses related to education so as to lower cost without having to affect the quality.

The constant development of technology, machine learning, and robotics can make greater inroads in activities which currently just have lower technical potential with regards to automation. For instance, modern techniques are activating more enhanced and safer physical collaboration between humans and robots in what is currently considered as unpredictable environments. Developments such as these could ensure that automation of additional activities in the various sectors like construction. The artificial intelligence may also be utilized to design some components in the engineer heavy sectors.

One major technological breakthrough will come if the machines developed a proper understanding of the natural language and are at par with the median human performance, in other words, if the computers attained the power to recognize concepts in daily communication between the people. When it comes to retailing, such advances in natural language can increase technical potential with regards to automation from the 50 percent mark to a 60 percent mark in terms of labor. In the insurance and finance, this leap can be much greater whereby it would move from 43 percent to 66 percent. In terms of healthcare, technologies are not usually seen as a threat to jobs because they are assumed to lack the essentials needed to accomplish all activities required for treating and diagnosing patients, technology can become increasingly capable as time passes.