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The rising concern over the impact of technology on the manual jobs is not a recent phenomenon. Historically, the creative destruction process with regards to technological inventions has led to the creation of immense wealth while triggering undesired disruptions. Groover (2001, 542) stresses that the absence of inventive ideas is not the reason that economic development boundaries were set rather the powerful economic and social interests promoted the status quo of technology. A good example of this is William Lee’s 1589 invention of a stock frame the knitting machine where he hoped that it could relieve the manual hand-knitting workers. He sought for the patent protection of the invention but the then Queen Elizabeth I denied his request because she feared that it would have a negative impact on the factory employees (manual laborers). In other words, the Queen was concerned that this invention could make artisan skills obsolete. As a result, William Lee left Britain and presented his invention elsewhere.

In the nineteenth century, manufacturing technologies were linked with “ deskilling” which means that skills were substituted through simplification of various tasks (Hopfgartner, 2015, 985). The process of deskilling took place at the start of the factory system in an effort to displace the artisan shops; this was widely embraced because production was mainly increased due to the utilization of the steam power. This meant that the work that was initially done by artisans had to be decomposed into the smaller, immensely specialized, phases that need less skill, with more workers needed to perform the tasks. Nonetheless, various innovations were somehow designed for the purposes of deskilling. For instance, Eli Whitney, the interchangeable parts pioneer elaborated on technology’s objective as substituting effective and correct operations of the machinery for an artist’s skills that is attained only by the long experience and practice; this type of skill cannot be acquired anywhere (Ferreira et al., 2004, 978).

Along with the developments within the continuous-flow production, workers have become stationary while various tasks were taken to them which is similar to interchangeable parts which allowed the complex products to become assembled from mass-produced unique components through using machine tools that are highly specialized to sequential operations. However, the initial assembly line got documented in the year 1804 but the continuous flow processes began in the end of the nineteenth century and was adopted on the larger scale that enabled corporations like Ford Motor Company to produce T-Ford at significantly low costs which eventually got to be a highly affordable people’s vehicle.

Coincidentally, this new assembly line that was presented by Ford in 1913 was particularly designed for the machinery so that they can be operated by the unskilled workers. Moreover, something that was expected to be handled by one man was operated but 29 workers instead and this reduced the work time by around 34 percent. Kandray points out that the notion that the technological advancements may favor workers that are more skilled is simply a phenomenon of the twentieth century (2010, 78). Nonetheless, conventional wisdom has been identified among the economic historians and this shows that there is a discontinuity between the nineteenth century and twentieth century with regards to the effects on capital deepening which is on the relative demand for the skilled labor.

The current pattern of the capital-skill suggestively emerged during the end of the nineteenth century due to the fact that the manufacturing production moved to an increasingly mechanized assembly line. Therefore, this shift could be traced back to the electricity powered by water-power and steam. When this is combined with the continuous-process as well as production methods, minimization of the unskilled manual workers demand in most conveying, assembly and hauling tasks; the demand for skills should increase. In other words, even though the factory assembly lines entailed extreme labor divisions and needed huge quantities of the human operatives, the electrification made it possible for most phases of a production procedure to become automated; this resulted in the higher demand for efficiently skilled blue-collar production laborers to operate machinery.

Additionally, electrification led to the growth of the white-collar workers that did not work in the production sector (Katayama, 2013, 67). As the nineteenth century progressed, the establishments became bigger in size because water and steam power technologies enhanced; this allowed them to adopt the powered machinery so that they could realize the gains in productivity through a combination of the improved labor division as well as greater capital intensity (Kull, 2015, 98). Moreover, the revolution of transport decreased shipping costs internationally and domestically as infrastructure grew and improved (Kull, 2015, 978). At the same time, the artisan goods market were earlier confined to immediate surrounding region due to the high transport costs relative to goods’ value. However, transport revolution meant that the size of the market expanded and the power of the local economy was eroded; this led to more completion which forced companies to raise their productivity by using the machines (mechanization). While the establishments continued becoming bigger, they served the markets that were geographically expended. This meant that the managerial tasks grew in complexity and number which needed more clerking and managerial employees (Lawrenz, 2013, 765).

Nonetheless, this pattern got reinforced by the electrification era which took place at the beginning of the twentieth century and increased the white-collar workers demand that tended to possess a higher level of education (Luo, 2014, 67). Lawrenz (2013, 98) argues that electrification led to a competition between technology and race whereby the industrial revolution took place while the emphasis on education were being stressed. Therefore, the expansion of high-skill employment could be clarified by the fact that there was a decrease in the cost of performing routine tasks through the use of computers that complements more creative and abstract services.

The manner in which technological advancements will affect the outcomes of the labor market in the current 21 st century is still not clear. This is because historically technological innovations were widely shifted to employment composition from artisan shops to agriculture, to clerking and manufacturing, to management and service occupations. Nevertheless, the issue of technological unemployment proves to be exaggerated (Miller & Miller, 2014, 78). Morabito (2016, 765) states that the technology that saves labor reduces undifferentiated labor demand which leads to the technological unemployment (Morabito, 2016, 98).

On the other hand, Nee (2015, 65) claims that the secular price reduction in real computing cost leads to vast incentives to the economy especially for the employers in order to substitute the labor for the computer capital. Furthermore, the tasks that the computers can perform are majorly dependent on a programmer’s ability to create sets of rules or procedures which effectively direct technology within every possible contingency. Therefore, the computers are productive with regards to human labor especially if a particular problem is identified whereby a success could be quantifiable as well as sufficiently evaluated (Nelson & Lockwood, 2004, 45).