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Workplace Innovation for Social Sustainable Development

Kassu Jilcha

Abstract

The purpose of this chapter is to discuss the importance of workplace innovation to sustainable development of the organizational change process. Workplace innovation has been distinguished from the technical innovation and its significance to intangible service improvements. It has addressed how sustainable development is affected by workplace safety, health, productivity, and wellbeing at the workplace. The chapter also attempted to see the three pillars of sustainable development against the six pillars of sustainable development dimensions from prospective points of the previous studies. The previous studies' findings considered sustainable development dimensions as economic, social, and environmental dimension, while the recent study has introduced additional three new sustainable development dimensions emanating from the existing dimension such as cultural, political and technological dimensions. Therefore, the paper tried to address the workplace innovation, its importance, model, and its impact on sustainable development of the global society.

Keywords: workplace, innovation, sustainable development, workplace innovation, dimensions, pillars

1. Introduction

Due to the growing market of employment, the Workplace issue needs to be given serious attention [1, 2]. Research findings distinguished that workplace organization, layout, human resource management, top management, workers' participation, policy and training were overlooked areas in spite of considering the need for strong workplace safety and health improvements approaches through innovative approaches. At various levels, especially at the national level, OSH problems lack top management commitment, national policy and uniform standards. In addition to these factors, absence of awareness within the enterprise, organizations and at individual employees' level, dearth of cultural norms of workplace health and safety are areas missed unconsidered for the workplace improvement.

The hazards which require innovation at workplace can be classified as health hazards and physical hazards [3]. Health hazards are categorized into; biological hazards such as bacteria, fungi and viral; chemical hazards such as fumes, dusts, smokes, gases, vapors, heavy metals and physical hazards such as noise, temperature, illumination, vibration and radiation. All the mentioned types of workplace hazards which cause stress on our employees can be handled by the science the so-called workplace innovation even though it is a recent emerging workplace improving science.

Workplace in globe is the place where the interaction of people and machine or equipment involves. Unless and otherwise workplace being attractive, safe, healthy and productive for the citizen, it results in disruption of the whole economy and social values in a globe. To bring the workplace productivity and safe workplace to flexible quality, the timely tool is innovation that looks into the mechanism that changes the dynamic workplace movements. The workplace innovation for any organization improvement in productivity and safety of well-being is one of the key variables. This leads the globe and citizens to sustainable development. The outbreaks like COVID-19 have more negative impact on workplace and productivity of the employees. To curb such sudden and unpredictable outbreaks, workplace innovation is very important in setting a new mechanism how to work in controlling such outbreaks to sustain the economy of globe. Therefore, this chapter helps to show new focus points were our globe is changing dynamically with outbreaks. The outbreaks such as COVID-19 or other that may arise in the future should have to be addressed how to challenge this at workplace before it emerges. That is an important issue to consider workplace innovation and consider sustainable development of the society.

2. How to designate workplace

Workplace is the environment where people participate and do their operation in their day to day life activities. Workplace can be related with organizational behavior, organizational culture, organizational motivation and conflict. Among the most important variables and considerations of workplace one is workplace safety and health (WSH). WSH issue is remained a neglected socio-economic development priority, particularly in developing countries including Africa. Occupational safety and health (OSH) are becoming priority areas of concern within the spheres of industrialization and the labor market that requires workplace revolution. This is because of industrialization all over the world is developing at a debauched rate and the labor market continues to upsurge. Due to the growing market of employment, the OSH issue needs to be given serious attention [2] at workplace environment. In this chapter, we can distinguish and see that workplace organization, layout, human resource management, top management, workers' participation, policy and training are some of the areas were overlooked in previous studies that are under studied in spite of considering the need for strong WSH improvements approaches. At various levels, especially at the national level of developing countries, OSH problems lack top management commitment, national policy and uniform standards implementation. In addition to these factors, absences of awareness within the enterprise, organizations and at individual employee's level, dearth of cultural norms of WSH are areas missed and unnoticed in the workplace improvement process.

It can be seen that occupational health and safety is the concern of human wellbeing that, this day, industrialization and service giving sectors development is accelerating resulting in workplace health problems. WSH existence is in line with the sayings that "Health is Wealth" [4, 5]. In recent years, the quality of health and safety requirements in many countries have been more stringent than was the case before. Hence, pressures from communities have led to the enactment of various safety legislations and safety standards in different countries and regions for different industries [6]. Despite the fact that people are working and spending most of their working hours at the workplace, little attention and resources are accorded to health and safety at workplace [7, 8].

In emerging economies, workplace has been overlooked in their industrial development policies and strategies. They are mostly focused on the production volume

or profit undermining the latent effect of unsatisfactory working environment. For instance, in some of African countries like Ethiopia, there had been no workplace policy standing alone for the manufacturing industries and other sectors that enforce WSH of employees and working equipment. Healthy people are expected to contribute more to productivity and innovation. Workplace accidents and absenteeism from workplace site causes productivity loss [8, 9]. The productivity directly related to workplace comfort and work behavior in the organization. Specially, employee productivity and performance increase when there is less conflict, high motivation, good workplace culture, dynamic teamwork and social interaction.

Workplace design and hazards interventions have been seen as barriers in researches. Miroslav et al. [10] found in their studies that barriers identified in manufacturing industries, which need innovation. In this chapter, the barriers identified to intervention of workplace safety and health were negative managements' attitude, negative workers attitudes, ineffective or excessive legal requirements, bureaucracy, lack of time, lack of training, lack of economic resources, lack of economic results, presence of geographical delocalized activities, and workers participation [11].

While research conducted on WSH spans across disciplines in medicine, public health, engineering, psychology, and business, researches to date have not adopted a multilevel theoretical perspective that integrates theoretical issues and findings from various disciplines [7]. Nowadays, researches require improving workplace as time bringing new scenarios. The emergency of COVID-19 is one of good example that is changing the global economic and social set up. The workplace innovation is, therefore, very important with regard to this COVID-19 to learn and prepare ourselves to tackle such pandemic situation. Hence, a learning organization is very important in the future global development process to keep sustainable development environment. Learning organization is an organization that promotes management tools concerned with the improvement of individual and organizational learning [12]. This learning organizational process helps the globe to predict new ventures that may happen suddenly and change the global economic, social, cultural, technological, political and environmental dimensions. According to the study of Agneta et al. [13] implementing social sustainable innovation is important for industrial development of workplace environment.

3. Innovation for workplace safety

Under this subtopic, it can be seen in subsection of innovation and workplace innovation. This section is presented to show the clear description of innovation, workplace innovation and safety at workplace.

3.1 Innovation

Studies have shown that innovation was first introduced by Joseph Schumpeter in 1934 and the researchers call this man as father of Innovation [14]. As researchers put forward their point that Schumper argued that economic development is driven by innovation by a process of "creative destruction." They said that he argued innovations could be considered "radical" when people generate major disruptive changes, while if these innovations produced small improvements generating a slow change process that people could be considered "incremental." Joseph Schumpeter [14] finally proposed five types of innovations which are (1) introduction of new products, (2) introduction of new methods of production, (3) opening new markets, (4) development of new sources for raw materials or other inputs; and

(5) creation of new market structures in an industry. In this study, we can understand that more of the discussion and division focuses more on product process that unnoticed the workplace services and intangible environmental factors innovation.

The Oslo Manual defines innovation as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations. Thus, the manual moves away from Shumpeter's typology and reduces it to four types which are (1) product and services innovations; (2) process innovations; (3) organizational innovation; and (4) marketing innovations. Here, we can also see that social innovation or workplace innovation is less considered.

According to the previous researchers finding, innovation was considered as a phenomenon which for centuries serves the only purpose of making human beings' lives more comfortable [15]. The same study has considered it as a history, supporting, generating and implementing innovation has been of outstanding importance not only for the well-being but sometimes the survival of individuals, entities and even for whole civilizations and nations. However, innovation is the process of creation, improvement, or adopting new ideas that does not exist in another workplace.

3.2 Workplace innovation (WPI)

Workplace innovation (WPI) definition is adopted from Pot [16] that is defined WPI as the implementation of new and combined interventions in the fields of work organization, human resource management and supportive technologies. He added that it is a complementary to technological innovation even though it was unnoticed as being a basic workplace environment comfort forming process.

Workplace innovation (WPI) brings radical change in the workers' environment, thereby enhancing the profitability of companies [1]. It can be said that the term workplace innovation refers to how people are deployed in order to improve performance and also to create good quality jobs [17].

Study also defined workplace innovation (WPI) as conceptualized, developed and implemented practice or combination of practices that structurally makes division of labor and/or culturally focuses on empowerment enabling employees to participate in organizational change and renewal to improve quality of working life and organizational performance [7, 18, 19]. WPI is narrowed down as an 'HR-toy' which is resulted decision makers on technological innovation, business model innovation and marketing innovation underestimate and underuse the potential of WPI, as they are largely unaware of the role of organization and people to make nontechnical innovations a success [6, 8]. They stated that within organizations, HR-managers and line- and operational managers too strongly function within separate silos. The technological and economic innovation alone is insufficient to solve today's social issues, like poverty, environmental pollution, climate control, and geopolitical tensions [20, 21]. WPI is defined as designate new and combined interventions in work organization, human resource management, labor relations and supportive technologies [22]. Workplace Innovation is defined as a social process which shapes work organization and working life, combining their human, organizational and technological dimensions. We can see examples which are including participative job design, self-organized teams, continuous improvement, and high involvement in innovation and employee involvement in corporate decision making. Such interventions are highly participatory, integrating the knowledge, experience, and creativity of management and employees at all levels of the organization in a process of co-creation and co-design. This simultaneously results in improved organizational performance and enhanced quality of working life. It is important to

see Workplace Innovation not as an end state but as a dynamic, reflexive process in which all stakeholders are continually engaged in reflecting on, learning about and transforming work processes and employment practices in response to both internal and external drivers. Workplace Innovation is to contribute to sustainable economics, ecological and social change by fostering the innovative capacity of organizations and individuals. Workplace Innovation is considered a necessary enabler of effective technological innovation. Developing and deploying human talent and fostering a willingness to cooperate are an indispensable component of a versatile network economy, relying heavily on participation, dialog and self-organization by engaged individuals working in and between organizations.

3.3 Workplace safety innovation importance and OSH influence

3.3.1 Workplace innovation importance

Workplace innovation was defined as the process of improving or creating workplace interaction confortable for the organizations. Workplace safety and health needs to be prior area for productivity, workplace comfort and wellbeing improvement. Industrial safety is the focuses on multiple improvements were over all organization involvement based on. In workplace there are numbers of challenges like conflict, health issue, safety, performance and grievance. In general to solve organizational behaviors that results in ill health and performance reduction, workplace innovation has importance. Some of the importance of workplace innovations are sustainability for financial success strategically implementing the social innovation dimension as an integrated part of business operations; sustainable development, increasing the quality of human resources which is a key competitive issue, requiring constant management attention to several dimensions of economic, social, and environmental change; workplace innovations complement economic innovations and are focused primarily on achieving social welfare [23]; improve service of workplace. Innovative workplace helps in increasing workers performance, creating bonds among workers and amendment of managements, upgrading productivity, insuring health and safety of employee, reducing safety cost due to accidents and injuries at work, improving organizational culture toward hard work, building the organization to team up in solving innovative problems, reducing conflicts and increasing motivation, enhancing environmental protection through social corporate integration and enhancing technical innovation success. Therefore, workplace innovation covers broader areas of improvement even though it not defined as technical innovation that commercialize product to the market.

3.3.2 Workplace innovation and its influence on OSH

As stated in the previous sections, innovations have the score to optimize manufacturing processes in workplaces in organizations and develop employees' general experience of work. Here, employers' association, employer and trade unions have a significant part to play in promoting work organization innovations, which can provide win–win benefits for employees and employers. Change comes when we are working smarter, not harder [3, 24]. Higher productivity goes hand in hand with better communication and higher employability, resulting from both a decrease in absenteeism and an increase in social and vocational competences [25]. **Figure 1** indicates that WPI empowers performance of work organization, and employee relationship increasing well-being and OSH final achievement of health condition. The intersection of OSH and WPI is the overall improvement of well-being.
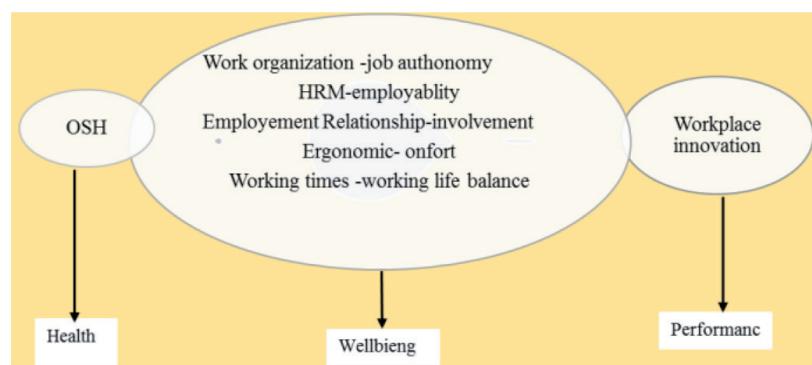
Figure 1.
Overlap of OSH and workplace innovation (Leiven, 2012).

WPI and OSH have different policies with different objectives and instruments. It should not mix up as WPI is not directed at fewer OAs or ODs or less absenteeism, but it might help. OSH policies refer to healthy and productive jobs. Health is a value in itself. Additionally, healthy people are expected to contribute more to productivity and innovation. Absenteeism causes productivity loss [22]. A healthy workforce is a prerequisite for social and economic development and for productivity. Protecting the health of the workforce through access to decent jobs, universally available health services, and social health protection contributes both to sustainable development as well as to worker productivity [26]. Hazardous working conditions and unemployment currently contribute to a very large avoidable burden of disease and loss of income-earning potential [27]. In the discussions made previously, workplace innovation contribution is remarkable.

In solving OSH problems, one of the methods is workplace innovation (WPI). WIP is different from technical innovation (scientific technologies) in which new end product or a service development process is undertaken, rather than nontechnical innovation (supportive technologies). It is defined by Pot [16] as the implementation of new and combined interventions in the fields of work organization, human resource management and supportive technologies. It is a complementary to use technological innovation. The chapter stresses new and combined interventions, by which new is understood as innovation and combined as a bundle of measures referring to work organization, human resource management and supportive technologies. Thus, innovation is not a goal but a means in which it improves a process performance [3]. There is a growing importance of nontechnical factors to foster economic growth; implying technological innovation alone is not enough to make renewal of an organization's work. It needs efforts of looking into overall process optimization and changing organizational systems. Innovations considered as nontechnical factors are for, instance, high performance work systems and new ways of working. Such nontechnical innovations are considered by studies interchangeably as organizational innovation [20, 28], workplace innovation [16, 22], and social innovation in the workplace [24, 25, 29, 30]. These innovations are neither the end products (new products or services), nor the Research and Development expenditures. But they deal with renewal and improvement of the deployment of people, management, human resource, organizational structure, primary process, marketing methods, production methods, organizational policies, redesigning, workplace improvements and refreshment of systems.

The major problems which are not addressed in workplace improvement are workplace innovation and the meaning it conveys in recent times. Innovation was painstaking and it is the only new idea creation and/or new product development process as discussed under many literature reviews. Hence, workplace innovation was not stated well in the research findings like that of ordinary innovation [3].

The author of this study has identified workplace innovation being ignored in OSH improvement system one of the remaining improvement factors [1, 25].

This study defined how workplace safety and health is influenced by workplace innovation, and how workplace innovation contributes to workplace overall improvements. The systematic review has summarized the recent scientific evidence on the effectiveness of the innovation impact on workplace safety and health. The review also reflected the relationships between innovation and OSH problem contributing factors [1, 22]. The present systematic review is thus an attempt to address the challenge and fill the gap that exists on the relationship and impact of innovation in relation to workplace safety and health overall characteristics for controlling of occupational accidents and diseases in the workplace.

Competitiveness is not achieved without innovation, technology and the use of science aggregation in workplace safety and health improvement as one of the typical business processes indication [1, 3]. Researchers wind-up their results that in organizational innovation, it is possible to see into workplace arrangement, attractiveness and employee satisfaction with the work they are doing.

In general, workplace innovations were found to play a key role in decreasing workforce and increasing labor productivity; global competition and knowledge based economy (development of competence and skills); making new technology work through innovative work organization [1]. Workplace innovation explains a larger part of innovation success than technological innovation; high performance work systems have a positive effect on performance outcomes (including labor productivity, and innovation levels); diversity and equality systems have a positive effect as well; on reduced employee turnover (considered to be an indicator for employee wellbeing).

Workplace innovation helps to improve workplace performance, quality of working life, human resource management, and policy issues. European countries are initiating these workplace innovation programmes [22]. Therefore, workplace innovation programme is indispensable for the policymakers to improve workplace safety and health. Studies indicate that workplace innovation and safety issues have been ignored in developing countries. Therefore, this calls for the need to continue conducting research in the future to modernize workplace safety and health improvements. At the same time, this section highlights the workplace innovation is one of the methods to OSH improvement approaches (**Figure 2**). This is a section where it is important to come out from the black box and extend our research approaches to diversified factors with different tools looking forward to dynamic changes to meet the demands of globalization. Workplace innovation needs human resources, technology and knowledge. The presences of these drivers
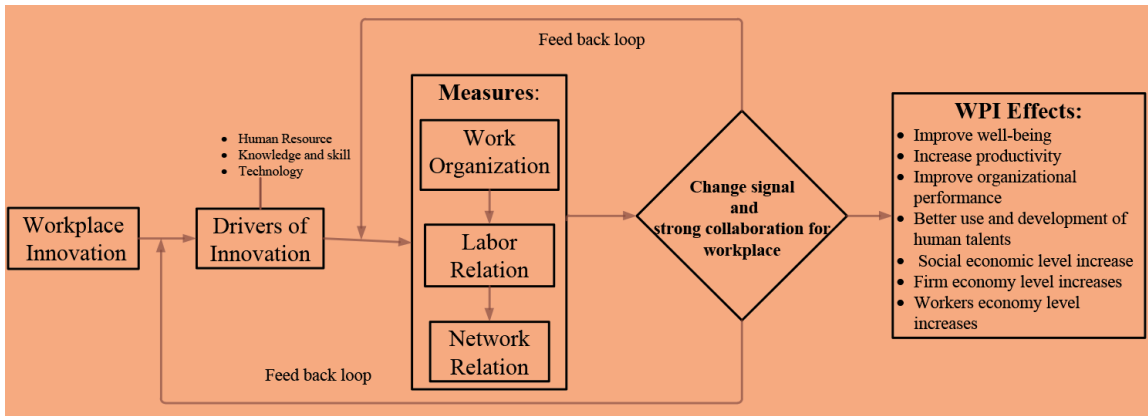

Figure 2.
Modified model of workplace innovation at the organization level [1].

of innovation are the primary inputs of workplace innovation. The measures or initiatives within the model of workplace innovation are divided into three elements; namely work organization, labor relations and network relations. Work organization focuses tasks to be accomplished with autonomy, on opportunities to work either together or independently on employees' choice to determine their working hours in consultation. It means work is facilitated or made flexible by using ICT, among other things and employees spend part of their working hours on developing new ideas, while diverse workforce uses its time and lobor effectively. Meanwhile the logistical processes are organized as efficiently as possible in consultation with employees.

The second element refers to giving high priority to labor relations. This means focusing on employees and management jointly formulating the organization's ambitions, with employees having a say in the organization and its decisions, management and employees encouraging each other to learn innovate and to show creativity, and daring, and most importantly, management and employees trusting each other in undertaking joint endeavors. It also means employees having autonomy in managing their tasks, employees and managers admitting their mistakes and taking corrective measures in time. The third major element is that of prioritizing network linkage both inside and outside the firm. They focus on components within the organization to work with peers and partners such as suppliers, clients, and people in the community, etc. Knowledge organizations are involved to deal with community and social issues by strengthening and multiplying the ties within the networks.

The model then looks at the goals or desired effects of workplace innovation. These effects can be of direct benefit to the organization and/or employees or be indirectly beneficial to society (**Figure 2**). The workplace innovation goals are aimed at to improving organizational, employee and or societal benefits.

The workplace innovation improves workplace condition and employee's moral. The process needs to have cyclical check at each stage of improvement. The approach creates workplace innovation with positive effects. These effects are improved well-being, productivity, organizational performance, better use and development of human talents, and increase in economic levels attributed to firms, workers and the society in general.

4. Sustainable development

4.1 Sustainability development importance and pillars

Sustainable development is the important aspect of the global society to overcome all the challenges of the citizen's health, safety, wellbeing and overall productivity performance. Sustainable can be defined as foundation of the citizens economic, social and environmental set up continuous existence and transition after generation to generation without major change from now onward in the future. This definition is drawn out from prospective point of view of Mirland [31] and Amponsah-Tawiah [32] model. Both of them defined sustainable development depends on the three dimensions or pillars which are economic, social and environmental. The one that make this definition to most of the researchers common is the intersecting points at each dimension in providing a clear picture to their sustainability dimension. For instance, the common area between economic and social dimension is social equity and the common point of economic and environmental dimension is results in sustainable economy of the citizen. The social and environmental intersection ends up with healthy environment that is not polluted

and convenient to all life on the earth. The economic dimension includes the jobs, employment, capital assets, investment, creation of worth & prosperity; the environmental dimensions include climate, water, natural resources and biodiversity while that of social dimension encompasses the elements such as health and safety, skilled work force, knowledge workers, community development, inclusion and cohesion. It can be learned that from **Figure 3** the link and the results of the integration of the three dimensions mentioned in the discussion are the indication of sustainable development pillars with the so far studies finding. However, there is another approach which viewed the sustainable development pillars in other angle introducing other factors.

The previous studies conducted on OSH link with sustainable development showed that there are three pillars of sustainable development as economic, environment and society [1]. The studies have unnoticed that culture, politics and technology are the three new pillars as stated by the researches [1]. These researchers tried to include the other three new dimensions to sustainable development pillars mentioned in the previous researchers finding. These were culture, technology and political dimensions.

How culture affect sustainable development of workplace can be described in short. Culture of workplace involvement induces positive or negative effect on productivity, safety and health of the organization. The culture of safety practice and workplace comfort to employees is the one as a dimension. We can say social dimension can consolidate culture but the culture of workplace safety and health improvement to ward productivity improvement was summered by other social factors. For that purpose, culture of workplace safety and health is demanded to stand as individual dimension. The other dimension which is not considered boldly was technological change. The technological development and introduction of new advanced systems enforced the globe to enhance workplace improvement. The technological dimension also considered as a pillar since the chronological changes are bringing to the globe different technological usage and utilization. But the uses and impact of technology was not considered as sustainable development pillar as it was not boldly shown in the researches and practice. The third new dimension introduced as pillar of sustainable development is political dimension. The globe is swaying by the different political challenges. It has not been considered as the one
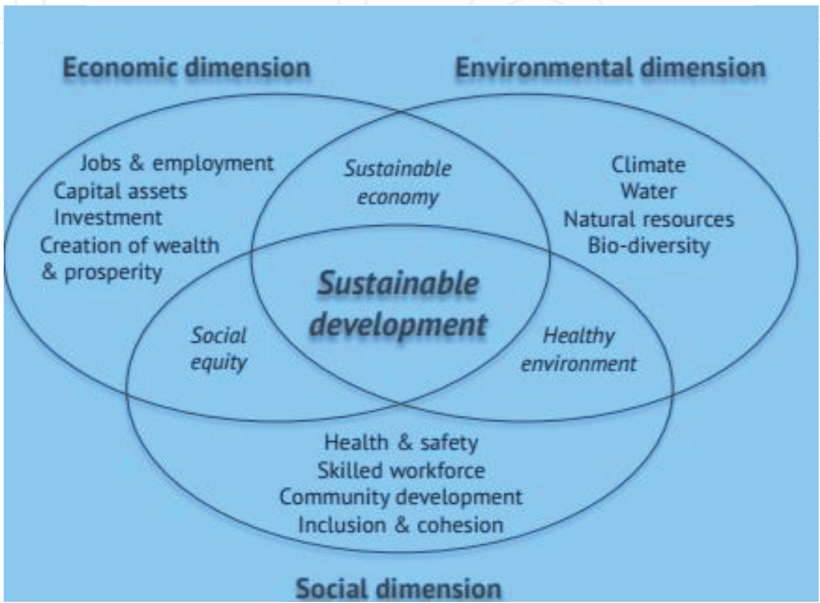

Figure 3.
The three dimensions of sustainable development [31, 32].

of the dimensions that affects sustainable development. The evidences and analysis of these newly introduced factors can be seen in the article cited in [1, 33]. The six pillars introduced and the existing once is indicated in **Figure 4**.

The impact of human behavior (culture) on nature gives increasing rise to public and governmental concern [34]. A learning culture, defined as set of shared beliefs, values and attitudes favorable to learning can be seen as an essential part of the organizational context within which specific organizational design principles and types of work organization are successfully implemented [12].

4.2 Workplace sustainability and workplace safety

It is very important to ask the question what are the key considerations workplace designers take into account when designing and building sustainable workplaces of the future? Sustainability in the workplace has the potential to affect many aspects of an organization, including employee productivity [35]. According to the same study [35] sustainable designers, such as LEED (Leadership in Energy and Environmental Design) professionals, claim that sustainability has numerous positive impacts in the workplace and they impact including fewer employee sick leaves days, increased building occupant satisfaction, and increased employee productivity. The workplace safety matters the organizational productivity increment and wellbeing. The workplace well designed and built, creates high productivity of employees, keep the health of employees and reduce the cost of the organizations that incurred due to the accidents at workplace. This results in increased organizational sustainable economy. A bad office can really impact on output and happiness. The workplaces designed and prepared for employees must meet the mind and physical of the employees so that they are healthy, happy, comfortable and psychological in rest. To create a space that truly encourages a culture of wellness for employees, it is critical to identify the organization's project goals and needs through a process that emphasizes collaboration, consensus building, and innovation. The sustainability of organization is guaranteed when we do have people-oriented workplace design. To make workplace more productive and sustainable for the organization, it is important to focus on the psychological benefits and the wellbeing of workers; how technology integrates and enhances workflow; and the sustainability of the initial build and ongoing maintenance. Hence, the safest workplace design guarantees the employees satisfaction and organizational sustainability in reducing overall costs that comes from multifaceted directions.
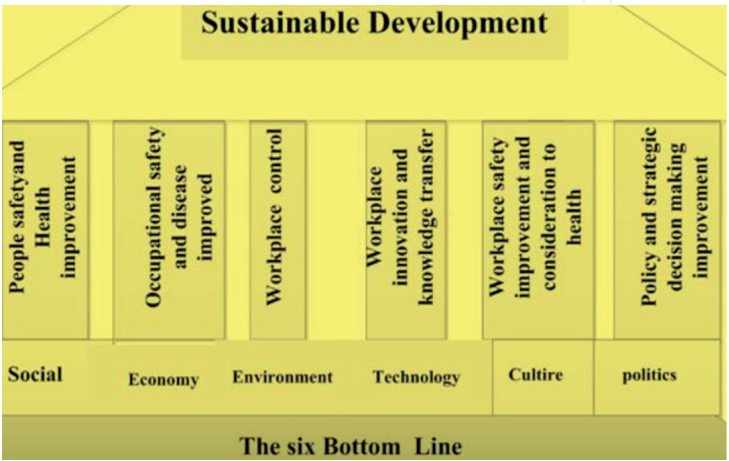

Figure 4.
Pillars of sustainable development and approaches to safety and health [1].

5. Conclusion

In general, we can conclude that this chapter has given the highlight of workplace innovation for sustainable development putting ignition toward in-depth research works by many researchers. It has focused on the workplace innovation and sustainable development in consideration of workplace innovation and technical innovation differences and importance. Sustainable development dimensions are also discussed from the point of three pillars and six pillars with their differences. The dimensions in the previous study mentioned are environmental, social, and economic dimensions. The new three introduced in addition to these are cultural, political, and technological dimensions. These areas are very crucial to focus in the future research to see one by one in detail and their individual advantages and disadvantages. The workplace innovation contribution is also discussed with respect to workplace safety and health, social corporate, and importance in industrial development. The workplace innovation and technical innovation difference and contribution have been considered even though they require further studies.

Conflict of interest

The authors declare that there is no conflict of interest.

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