

Occupational Safety Protection Policy: Implementation Options Mineral And Coal Industries (Case Study Of Ptlkk And Ptwm Companies In East Kalimantan Province)

Nunung Nurwati^a, Komeyni Rusba^b

^aDepartement of Social Welfare Sciences Universitas Padjadjaran, Bandung Indonesia,

^bDepartemen occupational health and safety Universitas Balikpapan, Indonesia ,

Email: nunung.nurwati@unpad.ac.id, komeyni@uniba-bpn.ac.id

Abstract

Purpose of the study: Describe, analyze and explain how the selection of workers in the implementation of occupational safety protection in PTLKK and PTWM.

Methodology: This research uses a qualitative approach aimed at searching for naturalistic depth of information from specific cases and as research that produces descriptive data. The informant in this research is general manager, health safety and environmental manager, human resource development manager and two workers.

Mind Findings: Aspects of the policy implementation options that arise when the synergies implement the policy of occupational health and safety regulations can be seen from the presence of value bases and criteria.

Applications of this study: The findings of this study for foundation values in the implementation of occupational safety and health regulatory policy seen from the category of options that include bases allocation, social provision, delivery system and finance.

Novelty/Originality of this study: Research on the implementation of mining policy has been widely explained by many researchers. But there is no publication that specifically explains bases allocation and social provision options, the value that appears is equality and equity. Equality is seen from the existence of equal treatment for all workers. While equity is seen from the principle of justice which emphasizes the importance of respecting the rights of all workers.

Keyword: implementation, values, criteria, occupational safety protection.

INTRODUCTION

Occupational safety protection requires directional activities through policy. Occupational safety protection policies must be applied in every industry. Hazardous work can cause most work accidents or occupational diseases. Hazardous work is commonly found in the agriculture, construction, forestry, fisheries and mining industries (International Labour Organization, 2018).

Occupational safety protection is the obligation of the company to direct all efforts to implement it in accordance with the company's policy (Fridayanti & Kusumasmoro, 2016). For that long term occupational safety protection policy, it is important to reduce the level of life and to protect the success of the economic growth that has been achieved (Phillip H. Kim, 2018). To create a positive safety climate and culture of risk prevention by emphasizing the commitment of

management and worker safety protection terhadap company should establish labor safety policy that includes training (Astuti, 2010; Hadjimanolis & Boustras, 2013; Usep Firdaus Huda, Anggraini Sukmawati, 2016; W. Prasuad, 2019).

Occupational accidents on mineral and coal sector companies in East Kalimantan is still relatively high and increasing every year. Director general of Minerals and coal Ministry of Energy and Mineral Resources released the number of work accidents in the mining sector:

	Total work accidents as of July 30, 2018
Light work accident	86
Heavy work accident	38
Death work accident	10
Total	86

Source: Director General of Minerba Ministry of Energy and Mineral Resources

Republic of Indonesia

Light occupational accident, heavy occupational accidents and accident died on mineral and coal mining activities impact to the declining performance and productivity of the company. For that the work environment, occupational safety protection policies by mineral and coal companies should be applied with a choice of policy implementation and PTWM PTLKK.

LITERATURE REVIEW

I. Labor Protection

Workforce protection is a government control mechanism so that good and tight labor protection will reduce the disruption of work relations (Belkhir & Ben-Nasr, 2016). Furthermore, (Imam Soepomo, 1999) states that labor protection is a guarantee that must be

obtained by workers who work from employers, so that the safety and welfare of his life during work can be protected. For this reason, (Imam Soepomo, 1999) divided labor protection into three types of protection, namely economic protection, social protection and occupational safety protection.

2. Labor protection policy

Policy is etymologically derived from the Greek language, which is policy in Bahasa Indonesia meaning "city State", later in use in Latin to polite. So it is finally used in English that is policies, where often in use in the context of control of public issues or Government administration (Dunn, 2000). (Friedrich, 1963) says that the policy as an act leads to the purpose of being proposed by a person, Groups or governments in a particular environment in connection with certain obstacles while looking for opportunities to achieve goals or to realize goals desired.

3. Labor in the Mineral and Coal sectors

Coal mining is a category of extractive industries. Extractive industries are industries whose activities take natural resources directly from the Earth's stomach in the form of minerals, coal, petroleum and natural gas (Extraktive Industries Transparency Initiative (EITI) Indonesia, 2016). The main products of mineral and coal mining are bauxite, coal, gold, silver, iron, nickel, and copper. Major coal mines are found on the island of Sumatra and the island of Borneo while gold and copper reserves are widely available in Sulawesi and Papua. International Labor Organization estimate that in Indonesia there are about 77 thousand small mining businesses that each involve 300 thousand to 500 thousand miners.

4. Policy Implementation

Policy implementation is a crucial step in the overall policy process, as affirmed (Abdul

Wahab, 2004) follows: the implementation of wisdom is necessary and perhaps even more important than policy-making. Wisdom will be just a dream or a good plan that is neatly stored in the archive if not implemented.

Other opinion expressed by (Jansson, 2008) that the policy implementation framework using a system that includes (1) Policy innovations, (2) Supervisory organizations and staff (3) major implementing organizations, (4) implementation process, (5) pressure External to the implementation, and (6) evaluation of the results. This system framework is very useful as it allows to analyse a policy of its enforcement to its final outcome and place it in the political, economic, and legal context during its implementation. This makes it possible to identify and analyze the action system that emerged as a policy innovation was reacted.

METHODOLOGY

Research design is a logical sequence that connects empirical data with research questions from start to finish and come to the conclusion (Oaks, Aberdeen, & Psychology, 2013). This study used a qualitative approach aimed at looking for naturalistic depth information on specific cases (Patton, 2015) and as research that produces descriptive data (Taylor, S. J., Bogdan, R., & DeVault, 2016). Furthermore, researchers use case studies as research approaches because researchers want to understand social phenomena on a small scale in a natural state (Bloor, M., & Wood, 2006), in which researchers investigate carefully the activities, processes, or groups of individuals (Creswell, 2009). Informants as a special category of research because someone knows and understands certain types of information (Given, 2008). The technique for determining informants uses one of the techniques in the logic of sampling or the determination of informants with a specific purposeful in qualitative research (Patton, 2015). The informant in this research is general

manager, health safety and environmental manager, human resource development manager and two workers.

Furthermore, conducting data collection techniques related to the implementation of occupational safety protection policies includes three methods. First by using participation observation, secondly, in addition to observing the data mining is done by using in-depth interviews, third, the data in this study were also carried out by collecting various documents both from the labor force and the company.

Further qualitative data analysis techniques used in this study, refer to the analysis techniques proposed by (Miles, M., Huberman, M., & Saldana, 2014). The data analysis process begins with data collection, data reduction, data presentation, and conclusion or verification data and the last is an analysis of the research topic descriptively.

RESULTS/FINDINGS

Choice of implementation of occupational safety and health policies and work environment in the PTLKK and PTWM. The choice of implementing the company policy indicates the existence of values and criteria related to the achievement of objectives as set out in the company's policy. Options for implementing company policies include: choices in determining program recipients, choices in determining programs, choices in delivering programs and choices in determining company program budgeting. The following is an explanation of the three aspects of choice related to the implementation of company policies on company occupational safety and health.

I. Choices in determining the recipient of an occupational safety protection program at PTLKK

In this aspect the labor will assume the target of a company policy, namely the company policy on occupational safety and health and the work

environment. The choice of the target recipients of this company policy can be divided into two namely selective or universal targets. When implementing company policies, departments must have a choice of targets. It can be interpreted that the department has a choice whether the company policy is specific to certain labor targets or applies to all workers. From the field findings it can be seen that the company implements the objectives of the company policy that are in the company.

2. Choices in determining the recipient of an occupational safety protection program at PTWM

Field findings show that PTWM implements the objectives of the company policy on all workers and the best workers will be given a special gift by management. At PTWM, an occupational safety protection program can be seen based on the company's policy on occupational safety and health as well as the company's work environment and is determined after the design of the work environment, but with consideration of the same treatment, the company recommends a review of the work environment. So that the policy can be applied to all layers of the labor.

3. Choices in determining an occupational safety protection program at PTLKK

Choice in determining occupational safety protection Program based on implement policy on determination of occupational safety protection program from PTLKK regulation. In determining the work safety protection program, it is carried out by the method of meeting all elements of the department. So that every company department program has a choice of what programs will be given to labor. PTLKK will have a choice of programs given to the labor is concrete. And the recipient of the program is the workforce as a whole. From the understanding of the problem, the labor stated that there were at least two occupational safety

protection programs related to the company's policy. The program includes work safety protection about gymnastics and eating fresh fruit.

4. Choices in determining an occupational safety protection program at PTWM.

Work safety protection issues raised by the labor force include occupational health and safety policies, environmental policies, environmental management policies. From the understanding of the problem, the labor stated that there are at least two occupational safety protection programs related to the company policy. The program includes the protection of occupational safety and management of a safe work environment. The next section will describe the findings regarding options for delivering occupational safety protection programs.

5. Choices in delivering an occupational safety protection program at PTLKK

At PTLKK in determining the form of delivery of occupational safety protection programs, namely in the form of workforce socialization. In the presentation of socialization is usually in the form of safety talk and delivery of this service will be related to who will receive the programs and safety programs that are given. The program given by PTLKK to workers is usually in the form of occupational safety protection, namely eating fruit and exercise (healthy living). From the field findings it is known that the program submission is conducted by management review which is carried out every February and September. The delivery of the two programs is done by involving labor.

6. Choices in delivering an occupational safety protection program at PTWM

Submission of the program will discuss how the labor chooses the way or plan for the delivery of the program to labor in PTWM. From the field findings are known about program delivery plans

on occupational safety protection program and safe work environment management. The delivery of the two programs is carried out by involving all labor. Submission to PTWM is by open communication methods, via e-mail, and with safety talks conducted Monday through Friday.

7. Choices in determining the budgeting of occupational safety protection program in PTLKK

PTLKK in implementing the last occupational safety protection policy is the issue of budgeting. Every process of implementing a occupational safety program, workers are entitled to get good service. Good service by PTLKK such as occupational health and safety policy, environmental policy, smoking policy, anti-corruption policy or other service programs. In the process of the policy, the company's budget is prepared by.

Furthermore, by implementing an occupational safety program for all labor, PTLKK will implement a budgeting system that will be able to support program delivery. In the process of implementing the PTLKK policy program, it is also seen that there are costs in the company, in this case the budget that has been prepared by the relevant department. So the program can run according to company expectations.

8. Choices in determining the budgeting of occupational safety protection program in PTWM.

The last choice aspect of policy implementation in PTWM policy is budgeting choice. In the design of a work safety protection program, labor know that every worker has the right to receive the same service. Services provided by the company such as occupational safety and health policies in high altitude work, occupational safety and health policies in confined spaces, policies for the management and supervision of occupational safety and health in the mining sector as well as other labor service programs. Budgeting from the policy program is prepared by PTWM.

After setting goals, programs provided and program delivery plans, PTWM will implement a budgeting system that will be able to support program delivery. PTWM's choice of budgeting is sourced from the company itself. In implementing the PTWM policy, knowledge of the workforce regarding budgeting is also seen. Finance appears in the budgeting of funds for activities or programs related to PTWM policy. The program or activity itself is a program from each related department in order to achieve the objectives of the PTWM policy.

Table 1 company policy Implementation options

ASPECT CHOICE	DEPT. OHSE	DEPT. HR	LABOR	INFORMATION
Determine the recipient of Occupational Safety protection Program	Supervise the labor that runs the policy		Labor implement policies in the company	Who runs the company's policy is all workers in the company
Determining occupational	Designing a workplace	All workers participate in the	Involved in designing the	The policy is directed at

safety protection program	work environment and involving all workers in socialization in the company	implementation of the policy	work environment and involvement in P2K3	providing work support facilities and labor obligations in carrying out the policy
Determine the delivery of occupational safety protection programs	Involves labor through safety induction	Worker participation in program implementation	P2K3 involvement	Worker participation is an alternative method of delivering programs
Determine budgeting for occupational safety protection programs	The budget of the company through the management of the OHSE department	The budget of the company through the management of the HR department	Budget from the company for policy implementation	The budget used is a version of the budget of each department

Source: from 2019 research results

Programs in the work environment activities are principally budgeted by the company and implemented by the OHSE department. Budgeting work environment design activities are endorsed and known by management. In addition to budgeting activities, the company also determines the departments involved in accordance with the job description. This shows that the role of departments in the design of the work environment is very large.

DISCUSSION/ANALYSIS

Choice of implementation of occupational safety and health policies in the PTLKK and PTWM

In addition to labor knowledge in the implementation of occupational safety and health policies, labor also determines the choice of implementing policies from the category of program recipients, determining the program, delivering the program and budgeting the

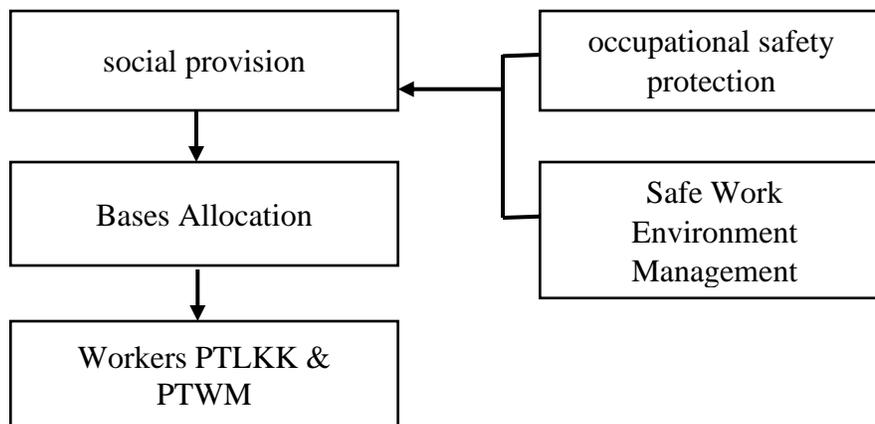
program. From the field findings it is known that the labor implements the program recipient's policy or the target of the occupational safety and health policy. The determination of these targets is referred to by (Gilbert, 1993) as aspects of bases allocation. That choice, labor know that the objectives of the policy are universal. The reason given by workers is because the implementation of the policy applies to all workers in the company without discriminating the status of the manager, supervisor, coordinator, staff and laborers. As long as the workers is still employed at the company, it means that the workers is the target or recipient of programs and services as a mandate of the occupational safety and health policy and work protection. In addition, if viewed from the goals known to labor, namely the general objectives of the policy, it can be seen that the policy seeks to improve the development of the work environment by safely working in companies. From the understanding of these objectives it can also be seen that the target

recipient of the program from company policy is the entire workers in the company.

The category of implementation of occupational safety and health regulations and working environment is the determination of the program provided. (Gilbert, 1993) mentions that the social provision aspect is a form of service or program given to target targets in the implementation of the policy. Further that the choice in social provision there are three namely intangible, limited or concrete, diversified. From the field findings it is known that the choice of labor in determining programs and services to be provided to workers in companies is a concrete service program. The programs include occupational safety protection and safe working environment management. The program options are also inseparable from the determination of predefined target targets. Where, the workers has determined that the target of the implementation of the policy is the overall workforce of the company. Thus, the determination of a occupational safety protection program and management of a safe work environment is also an optional program that can be given to all workers.

From the choice of labor in one of these categories, values can be identified. Values that arise from aspects of choice include equality, equity, and adequacy (Gilbert, 1993). It can be seen that the value contained from the workers choice regarding the same treatment for all workers. Workers translate equality values from occupational safety and health regulations and work environment in the form of equal treatment for all workers in a company. The treatment can be the same service and application of rules without any difference. In addition, the value of equity also arises from the policy, which is seen from the recognition of labor rights. The emphasis on labor rights is understood by the workers that even though each individual has the right and ability to build a safe work environment, but this will certainly interfere with the rights of other workers individuals to get a healthy and comfortable environment. Thus the regulation of the company is deemed to have noticed the rights of each individual. Related to the choice aspects of bases allocation and social provision carried out by these workers, schematically, it can be seen in the following chart:

Chart 1 given Program and program recipients



Source: Derived from the research results of 2019

The next aspect is determining delivery of the program as a delivery system. (Gilbert, 1993) explained that the options in the delivery system are public and income maintenance linked or

public, private, and free-standing. From the field findings it is known that the workers understands the strategy of delivering programs or services from the company's occupational safety and health regulations is that it must be invited to

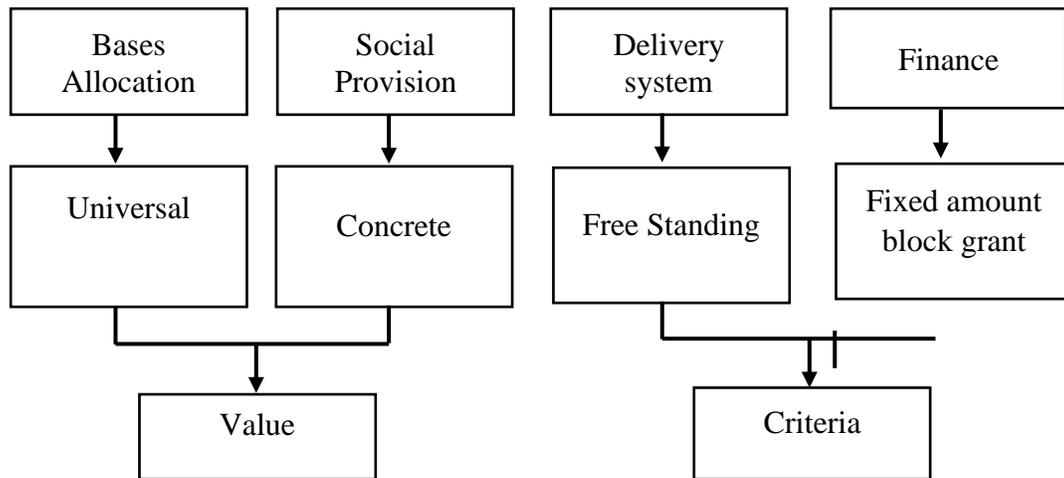
work together in the context of service delivery. The delivery strategy of the program chosen by the workforce is to involve labor and the relevant departments.

Finally, the preferred aspect of the workers is determining budgeting or finance. (Gilbert, 1993), mentions that the option in finance is open-ended categorical grant or fixed-amount block grant. From the field findings it is known that the financial resources chosen by the workers force to run the program of the policy, is a fixed-amount block grant or so-called budgeting in a fixed amount. Budgeting resources can come from their own company budget.

From the determination of the two last choice categories, there are criteria used by labor. (Chambers, 2005) mention that the criteria used

in terms among other efficiency, effectiveness, cost-effectiveness, and cost-benefit. Of the four criteria, only two criteria emerge from workers choices when implementing occupational health and safety policies, namely effectivity, and efficiency. Effectiveness criteria can be seen from the strategy of delivering programs that involve workers. The involvement of the workforce is seen to be more effective when implementing the service program policy. Likewise with the efficiency criteria, which arise when the worker also involves other departments to carry out service programs. To understand the options in implementing occupational health and safety policies and the working environment can be seen from the following chart.

Chart 2 Aspects of the choice of implementing occupational safety and health policy and work environment in the PTLKK and PTWM



Sumber : diolah dari hasil penelitian 2019

From chart 2 above, it can be seen that aspects of the implementation of occupational safety and health regulation policy conducted by the workers. Choice aspects of bases allocation and social provision include the value of equality and equity. Whereas aspects of delivery system and finance options include effectiveness and efficiency criteria. In the aspect of bases allocation, the target chosen by workers is

universal. Then, in the aspect of social provision, the program chosen by the workers is a concrete program. Furthermore, in the aspect of delivery system, the choice of strategy in implementing policies taken by labor is free-standing. Finally, in the aspect of finance, workers chooses a fixed amount block grant.

The choice of policy implementation taken by such synergies cannot be separated from the corporate policy delivered by the workera. In the

previous section has been explained about the policy of companies known by the workers in relation to occupational safety and health policies and working environment. The implementation policy is among others as a form of corporate effort to solve safety protection problems and improve the development of work environment safely work in the company. From this policy, the worker knowledge can be seen when taking alternative options in implementing policies that emphasize on direct and concrete services to address safety protection issues work. The goal of choice is also thorough, because it is related to efforts to improve the development of work environment safely working in the company. Likewise, when the worker chooses the delivery strategy plan and budgeting in the service program to be implemented. The worker chooses the involvement of all departments, as well as utilizing the company's budget and budget departments, as an option to solve the work safety protection issues that exist in the company. It can therefore be concluded that in implementing occupational health and safety policy, the worker takes the policy implementation options based on the policy of the commitments contained in the company's regulations. In addition, the values arising from the choice of implementation of policy aspects, among others, equality and equity. While, the criteria that arise from the choice of policy implementation aspects, among others, effectiveness and efficiency.

Conclusion

Conclusion of the research results on the implementation of occupational safety protection policy that is the basis of value in implementing safety and occupational health regulations seen from the category of options that include the bassist allocation, Social provision, delivery system and finance. In the category of bassist allocation indicates that the worker chooses a universal target target that is all over the office in

the corporation. Then, in the provision social category, the workers selected the concrete and Diversivield programmes and services that were seen in the occupational Safety protection programme and stewardship a peaceful work environment. From the options bases allocation and social provision, the value that appears is equality and equity. Equality seen from the same treatment for all workers. While equity is seen from the principle of justice that emphasizes the importance of respecting the rights of each worker.

In the delivery system category, the selection is public, private, and free-standing, where the department chooses the presence of worker involvement in the program delivery. Meanwhile, the finance category of choice is fixed-amount block grant which is seen from the use of budget funds from the company itself. From the selection aspect of the delivery system, and the finance, the criteria that arise are effectiveness and efficiency. Criteria effectiveness seen from the choice of departments involving worker in program delivery. While the efficiency is seen from the choice of department in the provision of budget involving programs from the relevant departments to support the implementation of the program.

It can therefore be concluded that from the selected aspects of the policy implementation that arise when the worker implements the occupational safety and health regulation policy can be seen from the presence of values and criteria.

The research can be concluded that there are obstacles in the implementation of company policies when implementing policies on occupational safety and health and the work environment, including labor behavior, company support policies and the availability of company facilities. Labor is seen by companies as manpower who tend not to pay attention to regulations and do not care about the conditions of the work environment. This condition can

hamper the company when implementing the company policy. Then, another obstacle in implementing the perceived policy is the absence of supporting policies. While policy improvements or improvements cannot yet be made in the near future, although it is felt by the company that the policy still has many shortcomings.

It can be known that the company or related department has defined several obstacles to policy implementation when implementing occupational safety and health policies and the work environment. These obstacles can be separated into two groups, they are internal obstacle and external obstacle. Internal obstacle is viewed from the absence of supporting policies from occupational safety and health regulations and the limited facilities in the work environment. While external obstacle is viewed from labor behavior that is still not sensitive to the issue of a safe work environment for work.

ACKNOWLEDGEMENT

This research is supported or partially supported by Indonesian Endowment Fund for Education (Lembaga Pengelola Dana Penelitian-LPDP RI) as one of funding agencies and credible scholarship in Indonesia.

AUTHORS CONTRIBUTION

The author first performs the data collection and performs the data analysis. Furthermore, other authors give the contribution to the review of the literature and conduct data analysis.

REFERENCES

1. Abdul Wahab, S. (2004). Analisis Kebijakan: Dari Formulasi ke Implementasi Kebijakan Negara. Jakarta: Penerbit PT. Bumi Aksara.
2. Astuti, Y. H. N. (2010). Peran “ Safety Leadership ” Dalam Membangun Budaya Keselamatan Yang Kuat . Yusri Heni Nurwidi Astuti. (November), 33–40. Retrieved from file:///C:/Users/hp1/Downloads/document.pdf
3. Belkhir, M., & Ben-Nasr, H. (2016). Labor protection and the privatization or partial privatization method. *International Review of Economics and Finance*, 44, 305–322. <https://doi.org/10.1016/j.iref.2016.02.008>
4. Bloor, M., & Wood, F. (2006). *Keywords in Qualitative Methods*. London: SAGE Publications Ltd.
5. Chambers, D. E. and K. R. W. (2005). *Social Policy and Social Programs : a Method for the Practical Public Policy Analyst*. Boston: Pearson Education Inc.
6. Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Approaches (3rd Ed.)*. California: SAGE Publications, Inc.
7. Dunn, W. N. (2000). *Analisa Kebijakan Publik*. Yogyakarta. Yogyakarta: Gadjah Mada Press.
8. *Extraktive Industries Transparency Initiative (EITI) Indonesia*. (2016). Studi ruang lingkup laporan EITI Indonesia. Jakarta: Sekretariat EITI Indonesia Kantor kemeterian Koordinator Bidang Perokonomian RI.
9. Fridayanti, N., & Kusumasmoro, R. (2016). Penerapan Keselamatan Dan Kesehatan Kerja Di PT Ferron Par Pharmaceuticals Bekasi. *Jurnal Administrasi Kantor*, 4(1), 211–234. Retrieved from <http://ejournal-binainsani.ac.id/index.php/JAKBI/article/download/22/21/>
10. Friedrich, C. J. (1963). *Man and Government: An Empirical Theory of politics*. New York: MacGraw Hill.
11. Gilbert, N. dan P. T. (1993). *Dimensions of Social Welfare Policy*. Massachusetts: Allyn and Bacon.
12. Given, L. M. (Ed.). (2008). *The SAGE Encyclopedia of Qualitative Research*

- Methods. London: SAGE Publications, Inc.
13. Griffin, M. A., Neal, A., & Neale, M. (2000). The contribution of task performance and contextual performance to effectiveness: Investigating the role of situational constraints. *Applied Psychology*, 49(3), 517–533. <https://doi.org/10.1111/1464-0597.00029>
 14. Hadjimanolis, A., & Boustras, G. (2013). Health and safety policies and work attitudes in Cypriot companies. *Safety Science*, 52, 50–56. <https://doi.org/10.1016/j.ssci.2012.03.012>
 15. Imam Soepomo. (1999). Pengantar hukum perburuhan Cet.12. Jakarta Selatan: Penerbit Djambatan.
 16. International Labour Organization. (2018). Meningkatkan keselamatan dan kesehatan pekerja muda. Jakarta: ILO.
 17. Jansson, B. (2008). *Becoming an Effective Policy Advocate: from Policy Practice to Social Justice*. Pacific Groove, CA: Brooks/Cole.
 18. Miles, M., Huberman, M., & Saldana, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). New York: SAGE Publications, Inc.
 19. Oaks, T., Aberdeen, T., & Psychology, E. (2013). Yin, R. K. (2009). *Case study research: Design and methods* (4th Ed.). Thousand Oaks, CA: Sage. In *The Canadian Journal of Action Research* (Vol. 14). <https://doi.org/10.33524/cjar.v14i1.73>
 20. Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. London: SAGE Publications, Inc.
 21. Phillip H. Kim, C.-S. L. and P. D. R. (2018). *Backed By The State: Social Protection And Starting Businesses In Knowledge-Intensive Industries*. The Eletronic Library, 34(1), 1–5.
 22. Taylor, S. J., Bogdan, R., & DeVault, M. L. (2016). *Introduction to Qualitative Research Methods: A Guidebook and Resource* (4th Ed.). New Jersey: John Wiley & Sons, Inc.
 23. Usep Firdaus Huda , Anggraini Sukmawati, dan I. M. S. (2016). Model Perilaku Keselamatan Kerja Karyawan pada Industri Berisiko Tinggi. *Jurnal Manajemen Teknologi*, 15(1), 51–66. <https://doi.org/10.12695/jmt.2016.15.1.4>
 24. W. Prasud, U. H. dan S. (2019). Peran Organisasi Dalam Menumbuh Kembangkan Budaya Keselamatan. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699. <https://doi.org/10.1017/CBO9781107415324.004>