

Management Guidelines to Support Elderly Workers Entering the Industrial Sector

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Abstract

Elderly workers benefit society and can compensate for the labor shortage in the industrial sector. The research objective intentionally simulated the structural equation modelling of management guidelines to support elderly workers entering the industrial sector. Conduct qualitative research by conducting in-depth interviews with nine experts to create tools used in quantitative research. A group discussion of 11 experts was conducted to find a consensus to certify the model of this research. Additionally, quantitative analyses are implemented to interpret all information from 500 questionnaires collected from small, medium, and large-scale enterprises.

The research outcome of management guidelines to support elderly workers entering the industrial sector that the highest impact of each point of view was revealed as followings: 1) working environment management ($\bar{x} = 4.02$) aspect was improved ramps and walkways for the elderly 2) welfare management ($\bar{x} = 3.98$) aspect was organising out-of-site activities suitable for the elderly 3) labor knowledge management ($\bar{x} = 4.12$) aspect made video clips of various knowledge bases from the knowledge experience of the elderly workers and 4) regulation and procedures ($\bar{x} = 4.08$) was receiving benefits for the elderly.

The hypothesis testing that the human resource managers focus on guidelines for elderly workers management in small, medium, and large industrial sectors was not significantly different at level 0.05. The developed structure equation model analysis showed that it was in accordance and harmony with the empirical data and passed the evaluation criteria. Its Chi-square probability level, relative Chi-square, the goodness of fit index, and root mean square error of approximation was 0.071, 1.166, 0.963, and 0.018, respectively.

Keywords: Elderly Workers, Working Environment Management, Welfare Management, Labor Knowledge Management, Regulation and Procedures for Elderly Workers, Structural Equation Modeling.

1. Introduction

As the world's population structure has markedly changed, socio-economic changes and medical and public health technology advances. The decline in fertility and the longevity of people has increased the world's population. Thailand and an increasing number of older adults (Department of Ageing Affairs, 2017). Thailand has established the Elderly Act. Prof. 2003 means a person who is over 60 years old and has Thai nationality. For the world population proportion structure, Prof. 2021 has a population of about 6,300 million people, a population of about 962 million elderly people, representing 13 per cent, while the population of Thailand Prof. 2021 has a population of approximately 66.17 million people, an elderly population of roughly 16.94 million, representing 12.57 per cent, which Thailand has entered the 'ageing society' since Prof. 2005 is a population of up to 10 per cent of the elderly (Ministry of Interior, 2021).

The change in the elderly is physical but also mental and social. In addition, the role has changed from being a family leader to just a resident. Nevertheless, the elderly can still work after retirement. According to the Department of Employment, Ministry of Labor (2017), 47.70 per cent of elderly workers are still healthy, and 43.40 per cent want to earn money for their families. In line with the study by Ipsos Market Research Company (Ipsos, 2018) that 79 per cent of Thai older adults plan to work after retirement, as shown in Figure 1-1.

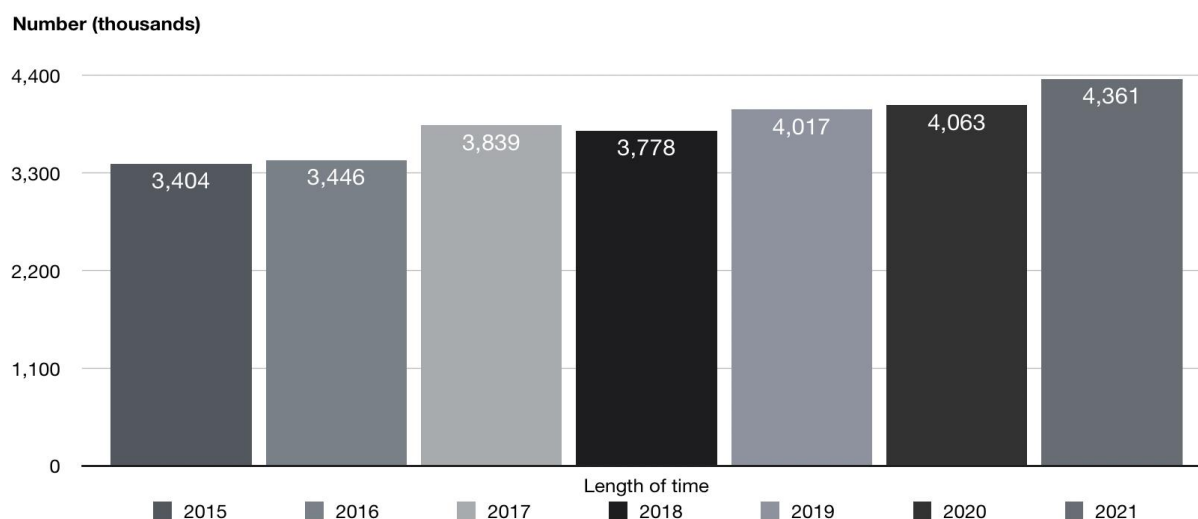


Figure 1-1 Working demand for the elderly in Thailand. (Ipsos Marketing Research The company, 2022)

From figure 1-1, it was found that there were older adults in Thailand who wanted to work during the year 2015-2021; there were 3,404 thousand people, 3,446 thousand people, 3,839 thousand people, 3,778 thousand people, 4,017 thousand people, 4,063 thousand people, and 4,361 thousand people, respectively.

In addition, the Office of the Economic and Social Development Board (2017) has also established the 12th Economic and Social Development Plan (B.E. Prof. 2017-2021). Part 4 Country Development Strategy 1 Strengthening and developing human capital potential. There is a policy for the elderly at an early age (60–69 years old) to have a job and income suitable for the potential elderly. By developing the potential of early elderly groups to be able to enter the job market more. In addition, Thailand also has an elderly plan No. 2 (B.E. Prof. 2002–2021), establishing a strategy to promote and develop the elderly. Measures to encourage work and earn money for the elderly to upgrade full-time and part-time jobs both in the system and informal. They are promoting vocational training and recruitment to suit the age and ability and promoting community integration to create income-enhancing activities by allowing the elderly to participate. In addition, the government has issued incentive measures to encourage the private sector to hire more elderly workers to work. Enacting a decree issued under the Revenue Code on Revenue Exemption (No. 639) B.E. Prof. 2017 requires companies or juristic partnerships to have the right to use the expenses paid as expenses. To hire older adults to waive income tax Which can deduct expenses two times hire the elderly to work in their establishment (The Revenue Department, 2017).

According to this information, the elderly is socially beneficial. It can compensate for lacking workers in some professions or occupations that are likely to be scarce shortly. The

work process should not end at the specified age only. Hiring elderly workers is an essential measure of a country that is an ageing society because it will allow the government to maintain production capacity for a long time. Furthermore, it is a social measure to build the potential and dignity of the elderly as well as being a guarantee of income for elderly workers helping to alleviate the government budget to take care of the elderly in the long run from the importance and issues mentioned above. The researcher is interested in studying management guidelines to support elderly workers entering the industrial sector. The results of this research will continue to benefit the elderly, society, and the nation.

The purpose of the research is the following.

1. Study management guidelines structure and general operational characteristics to support elderly workers entering the industrial sector.
2. To study the elements of management guidelines to support elderly workers entering the industrial sector.
3. To develop a model of management guidelines structure equations to support elderly workers entering the industrial sector.

Scope of research

1. This mixed-methodology research consists of qualitative research with in-depth interview techniques. Quantitative analysis and qualitative research with focus group discussion techniques to study and develop management guidelines to support elderly workers entering the industrial sector.
2. The population used in qualitative research with in-depth interview techniques is nine experts. The population used in quantitative analysis is human resource executives in industrial business organisations, 34,430 people (Personnel Management Association of Thailand, 2021). The population used in qualitative research with 11 qualified group discussion techniques.
3. ***Variables used in quantitative research studies can be divided into two types.***
 - 3.1 Independent variable is a large and medium-sized industrial business establishment.
 - 3.2 Dependent Variable is the structure and general operating characteristics of large and medium-sized industrial business establishments. It is a checklist and management guidelines to support elderly workers entering the industrial sector. The measurement scale can be classified into two characteristics: observed variable is derived from collecting information on management guidelines to support elderly workers entering the industrial business. Moreover, latent variables collect information from observational variables consisting of latent endogenous variables, including welfare management elements, labor knowledge management elements, and regulation and procedures elements, and exogenous latent variables, including working environment management elements.
 - 3.3 Qualitative research by requesting interviews, sending questionnaires by mail and electronically, individually specific.

4. Research hypothesis.

4.1 Research hypothesis in the causal influence test between latent variables, item

H1: Working environment management elements directly influence welfare management elements.

4.2 Research hypothesis in the causal influence test between latent variables, item

H2: Working environment management elements directly influence labor knowledge management elements.

4.3 Research hypothesis in the causal influence test between latent variables, item **H3**: Working environment management elements directly influence regulation and procedures elements.

4.4 Research hypothesis in the causal influence test between latent variables, item **H4**: Labor knowledge management elements directly influence regulation and procedures elements.

4.5 Research hypothesis in the causal influence test between latent variables, Article **H5**: Regulation and procedures elements directly influence welfare management elements.

4.6 Hypothesis that wants to test the difference in the level of importance of management guidelines to support elderly workers entering the industrial sector as a whole, classified by the size of the industrial business.

H6: The level of importance of management guidelines to support elderly workers entering the industrial sector, classified by the size of the industrial business, is no different.

2. Concept and theory

The concept and theory of working environment management mentioned by Bravo et al. (2022) Study the relationship between elderly workers and occupational accidents due to labor age, and the relationship between the age of workers and occupational accidents is a very worrying factor around the world. The aim of this article is two things: 1) to explore the relationship between the age of workers and occupational accidents registered by a joint insurance company between C. Prof. 2015-2019 and 2) to analyse odds (OR) trends of severe accidents and accidents that cause loss of working days in the same period.

The concept and theory of welfare management mentioned by Kawata & Owan (2022) studied the employment of elderly workers in Japan. The law to stabilise the work of the elderly, revised in the year Prof. 2006, helped the government increase employment for the elderly According to a survey of employee satisfaction in Japanese companies, on average, elderly workers have no significant impact on peer satisfaction.

The concept and theory of labor knowledge management mentioned by Nonaka & Takeuchi (1996) discuss the management of the organisation's knowledge between tacit and explicit knowledge to raise the level continuously in a cycle. They start from socialisation, externalisation from people, and the combination and embedding of knowledge.

The concepts and theories of regulation and procedures mentioned by elderly labor management mean managing the labor of the elderly based on the physical and physique of the work (Pongmanat & Surawut, 2018). In terms of age criteria defining elderly workers is essential for the world because it is not very clear how to determine how old the elderly workers should be, especially in selecting the requirements for use in implementing policies and measures related to the employment of the elderly, such as legislation on the work of the elderly—promotion of employee work elderly Providing incentives or configurations for the elderly, which should hear goals, etc.

3. How to conduct research

This research is creating inductive analysis using mixed-methodology analysis. It consists of 3 parts: qualitative research with in-depth interviews, quantitative research with survey data collection, and qualitative research with focus group techniques to confirm the accuracy of this research model. The research method is presented in steps, including population and sample, data collection, and statistics used in data analysis.

Population and sample Qualitative research with in-depth interview techniques. The population used in this research is nine experts using purposive sampling. The quantitative population research used is human resource management in small and medium-sized industrial organisations and large industries. The population used in quantitative research is a human resource executive. The population used in quantitative research is a human resource executive in 34 large industrial and medium and medium-sized industries (Personnel Organizing Association of Thailand, 2021), with 500 samples according to the criteria (Comey & Lee, 1992, referred to in Thanin, 2020), 500 cases and qualitative research with a focus group discussion to support the subject from 7 human resource experts using purposive sampling.

The characteristics of the tools used in this research can be divided according to the aspects of the research method into two types: qualitative research and in-depth interview techniques. The research tools are structured interviews. Quantitative research tools are questionnaires consisting of questionnaires that are characterised by a checklist and rating scale. By setting the weight setting criteria into five levels according to Likert's method, the conformity index between the question and the purpose of this research. It appears that all 100 observational variables have IOC values and then experiment by trying out with population groups similar to the people who want to study. This time, 30 people used the results from trying to analyse by using the scores obtained from the questionnaire to find the discrimination in the question section that looks like a list, with standard deviation and questions that are scaled with correlation coefficients and find the reliability of the questionnaire. The question is characterised by estimating the Cronbach from the ready-made program (SPSS: Statistical Package for the Social Science for Windows) and qualitative research with a focus group discussion; research tools are conversation logs.

Data analysis uses descriptive statistics. Reference statistics and multi-statistics to develop a structural equation model (SEM) using ready-made programs SPSS and AMOS. Determine the criteria for evaluating the data-model fit (Evaluating the Data-model Fit) used to consider four values: 1. The probability of chi-square is more significant than 0.05. 2) The relative chi-square value must be less than 2, 3) The Consistency Index is more significantly more significant than 0.90, and 4). The root index of the squared mean error estimate (RMSEA) is less than 0.08.

The research results researcher would like to present an overview of management guidelines to support elderly workers entering the industrial sector. Moreover, the conclusion of the research results are as follows:

Strategic analysis results of management guidelines to support elderly workers entering the industrial sector with qualitative research using in-depth interview techniques from experts; it was found that four elements can be classified: 1) Working Environment Management, 2) Welfare Management, 3) Labor Knowledge Management and 4) Regulation and Procedures.

The importance of management guidelines to support elderly workers entering the industrial business sector found that the overall picture is significant at a high level. For labor knowledge management elements is very important at a high level. The average of 4.12 rules, regulations, and procedures are critical at a high level. The standard is 4.08 working environment management. It is essential at a high level. The average is 4.02, and welfare management is necessary at a high level. The standard is 3.98 when classified individually in each aspect. The highest priority - first, it was found that **Working environment**

management elements include improving ramps and walkways for the elderly, such as non-slip surfaces, wheelchair seats, etc. The average is 4.18, followed by arranging a room or area for meditation, mindfulness, and prayer for the elderly. The standard is 4.16, and survey and planning the working environment of the elderly. The average is 4.12. **Welfare management elements** are 1) Organize off-site activities suitable for the elderly such as cultural attractions, archaeological sites, etc. The average of 4.22, followed by praise, compliments, and awarding the elderly who are good role models in various fields to the organisation. The average is 4.15, and it has the personnel to give advice. Consult about cases and solve family problems for the elderly. The average is 4.13. **Labor knowledge management elements** included coordinating with a network of government agencies, the private sector, and educational institutions for the elderly to reach the knowledge database about elderly workers. The average is 4.21, followed by social media to store knowledge that the elderly can access knowledge, such as group lines, etc. The average is 4.21, and it provides various knowledge videos. From the knowledge experience of elderly workers, the average is 4.21. **Regulations and procedures elements** such as having easy-to-understand guidelines for elderly workers. The average is 4.24; there are operations to receive benefits for the elderly, such as health food discounts, etc. The average of 4.20 continuously monitors and reviews the rules and regulations for elderly workers to be up-to-date—the average of 4.22.

Summary of the analysis of the importance of management guidelines to support elderly workers entering the industrial sector. The overall classification by industrial business found that small and medium-sized enterprises found the highest priority in labor knowledge management, which had an average of 4.09, followed by regulation and procedures, which had an average of 4.08, and working environment management, which had an average of 4.02, respectively. For large businesses, it was found that the highest importance of labor knowledge management has an average of 4.14, followed by regulations and procedures average of 4.08 and working environment management is 4.01, respectively.

Table1-1: Comparison of the level of importance of management guidelines for supporting elderly workers are entering the industrial business sector.

| Management guidelines to support elderly workers entering the industrial sector | Small and medium business | | Large business | | t-Value | P-Value |
|---|---------------------------|------|----------------|------|---------|---------|
| | \bar{x} | SD. | \bar{x} | SD. | | |
| The level of importance of the composition as a whole | 4.04 | 0.44 | 4.05 | 0.41 | -0.23 | 0.82 |
| 1. Working Environment Management | 4.02 | 0.50 | 4.01 | 0.47 | 0.22 | 0.83 |
| 2. Welfare Management | 3.98 | 0.55 | 3.97 | 0.50 | 0.20 | 0.84 |
| 3. Labor Knowledge Management | 4.09 | 0.53 | 4.14 | 0.50 | -1.18 | 0.24 |
| 4. Regulation and Procedures | 4.08 | 0.42 | 4.08 | 0.43 | 0.03 | 0.98 |

Comparison of the level of importance of management guidelines for supporting elderly workers entering the industrial sector classified by business size by testing the difference between the average of 2 independent population groups with the value test (T-test), it was found that the overall picture, when classified by the business size of small and

medium-sized businesses, large businesses, focusing on management guidelines to support elderly workers entering the industrial sector. There is no statistically significant difference at 0.05.

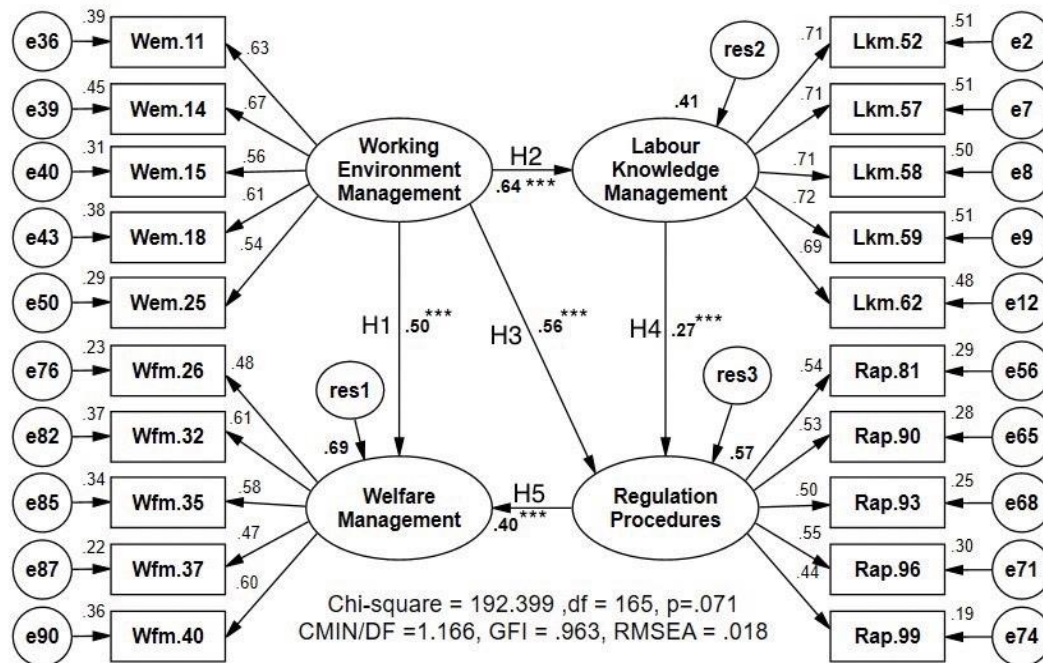


Figure 1-2: Model structure of management guidelines to support elderly workers entering the industrial sector.

Standardised Estimate mode after remodelling the subject. Model structure of management guidelines to support elderly workers entering the industrial sector. The researcher analyses and adjusts the subject based on the Modification Indices to cut the observational converter that is not suitable one by one. Until the subject is consistent with the empirical data, the model is shown in the figure, and the variable meaning is shown in the table.

Table 1-2: Statistical values that evaluate the harmonisation of the structural equation model before and after improving the subject.

| Statistical values | Criteria used | Before the update | After remodelling |
|--|-------------------|-------------------|-------------------|
| r of C-Square (Probability Level of Chi-Square) | More than 0.05 | 0.000 | 0.071 |
| CMIN/DF (Chi-square ties) | Younger than 2 | 3.324 | 1.166 |
| GFI (Conformity level index value) | More than 0.90 | 0.560 | 0.963 |
| RMSEA (Root index of the squared mean of tolerance estimation) | Younger than 0.08 | 0.068 | 0.018 |

Table 1-3: Variable meanings

| Variables | Meaning |
|---------------------------------------|--|
| Working Environment Management | |
| Wem 11 | Install the support press on the desktop. |
| Wem 14 | There is a space where you can relax while working in the workplace, such as seating on each floor inside the building, etc. |
| Wem 15 | Provide a dining room and dining materials suitable for the elderly. |
| Wem 18 | There is a list of foods suitable for the health of the elderly. |
| Wem 25 | There is favourable technology equipment in work such as large computer monitors, etc. |
| Welfare Management | |
| Wfm 26 | Plan to allocate budgets for elderly Labor welfare. |
| Wfm 32 | Allocate flexible working hours suitable for the physical condition of the elderly. |
| Wfm 36 | Encourage and support the education of children or children who are directly related to the elderly. |
| Wfm 37 | There is a family allowance in case of death from work. |
| Wfm 40 | There is a funeral fund. |
| Labor Knowledge Management | |
| Lkm 52 | Explore the knowledge, needs, and needs of elderly workers. |
| Lkm 57 | Organise a contest for the work of the elderly to exchange knowledge. |
| Lkm 58 | Organise mentoring teaching to transfer knowledge to the new elderly. |
| Lkm 59 | Organise collaboration between general personnel and the elderly. |
| Lkm 62 | Gather knowledge, ability, and wisdom of the elderly to use as a database in the organisation. |
| Regulation and Procedures | |
| Rap 81 | There are rules, warnings, and disciplinary action at work for the elderly. |
| Rap 90 | There are practices for the occupational safety of the elderly. |
| Rap 93 | There is an afternoon break that is suitable for the event. |
| Rap 96 | Penalties are imposed on the elderly who committed the offence. |

Hypothetical test results Hypothesis test results to analyse the causal influence between latent variables in the structural equation model of management guidelines to support elderly workers entering the industrial sector. There are five hypotheses. It was found that according to hypothesis set 7 assumptions: 1) Statistically significant working environment management elements at 0.001 2) Statistically significant working environment management elements at 0.001 3) Statistically significant working environment management elements at 0.001 4) Labor Knowledge Management elements statistically significant at 0.001.

Discuss the results and summarise the results of the analysis of management guidelines to support elderly workers entering the industrial sector. The level of importance of management guidelines to support elderly workers entering the industrial sector found that the overall picture is fundamental. The average is 4.05. The management guidelines support elderly workers entering the industrial sector individually. Order can be sorted as follows: labor knowledge management is essential at a high level. The average of 4.12 Regulation procedures is essential at a high level—4.08. Working environment management is critical at a high level. The average of 4.02 and Welfare management is critical. The average is 3.98, respectively.

According to the comparative research results of the management guidelines to support elderly workers entering the industrial sector, classified by small and medium-sized businesses and large businesses as a whole, there is no statistically significant difference at the level of 0.05, which is managed to support elderly workers entering the industrial sector of executives involved in human resource management. In the industrial business organisation, there is no impact on the business size. Due to the support for elderly workers in the industrial sector, small and medium enterprises, and large businesses, there is cooperation in creating learning. Mutual agreements, creating dependencies, resource sharing, strategic planning, operations, and negotiations between organisations in line with Chalermphon and Suporn (2021), which studies the situation and trends of the work of the elderly in Thailand by analysing the needs of work health, and income sources of elderly workers by Kantima (2021). The private sector wants to hire elderly workers to continue to work. Because he is a labourer with high work experience Can help develop the organisation. At present, there are still many labour shortages. Therefore, elderly workers are very good at solving the problem of labor shortages. Moreover, in harmony with Girum (2021) mentions that the organisation's transformation must communicate the vision. Operational spirit for personnel in the organisation to have the same direction

For all four areas: 1) working environment management, 2) welfare management, 3) Labor knowledge management, and 4) rules, regulations, and operating methods. There is no statistically significant difference at the level of 0.05, in line with Pornrat et al. (2021). It was found that most human resource executives and elderly employees agreed with the employment of the elderly. Most of them wish to hire elderly employees by considering. Regarding the management of the working environment and welfare management by the nature of the job that is suitable for the elderly workers, including labor knowledge management to extend the knowledge that elderly workers have had before Until determining the rules and methods of work by entering into a contract to hire elderly workers correctly and suitable for labor laws and by Pailin (2021), it was found that Thailand is going to enter

an utterly ageing society shortly. In 2023, it will be an altogether ageing society. Furthermore, it will be the ultimate ageing society in 2033. Policies and strategies support ageing society policies and management. All businesses or organisations are prepared by collaborating with the public and private sectors. From the individual, community, and country levels, Elderly employment planning is prepared to prepare for ageing.

As for comparing the differences in management guidelines to support elderly workers entering the industrial sector classified by small and medium-sized businesses and large businesses on a case-by-case business, it was found that there are differences in welfare management and Labor knowledge management, such as planning to allocate budgets for elderly Labor welfare. Small and medium-sized businesses focus on management guidelines to support elderly workers entering the industrial sector rather than large businesses. There is a provident fund for elderly workers. Large businesses focus on the elements of management guidelines to support elderly workers entering the industrial sector rather than small and medium-sized businesses. In line with Narumon (2019), it was found that small and medium-sized businesses need to manage the welfare of elderly workers to have appropriate welfare. This differs from large business organisations preparing informal workers to be energetic elderly workers by focusing on managing welfare management with workers with a transparent system by adjusting the form of compensation that meets the needs of the elderly, such as increasing health insurance benefits and pension payments, organising health services for the elderly, etc.

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