

GUIDELINES FOR DEVELOPING THE WORK EFFICIENCY OF EMPLOYEES IN THE ELECTRONICS AND ELECTRICAL APPLIANCE INDUSTRY

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ABSTRACT

This research aims to explore Guidelines for developing employees' work efficiency of employees in the electronics and electrical appliance industry. Key informants include 5 executives from electronics and electrical appliance companies, 5 human resources from the same sector, and 5 employees working in these industries, totaling 15 key informants. The results of the study found that guidelines for developing the work efficiency of employees should consider the issues of Welfare Benefits, work process development, developing employee skills, managing workload, staff shortage resolution, and having good supervisors and colleagues. By adhering to these guidelines, organizations in the electronics and electrical appliance industries can help employees improve their work efficiency and enable these organizations in this industry to achieve their goals.

Keywords: Electronics and Electrical Appliance Industry, Work Efficiency, Employees

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INTRODUCTION

Employees are considered the most valuable resource in an organization because they are the ones who make other resources valuable for managing the organization. Therefore, it is necessary to develop human resources to increase their value by employees's work efficiency. The concept of human resource management recognizes that employees in the organization are the most valuable resource of the organization, also known as human capital. This is a crucial factor that indicates the future success or failure of operations. Therefore, organizations must use the efficiency of human resources to their fullest potential and encourage increased work efficiency. Effective human resource management is important for the growth and success of the organization. (Phuengwiwatnukul, 2019)

The current environment is constantly changing, such as in the areas of economics, politics, and society, etc., As a result, organizations continuously improve, adapt, and develop themselves to survive and enhance their competitiveness. Every organization must adjust various strategies and develop personnel to ensure both efficiency and effectiveness in their operations to achieve the goals set by the organization. (Shucherd, 2022)

The electronics and electrical appliance industry is considered a major industry that is important to the Thai economy. Electronic and electrical appliances have consistently been Thailand's top export, accounting for 27% of the total export value in 2022. It is also a basic industry for further development into smart electronics. Additionally, Thailand is a leader in the production of electronic components for electrical appliances, automobiles, household equipment, and complex electronic components. (Electricity and Electronics Institute (EEI), 2023)

According to data from the Thailand Office of Industrial Economics in 2020, Thailand's exports of electrical appliances accounted for 65-70% of electrical appliance production. Major export products include air conditioners, televisions and radios, refrigerators, washing machines, compressors, video equipment, and other electrical appliances. Major export markets include ASEAN, the United States, Japan, the European Union, and China, respectively. Thailand has a competitive advantage in producing components and a strong supporting industry, as component manufacturers accumulate technology transferred from foreign companies that invest or subcontract continuously. This has led to the development of domestic manufacturing capabilities and supports Thailand's position as a significant global exporter of household electrical appliances.

The electronics and electrical appliance industry is a major sector that is important to both the global economy and Thailand's economy, It has a high economic value. It is important to focus on improving employee work efficiency in this sector to help Thailand's electronics and electrical appliance industry advance to a leading position and drive the country's economic growth.

The objective of this research is to study the guidelines for improving the work efficiency of employees in the electronics and electrical appliance industry.

LITERATURE REVIEWS

Concepts and theories related to the work efficiency of employees in the electronics and electrical appliance industry. The electronics and electrical appliance industry is a global business sector involved in the production of computers, communication devices, and other electronic products. Electronics refer to devices that use electrical circuits to perform tasks that are difficult or impossible for humans. The late 19th century saw significant advances in electronic technology, and electronic devices have since been widely used around the world. The world has been influenced by the products of this industry, and people use electronic devices in nearly every aspect of modern life. These can be divided into 3 main product categories 1) household electrical appliances (Consumer Electronics) such as televisions,

refrigerators, washing machines, and air conditioners 2) electronic components (Electronics Components) such as PCBs, motors, and spectrometers, and 3) computer and telecommunications equipment such as PCs, laptops, software, mobile phones, radar, and fiber-optic devices. Thailand's electrical and electronic industry can be classified by product structure and manufacturing processes. The Thai electrical appliance and electronics industry is divided into five groups (Chulalongkorn University's Intellectual Property Institute, 2017) 1) Household electrical appliances, such as refrigerators, air conditioners, fans, and televisions, 2) Electronic components, such as electric circuits, electrical wires and cables, and electric motors, 3) Computers and components, such as printers, scanners, digital cameras, and modems, 4) Telecommunication equipment, such as telephones, fax machines, and network devices, and 5) Software, such as accounting systems and operating systems. Thailand's electronics and electrical appliance industry has experienced continuous growth over the years, and this growth is expected to continue in the future. Thailand's strong manufacturing base and well-developed infrastructure make it an ideal location for the production of electronic devices and electrical appliances. Currently, nearly all leading manufacturers in the electronics industry have a presence in Thailand. The country is not only a regional leader but also a global leader, attracting countries such as Japan, Korea, Europe, and the United States, which have relocated their production of electrical appliances to Thailand. Leading brands such as Bosch & Siemens, Daikin, Electrolux, Fisher & Paykel, Haier, LG, Panasonic, Samsung, and Toshiba have established operations in Thailand. The main electrical appliance industries in Thailand include air conditioners and refrigerators. (Interloop, 2024)

The electronics and electrical appliance industry plays a significant role in the development of Thailand's economy. This is a result of the opening of production bases and investment in electronic parts and equipment in the country, making Thailand one of the leading countries in electronic exports in ASEAN. As for the future development trends of Thailand's electronics and electrical appliance industry, the country continues to stand out as a strong production base and exporter.

From the above, it can be clearly seen that the electronics and electrical appliance industry is considered a major industry that is important to the world economy and the Thai economy. The consistent improvement of employee performance in this business sector has a direct impact on work efficiency, it will help affect the efficiency of the work that comes out and enable the electronics and electrical appliance industry in Thailand to advance to become a global leader in production, import, and delivery. In the future, it may help the Thai economy develop to the point where it can compete with other countries.

The Royal Institute Dictionary (Royal Institute, 2003) defines 'efficiency' as the ability to produce results in work. The term 'performance' is defined as proceeding according to rules, regulations, or actions to develop expertise, perform duties, or provide service.

The Office of the Civil Service Commission (OCSC) (2009) describes work efficiency generally as working in a way that is cost-effective, produces quick results, and maintains high quality while making efficient use of financial resources, personnel, equipment, and time. Therefore, efficiency is something that can be created and measured in practice. Efficiency is measured from inputs, processes, or outputs, measured in one or more ways. 1) Efficiency in terms of cost or production expenses (Input): This involves using available resources such as money, personnel, materials, and technology economically, cost-effectively, and with minimal waste. 2) Efficiency in terms of management processes (Process): This includes working accurately according to standards, quickly and using more convenient techniques that are more convenient than before. 3) Efficiency in terms of results (Output): This refers to producing quality work that benefits society, generates profit, is timely, and satisfies customers, with workers showing a positive attitude towards their work and service.

Millet (1954) defines efficiency as the results of performance that lead to satisfaction and profit from the work performed. Satisfaction, in this context, refers to the contentment derived from providing service, considering such things as providing equal service provision, timely and prompt service, adequate service, continuous service, and progressive service. Shucherd (2022) said that work efficiency is the ability and skills of one's own actions or those of others to improve and develop in order to achieve one's own goals and those of the organization, which will ultimately make oneself, others, and the organization satisfied and peaceful.

The concept used to explain work performance that is widely accepted, such as Simon (1950), who considers that the highest efficiency is determined by the relationship between input factors and the resulting output. Therefore, efficiency is equal to the output minus the input factors. And if the organization is involved in the process with satisfaction with the work, it is considered efficient. The formula can be written as follows:

$E = (O - I) + S$, E = Efficiency: The efficiency of the work, O = Output: The results or products obtained,

I = Input: The input factors or management resources used, S = Satisfaction: The satisfaction with the results produced. (If organizational satisfaction is also considered, it further indicates efficiency.)

Gibson et al. (2006) proposed three approaches to evaluating organizational effectiveness: 1) Goal Approach to Effectiveness: This method evaluates effectiveness based on the achievement of goals. It allows for assessment at various levels: organizational, group, and individual. Goals must be clearly defined, and general management should have strategies to achieve these goals. This approach provides guidelines for employees and managers to ensure successful performance according to expectations. It examines the relationship between work behaviors and desired outcomes. 2) Systems Theory Approach to Effectiveness: This approach views an organization as an open system within society that interacts with both internal and external elements. The system comprises inputs, transformation processes, outputs, and the environment. Inputs include materials, equipment, tools, personnel, and financial resources. Processes involve production, service delivery, and communication. Outputs focus on products and services. 3) Stakeholder Approach to Effectiveness: For an organization to be successful, it must be engaged with individuals, groups, and other organizations that have a stake in it. Success is determined by achieving goals, managing resources appropriately, and having efficient internal processes.

Peterson and Plowman (1953) identified five components of work efficiency 1) Quality: Work must be of high quality, meaning that both producers and users benefit appropriately and achieve satisfaction. The results of work should be accurate, meet standards, and be completed swiftly. High-quality work provides the greatest benefit to the organization. 2) Quantity: This refers to achieving the amount of work specified by the organization. Each individual's roles and responsibilities should be clearly defined to ensure that the work quantity meets the organization's expectations. Workers should plan and allocate time effectively to meet the set targets. 3) Time: This involves the time spent performing tasks. The organization should set time benchmarks that are adequate and timely for the tasks. Improvements in work techniques should enhance convenience and speed. 4) Costs: Work should be performed with costs that are appropriate for the tasks. Methods to minimize costs while maximizing profits and efficiency should be employed. Examples include using financial resources, personnel, raw materials, and technology efficiently to minimize waste. 5) Method: This involves defining the methods, steps, or processes for performing tasks or production. This component should be given priority as effective work requires established procedures, planning, monitoring, checking, and control of production or activities.

In conclusion, work efficiency means the actions of employees who are capable and ready to devote themselves wholeheartedly to their work with agility, discipline, and rules to complete

work on time, quickly, correctly, with quality and standards, so that the work is successful according to the goals set by the organization and themselves effectively, using the least number of resources in the operation, resulting in satisfaction, and work results that are worth the compensation received.

RESEARCH METHODOLOGY

This research employs a qualitative research approach, using in-depth interviews with key informants: 1) 5 executives from companies in the electronics and electrical appliance industries. 2) 5 human resources from the same sector, and 3) 5 employees working in these industries. The total number of key informants is 15.

The number of key informants was determined based on the concept of "theoretical saturation." This means that the researcher will stop interviewing when they no longer hear new information or ideas from the participants (Hennink & Kaiser, 2022). In other words, interviews will continue until no new issues or insights are coming up. Additionally, documentary research was used alongside the interviews.

The research tool used is a semi-structured interview format. The interview questions were tested for content validity and the data was analyzed using content analysis."

RESEARCH RESULTS

Guidelines for Improving Employee work efficiency in the Electronics and Electrical Appliances Industry. Improving employee work efficiency in the electronics and electrical appliances sector involves a variety of approaches that are both diverse and complex. This complexity is due to the differing organizational cultures within each company, as well as the varying backgrounds of individual employees. The research outlines several strategies for improving employee work efficiency in this industry, summarized as follows:

1) Welfare benefits: Offering proper welfare benefits are methods that can help improve work efficiency. Organizations should allocate employee benefits and advantages in the form of salary, which may include monetary benefits or other privileges and facilities for employees. For example, increasing salary with clear and fair criteria for everyone based on work efficiency, skills, abilities, attendance, and work behavior. As 3rd HR manager mentioned, "The company should establish clear structures for promotions, salary increases, and bonuses, so employees have a goal to work towards and are motivated to achieve higher positions and salaries." Additionally, organizations should offer more vacation and leave days than the legal minimum. According to labor laws, there are at least 13 statutory holidays per year; organizations can add extra holidays for special company events or personal occasions, such as birthday leave or religious observance leave. As 1st employee stated, "The company should be flexible with working hours and adjust work arrangements to fit modern trends, such as allowing remote work or providing special leave for significant personal occasions." Annual bonuses should be considered based on work efficiency or KPIs, which can motivate employees by showing that the company values them, making them feel part of the organization and encouraging them to commit more to the company. Including helping employees want to stay with the organization longer and reduce turnover rates.

2) Work process development: Organizations should create manuals, guidelines, or workflow charts to explain the steps, methods, and processes involved in their operations. This ensures that employees understand and align with the same goals. It also assists new employees in understanding the content, gaining an overview of their tasks, and performing their duties correctly according to established guidelines, which will lead to achieving set objectives more efficiently. As 2nd executive stated, "Organizations should encourage employees to gain deeper knowledge of their roles, fostering expertise. Employees must clearly understand their own work processes as well as those of their colleagues. When everyone knows their

responsibilities, the coordination within departments improves, increasing the likelihood of successful outcomes."

3) Developing employee skills: Organizations should support the development of every employee's skills whenever opportunities arise. This can include training on operational methods, offering additional skill development programs, assessing ability levels, and providing further educational funding. When employees improve their skills and gain knowledge and expertise in their tasks, their work efficiency per hour increases. Training allows employees to receive new information related to their career paths. As 3rd employee mentioned, "The company should provide additional knowledge regarding our responsibilities. When the company supports training, employees feel valued and can improve their skills, resulting in more successful and efficient work outcomes."

4) Managing workload: Organizations should reduce unnecessary or low-value work processes, retaining only the essential steps and an appropriate volume of tasks. Effectively assigning personnel to tasks that suit their skills, along with proper time management planning, can enable high efficiency with fewer tasks. As 2nd employee stated, "The company should revise work processes and establish clear guidelines, including documentation procedures. Additionally, implementing a paperless system for data storage can reduce waste, promote environmental sustainability, and help combat global warming. I believe this will not only save time but also eliminate unnecessary tasks while maintaining or even increasing work efficiency."

5) Staff shortage resolution: In every organization, it is impossible to avoid employee resignations. When a shortage of personnel occurs, the organization incurs costs related to recruiting and selecting new staff and loses production opportunities, which impacts overall work efficiency. Organizations should investigate the reasons behind employee resignations and address these issues to improve retention. Furthermore, organizations should quickly find replacements to minimize disruptions to overall work efficiency. If the company cannot find replacements on its own, it should consider using recruitment agencies to assist promptly, ensuring that employee performance remains unaffected. As 3rd HR manager stated, "If the company cannot find replacements in a timely manner, it negatively impacts the overall performance of the department, as there will be no one to fill that role. The temporary worker may face an increased workload, leading to frustration. In some cases, it is necessary to use recruitment agencies to help find quality candidates quickly to continue the work."

6) Effective Leadership and Positive Colleagues: Supervisors should be fair in task delegation and provide clear instructions and guidance to their subordinates. They should actively listen to feedback from their team members and foster positive relationships among colleagues, characterized by friendliness, sincerity, cooperation, and support. As 1st HR manager stated, "When employees have a good leader who is supportive and helps solve problems, it increases their commitment to work and fosters a bond with their supervisor, thereby enhancing work efficiency. Conversely, if employees encounter a poor leader, they may work with anxiety and stress, resulting in subpar performance." To address this, organizations can create a positive work environment by organizing activities that encourage good relationships among employees at all levels. Checking in on each other's feelings and bridging the gap between different job levels can help alleviate worries and improve teamwork. Furthermore, organizations can implement tools to monitor and support employees' emotional well-being, such as mood tracking programs or having a company counselor. By addressing issues based on this information, organizations can create a happier and more enjoyable workplace. When employees feel happy and less stressed, they are more dedicated to their work, leading to enhanced work efficiency and overall effectiveness.

DISCUSSION & CONCLUSION

Research Findings on the Objectives the guidelines for improving the work efficiency of employees in the electronics and electrical appliance industry. The research indicates that strategies for improving efficiency include the following: **Welfare benefits:** organizations should provide additional support and allocate welfare resources effectively to help employees feel valued and like part of the organization. This encourages them to dedicate themselves to the company and increases their desire to remain with the organization, thus reducing turnover rates and alleviating concerns regarding benefits. This aligns with the study by Rithsomboon and Suthisorn (2017), which studies Factors affecting work efficiency of personnel at Rajamangala University of Technology Tawan-ok, Chanthaburi Campus. The findings revealed that the quality of life at work has a moderate impact on overall work efficiency. **Work process development:** Organizations should enhance their operational processes by establishing manuals, guidelines, and correct methods to ensure effective output. This will enable employees to understand and work towards common goals. This approach aligns with the study by Pimpakhan et al. (2020), which studied a study on the development of product developers' potential in the electronics industry. The research highlighted the importance of knowledge and capabilities, emphasizing the need to apply new knowledge to solve problems and continuously improve work. Additionally, it suggested the establishment of operational guidelines, such as work manuals, rules, regulations, or standards, and the prioritization of urgent issues when challenges arise. Employees should also know how to adjust future plans to achieve goals, integrating knowledge into practical steps that align operational efforts towards a common direction. **Developing Employee Skills:** Organizations should support the development of skills for all employees. When employees enhance their skills, gain expertise, and stay informed about the external environment, their work efficiency will improve. This is consistent with the study by Noimala (2021), which researched the essential skills for work in the 21st century. The research found that the skills needed for current employees include knowledge, expertise, and a broad range of competencies necessary for success. These skills can be categorized into three types: 1) Learning skills, 2) Literacy skills, and 3) Life skills. Each of these categories contributes to successful and more efficient work performance. **Managing workload:** Organizations should clearly define the workload, ensuring it is neither excessive nor insufficient. This clarity helps units manage their time effectively and reduces unnecessary work processes, leading to more productive outcomes. This aligns with the research conducted by Phuwadonpaisan (2020), which studied the relationship between achievement motivation and work performance of municipal personnel in Pathum Thani Province. The study found that the factor with the highest average impact on work efficiency was workload, which had an average score of 4.77. **Staff shortage resolution:** Personnel are a crucial resource for any organization. When faced with staff shortages, organizations should promptly address the issue to ensure continuous workflow, as this can significantly impact the overall performance of the company. This is consistent with the study by Wongraksar et al. (2014), which examined Factors affecting the shortage of warehouse employees at the industrial and business levels. The study suggests that organizations should recognize the importance of their employees, fostering pride in their careers, and providing adequate incentives. Both public and private sectors should collaborate to establish workforce production directions and policies that meet market demands to reduce shortages. And **Effective Leadership and Positive Colleagues:** Having good relationships between supervisors and colleagues fosters unity within the organization, minimizing conflicts and enabling collaborative problem-solving. This positive atmosphere contributes to higher work efficiency. This aligns with the study by Wongudom (2019), which investigated the causal factors affecting job satisfaction among teachers in rural primary schools in the upper northern region under the Office of the Basic Education Commission. The study found that positive

organizational membership behavior and effective leadership significantly impact the job satisfaction.

Recommendation

1) Focus on Performance Improvement: The electronics and electrical appliance industry should prioritize the serious development of employee performance within the organization. It is essential to establish clear, accurate, and unbiased performance measurement criteria. This approach will ensure that the organization can maximize its benefits and achieve its goals effectively.

2) Enhance Professional Training: Companies in the electronics and electrical appliance industry should offer regular training to their employees. This will help develop skills and knowledge to keep up with rapid technological changes. By doing so, employees will gain creativity and strength, enabling them to compete effectively on a global scale. This approach will ensure that companies remain competitive and foster a high level of expertise and confidence within the industry.

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