

Factors Concerning Knowledge Seeking Behavior for Power Plant Maintenance Employees

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ABSTRACT

The objectives of this research were to study the following factors: self-directed, role model, knowledge attitude, and knowledge seeking intention concerning knowledge seeking behavior of the Power Plant Maintenance Employees in Thailand. Data was collected by interviewing 11 personnel: 1 manager, 3 supervisors, 5 employees and 2 knowledge management chief officers of power plant in Thailand. The results revealed that among knowledge attitude, role model and self-directed which we cite as 3 factors, the knowledge attitude has been the most important role for knowledge seeking intention and behavior. The acquired results can be developed to enhance knowledge seeking behavior of power plant maintenance employees in the future.

Keywords: knowledge seeking behavior, power plant maintenance employees

Introduction

Background

Employees play an important role in the operation process of energy industries; particularly, those skilled ones. By the way, ASEAN Economic Community Blueprint (AEC Blueprint) established an agreement among the ASEAN Member Country to promote joint economic capabilities and to implement the AEC by 2015. An ASEAN single market and production base shall comprise five core elements: (i) free flow of goods; (ii) free flow of services; (iii) free flow of investment; (iv) free flow of capital; and (v) free flow of skilled labors. The important element that causes impact to workforce in Thailand is AEC Blueprint that allows for managed mobility or facilitated entry for the movement of natural persons engaged in trade in goods, services, and investments, according to the prevailing regulations of the receiving country. The action of the Strategic Approach is developing of core competencies (concordance of skills and qualifications) for job/occupational skills required in all services sectors by 2015. (ASEAN Economic Community Blueprint; Jakarta : ASEAN Secretariat, January 2008) There have been eight professionals involving practice in each ASEAN Member, such as Engineers (Engineering Services), Nurse (Nursing Services), Architects (Architectural Services), Survey (Surveying Qualifications), Accountant (Accountancy Services), Dentists (Dental Practitioners), Physician (Medical Practitioners), Service and Tourism, possessed a great opportunity to work on a wider international scale. (The Office of Industrial Economics, 2015)

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Such opportunity affects skilled workers movement. Some organizations are, therefore, in lack of skilled workers and they must recruit new staffs for replacement of workers who retire and quit their jobs.

Purpose of the research

To study on factors about self-directed, role model, knowledge attitude, and knowledge seeking intention concerning knowledge seeking behavior of the Power Plant Maintenance Employees in Thailand is the purpose of this research.

The five factors of this research base on the Theory of Planned Behavior (Aizen, 1991). The model of five factors is as shown in figure 1

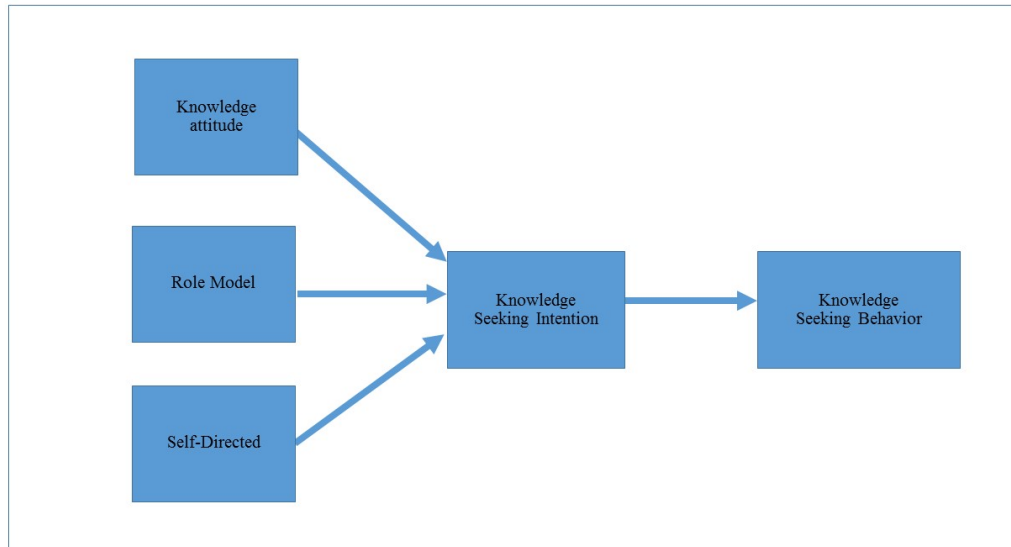


Figure 1 –Research model apply from the theory of Planned Behavior (Aizen,1991).

The researcher collected data by interviewing the maintenance personnel of the power plant in Thailand who perform duties in the positions of managers, engineer supervisors, technicians and knowledge management chief officers. Details are as shown in table 1

Table 1
Information of the interviewees

No.	Job Position	Job Field	Office	Work Experience (Year)	Work Experience in Current Job
1	Manager	Maintenance	Thermal Power Plant	26	1
2	Knowledge management chief officer	Administration	Combine Gas Power Plant	25	2
3	Knowledge management chief officer	Administration	Thermal Power Plant	25	2

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No.	Job Position	Job Field	Office	Work Experience (Year)	Work Experience in Current Job
4	Head Section	Planned and Mechanical Maintenance	Thermal Power Plant	25	3
5	Engineer Supervisor	Electrical Maintenance	Thermal Power Plant	10	5
6	Engineer Supervisor	Mechanical Maintenance	Thermal Power Plant	5	5
7	Mechanical Technician	Mechanical Maintenance	Combine Gas Power Plant	15	1
8	Electrical Technician	Electrical Maintenance	Combine Gas Power Plant	22	2
9	Electrical Technician	Electrical Maintenance	Combine Gas Power Plant	2	2
10	Mechanical Technician	Mechanical Maintenance	Combine Gas Power Plant	3	3
11	Mechanical Technician	Planned and Mechanical Maintenance	Hydro Power Plant	22	10

The result describes the code phrases from the transcribed interviews, collects the same meaning and interpretation supported by interview citations. Then all of the meanings from this data would be used to construct a questionnaire to ask the maintenance employees for factors analysis concerning knowledge seeking behavior.

Research Result

Each factors affecting knowledge seeking behavior will be explained. The researcher presents code number in parenthesis to refer each of interviewees in table 1.

Knowledge Attitude

Humans are both emotional and logical beings. Behaviors, attitudes, culture and environment influence how we work, what we decide and how we feel. (Shalley, 2009) Firstly, the researcher would like to know the attitude towards knowledge of the maintenance employees such as how they think about knowledge for their works. We found that they think “knowledge” is indeed very important because knowledge could make them finish their work on time. They can avoid losing time for mistakes and errors. In their opinion, working without efficient knowledge could cause damages to the power plant’s equipment. Moreover, working in such place is quite hazardous in its own characteristic and could be all the time unsafe for workers whenever the equipment becomes defected.

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"We would gain nothing if we work at site without knowledge." (5)

"We must study about the usage method of the machines before working in the Power Plant and always be accompanied by experienced employee whenever we are at work. (7)

"Working with the right knowledge is certainly much better, we have to seek for knowledge before performing any work. With good knowledge, work would be finished in time without error, on the contrary, if we don't have enough knowledge, we can lose too much time, and the machine might be damaged." (9)

"For power plant maintenance, the workers could not work without knowledge because such kind of work is risky and dangerous. Errors could cause dangers and interrupt electricity generating." (4)

"Maintenance is a dangerous task. Working with machines, we must know everything about the possible dangers, about our job descriptions, equipment in use, and working procedures, so that we can work safely and efficiently." (6)

The manager and the knowledge management chief officer have the same opinion that knowledge is very important for their organization. They want to recruit knowledge employees who can work immediately and make products that reach the customers' satisfaction.

"Knowledge is the basic of the organization recruitment. We need knowledge and qualified employees that suit our job because they must work with a knowledge-based to ensure that their abilities conform with the job requirement. In this era, organization needs knowledgable employees who have fast production because each organization has to be competitive to keep up with competitors." (3)

"Knowledge has been valuable for the jobs. If you work without knowledge you can't serve the customers. Knowledge renders you quick and proper service and response to customer's need." (1)

Self-Directed of the Maintenance Employees

Self-directed learning happens when the learner takes the initiative to gain new knowledge independently or to voluntarily attend training. (Irvine, 2016) The maintenance employees have many ways to learn about their own jobs. The conversation showed how they think and do when they seek knowledge about the power plant's processes, machines and equipment.

"We always try to perform power plant maintenance ourselves. For some points that we did not know, we can ask for advice from those experienced persons attending at head office." (5)

"Before working, I ask a senior co-worker or chief section to give me a brief to help me understand the process and job description that I have to deal with.

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Sometimes, I search for related knowledge from the manuals, related papers, or websites that contain information about the jobs or the equipment.”(6)

“I read the machine’s manuals. If I don’t understand, I will give a call to the technician of the machine’s agency to ask for advice. They would send related information or come at rush to give a demonstration to my team at workshop” (7)

“When I have to work with new equipment or do not have enough experience about some job. I induced an experienced co-worker to be my companion. Then he could give me a coaching advice.” (8)

“I sleeked knowledge from various social media channels or read manuals of the machines and equipment. Sometimes I asked senior co-worker about job description.”(9)

“For a new job that I have only little knowledge, I ask for an advice from a senior co-worker who owns more experiences. This is another way to learn about the job that I had to perform in shutdown field at the power plant. I could gain a lot of knowledge from this field.” (10)

“Skill will happen from doing it by yourself. If you only read, you don’t have enough skill to solve a problem. For example, the hearing skill of the experienced worker let him know there might be some problems at the machine. Then his co-worker checks its part. Eureka! They found it. That is what I try to tell you, writing does not explain the kinds of sound that become an incident or error. The worker could hear such sound with their own sense.”

However, the manager reminded his team why they should learn a lot about their own jobs. They are advised not to wait for the supervisors or project manager’s command. Knowledge will be gained from “learning by doing”.

“I always tell my team that if you do any job by yourself, you will obtain more knowledge. The things that you can carry for your life long through is knowledge. Whoever work more will earn more knowledge. For the coming tasks, you can surely be selected. No boss looks over skillful workers.” (4)

Role Model

The meaning of Role Model is an individual who is looked up to and reversed by someone else. A role model is someone who other individuals aspire to be like, either in the present or in the future. Organizational behavior and career theorists have suggested that identification with role models is critical to individual growth and development. (Gibson, 2004). The researcher asked the maintenance employees what are the qualifications they think the role model person must have in knowledge seeking behavior that could inspire the other workers.

“Head project must try to learn and know everything about the work because his team depends on his knowledge. When the power plant has a problem, the team worker will come to consult me and I will have to find the answer so that to give them a support.” (5)

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“Senior co-worker with enough experience will work and train new worker by job training in the maintenance field. When they have an update electrical information or interesting news relating to their work, they will inform or discuss within the team. This is a coaching process linking between the older and the younger.”(9)

“When I work in power plant with senior co-worker, they will train me on that site. For myself, I will always be alert and seek for more knowledge from the existing situation. I help them in machine maintenance. If I don't understand anything and have questions, they can give me answers.”(10)

“Head Project must be the leader in working. If he only commands, his team will always wait for work direction, but if he constructs with knowledge seeking team, his job would go easier, and the organization will acquire more performance employees.”(2)

“Role model as the head project should be active to seek knowledge and responsibility. Awaring about the responsibility, we must strive actively to learn more and he should attend his team. This would help protect his team from an accident in workplace.”(6)

“Head project must know about the job details. He should be aware of the danger in workplace and advice the team to do right things. I think this will help reduce the accident and work error. This is the reason why the head project should be the knowledgeable person.”(1)

Everyone has the same opinion that the role model should be that who works as a leader in the team such as the head project. He should gain enough knowledge about the job details to supervise his team to keep from danger. The team always expects the leader to support them in solving the problems when they have trouble while working in machine maintenance.

Knowledge Seeking Intention

“Learning is the nature of people, but we can see some people don't intend to learn. That is because for them, it is not interesting. People will need to learn only when they are interested in that thing and they are available to do.”(3)

“Knowledge sharing among the team is essential for teamwork. I realized that it help to reduce accidents because a worker who suffers from an accident will share that happening to the team to prevent the workers from such thing. That is to avoid accident repetition in the workplace.”(1)

“About Maintenance knowledge, the maintenance workers should know steps of working. First, they must know the maintenance theories and maintenance practices. After that, make a power plant's outage plan. We expect to reach the customers' satisfaction and that they will trust our performance of the power plant maintenance.”(1)

What are the factors that stimulate you to seek knowledge about your job?

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“My co-worker often talked about new technologies that aroused me to get to know, and my boss gave a chance for his team to seek for knowledge about power plant update technologies.”(10)

“My team didn’t write or read so they forgot the steps of work. I let them face with problems. When they got how to solve it, I convinced them to share that lesson learned from such incident. That was some data to revise our work instruction.” (4)

“I have a responsibility so I have to seek for more knowledge about my job or related job. When I obtained more knowledge I could prepare data for my job. If you work without knowledge, you will lose too much time to prepare data or facilitators for work. Having full knowledge will help to prevent problems during work process.” (5)

How can a new worker seek for knowledge?

“A new worker can learn by doing. For instance, when the Turbine Gas Maintenance team from head office came to work in my plant, I sent a new engineer to work with that team. He would be able to learn about technical maintenance until the end of the project. Then for the next project, he would become the leader to make to project run.”(4)

“I like to observe the work practice and ask about something I never know. I need to enrich my knowledge. I read and ask the experienced worker and note down any interesting information, after that, make a review to increase my own knowledge.”(7)

Conclusion

The results revealed that among the 3 factors: knowledge attitudes, role model and self-directed; the knowledge attitudes has been the most important role for knowledge seeking intention and behavior. Our next project will concern about the study of the relationship among each factor that affects the knowledge seeking intention and behavior of the power plant maintenance employees.

Discussion and Recommendation

The result of this research has been consistent with The Theory of Planned Behavior (Aizen, 1991). Many factors affect knowledge seeking behavior of the maintenance employees, especially, attitude factor. From interviewing, we encounter positive attitude towards seeking knowledge of maintenance staffs. They said the knowledge is very important for maintenance work in the power plant because the machines and equipment used in the production system are always hazardous for maintenance employees. They must try to increase knowledge relating their work for safety and carefulness purpose. Furthermore, knowledge renders values to their team. They can write maintenance work instructions and share knowledge to improve technical data of maintenance workings. From a research review, self-directed learning depends upon individual commitment together with support and encouragement of others. Management sometimes aims to promote self-directed learning at work while, at the same time, seeking to control and channel that learning (Brown, 2001). Self-directed and attitude are factors of the organizations who have concern for the employee’s knowledge

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seeking intention and knowledge seeking behavior. If the organizations need to develop knowledge seeking behavior of the maintenance employees, they should encourage positive knowledge attitude as a necessary aspect for the maintenance work in power plant. In addition, the organizations should encourage the employees who own “knowledge seeking behavior” especially the supervisors who would be able to stand as “role model”. Encouraging of “job descriptions” and “responsibilities” understanding must not be neglected. Opportunity support to give chance for learning about modern technologies should always be provided as well as “seeking knowledge facilities” that could enhance an easier attempt of the staffs’ knowledge acquisition.

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