

Investigation of Organizational Work-Life Imbalance of Thai Software Developers in a Multinational Software Development Firm using Fishbone Diagram for Knowledge Management

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Abstract—Work stress causes the organizational work-life imbalance of employees. Because of this imbalance, workers perform with lower effort to finish assignments and thus an organization will experience reduced productivity. In order to investigate the problem of an organizational work-life imbalance, this qualitative case study focuses on an organizational work-life imbalance among Thai software developers in a German-owned company in Chiang Mai, Thailand. In terms of knowledge management, fishbone diagram is useful analysis tool to investigate the root causes of an organizational work-life imbalance systematically in focus-group discussions. Furthermore, fishbone diagram shows the relationship between causes and effects clearly. It was found that an organizational work-life imbalance among Thai software developers is influenced by management team, work environment, and information tools used in the company over time.

Keywords—knowledge management, knowledge worker, work-life imbalance, fishbone diagram

I. INTRODUCTION

NOWADAYS, information technology plays a crucial role in human life. People can easily communicate throughout the world. They live more conveniently with many kinds of useful devices such as mobile phones and other portable gadgets. The more new technology is desired by consumers, the more modern software will be developed for the increasing volume of sales in the market. Therefore, the software industry has been expanded and developed not only in Europe and North America but also in the Asia-Pacific region. In India, government incentives offer low taxes and good infrastructure to attract more foreign investors [15]. The revenue of a city of central information technology services such as Bangalore is forecasted to be doubled by 2012 [1]. Likewise foreign investors are motivated to participate in the software industry in Thailand because of its favorable government policies supporting software development programs, competitive labor costs, abundance of available knowledge workers, and its central location in Southeast Asia [26]. Even though multinational companies can benefit from the business environment, a difficult aspect is how to motivate local employees to work according to the company's goals to increase productivity. Many employees suffer from severe pressure to deliver a successful work product, including; work planning, understanding customers' desires, and dealing with managers and co-workers.

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In daily working life, employees may experience work stress due to tasks they are entrusted with. Stress is related to the complexity of mental states and emotions related to the external environment. It occurs when people are faced with threatening situations. They cannot cope with these difficult situations which they feel are beyond their control, for example, stress related to task performance and the condition known as burn-out [12]. Concerning software developers, it has been noted that a software project can fail for various reasons such as a lack of understanding of the requirements of a project, insufficient time or discipline to plan the project properly from the beginning, a loss of focus when the project is under way [10]. This signifies that work stress can have an effect on the balance of employees' work-life. This paper presents some root causes of an organizational work-life imbalance by studying Thai software developers in a German-owned company in Chiang Mai, Thailand as a case study.

II. LITERATURE REVIEW

A. Introduction to an organizational work-life balance

Definitions of work-life balance in most studies have the main focus on how work facilitates life outside the organization. Hyman and Summers [14] describe a balance between work (referring to paid work) in the contractual hours of employment and unpaid activities, e.g. extended and unexpected travel time and personal life which includes family life and other activities during leisure time. Moore [32] defines work-life balance as a situation in which workers feel that they are capable of balancing their work and non-work commitments. Frame and Hartog, cited in Moore [32], explain that work-life balance is the way employees feel that they are freely able to use flexible working hour programs to balance their work and other commitments, e.g. family, hobbies, art traveling, or studies.

Furthermore, work and family conflict is mentioned as a work-life balance issue. For instances, Kay [18] conducted a study on how European families reconcile paid work commitments with the responsibilities of parenting and child rearing. In addition to work and gender issues, Doherty [5] explores the effectiveness of work focusing on the life balance initiatives in helping women progress to senior management positions, e.g. longer paid maternity leave, a right to career breaks, a right to work-part time even at senior levels. Straub [25] focuses her study on maternity-leave. Drew and Murtagh

[6] demonstrate differences in attitudes and experiences of male and female managers in an Irish organization. These studies signify a hidden or implicit assumption in the concept of work-life balance that work will be favorable and pleasant only when workers' welfare can adapt work in a way that fits better into personal life outside of work. Furthermore, it has been found that the existing studies about work-life balance policies seem to support and enforce business needs and the restriction of employees' voice over the introduction and the implementation of policies [14].

Thus, the issue of an organizational work-life balance that optimizes both sides (the benefits to the organization's success and employees' career success) should be raised. Since most repetitive work is taken up by modern machinery, what is left in the knowledge society is using brain-power, not muscle strength. It is likely that a knowledge worker has more chance to make work meaningful. Work becomes then a component of life fulfillment as it turns into more than just a job. Work that is intellectually challenging adds meaning to personal life. In this way, personal life is enriched and it profits from work. As a result, work and life can overlap. To this point Carlson, Derr, and Wadsworth [3] state that work and life are often interrelated. Unfortunately, only very few studies mention work-life balance in the organization as a part of the study [2, 29]. An example would be the findings of Hyman and Summers' study [14]. They found seven major problems associated with the current UK practice in work-life balance, namely, unevenness of adoption across different sectors and organizations; a lack of formalization of policies at the organizational level with largely untrained line managers having discretion over policy application; restriction of employees' voice over the introduction and implementation of policies; policies introduced primarily to meet business needs, rather than those of employees; no evidence of reductions in working hours; tangible and intangible work intrusions into domestic life; domestic responsibilities still carried out primarily by women irrespective of their employment status. In this study an organizational work-life balance is defined to explain that fulfillment in life can be balanced through work conditions, e.g. job enrichment, job enlargement, relationships and interaction with personnel within a company. Under this concept, employees find work in balance with life if accomplishing work tasks goes along well with personal challenges, lifestyle, and activities in the firm. In contrast to this definition, an organizational work-life imbalance occurs when employees fail to achieve work goals and the imbalance encompasses contradictions or obstacles in the workplace causing unhappiness in working life, for example, work stress. The pressure and work strain stimulate people to escape from jobs they do not like and seek other fulfillments or different kinds of work assignments which are more desirable. In contrast to this, employees can reach happiness in life when they are successful in a work area as this is considered a self-accomplishment.

B. Factors affecting an organizational work-life balance

An organizational work-life imbalance can arise during the work and stress is predictable, especially for employees who work in multinational workplaces. For instance, they have to adapt themselves to fit into a foreign organization environment. In multinational settings, different cultures are mentioned as the core problem of multinational organizations around the world. The employees' cultural background affects how people from each ethnic group think and behave in certain differing ways. Hofstede [34] addresses the different values of Westerners and Asians in many countries. He divides people into four cultural aspects. Collectivism is the relations between an individual and other individuals. Power distance describes the manner in which a culture addresses the fact that all people are not equal in terms of physical and intellectual capabilities. Uncertainty avoidance provides details on the extent to which people feel uncomfortable or threatened by ambiguous and uncertain situations and thus create belief systems and institutions in order to promote conformity. Masculinity/femininity is defined as the extent to which a society embraces predominately male or female values.

In the case of foreign companies operating in Thailand, an obvious deficiency lies in collaboration between foreign managers and local employees. Sriussadaporn [23: 338] finds that intercultural communication problems bring about failure to express well what employees and foreign managers really want from each other to achieve their individual and company goals. Petison and Johri use the expression "low task readiness" to describe local employees who have little or no knowledge relevant to their assignment. This situation occurs when a company recruits new employees or exploits new technologies, tools, machines, or work processes [21: 747-748]. To this point, Manshor [19: 627] states that an uncertain job behavior and the need to perform in a given work situation can cause a role ambiguity. Petison and Johri [21: 748] also use the term "low managerial capabilities" to describe employees whose management capabilities are lower than the company expects for the position or are lower than those demonstrated by other local employees who work in the same position. This also includes a group of employees that needs close supervision to perform technical tasks. Managerial tasks include for instance: "planning (establishing their own working plan), organizing (managing their time), controlling (demonstrating work discipline), managing local employees coordinating (working in teams), communicating with others, and so forth. Increasing the managerial capabilities of local employees is important for creating the competencies of the company."

Since cultural differences can bring about work stress in multinational teamwork, it is a challenge for the management team to foster the process of organizational work-life balance for their employees. Stress is a physiological, psychological, and emotional response to threatening situations or events. This happens because of the mismatch between the perceived demands of a situation and the perceived abilities of the

individual to cope with those demands [24: 68]. Numerous studies have shown that workplace stress adversely affects work performance, morale, and commitment to the organization. Work stress is implicated in absenteeism, leaving for less stressful working conditions, and decreasing productivity. This results in negative consequences including additional costs due to poor quality work, frequent and numerous errors and accidents, and customers dissatisfaction. The interrelation of human and organizational factors are said to be the cause of stress. To this point, improvement strategies require human resource involvement. An example would be ensuring focused learning and development to meet organizational needs and individual requirements [24: 67-69] To avoid an organizational work-life imbalance due to work stress, a human resource manager can be a great helper for the purpose of employee retention. In achieving success in a company through knowledge management, Kalkan [16] points out that a human resource department is vital for knowledge management initiatives. People should be motivated to take an active role in the process; therefore, human resources management policies must be implemented. Furthermore, the requirements of effective recruitment, selection, training, development and compensation policies are expected to attract and keep people with abilities, behaviors and competencies that add value to the company. Bailey and Clarke [33] assert that from a knowledge management perspective, managers can easily identify gaps in their own activities and capabilities. This understanding can serve as a tool to offer rich and substantial insights into personal managerial effectiveness.

C. Knowledge Management

Peter Drucker mentions that knowledge management is the key to future growth and that productivity can only be generated by knowledge, not by the mere improvement of production and processes. For business organizations at present intangible assets such as ideas, know-how, and accumulated experience possessed by workers, corporate vision and culture, and flexible organizational are regarded as significant points in comparison to tangible assets. Nurturing intangible assets within organizations and sharing them among workers for creative work is the heart of knowledge management and the development of this mechanism is crucial to enhancing value creation, competitiveness, and productivity [28]. Senge [22] notes that the organizations that will truly excel in the future will be the organizations that discover how to tap people's commitment and capacity to learn at all level in the organization. He also points out that "for an innovation in human behavior, the components need to be seen as disciplines." A discipline is a developmental path for acquiring certain skills or competencies. There are five learning disciplines developed. To practice a discipline is to be a life-long learner comprising of system thinking, personal mastery, mental model, building shared vision and team learning. Garvin [11] suggests many activities to build a learning organization. One of the principles that fit into problem investigation within the organization would be learning from

past experience. This carries the message that a reflection and self-analysis conveying a productive failure is one that leads to insight, understanding, and thus is an addition to the commonly held wisdom of the organization. Nevertheless, Nonaka [20] asserts that tacit knowledge is difficult to articulate or to pass on to others easily; it is acquired primarily through experience and is not easily expressible in words. Hence the critical step for organizational knowledge creation to take place depends on the sharing of tacit knowledge among multiple individuals with different backgrounds, perspectives, and motivations. This phase corresponds to socialization. Based on the concept of knowledge management, this study presents the interrelationship of causes and effects experienced by Thai software developers working in a German-owned software company. The investigation reviews the causes and sub-causes that produces an organizational working-life balance in the organization.

III. METHODOLOGY

The fishbone diagram was initiated by Kaoru Ishikawa in 1968 [17]. The tool is beneficial to investigate causes and effects in order to find out the root causes of a problem. In the fishbone diagram, the problem is identified at the fish's head and then the details of causes and effects are written into the entire skeleton.

Many researchers in various fields have applied the fishbone diagram for its usefulness in terms of problem-solving or problem-based learning. In the food sciences and technology, Varzakas et al. [30] use this tool to detect causes of the accumulation of heavy metals in fresh vegetables, as well as the dangers in the stage of cooling, washing and disinfection, packaging and storage, and distribution. It is also useful for medical research. Fluker et al. [9] use fishbone diagrams as a tool in their study. It is used to identify barriers that obstruct exercise counseling in patients with hypertension in clinics. Wong [31] adopts fishbone diagrams for memory assistance and relevant medical case retrieval. In this study, a fishbone diagram is applied to discover potential causes of an organizational working life balance among Thai software developers working in a German-owned software company. The steps of fishbone analysis are conducted according to Fig. 1.



Fig. 1 Root causes analysis process

First, interviews with foreign managers including three foreign managers from the Berlin headquarter and one

expatriate manager in Chiang Mai, Thailand, were conducted to understand the situation of an organizational work-life balance from the point of view at the administrative level. The management team realizes that work-life balance issues are important for the employees' development and the company's growth. It affects work satisfaction and work performance. A focus group was then formed in an inviting and relaxed atmosphere to help the Thai employees feel at ease to expressing their opinions in terms of the organizational work-life imbalance in the company. The aim of the discussion is to understand the effect of the organizational work-life imbalance upon work satisfaction and work performance of the employees. Next, during a discussion, a representative of the employees conducted a focus group and other participants noted down their ideas on paper and later those ideas were written into fish bone skeletons to show possible causes of an organizational work-life imbalance. And finally, each main issue was prioritized by consensus in the group in order to identify potential causes according to the ranking of various influences.

IV. RESULTS AND DISCUSSION

A. An organizational work- life balance problem in the case study

Chiang Mai Lanna Business Services is a German-owned company operating in Chiang Mai, Thailand, and was selected as the case study of a diverse workforce. The company has a variety of software developers in charge of web programming, mobile application systems, and flash design. Software developers are considered as knowledge workers. These employees range in age between twenty to thirty-five years and have working experience between eight months to five years. With respect to their educational backgrounds, all the employees have a university education in an information technology field such as software engineering, computer engineering, graphic design, or computer science.

In this study, working life balance in a multinational organization involves mainly the organization and its people. Organization is understood in terms of the workplace and the productivity of the company. Work is the working process until the assignments are completed. Life at work refers to the employees' participation in the organization, e.g. teamwork, working environment, interaction with bosses and colleagues. Organizational work-life imbalance refers to the situation in which employees cannot fulfill organizational commitments causing a company to experience low productivity and an individual employee to experience work stress.

These are examples of job difficulties that cause work-life imbalance within an organization. The Thai software developers do not really comprehend the goals of tasks. They have an unclear picture of what could be the final results that meet a customer's demand. The managers need to provide additional details concerning job descriptions and work procedures. Nevertheless, confusion of assignments still exists. Moreover, Thai software developers have difficulty with

punctuality, which results in delays and unfinished jobs. It is apparent that a project involving programming and web design takes longer than one month to be accomplished. The prolonged timelines and unproductive jobs affect the company's productivity.

Problems usually occur with new employees during their probation period. This is the time during which the new employees adapt themselves to the work assignments and working environment. In Thailand, the probation period lasts about hundred twenty days or three months at the end of which new employees on probation are evaluated in terms of work performance. These new workers will be assisted by the older staffs and managers until they are acquainted with the working style and life in the organization. Every new employee recruited is expected to perform the job well and happily work for the organization after the end of their probation. If this does not occur, this can be the beginning of a vicious cycle of organizational working life imbalance. When an assigned project is not accomplished by the due date, the cost of labor increases and the profit is less than expected. The employees receive complaints from management. An attempt to get the job done and its corrections result in a strenuous working atmosphere. The psychological pressure can lead to employees' resignations. It is threatening for a company to face an unstable workforce if employees find that the working conditions are unbearable. When manpower is inadequate, the company has to invest more funds in the recruitment budget. The risks that follow can involve a time-consuming process and increased uncertainty during new employees' probation period.

B. Root causes of organizational work-life imbalance

There are three aspects of organizational work- life balance: management, work setting, and information tools. These are found by the use of a root-cause analysis, such as a fish bone diagram created by Ishikawa as shown in Fig. 2.

1. Management

i. People

Two main aspects of management include people and organization rules. As for people, there are three causes of problematic issues: communication gap, learning method, and employees' pride. First, a communication gap arises due to impersonal relationships between foreign managers and Thai employees. Since the headquarters and the subsidiary work in different places (Germany and Thailand), they basically communicate through teleconference and by chatting through Skype. It is noted that when a message is sent to ask for a manager's opinion ("how do you feel about my work?"), a positive response is encoded as a smiling face emoticon. Though the response is positive, content and explanation are not given to ensure them that their work is really good. Despite emotional engagement conveyed by the emoticon, communication in with specific details is more practical and useful. In addition, Thai employees have different levels of English language skills. The ability to understand and respond

in English is troublesome. This arises because of the lack of an effective medium for coordinating between Thai employees and the foreign managers when ambiguous issues and misunderstandings occur. Second, the learning method of Thai employees can be a difficulty. There is still insufficient media in the organization to increase necessary professional knowledge, e.g. not enough IT books and training courses. Furthermore, confusion of work orders affects assignment understanding. This happens when a job order is not refined among foreign senior managers before the work tasks are distributed. The non-uniformity of work orders results in uncertainty about how and what to do exactly. This problem also can occur if there is ineffective work orientation for employees at the beginning of the job. Third, employees' pride or sensitivity increases because of alienation from the products. For example, one of the Thai software developers said that he has no inspiration to put much effort into the next assignment if he or the group receives no comments on the quality of the job done as well as no information about the future use of the product they create. This creates the feeling that the work assigned is not taken seriously.

ii. Organization Rules

Organization rules are regarded as a point of concern for

management. The explanation is that there is an ineffective corporate culture. There is the need to balance German and Thai working cultures. Thai employees are accustomed to receiving directions and fixed timelines whereas in German workplace, employees can work creatively and freely according to their own schedules. What matters is the final result of the work. As a result, Thais have to adapt to a working style of thinking on their own to complete a job rather than waiting for guidance. Also, they have to manage the time schedule by themselves to meet the deadlines. Thais belong to a culture which prides itself on *jai-yen* ('cool-heart') which means working with an easygoing attitude and this can seem to cause work procrastination. In the focus group discussion, it was mentioned that the Thai employees cannot adapt themselves to work under German management because they lack the ideal of assuming responsibility for a task.

2. Work setting

Teamwork and time difference are matters for a cooperative work setting. Nevertheless, this fails because most work assignments are individual. Thai software developers comment that it would be quicker and more effective if this is paired-work where two or more individuals work together so that they

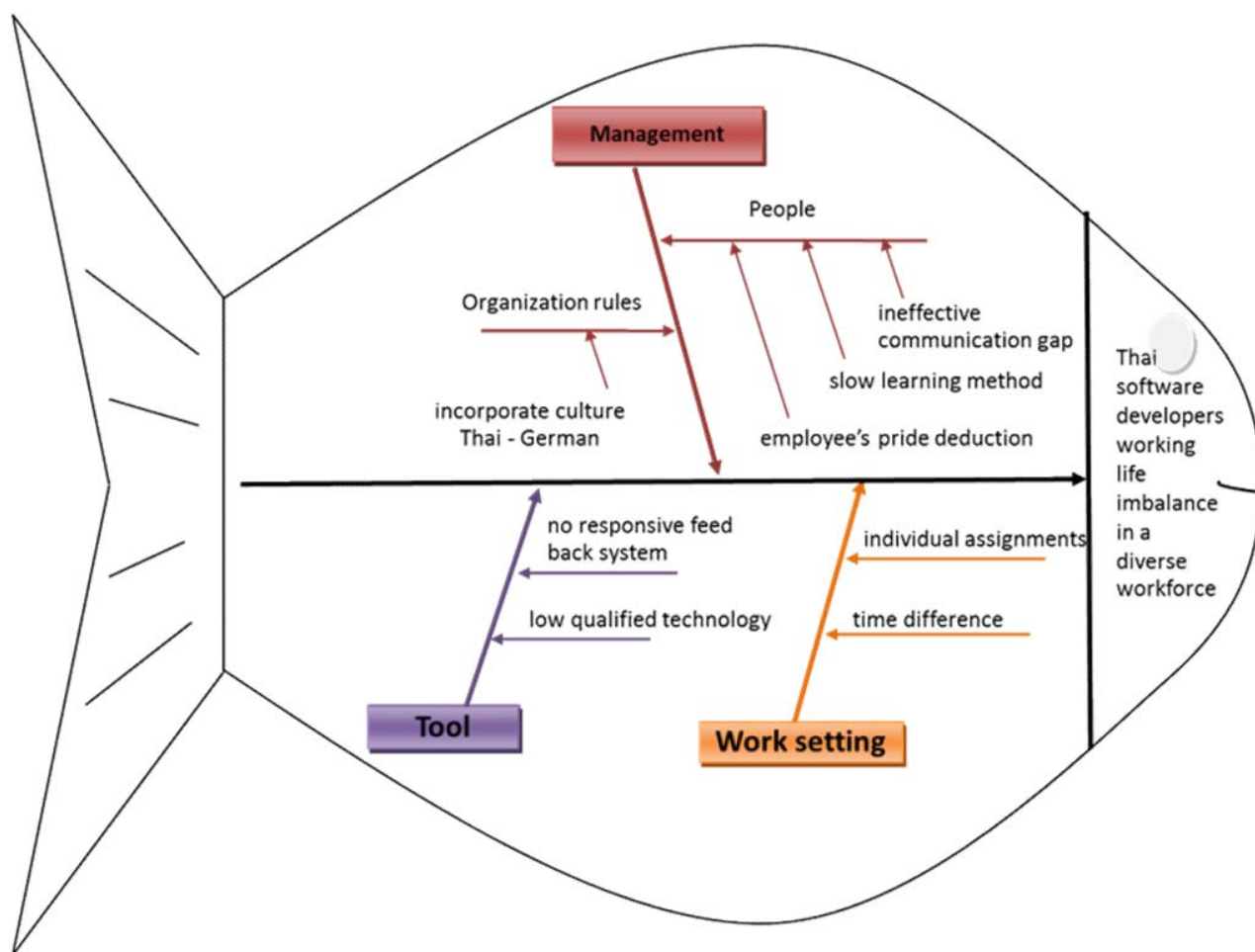


Fig. 2 Display of an organizational working life imbalance of Thai software developers in a German-owned software company

can brainstorm on the details of the task to help find work solutions. Furthermore, the time difference between the headquarters in Germany and the local subsidiary in Chiang Mai is six hours which often causes a delay in communication between employees and customers.

3. Information tools

Two points concerning information tools were technology and feedback. Technology is a nuisance when there is slow connectivity and poor quality of telephone conferencing caused by noise in the background, echo sounds, picture buffering, etc. Another obstacle is caused by having no program or system to follow up feedback provided by foreign managers whereby workers can report work progress and know how to improve their work results.

In the focus group discussion about the causes of working life imbalance, the Thai software developers prioritized the management as the most important role in the work-life balance of the employees. In an organization, management is very important in terms of organizing people capable of joint performance, to make use of their strengths, and eliminate weaknesses [7: 47]. If the administration team raises an issue and turns employees' attention to opportunity and change, a regular company can transform itself into a learning organization where everybody can reach a state of organizational work-life balance. The result that follows is that employees enjoy working and produce top-quality assignments for their organization. Organizational work-life balance is the gateway to creating qualified employees as people who can develop themselves well when they like what they do and who can learn through a lifelong learning process. Like business management concepts in general, the issue of how to develop and make the utmost use of the potential that is inherent in human beings are addressed. Drucker [8] mentions the new type of employees who are intellectual assets in the modern economy; hence a manager's job is to prepare and free people to perform. Toffler [27] in his book "The Third Wave" points out the change in the industrial age toward knowledge-based production. Senge [22] proposes the concept of a learning organization which stimulates people to have "Personal Mastery." A person with high personal mastery can expand his/her ability to create the results in life they truly seek and their continuous attempt to learn creates the spirit of the learning organization. Like Senge's idea, critical theory is an approach that offers guidelines to human action that aim to produce enlightenment and to be free from conventional dogmas [4: 216].

V. CONCLUSION

An organizational work-life imbalance is a condition of unproductive employees who suffer from work stress, who produce unsatisfactory products, and whose procrastination results in low productivity in a company. The situation affects the rate of turnover among employees within the company. Having low motivation to fulfill job responsibilities causes

employees to lack the will to fight for success. People have a tendency to resign or leave the job when they feel that they cannot perform well and that they do not work happily in a setting characterized by systematic administration, fair treatment, employee recognition, challenging assignments to gain worthwhile working experience, assignment engagement, teamwork, relationship with superiors, in short, in a favorable working environment. Management is regarded as the core cause of organizational working life imbalance followed by work setting and information tools. If employees are enabled for personal growth, their working life balance can be obtained from work achievement in their lives. In conclusion, this study provides a general overview of an organizational working life imbalance among Thai software developers. However, there should be a more specific framework or a standard focusing on software development to provide a clearer picture of obstacles for people working as software developers.

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