



**HAPPINESS IN THE WORKPLACE: THE EFFECTS OF
ERGONOMICS ON OFFICE SYNDROME**

BY

MS. PEI SHAN WANG

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION
(GLOBAL ENTREPRENEURSHIP) INTERNATIONAL MASTER
IN BUSINESS ADMINISTRATION
FACULTY OF COMMERCE AND ACCOUNTANCY
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2016
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INDEPENDENT STUDY

BY

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ENTITLED

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OFFICE SYNDROME

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the degree of Master of Business Administration (Global Entrepreneurship)

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Chairman



(Suthikorn Kingkaew, Ph.D.)

Member and Advisor



(Assistant Professor Patnaree Srisuphaolarn, Ph.D.)

Dean



(Professor Siriluck Rotchanakitumnuai, Ph.D.)

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Author	Ms. Pei Shan Wang
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ABSTRACT

This research aims to study the correlation between Ergonomics and Office Syndrome in the workplace. In Thailand, there has been a growing trend in young adults with up to 80% of the Bangkok city population said to be suffering from Office Syndrome. Ergonomic is about adapting the workplace to the workers capabilities. Having the proper equipment increases productivity and employee engagement, leading to the reduction of direct and indirect costs thus improving the quality and safety standard of the company. This research will consists of observations, interviews and an experimenting phase. The results show that whilst there is a definite correlation between Ergonomics and Office Syndrome, it is not the only cause. Other factors contribute to the Office Syndrome symptoms such as our lifestyle and habit choices.

Keywords: Ergonomics, Office Syndrome, Workplace

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IMBA has given me a great opportunity to be independent, to work on a topic I have always been passionate about and to start to have a mindset of an entrepreneur, something I never thought I would ever achieve.

Ms. Pei Shan Wang

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LIST OF ABBRIVIATIONS

Abbreviations	Terms
WMSD	Work-related Musculoskeletal Disorder
USD	United States Dollar
WP	Wang Petch Plastic
RB	Reckitt Benckiser
IF	Integrated Fields
HR	Human Resources
SME	Small Medium Enterprise
MNC	Multinational Corporation
THB	Thai Baht
□□□	Thai Health Promotion Foundation

CHAPTER 1

INTRODUCTION

1.1 Overview

The principle of office design can be traced back to as early as the 1900s. The evolution of the office environment has progress significantly throughout the past century. Depending on the need of the period, office design has evolved to meet those demands. Frederick Taylor, an American Engineer, is regarded as the father of office design space. Taylor's theory was to maximize space and efficiency in an open plan environment. Layouts were straight and structured just like on factory floors in the manufacturing industry. Senior employees of the organization had their private offices on the side looking inwards.

Today, as we rely on technology more than ever, office design and communication has needed to evolve accordingly. Modern workplaces consists of more open spaces and collaborative style layouts to promote flexibility and free flow of communication between employees. It is now understood that the layouts have shifted focus on employee needs rather than the employers'. Employees, who have greater control of their physical workspaces, feel more engaged at work. An increase of employee engagement means that they will be more efficient at work. According to *Gallup 2013*, only 13% of the working population is engaged at work. It equates to a loss of USD 450-550 billion a year. Therefore, it is important that companies take the necessary steps to increase this.

Health plays a big part in employee engagement. When an employee feels physically and mentally comfortable at work, he or she will not be distracted. Their focus will help to be more efficient at work.

1.1.1 Ergonomics

Ergonomics is the study of people's efficient in their work environment, which means adapting the workplace to the workers capabilities.

Earliest form of ergonomics can be traced back to the early

development of our species (*Christensen, 1987*). For example, hunting tools such as axes were modified throughout the evolution of our kind to better help us gather food for survival purposes. This is known as having a “good fit”.

This is no different than what we know as ergonomics today. We work in an office; our tools and our equipment are helping us complete our tasks and being safe just like the axe did for our ancestors.

Having the right ergonomic solutions, increases productivity, employee engagement, reduces costs; improve quality and a better safety work culture.

Ergonomics can help businesses cut indirect and direct costs. The main cost comes from work place injuries. Without the right support, employees take more sick leaves, more insurance and medical costs are involved, cost of replacement staff and the loss of profit during the time due to decrease of productivity.

One of the main injuries due to the lack of ergonomics is “*Work-related musculoskeletal disorders*” (WMSDs). According to the Bureau of Labor, there were 388,060 cases of WMSDs in 2013. 60% of these were back and shoulder related injuries (*ErgonomicsPlus, 2016*) with 71% saying their chair has caused them back pain (*Staples, 2016*). Resulting cost of WMSDs in America, is between USD \$45-\$54 billion per year. Each case of WMSDs could result in indirect cost (productivity) being five times more than the direct cost (medical expenses) (*ErgonomicsPlus, 2016*).

WMSD is the term used for injuries sustained in the work place. It ranges from common back, neck and shoulder pain to pinched nerves, carpal tunnel syndrome, tendonitis, Myofascial pain syndrome and Spondylolisthesis.

1.1.2 Situation in Thailand

As of 2015, the population of Thailand is roughly 67.98 million of which 9.27 million are in Bangkok. Bangkok is the main city in the country and serves as the political and financial hub. It is home to more than 13% of the country’s population (*Central Intelligence Agency, 2015*).

According to one of Bangkok’s leading private hospitals, *Samitivej*, up to 80% of the city population suffer from what is known as “Office Syndrome”.

Office Syndrome is a term used in Thailand to describe the symptoms that comes from a daily routine in the office work place. No different than WMSDs, symptoms that are included under the term Office Syndrome varies from headache, neck ache, backache, eye soreness, chronic muscle pain, numbness in neck or feet, aching and tightness in shoulders and in more severe cases, spine injuries. Apart from these physical effects, Office Syndrome could lead to mental disorders such as extreme tiredness, sadness and depression in the long term.

With these statistics, there are a huge number of employees suffering from Office Syndrome. This trend continues to grow. The situation in Thailand is that employers only take action when there is a serious injury or complaint at the workplace.

Employers do not see ergonomics as an essential investment but rather an unnecessary cost as they are too focused on profits and are purely driven by results.

This paper attempts to find out extent of how ergonomics can help improve employee wellbeing to use it as an asset to the success of the company.

“Clients do not come first. Employees come first. If you take care of your employees, they will take care of your clients.”

Sir Richard Branson

1.2 Research Question

“How ergonomics contribute to the reduction of Office Syndrome.”

To explore this research question, a mix of secondary and primary research will be explored. It includes surveys, interviews with medical professionals, architects and design experts. Additionally a testing phase will be carried out to understand the relation between ergonomics and office syndrome in a work setting.



CHAPTER 2

METHODOLOGY

2.1 Research Procedure

The IMBA course outlines the practices of the three EX's as a part of the “MetaMo” process:

1. Explore
2. Experiment
3. Execute

As a Business Research, only Explore and Experiment will be conducted.

The methodology will be a mixture of these three EX's; explore primary and secondary research; experiment and execute a testing phase to prove the relation between ergonomics and Office Syndrome.

Secondary research will be collected through online sources and past research papers whilst, primary research consists of surveys, observations, conversations, interviews and a testing phase.

2.2 Secondary Research

A large part of the research is done through secondary research to get all the details and information needed to set up for the primary research.

The following are the type of information that was gathered in order to complete this research:

Definition and terms – Ergonomics, Office Syndrome

Statistics – Population, engaged vs. unengaged, percentage suffering Office Syndrome in Bangkok

Benefits – Ergonomics, health practices, posture

Psychological & scientific – Health implications

Metrics – Elements of healthy office environment

Office design – Types of office

2.3 Primary Research

2.3.1 Explore

2.3.1.1 Survey

The first step is to start with a “*Happiness in the workplace*” survey. It is important to get an overview of the topic without biased opinions based on the secondary research. The purpose of conducting this 13-question survey is to see what factors people consider important in a work place with a sampling size target of 150. With this, the survey would give a clearer indication on whether people consider work environment important.

To get more specific into the topic of ergonomics, a second survey will be conducted, called “*Office Ergonomics*”. The objective will be to discover whether participants are satisfied with the specific elements of a workplace including, temperature, noise, visual, light and ergonomics. Second part of this survey, asks directly about Office Syndrome and if participants suffer from it, or are aware of it. Sampling size will be based on a 100 participants with 16 questions asked.

2.3.1.2 Furniture Stores

Part of a primary research involves observation. Furniture stores will be visited to get a general idea on what types of office furniture are available to purchase and at what price. *SB Furniture*, *Index Living Mall* and *Ikea* are the most popular and mainstream furniture stores here in Thailand. An interview with a Sales Account Executive will be conducted to uncover buying trends from the last 10 years, whether they continue to buy or look for new replacement and their price sensitivity.

On the other end of the scale, to make this research more balanced, an ergonomic furniture store that specializes in ergonomics furniture will be interviewed. These specialty stores would have an insight into buying trends of this

type of furniture. Moreover, they would be well versed into the benefits of ergonomics and what it could do to one's posture.

2.3.1.3 Hospitals

Having gotten secondary information on Office Syndrome including the percentage in Thailand, primary data needs to be collected to back up what was found. The most suitable and reliable source would be to collect from a medical professional. For this, two hospitals were selected, *Bangkok Hospital* and *Bumrungrad Hospital*. These are considered the two well known leading hospitals in Bangkok. When people are in pain or suffering, they will most likely seek advice from a doctor. Interviews with a Physical Therapy doctor at both hospitals are to be conducted. The reasoning is that doctors would be able to give an overview of the trends and percentage of patients seeking treatment for Office Syndrome.

Furthermore, Physiotherapists will also be interviewed. They have first hand interaction with patients and would have greater visibility of the particular symptoms that patients have. Physiotherapists build a relationship with their patients and are more likely to open up to them about their habits, daily routine and profession. The amount of raw information would be able to be analyzed.

2.3.1.4 Massage Parlors

Massage parlors are a very popular attraction in Thailand. One would go to get a massage for either pampering themselves or find relief for pain or soreness. In addition to hospitals, massage parlors give another option to people seeking treatment. The methodology for data collection will come as posing as a customer to get more accurate and realistic data. Four massage parlors have been selected according to price point and location in order to cover a wide range of customers. Refresh@24 represents the higher end independent massage parlor, Health Land, the more popular corporate franchise, Tachin, a small massage parlor located at the side of the street and Sunny Spa & Massage located in the outskirts of Bangkok. Regarding Health Land, two branches will be selected, Asoke and Ekkamai. These branches are considered two of the busiest and are located in the heart of Bangkok.

2.3.2 Experiment

To put into practice what was gathered through primary and secondary data collected, a testing phase is necessary to proof our research question ***“How ergonomics contribute to the reduction of Office Syndrome”*** and to comprehend whether there is a correlation between ergonomics and Office Syndrome.

Three companies are to be put to test. To test ergonomics in the selected offices, there are six metrics that will be used and graded on a scale from 1-5, one being the lowest and five being the highest. The six metrics to measure are:

1. Air Quality
2. Lighting
3. Visual
4. Noise
5. Temperature
6. Furniture

However, the focus will mainly be on furnitures as that represents more accurately to ergonomics we're looking for.

Table 2.1: Experiment Metrics

Metrics	
Air Quality	Ventilation system
Lighting	Windows for natural lighting
Visual	Theme, color, modern looking
Noise	External noise?, people talking, copy machine
Temperature	Amount of air con, location of it, 21-24 degrees (depends on rooms size)
Furniture	Chair, screen to eye level, height of desk, space, equipment

To test Office Syndrome, the amount of sick leaves over the last three months will be analyzed as well as how many employees have had to seek medical attention because of Office Syndrome.

With the testing results from the ergonomic and Office Syndrome sections, a conclusion on whether there is indeed a correlation between these two factors will be possible.

2.3.2.1 WangPetch Plastic

WP is a family owned business in the plastic industry. Being a manufacturing company, testing will only focus on the admin side. With over 100 employees, the admin office consists of only 12 people, excluding the two business owners. Being an SME, it would interesting to see whether they prioritize employee well being compared to a larger MNC.

2.3.2.2 Reckitt Benckiser

RB is a British MNC producer of consumer goods. They pride on being a company that is focused on health, hygiene and home. Therefore, it will be interesting to realize whether they live up to those standards and if it reflects in their own office.

2.3.2.3 Integrated Fields

IF is an independent architecture firm that has been operating since 2012. By nature, an architecture firm requires a lot of time sitting at your desk. From sketching, to graphic design to building a model, all these activities are part of their daily routine. Office Syndrome tends to affect people sitting at their desks. This will give an insight into whether Office Syndrome correlates with ergonomics.

CHAPTER 3

RESULTS & ANALYSIS

3.1 Explore

3.1.1 Survey

3.1.1.1 Survey 1 - Happiness in the Workplace

Out of a target of 150 participants, 130 responded.

1. Gender:

1. Male – 66 respondents, 50.8%
2. Female – 64 respondents, 49.2%

2. Age:

- 20 or below – 0%
- 21-25 – 20%
- 26-30 – 59.2%
- 31-35 – 10%
- 36-40 – 3.8%
- 41-45 – 3.2%
- 46-50 – 3.1%
- 51 and above – 0.8%

What industry do you work in? (130 responses)



Figure 3.1: Survey Results – What industry do you work in?

The next phase of questions:

3. Are you satisfied with your current job?
 - a. Yes – 62.3%
 - b. No – 37.7%
4. If 'No' from previous question, are you looking for a new job?
 - c. Yes – 47.4%
 - d. No – 25.6%
 - e. Maybe – 26.9%

Last phase of question:

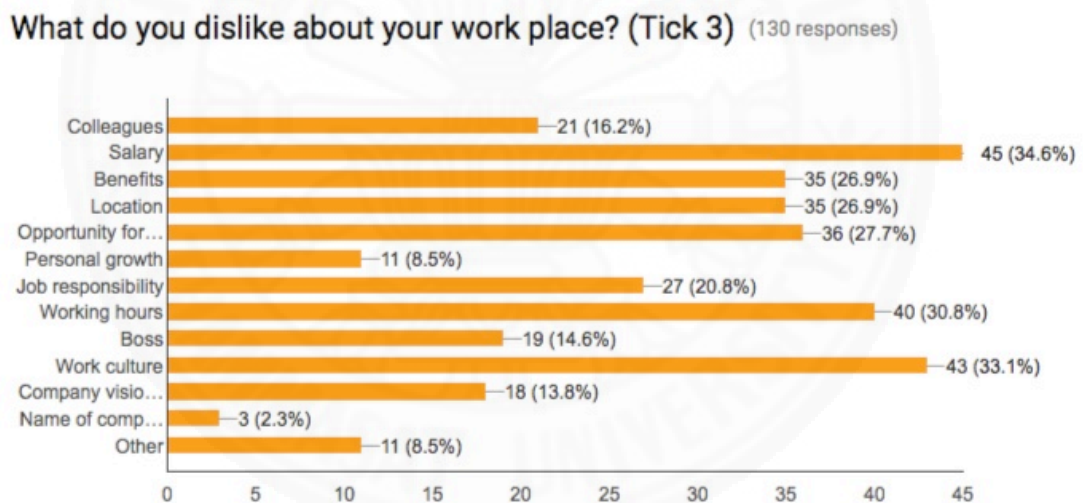


Figure 3.2: Survey Results – What do you dislike about your work place? (Tick 3)

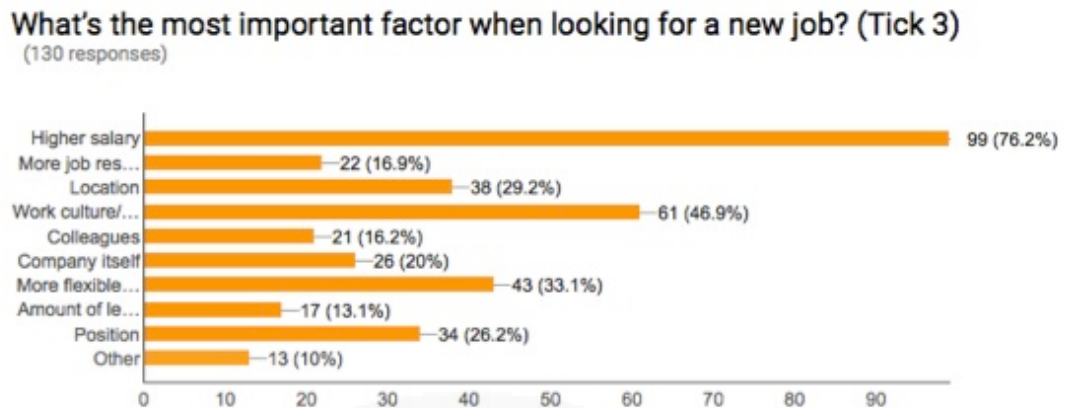


Figure 3.3: Survey Results – What's the most important factor when looking for a new job? (Tick3)

3.1.1.1.1 Analysis of Survey 1

The two main questions to focus on are “*What do you dislike about your workplace?*” and “*What's the most important factor when looking for a new job?*”

From the results gathered from this survey, there is a realization that respondents consider work culture to be an important in a workplace. Out of the 13 options on what was disliked about their workplace, 43 respondents (33.1%) selected work culture. When looking for a new job, 61 respondents (46.9%) would consider work culture an important factor. This shows that people are conscious about their work culture. This contradicts to the past generation where employees prioritized job security, stable income and being at the right company with the right name. Today, the millennial generation makes up the bulk of the work force, as is reflected in this survey with 77 respondents aged 26-30 making up 59.2% of the total. Out of the 37.7% of respondents that are not satisfied with their current work, almost 50% are actively looking for a new job whereas 27% selected ‘Maybe’. This is because millennials place high value on work-life balance, with their happiness and experience coming first. This makes it even more necessary to take care of employees’ wellbeing, keep them happy and satisfied so that they are not looking for a new job.

3.1.1.2 Survey 2 – Office Ergonomics

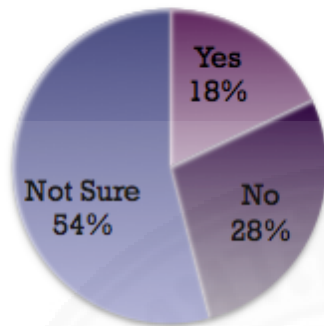
Out of target of 100 participants, 50 responded.

Behavior in the office:

1. Age:
 - 18-24 – 22%
 - 25-34 – 64%
 - 35-44 – 22%
 - 45-54 – 2%
2. How many hours at work?
 - a. 8 hours – 84%
 - b. 9 hours – 16%
3. How many hours of those are seated?
 - a. 6 hours – 20%
 - b. 7 hours – 76%
 - c. 8 hours – 4%
4. Are you satisfied with office equipment?
 - a. Yes – 36%
 - b. No – 16%
 - c. Doesn't bother me – 48%
5. Is your work chair comfortable?
 - a. Yes – 56%
 - b. No – 44%
6. Do you get up, walk around and stretch?
 - a. Yes – 34%
 - b. No – 66%

Office Syndrome:

Do you think you have "Office Syndrome"?



Do you have Back, Neck or Shoulder pain?

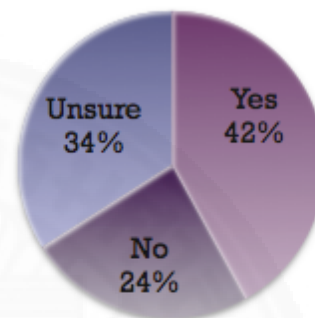


Figure 3.4: Survey Results – Do you think you have “Office Syndrome”? and Do you have back, neck or shoulder pain?

3.1.1.2.1 Analysis of Survey 2

From the Office Syndrome results, 28% of respondents state they do not have Office Syndrome whereas as comparing to the question “Do you have back, neck or shoulder pain?” it now shows that 42% of answers were yes. The correlation between these two questions could be that people may not be aware of the term Office Syndrome and that back, neck and shoulder pain from long hours in the office is most likely from a result of Office Syndrome.

42% of respondents have back, neck or shoulder pain whereas 34% are unsure. This high amount could signify that it is due to long hours being seated in the office without getting up to walk around and stretching occasionally. Majority of the people work 8-9 hours a day with 76% seated at least 7 hours. Only 34% of respondents get up, walk around and stretch. This could why the result of back, neck or shoulder pain being 42%.

Related to being uneducated about the term Office Syndrome, 48% are not bothered about their office equipment. It shows that people

understatement or are not aware of how ergonomics could affect our health and be the reason for their pain.

3.1.2 Furniture Stores

Sales people at furniture stores, *SB Furniture*, *Index Living Mall* and *Ikea*, are not fully aware of what good ergonomics are. Choices are limited and the main priority of the sales person is to sell what they have. Prices are in the lower range to meet a wider audience. Therefore, products are very simple and not specifically tailored to health. Standard ergonomic office chair should include a neck rest, armrest and a good seat base. Most office chairs that could be found in the above stores do not have all of those elements. They concentrate on making the product look desirable without any health attributes behind them. This could be because of their wider target audience who are not aware of ergonomics as a health tool and are more focused on price.

During an interview with a Sales Account Executive from *SB Furniture*, *Khun Bee* explained that employers pick office furniture by design rather than function and comfort. It is rarely that an employer will enquire on products that could help their employees' wellbeing in the long term.

When given choice of different products with different price point, employers will most likely select the lower price offering because of the quantity of the purchase. Most purchases are made by companies buying 50-100 chairs at one time, which may affect their purchasing decision.

3.1.2.1 ErgoTrend

ErgoTrend is a furniture store that specializes in ergonomic furniture. They have a wide selection of furniture, especially ergonomic chairs. Chairs start from THB 8,000 and goes up to THB 40,000. Sales Person, *Khun Nutty*, explained that there are a lot of walk ins but only about 5% of those results in a chair purchase. Most purchases are made for the home, not offices. From the outside, the store looks very attractive. People are at first very interested in the way the chairs are designed, as they are trendy and modern looking. Upon finding product prices, customers are immediately put off. *Khun Nutty*, unlike the sales person from other stores, was very knowledgeable in ergonomics and was able to give detail

explanations and recommendations. When asked why these chairs are superior compared to regular chairs, it was explained that the material of these ergonomics chairs are costly. The best modern ergonomic chairs are made out of nets. Nets are universal and are able to curve and adjust according to each body, unlike traditional materials that are only made for one type of body shape.

On the other hand, as an alternative, the store also sells accessories such as back lumbar support, seat base and footrest. These are suited to customers who are health conscious but unable afford a proper ergonomic chair.

3.1.3 Hospitals

3.1.3.1 Bangkok Hospital

Dr. Sujira Roongsirisangrat has been Physical Therapy doctor at *Bangkok Hospital* for five years. The percentage breakdown at *Bangkok Hospital's Rehabilitation Center* consists of 50% of patients suffering from Office Syndrome, 25% old age related and 25% injury with an age range of 20-50 years. Over the last five years, there has been an increase of young adults and a decrease of older patients. Majority of patients have an insurance policy. Accord to *Dr. Sujira*, by nature our muscles tenses up every 20 minutes. Therefore, it is harmful to our bodies when we are seated too long with bad posture. Bad posture is unnatural and makes our muscles work too hard to compensate. Office Syndrome is a collective form of injury. It is built up from repetitiveness and neglect and therefore patients only seek advice from doctors when it is severe and bothersome to their daily routine. Although workload at the office may affect the amount of time being seated, it is the patient's responsibility to be aware of their posture and correct it accordingly as well as to get up and stretch every 30 minutes. Although most of our hours are sitting in the office, there are other lifestyle factors that may contribute to Office Syndrome that may include driving, carrying heavy bags, sleeping position, pillow and increase use in technology.

3.1.3.1.1 Physiotherapist

Therapist Ya, has been working at *Bangkok Hospital Rehabilitation Center* for seven years. Her patients range from 25-40 years of age

with 60% of these, female. 80% suffer from Office Syndrome and the majority comes for back, neck and shoulder treatments. *Therapist Ya*, explained that physiotherapy is an expensive treatment costing about THB 2,000 per session. Therefore, most that come for treatment are covered by insurance. An alternative to a therapist would be to go to a massage parlor for short-term relief if not severe.

3.1.3.2 Bumrungrad Hospital

Dr. Tanaporn Laprattanagul, Physical Therapy doctor, has been at *Bumrungrad Hospital* for three years. *Bumrungrad Hospital* is well known for Medical Tourism. 30% of patients come for sporting injuries, 20% Office Syndrome and 50% old age related. Only 25% of patients are local due to the high cost of treatment. As *Bumrungrad Hospital* is a high-end hospital, most patients come for severe problems and almost all have an insurance policy to help offset the cost.

3.1.3.3 Analysis of Hospitals

Both *Bangkok Hospital* and *Bumrungrad Hospital* are considered two of the most well known hospitals in Bangkok. Because of this, they are on the high-end price range. This makes it only possible for local patients to seek treatment if they have an insurance policy or when their problem is severe. *Bangkok hospital* has high number of Office Syndrome related patients. As gathered, 60% of patients are female. This is due to the fact that females fill most admin and receptionist positions. These jobs require to be sat in the office for longer hours. As *Dr. Sujira* has pointed out, there is an increase in younger patients compared to the past. Physiotherapy has long been associated with old patients and injuries after accidents. Due to the shift in last five years, more and more patients come in for back, neck and shoulder pain. The assumption is that it results from office habits. The information from the medical professionals, confirm the secondary research on the growing amount of Office Syndrome cases in Thailand.

As stated above, there are other other factors that contribute as a whole to Office Syndrome outside the office. For example, driving to and back from work. It is especially true in Bangkok where one could be sat in traffic up to two hours. Another contributing factor to bad posture is the reliance on technology today.

3.1.4 Massage Parlors

3.1.4.1 Refresh@24

Location: Sukhumvit Soi 24

Price for Thai massage: THB 500 per hour

Refresh@24 is very popular with tourists, making up 70% of their total client base. The other 30% are made up of locals. Tourists mostly request spa packages whereas locals instead for back massages with the majority citing symptoms of Office Syndrome as the cause. *Refresh@24* even has an “Office Syndrome” package available, however the cost of this package is twice as much due to the fact that it is considered a medical treatment rather than for leisure.

3.1.4.2 Health Land

Location: Asoke & Ekkamai

Price for Thai massage: THB 550 for two hours

Client base is split 50/50 between tourists and locals with tourists requesting spa packages and oil massages. Locals request Thai massage with an added focus on the back, neck and shoulders. Medical treatment packages are on offer although prices are greater than regular treatments. One of *Health Land*'s peak operating hours are around 6pm when the after work clientele arrives. *Health Land*'s regular clients usually visit every two weeks with the majority using vouchers to offset the cost. It was explained that branches in Sathorn, Rama III and Pinklao have a higher percentage of locals (65%) due to the location.

3.1.4.3 Tachin

Location: Sukhumvit Soi 24

Price for Thai massage: THB 250 per hour

Tachin is a small family owned business with only six treatments beds. 70% of clients are tourists. Due to the size of the business, there are only two options clients can select: Foot and Thai massage. Out of the 30% of locals, 70% of them opt for Thai massage with a focus on their back, neck and shoulders.

3.1.4.4 Sunny Spa & Massage

Location: Bangna Trat 23

Price for Thai massage: THB 450 per hour

Sunny Spa & Massage caters to 80% locals. Multiple packages are available although no medical treatments are offered. Majority request Thai massage, again with an emphasis on their back, neck and shoulders.

3.1.4.5 Analysis of Massage Parlors

Over the years, there is a growing trend towards locals going to massage parlors for treatment compared to the past where it was almost exclusively for foreigners as means of leisure. Massage parlors have a wide variety of packages including medical treatments, spa treatments, foot massages and Thai massage. Because medical treatments can be as much as twice the price of regular treatments, locals prefer opting for a traditional Thai massage, however requesting emphasis on their back, neck and shoulders. This clearly shows that there is a growing trend towards people suffering from Office Syndrome symptoms. As the case with *Health Land*, the peak operating hours for locals are around 6pm, the time when employees are done with work and are looking for relief after their hard day.

Location is a factor when comparing these massage parlors to each other. Among *Heath Land* branches, Asoke and Ekkamai have a greater number of foreigners because it is located along Sukhumvit Road with easier access for tourists. Their Rama III and Pinklao branches would see a greater number of locals instead. Comparing *Tachin* (Sukhumvit 24) and *Sunny Spa & Massage* (Bangna Trat 23), the results show that there are more locals in *Sunny Spa & Massage* (80%) because Bangna is considered a residential area on the outskirts of Bangkok. *Tachin* is in the well-known Sukhumvit Soi 24 with large chain hotels around and easy transportation, therefore a higher likelihood of tourists visiting *Tachin* over *Sunny Spa & Massage*, which confirms the results found.

Expectation was that price would be the determining factor for the ratio of tourists to locals. More tourists would be at *Refresh@24* and *Heath Land* because of their brand positioning, catering to the higher clientele. On the other hand, comparing to *Tachin* and *Sunny Spa & Massage* with their lower prices would

be more attractive to locals. However, this was not the case. Upon gathering the data, location played the biggest role because even at *Tachin* (low end), there were a higher percentage of tourists than locals.

3.2 Experiment

The following companies were visited to explore the correlation between ergonomics and Office Syndrome. Ergonomics was analyzed with existing office equipment and Office Syndrome by the number of sick leaves in the last three months and by employees seeking medical attention for Office Syndrome.

3.2.1 Wang Petch Plastic

3.2.1.1 Ergonomics

Table 3.1: Experiment Results – WangPetch Plastic

Metric	1	2	3	4	5	Notes
Air Quality					X	Ventilation system
Lighting				X		A lot of windows by desks
Visual				X		A bit plain and simple
Noise					X	Not noisy/distractive
Temperature					X	24 degrees, 2 air cons at back
Furniture				X		A bit messy, needs filing cabinet, good chair but no neck rest

Score: 27/30

3.2.1.2 Office Syndrome

- 12 employees in the office
- 9 female, 3 male
- 2 total sick leave within 3 months
- Number of employee suffering from Office Syndrome: 0/12

3.2.1.3 Analysis of WP

The results show that for ergonomics, *WP* scored well above average with 27/30. An assumption for this could be because of the size of the office. Having only 12 employees in charge of admin, more could be invested into proper equipment and a better work environment.

For the purpose of this research, there greater importance placed upon furniture to reflect ergonomics. Furniture scored a 4/5 due to the fact that it was unorganized, requiring a dedicated filing cabinet to solve this. Even though the chairs were of good quality, with arm rests, it lacked a neck rest, which is very important in order to maintain good posture.

In the last three months, there have only been a total of two sick leaves. This could be attributed to the fact that *WP* is an SME from the following factors:

- There are more responsibilities placed upon each employee. Each employee has a sense of importance, which increases commitment to his or her work. Each employee would therefore think twice about missing work as it could jeopardize day-to-day operation of the company.
- Additional investment into office equipment is more affordable since there is a lower number of employees and a smaller physical office space.
- No employee has reported to be suffering or have had suffered from Office Syndrome.

3.2.2 Reckitt Benckiser

3.2.2.1 Ergonomics

Table 3.2: Experiment Results – Reckitt Benckiser

Metric	1	2	3	4	5	Notes
Air Quality					X	Air Ventilating system
Lighting					X	Lots of big window, natural light
Visual				X		Typical office style
Noise				X		Air con noise a bit loud, copy machine, lots of phone calls
Temperature					X	23 degrees
Furniture				X		Good own desk area, messy files, chair has no neck rest

Score: 27/30

3.2.2.2 Office Syndrome

- 30 employees in Marketing Department
- One sick leave per person per month
- Number of employee suffering from Office Syndrome: 1/30

3.2.2.3 Analysis of RB

RB scored above average with a 27 out of 30. Being an MNC, it is always expected to do well. MNCs generally have a standard that they need to adhere to, which is part of their corporate guidelines on employee wellbeing.

Furniture scored a 4/5 as it lacks proper filing cabinets. Instead, all files have been dumped on an empty table in the middle of the office. This method results in additional time to search and file the necessary documents. All chairs have armrest, however lacking neck support.

On average, each employee takes one sick leave per month. Meaning, a total 30 sick leaves per month as the department is made up of 30 employees. Being an MNC, *RB* has strict HR privacy protocols so the number of sick leaves may not be as accurate. Having 30 people in your department implies that the

work is evenly distributed. Employees have fewer responsibilities and are less valuable to the overall day-to-day operations. Therefore, employees assume that taking a sick leave would not jeopardize the overall company as others could cover for them.

Out of 30 individuals, there is one known case of Office Syndrome, however several have reported to suffer from back, neck and shoulder pain.

3.2.3 Integrated Fields

3.2.3.1 Ergonomics

Table 3.3: Experiment Results – Integrated Fields

Metric	1	2	3	4	5	Notes
Air Quality					X	Ventilation System
Lighting					X	A lot of windows by desks
Visual				X		Industrial looking, dark
Noise				X		A bit noisy, behind river
Temperature				X		Slightly cold
Furniture			X			Lower quality chair, homemade furniture, Spacious

Score: 25/30

3.2.3.2 Office Syndrome

- 20 employees
- 15 male, 5 female
- 2 sick leave per week
- Number of employee suffering from Office Syndrome: 2/20

3.2.3.3 Analysis of IF

Out of possible 30, *IF* received a score of 25. The lower score is surprising as they are an architecture firm and one could assume they would have more awareness of the benefits of ergonomics. As a relatively new company, opened by graduate students, *IF* did not have the appropriate budget when the

company was set up to invest in proper furniture and were forced to use home made versions.

Furniture scored a 3/5 for there is no standard and no uniformity in the chairs they use. In addition to being all different designs, some do not have armrest, whilst all do not have proper neck support.

On average, two sick leaves per week, with two individuals suffering from Office Syndrome. This could be largely attributed to the nature of the job. Being an architecture firm, the requirements of the job can cause stress on the body, especially the shoulders and neck area. Architects spend many hours at their desk, hunching down to sketch, build models or use graphical programs on their computers. Work relies them to be fully focused on their task as it involves designing and executing extremely minute details. Over time, the repetitiveness of this can lead to discomfort and Office Syndrome.

One of the two employees that have Office Syndrome is suffering severely. It is due to a personal issue. The employee is smaller than average and as a result; equipment in the office does not suit her and causes pain over time. Overall, when considering the nature of the job and the equipment that an architecture firm should have, *IF* does not perform well enough.

3.2.4 Analysis of Experimentation

Table 3.4: Experiment Results – Analysis

Company	Ergonomics (%)	Days missed in 3 months (%)	Productivity (%)	Amount of Office Syndrome (%)
WangPetch Plastic	90% (27/30)	0.19%	99.81%	0%
Reckitt Benckiser	90% (27/30)	3.33%	96.67%	3.34%
Integrated Fields	83.3% (25/30)	1.33%	98.67%	10%

As the information gathered from the three companies regarding sick leave were of different measurements, it was necessary to convert them into the equivalent format to easily understand and compare.

The second column represents the scores the companies received from the ergonomics testing. Third column signifies the percentage of days missed in the last three months and in return column four, shows the percentage of productivity based on this. Lastly, column five represents the percentage of Office Syndrome found in the office.

WP and *RB* scored the same result in the ergonomics testing (27/30) by different means. Being an SME with only 12 employees in the office, *WP* was able to invest in the appropriate furniture from the on set, as the cost is lower than the other companies. On the other hand, *RB*, being an MNC, has strict guidelines regarding what is necessary for employee wellbeing. *RB* had to invest in good equipment regardless of the cost associated to it. Compared to *IF*, their lower score is mainly due to the fact that they did not have the right budget to purchase the right equipment and were forced to look at other options (home made).

Converting sick leaves into a percentage in order to compare against each other, *WP*, *RB* and *IF* has 0.185%, 3.33% and 1.33% days missed in the last three months respectively.

As previously analyzed, employees of *WP* were less likely to miss a day as research shows that being an SME, individuals feel more fulfilled with additional responsibilities and would not jeopardize the performance of the company by missing a day if not necessary.

RB has 30 employees in their Marketing department. Having this amount of people, gives comfort to those missing a day that their work will be covered by others. By having a larger work force by itself, increases the chance that there will be additional absences. This is true for *RB*, as 90 sick days were recorded in the last three months, averaging one person per day. However, note that sick leaves may not be accurate, as HR were not permitted to disclose this information.

Productivity is high at *WP*, 99.815% to be exact. Productivity is measured by subtracting the percentage of days missed by a 100%. By converting, it gives greater visibility of the overall productivity of a company. Before calculating, it was expected that *IF* would have a lower productivity score than *RB*, due to the poorer ergonomic result. Instead, it was the opposite, with *RB* having 96.67% and *IF* with 98.67%. This is a significant and unexpected finding as it was expected that the

correlation between ergonomic and sick leaves would reflect directly to the percentage of productivity. This indicates that there are other influences affecting sick leaves and that ergonomics is not the sole reason.

Regarding Office Syndrome, *WP* leads the way with 0%. *WP*'s furniture is of a good enough standard and having only 12 employees in the office, makes it easier to address any issues they have with the equipment. On the other end of the scale, *IF* has the highest percentage (10%) of Office Syndrome in the office. It essentially comes down to the nature of the job. Architects have greater shoulder and neck pain as their work entails them to spend many hours at their desk in a less than ideal position. Activities range from sketching to building models and require them to go over every single detail of a project. Repetitiveness of this process will lead to muscles tensing up and for Office Syndrome symptoms to appear.

CHAPTER 4

CONCLUSION & RECOMMENDATIONS

4.1 Conclusion

Office Syndrome, or otherwise known as WMSDs in America, is a growing problem in Thailand, especially among young adults.

The research has found that the medical community is well aware of this increasing problem in Bangkok. In the past, the majority of patients going for physiotherapy would be for injuries or old age related problems. However, the trend in the last 5-10 years have shown a growing number of younger patients all suffering from Office Syndrome symptoms.

According to *Samitivej Hospital*, 80% of the city population suffers from Office Syndrome. However, many are uneducated about what this entails. Whilst many do have back, neck and shoulder pain, people are not aware that these fall under symptoms of Office Syndrome. Many sufferers do not realize that Office Syndrome is a legitimate problem. Because these symptoms are common among many, they do not see the importance of seeking medical advice until it is severe, affecting their lifestyle and performance at work. On the other hand, for those that realize the problem, treatment can be costly for those without medical insurance. Many do not have these policies resulting in only short-term relief, which does not solve the problem completely.

Treatment is time consuming and an unnecessary cost. Treatment is only here to solve the effects of Office Syndrome. To get to the cause of the problem, having good posture and good ergonomics at work, would negate the need for treatment in the first place. It is more cost effective to invest into ergonomics before a major problem occurs than responding to the injuries.

The correlation between ergonomics and health is undeniable. Countless researches have shown a clear relationship between these two factors. As reported, back and shoulder pain accounts for more than 60% of all WMSDs with 71% saying

the chair was the cause. This shows the importance of having a good chair. In designing an ergonomic chair, there is a reason why the costs are high. Each element incorporated into the chair is there for a purpose. A good work chair should include a proper seat base, backrest, armrest and a neck rest made out of modern material such as nets so that it conforms to the shape of our bodies. However, combining all this features into an ergonomic chair will result in a high cost ranging from THB 10,000 up to THB 40,000.

Spending this amount for a chair may be achievable for an SME whereas MNCs will find it hard to spend that amount for the quantity of employees they have. Whilst they do have certain standard and corporate guidelines to meet, it is still unrealistic to spend up to THB 40,000 on every single chair.

Ergonomics can only do so much. According to medical explanations, our bodies are made for moving. Our muscles tense up every 20 minutes and it is therefore our responsibility to get up and stretch frequently and have good posture.

Although there is a relationship between ergonomics and Office Syndrome, it is not the sole reason. There are many other factors that contribute to the symptoms:

- Carrying heavy items
- Handbags and high heels (female)
- High heels
- Sleeping position and pillow
- Driving
- Technology

The two main factors in Bangkok that could heavily contribute to Office Syndrome are Driving and Technology.

The traffic in Bangkok is arguably one of the worst in the world. Having to drive to and back from work during rush hour could easily take up to two hours a day. This means two hours in a tight confined space, unable to move.

The other major factor is Technology. In today's world, technology plays a significant role in our daily life. Young adults are spending up to as much as nine hours (CNN, 2015) on electronic devices, such as mobile phones and tablets to access social media and communication applications. The act of using a mobile device,

whether in bed, in the office, walking outside, still requires one to look down at their device causing bad posture.

This research concludes that, whilst ergonomics does contribute to the reduction of Office Syndrome to some extent, it is also our lifestyle and habit choices that determine our overall health.

4.2 Recommendations

With the information gathered in this research, there are three groups that could take benefit from this research.

4.2.1 Individual

- Education – Individuals should understand what causes Office Syndrome and what to do to avoid it.
- Posture and stretch – It is our duty to be alert about our posture and stretch accordingly
- Exercise – A work-life balance is crucial to stay healthy. Stay active and engage in sports such as swimming, yoga or fitness.

4.2.2 Government

- Thai Health Promotion Foundation (□□□) – Establish policies regarding employee wellbeing for companies to implement.
- Occupational Health Experts – Guarantying all governmental standards are being met at every company.

4.2.3 Company

- Ergonomics – Invest in better ergonomics as it affects employees' physical & mental health in the long term.
- Group activities – Set up activities outside of work to promote a healthier lifestyle for employees.
- Occupational Health Manager – Establish a company policy and corporate guidelines into employee safety standard and wellbeing.

Employees' are a company's greatest assets. The indirect cost of Office Syndrome is five times as much as the direct cost. Having good ergonomics means taking care of your employees' wellbeing. It creates a higher level of engagement and increases of level of productivity benefitting the company in higher profit returns.

“To win in the marketplace, you must first win in the workplace.”

– Doug Conant (CEO of Campbell's Soup)



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The image features a large, faint, circular watermark of the Thammasat University seal in the background. The seal contains the university's name in Thai script at the top and "THAMMASAT UNIVERSITY" in English at the bottom, surrounding a central emblem.

APPENDICES

APPENDIX A

EXAMPLE OF SURVEY QUESTIONS

Happiness in Workplace Survey

Are you really happy at work? Please help me with this survey for thesis!

*Required

Gender *

- ☐ Male
- ☐ Female

Age *

- ☐ 20 or below
- ☐ 21-25
- ☐ 26-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-45
- ☐ 46-50
- ☐ 51 and above

What industry do you work in? *

Choose

What do you like about your work place? (Tick 3) *

- ☐ Colleagues
- ☐ Salary
- ☐ Benefits
- ☐ Location
- ☐ Opportunity for career growth
- ☐ Personal growth
- ☐ Job responsibility
- ☐ Working hours
- ☐ Boss
- ☐ Work culture
- ☐ Company vision, mission and goals
- ☐ Name of company
- ☐ Other: _____

What do you dislike about your work place? (Tick 3) *

- ☐ Colleagues
- ☐ Salary
- ☐ Benefits
- ☐ Location
- ☐ Opportunity for career growth
- ☐ Personal growth
- ☐ Job responsibility
- ☐ Working hours
- ☐ Boss
- ☐ Work culture
- ☐ Company vision, mission and goals
- ☐ Name of company
- ☐ Other: _____

Are you satisfied with your current job? *

- ☐ Yes
- ☐ No

If No from previous question, Are you looking for a new job?

- ☐ Yes
- ☐ No
- ☐ Maybe

Are you satisfied with your current salary? *

- ☐ Yes
☐ No

What's the most important factor when looking for a new job?
(Tick 3) *

- ☐ Higher salary
☐ More job responsibility
☐ Location
☐ Work culture/environment
☐ Colleagues
☐ Company itself
☐ More flexible work schedule
☐ Amount of leave (holidays)
☐ Position
☐ Other: _____

What motivates you to stay at your current organisation? (Tick 3) *

- ☐ Compensation and benefits
☐ Career Path
☐ Boss
☐ Colleagues
☐ Personal development opportunity
☐ Job responsibility
☐ Work environment/culture
☐ Company's vision, mission, goals and policies
☐ Name of company
☐ Other: _____

What does happiness at work mean to you? *

Your answer _____

Figure A1: Survey 1 – Happiness in the Workplace

Office Ergonomics

Please help me with this survey for my thesis! i know it's a bit long but thank you!

*Required

Age *

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55+

Gender

- ☐ Male
- ☐ Female
- ☐ Undisclosed

Type of Industry *

Your answer

How many hours do you work per day? *

Your answer

How many of those hours are seated? *

Your answer

Is your work chair comfortable? *

- ☐ Yes
- ☐ No

Do you get up often to walk around/stretch? *

- ☐ Yes
- ☐ No

Do you have access to natural lighting at work? (Window) *

- ☐ Yes
- ☐ No
- ☐ Other: _____

Temperature of your office *

- ☐ Too cold
- ☐ Too hot
- ☐ Just right
- ☐ Doesn't bother me

Is it noisy at your office? Do you get distracted? if so, what noise? *

Your answer _____

Do you think you have Office Syndrome? *

- ☐ Yes
- ☐ No
- ☐ Not sure

Do you have Back, Neck or Shoulder Pain? *

- ☐ Yes
- ☐ No
- ☐ Not sure
- ☐ Other: _____

Figure A2: Survey 2 – Office Ergonomics

BIOGRAPHY

Name	Ms. Pei Shan Wang
Date of Birth	June 4, 1989
Educational Attainment	2012: Bachelor of Arts (B.A.) British & American Studies, International Program (First Class Honors), Thammasat University
Work Position	General Manager – Administration
Work Experiences	2012 – Present General Manager – Administration WangPetch Plastic Co., Ltd.