

**COFFEE SHOP OPERATIONS IMPROVEMENT
A CASE STUDY OF COFFEE SHOP IN THAILAND**



**INDEPENDENT STUDY REPORT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN LOGISTICS AND SUPPLY CHAIN
MANAGEMENT
INTERNATIONAL COLLEGE
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SARAWUT LUECHAKAN

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**INTERNATIONAL COLLEGE
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KMITL-2018-IC-M-002-007

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ABSTRACT

This study was conducted with the purpose to investigate and study the factors which influence on the operations of the coffee shop in Thailand. In particular, it aims to identify which factor has a positive effect on the financial performance of the business and to improve daily operations in a coffee shop for a grown profitable and positive satisfaction from customer. The study was separated into two periods. The first 50-day period is for current operation and the second 50-day period is to investigate the new operations. The results of the study showed positive value of main key factors. For the waste in operation, in average, the waste in current operation is 144.15 Baht per day while the new operation is 100.38 Baht per day which is 43.77 Baht lower than the waste in current operation. For operation time, comparing with each operation, it appears that an average time of new operation is lower than the current one for all type of beverages. The last study is customer satisfaction, the score of new process was initially low as 7.50 point. It can be described that the staffs were not familiar with new operation process. However, it was keep improving and got the highest score on day 50th at 8.6. point. The result of this study may suggest the possibility of factor which effects to the success of coffee shop business and sustainable growing.

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Sarawut Luechakan

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CHAPTER 1

INTRODUCTION

1.1 Background

Since coffee was discovered in Ethiopia, it has spread out everywhere over the world. According to stats from the International Coffee Organization (ICO), the country with the highest consumption per capita is Finland where the average person consumes about 12 kilograms annually, which is three times the amount of the average U.S. coffee consumer (Kristine Bernard, 2018). In addition, Coffee is the second most traded commodity behind oil. Today, coffee has become an important part of societal norms as some studies have proven its advantages especially, in terms of health benefits. Coffee has become a major type of beverages in a variety of meetings and gatherings. Today it easily to find the coffee shops on every place and, with its popularity, this is becoming one of the business opportunities in the cities in Thailand. It was found that Thai coffee-shop business was expected to grow 15 to 20 percent in year 2017 and tend to grow every year (SCATH: Specialty Coffee Association of Thailand)

Coffee shop is defined in a category of retail business and its operation is one of the main importance to drive business successful. Most of this operation are basically executed to achieving excellence in daily Coffee Shop operations. Thus, it will be directly proportional to the system that the business relies on. Customer satisfaction is also one of the necessary thing to ensure customer a pleasurable experience and ensures their happiness after service.

Coffee shop business in Thailand grows rapidly with an increasing number of Thai people enjoying drinking freshly-brewed coffee in the good environment of the coffee shop. According to a study conducted by Kasikorn Research Centre, it was

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estimated that the value of coffee products in 2009 were 22,000 million baht, rising 10 percent when compared with previous year (Kasikorn Research Centre, 2009)

To success in business, it is necessary that business owner have to know which factors influence in the process of their business. Independent Birmingham (2014), A greater product quality, operational management and service reliability are considered as the key factors in the business growth of an emerging coffee shop. Management refers to the process of bringing people together on a common platform and make them work as a single unit to achieve the goals and objectives of an organization. In a coffee shop business, operations can be one of the most key factor to bring business successfully. The appropriate operation could control waste in the process, reducing working time per unit and finally it could make more profit and bring successful to the business. Since coffee shop business has currently been growing the researcher was interested in studying to find out the operations of the coffee shop in Thailand.

1.2 Problem Statement

The management-related problem is one of the common problem that faced by coffee shop owners. This problem could happen with every process of the coffee shop operation such as a slow service or providing wrong menu especially in establishments that offer many customized coffee preparations.

1.3 Research Objective

The objective of the study are as follows,

1. Study and compare factors which influence in operations of the coffee shop
2. Identify which factor is a positive effect on the performance of the coffee shop
3. Improve daily operation in a coffee shop for a grown profitable and positive satisfaction from customers.



CHAPTER 2

LITERATURE REVIEW

The purpose of this literature review is to provide the reader with a general overview of Coffee. This chapter describes several theories and previous studies which are appropriate for support the researcher's study. In the first sub chapter, it provided background in coffee shop business and followed by the operation in coffee shop business.

2.1 History of Coffee and Coffee Shop

2.1.1 History of Coffee in General

Coffee, legend has it, was discovered by an Ethiopian goatherd named Kaldi. The story goes that he couldn't help noticing the invigorating effects the plant's berries had on his goats, so he tried them himself. Or it was discovered by Omar, an exiled disciple of Sheik Abou'l Hasan Schadheli. Starving and alone, he tried to eat the bitter berries on a nearby shrub. Then he tried roasting them to improve the flavor. And when that didn't work, he tried boiling them. Either way, as the scientist Mark Miodownik has remarked, it must have taken an extremely curious someone to figure out how to make the seed of the coffee berry palatable.

All myths aside, the first proper story about the origins of coffee dates from around 1454 when the Mufti of Aden, Sheik Gemaleddin Abou Muhammad Bensaïd, sent to Abyssinia for coffee when he was taken ill. Clearly, it made him feel better: coffee drinking caught on – lawyers, students and pretty much anyone in Aden who had to work or travel by night took to drinking coffee.

As one might expect, this kind of popularity often provokes outrage from the powers that be. Bans followed hard on its footsteps, only for them to be overturned by Sultan Selim I himself. In 1524, the Grand Mufti Mehmet Ebussuud el-İmadi issued a fatwa permitting coffee consumption and, arguably, its fate was set. Turkish trade brought coffee to Venice; Turkish imperialism brought coffee through the Balkans to Vienna. And, as Venetian clergy condemned the drink as the “bitter invention of Satan”, even Pope Clement VIII was won over by its dark charms.



Figure 2.1 The First London Coffee House

Source: The Renaissance Mathematicus (Sep 2015) The Penny Universities
<https://thonyc.wordpress.com/2015/09/29/the-penny-universities/>

Again, it's hardly surprising: when London's first coffee house opened (by Pasqua Rosée) in 1652 (two years after the nation's first had opened in Oxford), merchants, lawyers and professionals of all stripes latched onto it and its imitators as an ideal place to meet and make deals. Coffee's effects on them were far removed from the sleepiness or drunkenness of the pubs, the previously preferred locations. It is no accident that Lloyd's of London, the Stock Exchange, and even Sotheby's and Christie's are said to have begun in coffee houses.

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Yet coffee was not the first commodity to circumnavigate the world so fast on the strength of its popularity. Chilies, chocolate, tomatoes and potatoes spring to mind. But it is one of the first where the people can actually name some of those responsible for its proliferation.

In 1616, Dutch merchant Pieter van der Broecke managed to procure coffee bushes from Yemen, bringing them back to Holland. Seedlings from these plants were planted by the Dutch in Sri Lanka in 1658, and fractionally later in Java, Indonesia, and Suriname, South America. In 1714, the Mayor of Amsterdam gave some seedlings from the same stock to King Louis XIV of France, who had acquired a taste for coffee from Soleiman Agha, the ambassador of the Sultan Mehmed IV. Just nine years later, Gabriel de Clieu managed to take seedlings from the Dutch plants to Martinique, bringing coffee growing to the Caribbean.

It's hardly surprising that such a stimulating beverage caught on fast. By 1510, the drink had made its way to Cairo. From there it travelled north, opening special houses for its consumption in Damascus and Aleppo, and, better yet, in Istanbul itself.

In 1670, the sufi Baba Budan smuggled seven raw seeds out of Yemen on his return from the Hajj, bringing coffee cultivation to Chikmagalur in Karnataka, southern India. And between him and the Dutch, the Yemeni monopoly on coffee production was broken.

From 1773, demand continued to grow, aided in part by King George III's ill-fated Tea Tax (which led both to the Boston Tea Party in 1773 and the contemporary inability to find a decent cup of tea in any café, dinner, restaurant or retail outlet in the United States).

Coffee's story is as rich as the drink itself. Everyone live now in a world where, at any one time, people are closer to a freshly brewed cup than before.

2.1.2 History of Coffee in Thailand

The history of coffee in Thailand dates back a little less than a century, yet the crop has already made a sizable impact on the country's economy, culture and cuisine. This is hardly surprising as the nation's rich soil, heavy rainfall and near perfect growing climate has allowed the most important strains of coffee plant to thrive in the moist, tropical lands of the country, while its abundant population means that the still currently intensely laborious process of cultivating coffee can be done quickly and efficiently despite the complexities involved in harvesting coffee plants. Taken together, this means that coffee in Thailand is a big business, with millions of tons of coffee beans harvested annually and shipped anywhere in the world that needs a fix of caffeine.

The earliest testament to the production of coffee in the nation of Thailand (then known to Europeans as Siam, though in truth some separate kingdoms and city-states made up the larger region known to the European colonial powers) is in 1891. A trade journal of the era knows that by at least 1890, coffee cultivation was in full swing in the region. The trade journal noted that the climate and conditions of the region, as well as the soil, seemed to be very favorable conditions for the growth of coffee plants, a better prospect for profit than any other crop. While this article does note that the island of Java was exporting less than a third of what it was used (implying that coffee had been grown in the region for even longer), this early description of coffee in Thailand marks the beginning of a heavy Thai coffee growing industry.

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However, coffee in Thailand did not truly become a massive industry until around 1976, when the country went from producing coffee mostly for its needs to getting into the business of exporting coffee beans to buyers across the world. It was a turbulent time in Thailand's history, as the nation had evaded becoming colonized by European powers, only to find themselves enmeshed in the larger Cold War. Though the Thai government readily sided with the United States in this conflict, the nation's people were often dissatisfied, while the military government was seldom satisfied with the reactions of the masses. By 1976, the country had been thoroughly exposed to Western ways of life after Thailand became an important ally of the United States in the Vietnam War and the United States government based a large part of its war effort on a reliable stream of industrial and political support from the Thai government.



Figure 2.2 Doi Chang Coffee Farmer

Source: Dec 18 2009 Doi Chaang Coffee – Process
<https://doichaangcoffeecompany.wordpress.com/>

It was around this time that Thailand was becoming more international in its economy and culture, among the developments of this period being the realization that the favorable climate for coffee growing meant that the country could make quite a bit

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of money cultivating, harvesting and exporting coffee. It was also around this time that United States coffee culture began to make a resurgence in mass popularity in the country. At the time, Thailand and the United States, as well as most of the Western nations taking the United States' side in the Cold War, found that there was a certain synergy in their interests. As the United States and some Western nations found themselves wanting more and more coffee, the Thai coffee growers found that they had a wider, ever expanding market across the planet. While the political uncertainty of the country still makes the coffee business difficult in Thailand (a situation some other countries that grow large amounts of coffee as a cash crop are also facing), the potential profits involved in the Thai coffee growing industry are too great for anyone to ignore.

Recent developments in the Thai coffee industry do offer some hope in an unstable country. Among other good signs is that some farms in the wilder regions of the country have begun a transition from growing opium poppies to growing coffee. Thailand is a major part of the Golden Triangle of the international heroin trade and for some decades many local and international efforts have been made to try and turn back the flood of opium coming from illicit farms in Thailand. Though the market for these chemicals will likely never fade away entirely, many parts of the country that were once reliant on growing opium poppies that would be cultivated for use in narcotics are now used to grow coffee.

On the lighter side of things, it has also been noted that iced coffee, once a relative rarity in Thailand, has gone on to become a major element of the urbanized areas cuisine. Iced coffee, particularly made from localized coffee beans, is an increasingly popular breakfast item and for some people a preferable energy boost and treat during the day.

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2.1.3 Coffee Shop Industry

Companies in this industry sell coffee drinks and other food and beverages for consumption on the premises or for takeout. There was a report in 2016 shown that the biggest US coffee chains operate stores abroad, primarily through licensing agreements. Starbucks plans to continue its international expansion strategy, with the goal of generating half its total revenue outside the US. The company owns and licenses about 9,000 locations outside the US (SBDCNet, 2016).

The US coffee shop industry includes more than 22,000 stores with combined annual revenue of about \$12 billion. Coffee shops are part of the specialty eatery industry, which also includes outlets specializing in products such as bagels, donuts, frozen yogurt, and ice cream.

Coffee did not come via a direct route from Africa, but found its way to Britain through Mediterranean trade routes with the Muslim world. Queen Elizabeth I irritated her European neighbors by opening diplomatic relations with her new-found Moroccan and Ottoman friends, establishing good trading relations and sea-faring agreements. This trade allowed goods such as tea from Asia, coffee, and chocolate to filter into England. The Middle East had coffee houses over a hundred years before they ever appeared in England.

In 1652 Pasqua Rosee, the servant of a merchant trader and an immigrant from Ottoman Smyrna, opened the first coffee house in London, which later became known as “The Turks Head.” “Rosee’s coffee-house, in St Michael’s Alley, Cornhill, was located in the center of the financial district of the City of London, and his first clientele were merchants of the Levant Company, the trading house that organized and regulated trade with the Ottoman Empire.”

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In 1662, the “Great Turk Coffee House” opened, “Apparently, inside could be found a bust of Sultan Almurath IV himself, ‘the most detestable tyrant that ever ruled the Ottoman Empire.’ The customer could not only find coffee, tea and tobacco here, but also chocolate and a range of sherbets, which, according to the Mercurius Publicus (12-19 March 1662), were made in Turkie; made of lemons, roses, and violets perfumed.”⁵ Not only did the coffee catch on among the people, but so did some of the Turkish culture. Some people began to wear turbans in the coffee houses.

Coffee houses caught on very quickly, so by 1663 there were more than 83 coffee houses in London. By the beginning of the eighteenth century there were as many as five or six hundred.² The Prussian nobleman Baron Charles Louis von Pollnitz, who visited London in 1728, described them as one of the great pleasures of the city. He describes how it is “a Sort of Rule with the English, to go once a Day at least” to coffee-houses “where they talk of Business and News, read the Papers, and often look at one another.”² Some very famous companies even started as coffee houses. Lloyds of London, an insurance brokerage company, began as Edward Lloyd’s coffee house on Tower Street around 1688.

Just as coffee houses spread all over Europe in the 17th century, they were also opened in America in the late 17th century. The Merchant’s Coffee House in Philadelphia, also known as the City Tavern, was the meeting place of some of the finest gentlemen of the time, including Washington, Jefferson, Franklin, Lafayette and John Adams. The Tontine Coffee House in New York, in similar fashion to Lloyds of London, became the home of the New York Stock Exchange. Not only were the coffee houses places of intellectual trading, but hubs of business and opportunity.

As coffee became more widely used and known, there arose many new inventions pertaining to the process of brewing coffee. So many, in fact, that there is a museum in London (the Bramah Museum of Tea and Coffee) that is filled with these devices. The original European and American coffee houses served traditional black coffee brewed by steeping the grounds in near boiling water, but in the early 1900's there came about a new method that would revolutionize the coffee industry.

In April of 1987 the owners of Starbucks decided to sell the business, one owner wanted to cash out and the other was going to focus on Peet's Coffee & Tea, and he said that Peet's was original and it was better. Schultz knew that he needed to purchase Starbucks, and after raising enough capital he did, afterwards changing the name of all of his Il Giornale coffee bars into Starbucks. His vision, dedication, and leadership skills propelled Starbucks into the world class company it has become.

2.1.4 Coffee Shop in Thailand

Thailand's coffee-shop industry is expected to grow 15 to 20 percent this year, according to specialty coffee growers, driven by the country's economic improvement and higher demand from coffee drinkers.



Figure 2.3 Traditional Thai Coffee Shop

Source: pumpuileo August 24, 2014 Possibly the last Traditional Thai Coffee Shop in Bangkok, Eiah Sae from <https://pumpuileo.files.wordpress.com/>

Specialty Coffee Association of Thailand (SCATH) president Apicha Yaemkesorn recently told the Bangkok Post that coffee shops are easy to open on any street corner in Thailand's larger cities and more will spring up as office and condo projects continue to be built at a blistering pace.

Thailand has experienced a dramatic growth of Westernized 'coffee culture'. One of the first modern coffee houses began in Thailand 20 years ago under the pioneering stewardship of a local Thai chain, Black Canyon. After the year 2000, many local and international coffee chains began to spring up rapidly, perhaps attempting to emulate the success of Starbucks Coffee in Thailand in 1998. In 2007 alone, four new foreign players, McCafe, Segafredo, Gloria Jean's and Caffè Ritazza, entered the market to reap the benefits of the growth in coffee culture in Thailand. More recently, different types of coffee shops have come up, including boutique coffee shops in local communities and tourist areas; local coffee chains such as True coffee and Cafe

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Amazon; and street side coffee kiosks. Owning a coffee shop is reported as one of the top three dream businesses for Thai entrepreneurs. Sales of cafés in Thailand reached more than 6 billion US dollars in 2012. The increasing development of coffee chains was the main driver of growth of the coffee industry, with 9 percent outlet expansion and 11 percent current value growth (Euromonitor, 2014). Starbucks Coffee (Thailand) continued its leading position among specialist chained coffee shops with a 55 percent share of value sales (Bangkok Post, 2014). Distinct brand personality is believed to play a key role in the success of brands. Starbucks has been recognized as the very first brand that created a coffee-drinking culture in Thailand. It is a brand that has produced strong customer loyalty and is associated with a modern and chic lifestyle (Bangkok Post, 2014).

In a competitive market, it is important for the business to have insightful knowledge about their customers—Who they are? What are their characteristics? What are their consumption behaviors? And does brand personality influence consumer purchasing decision? The answer to these questions would help businesses determine effective market-specific strategies in order to enhance their competitiveness.

2.2 Operation and Performance

Independent Birmingham (2014), A greater product quality, operational management and service reliability are considered as the key factors in the business growth of an emerging coffee shop. Management refers to the process of bringing people together on a common platform and make them work as a single unit to achieve the goals and objectives of an organization.

The coffee shop has very much been an integral part of the global culture in our times with almost everybody having made innumerable visits to such places in their lives. Looking at it from another direction, it presents an interesting opportunity to 'earn' together with 'enjoying' the job of preparing and dispersing the hot drinks. However, when it comes to managing such a location, one should give the 'enjoyment' a backseat and be more pragmatic in approach. Consequently, a hunt for the probable answers starts.

One of the solutions that come up is Balanced Scorecard (Robert S. Kaplan, 1990) This rests on the fact that a process can be easily taken care of by spotting the factors having significant bearing on the operations. The indicators can be put together under heads like Financial, Internal Operations, Raw Materials and Utilities and Employees Training and Development. The KPIs for Financial assessment are- operating costs, percentage increase in per employee revenue, daily revenue generated and annual earnings.

Internal Operations can be had with KPIs like quality uniformity, unavailability index, number of items offered on the content list and proximity rating. Raw Materials and Utilities can be gauged using KPIs that relate to consumption of 'electricity, water and paper' and 'fraction bought from Fair Trade Certified Cooperatives'.

Finally, Employees Training and Development can be had with metrics staff skill and expertise development, fraction of workforce that can be considered to have command over cafe latte art, training expenses: revenues and staff capability scaling.

2.3 Metrics for Management Evaluation

This is the actual scorecard with Cafe Performance Indicators and performance indicators. The performance indicators include: financial perspective, operating costs, percentage increase in per employee revenue, daily revenue generated, annual earnings, internal operations perspective, quality uniformity, unavailability index, number of items offered on the content list, number of additional services provided, proximity rating, raw materials and utilities perspective, electricity consumption, water usage, proportion of unbleached paper usage, fraction bought from fair trade certified cooperatives, employees training and development perspective, staff skill and expertise development, fraction of workforce that can be considered to have command over cafe latte art, training expenses: revenues, staff capability scaling.

A successful and responsible restaurant or cafe manager uses Key Performance Indicators (KPIs) to find out if effort, time and money are being devoted correctly towards the restaurant's goals. Below are examples of KPI in Coffee Shop.

- Kitchen labor hours
- Best and worst selling items
- Staff productivity
- Customer feedback
- Total Labor Cost
- Length of employment
- Process

2.4 Waste in Operation

Part of having good operations management is eliminating waste from the processes. Make sure the organization is equipped to seek and eliminate waste in all areas of the company. One of the main principles of Just-in-Time management (Taiichi Ohno, 1940) is the elimination of waste from all of the operations. Waste can be defined as any non-value added activity.

A value-added activity is simply, any activity that gives value to the product. Example baking a cake, putting icing on the top would be a value-added activity, while moving the cake from one table to another would not.

By eliminating waste in the operations, it can reduce the lead times, increase quality and decrease product costs. One thing should consider waste is an enemy and seek to eliminate it at every corner.

Before the step to eliminate waste from the processes, need to be able to identify it. Many small businesses have a good deal of waste in the operations, but nobody does track it. In addition, many small businesses become complacent and accept waste as a part of operation itself. Please do not fall for either of these traps; make sure the procedure to track all waste and seek to eliminate it. The seven main sources of waste are:

1. **Overproduction:** Producing sooner or in greater quantities than the customer actually demands. Overproduction leads to higher storage costs and material losses (e.g. because food products must be thrown away after a certain shelf time) and reduces the number of inventory turns. The solution to overproduction is to match supply and demand as closely as possible.

2. Transportation: unnecessary movement of people and / or materials between process steps. Transportation causes costs and production delays and thus often reduces the overall efficiency of a process (e.g. peeling crabs caught in the North Sea in Africa before shipping them back to Europe). The best way to reduce transportation waste is to optimize the process layout (short ways) (Mikell P. Groover, 2007)

3. Rework: Correction processes within the main process. Rework is always the result of a failure to do something right in the first place. Reworking something creates double labor costs while not actually producing more, thus productivity is reduced. It also requires holding additional resources just for reworking, so that normal production processes are not disrupted by reworking processes. The solution lies in – very simply put – making it right the first time as well as in analyzing and subsequently eliminating sources of failure.

4. Over-processing: Doing more than the customer requires, e.g. keeping a patient in the hospital for a longer period of time than medically absolutely necessary. Over-processing is a form of waste that might have positive reasons such as workers having higher standards than the customers or employees being overly proud of their work. Still, over-processing adds to waste and thus to the reduction of productivity. One possible solution to this problem lies in the definition of quality and process standards, to which all employees then have to adhere.

5. Motion: Unnecessary movement of people or parts within a process (similar to transportation but on a smaller scale), e.g. an office worker having to switch rooms every couple of minutes because the files are stored in different cabinets.

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One solution to this problem lies in optimizing the layout of workspaces (ergonomic design, Hywel Murrell, 1971) in order to minimize unnecessary motion.

6. Inventory: Too many flow units in the system. Inventory has already been discussed at length during the first week. It is by far the biggest source of waste in most companies and costs a lot of money because inventory requires costly storage space and drives down inventory turns. Possible solutions include “on time” production schemes and the reduction of so-called “comfort stocks”.

7. Waiting: Employees or resources just sitting around waiting for something to happen, e.g. for a meeting to start, a customer to call or a customer waiting to be served. Per definition, waiting is an unproductive use of time. Waiting waste includes idle time as well as long flow times.

While the first five sources of waste are resource-centered, the last two sources of waste are really an expression of Little’s law. Some scholars point out that waste of intellect (ignoring the ideas of employees for problem solving and process improvement because of hierarchical concerns) can very well be seen as an additional eighth source of waste. A production system that tries to reduce all types of waste at once is commonly called lean production.

2.5 Standards Time for Operation

In industrial engineering, the standard time is the time required by an average skilled operator, working at a normal pace, to perform a specified task using a prescribed method (Zandin, 2001) It includes appropriate allowances to allow the

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person to recover from fatigue and, where necessary, an additional allowance to cover contingent elements which may occur but have not been observed.

Usage of Standard Time

- Staffing (or workforce planning): the number of workers required cannot accurately be determined unless the time required to process the existing work is known.
- Line balancing (or production leveling): the correct number of workstations for optimum work flow depends on the processing time, or standard, at each workstation.
- Materials requirement planning (MRP): MRP systems cannot operate properly without accurate work standards.
- System simulation: simulation models cannot accurately simulate operation unless times for all operations are known.
- Wage payment: comparing expected performance with actual performance requires the use of work standards.
- Cost accounting: work standards are necessary for determining not only the labor component of costs, but also the correct allocation of production costs to specific products.
- Employee evaluation: in order to assess whether individual employees are performing as well as they should, a performance standard is necessary against which to measure the level of performance.

The standard time can be determined by using the following techniques,

Work Measurement

To devise these initiatives, it is important to develop performance measures to ensure that the employees are performing up to the set standards. It is equally important for any organization to utilize the employees or personnel effectively. Work measurement gives answers to the following questions typically faced by service organization or group.

- How many people are required to meet specific demand or job requirement?
- How much work employees are doing?
- How effectively employees are working?
- How to design an appropriate incentive system?
- What are the fair productivity expectations of supervisors or top management?

Work measurement is defined as establishing time for a given task that would take when the task is performed by a qualified or skilled employee at a defined level of performance. Work measurement in services is gaining attention as most of the services are labor intensive and are of repetitive nature. In services customer's waiting time is very crucial hence it is important to know how much time it takes to do or to complete a given job or task. It helps in improving planning, scheduling, performance appraisal and decision making.

2.6 Customer Satisfaction

While there are many different models used to conceptualize customer satisfaction measurement, at its most basic level customer satisfaction measurement involves an assessment of the difference between a customer's expectation of a product or service and a customer's experience of a product or service. Quite simply, customer satisfaction measurement involves the collection of data that provides information about how satisfied, or otherwise, customers are with a service.

In general, customer satisfaction measurement utilizes quantitative questionnaires to elicit information from service users about the level of satisfaction with aspects of the service experience. This can involve structured survey questions where service users are asked to rank their levels of satisfaction using predetermined scales or open-ended questions where a respondent can provide rich detail about their satisfaction with various aspects of a service experience.

At a more advanced level, customer satisfaction measurement is part of a service improvement process. The act of administering a customer satisfaction survey is only one part of a larger process in which a service provider uses data collected from service customers to refine and improve the experience of the customer. Customer satisfaction measurement draws on insights and tools grounded in academic theories of customer satisfaction and service quality from the fields of business, marketing and management. One of the more widely adopted theories is the disconfirmation model, which conceptualizes satisfaction as the relationship between expectations and perceived performance.

Given that customer satisfaction measurement emerged in the fields of business and marketing it has become well established as a tool within the commercial sector. In

competitive markets, customer satisfaction measurement is a key marketing tool used to understand and drive business performance. In marketing, customer satisfaction is viewed as the ultimate goal of any business because satisfied customers are more likely to become repeat customers and to recommend a business to other potential customers.

While customer satisfaction measurement processes were developed originally for use in competitive markets, they are increasingly being applied to public sector settings as a means of monitoring performance and improving service quality. Customer satisfaction measurement is being more commonly used in a range of public sector areas, including transport, health and disability, to measure performance in a range of customer service settings.

As an engagement and information collection tool, customer satisfaction measurement provides service delivery organizations with a structured means of collecting information from service users to better infuse the needs and values of the customer into their organization.

As a service improvement tool, customer satisfaction measurement provides a means of assessing what the main drivers of satisfaction or dissatisfaction are and focusing efforts on improving customer experience as part of an ongoing cycle of service improvement.

As a performance management tool, customer satisfaction measurement provides a means of meeting reporting requirements for funding, demonstrating effectiveness when tendering for new funding opportunities and providing potential customers with information about the performance.

- Engagement and Empowerment Tool

Customer satisfaction measurement provides a structured means of engaging with and collecting information from customers, which can be used to infuse the voice of the customer within an organization. As Rapp and Poertner (1987) have argued, a key challenge for service managers is adopting a more customer-centered approach to service delivery. Seeking input and ideas from customers creates a more customer-centered intervention. Customer satisfaction measurement focuses an organization on the needs of the people it serves to better position them at the center of the service delivery experience.

While service based organizations involve intensive interaction with customers on a daily basis, this does not mean that information about customer needs and values are automatically absorbed into the service operation and culture. Customer satisfaction measurement provides a structured tool for actively engaging with customers; seeking out information about how they view the services being offered to them; and enabling them to have input into the delivery of these services. This includes the involvement of customers in the process of designing the methods used and the questions asked to elicit information from customers.

- Customer feedback and benchmarking tool

The data collected through customer satisfaction measurement can provide useful information that can be used by customers to assess the quality of a service offering. This is especially useful if benchmarking allows comparison between organizations offering similar services.

- Measure of Customer Satisfaction

A large part of the customer satisfaction literature is preoccupied with understanding the key drivers or determinants of satisfaction in different service contexts. The following section discusses the literature on the key drivers or determinants of satisfaction before moving on to discuss the implications this preoccupation has for developing customer satisfaction measurement processes.

- Methodological Considerations

There are a number of tools, which can be used to gauge customer satisfaction. These range from informal conversations with customers during service activities, complaint forms, formal written questionnaires, face-to-face and telephone interviews and focus groups amongst others. There are a number of issues to consider when choosing the most appropriate methods for eliciting feedback about satisfaction from customers. These include the timing of the administration of a survey, sampling bias, customer benefit, confidentiality, customer expectation and experiences, social and cultural background, capacity to respond, career involvement and response bias. These factors can affect either actual participation in customer satisfaction surveys or influence the way that responses are given by participants. While this provides some guidance to service operators in developing customer satisfaction processes and tools that maximize participation and response quality, it is preferable to gain input from customers about which satisfaction measurement methods work best for customers. Doing so can have a positive impact on participation and ensure that responses more accurately reflect customer sentiment.

1. Timing

The timing of the delivery of a customer satisfaction questionnaire or survey can influence whether a customer chooses to provide feedback to an organization.

2. Sampling Bias

Another interconnected issue is the problem of sampling bias. Any kind of research, whether it is measuring customer satisfaction or otherwise, can suffer from a bias in results because the sample of survey respondents inadequately reflects the population being investigated. According to Harris and Poertner (1998) customer satisfaction data is plagued by low response rates, which calls into question the representativeness of satisfaction results and the ability of the results to be generalized to the rest of the population.

Baker (2007) has noted, with regard to child welfare clients, that sampling bias can occur as a result of the timing of the administration of surveys. If a satisfaction survey is administered on exit or using a point-of-time methodology this can over- or under-represent participants based on the length of time in the system. This can be problematic because length of participation may be correlated with satisfaction, such that customers who continue to be engaged in a service are more likely to be satisfied with the quality of that service. This could result in a bias towards higher levels of satisfaction in survey results, which may not reflect the whole population.

3. Customer Benefit

Customers may choose not to participate in satisfaction surveys simply because it is not in their interest. Participation in surveys requires time and effort and often the only reward for participation is the promise that their responses will be taken seriously and result in positive changes to future practice.

4. Confidentiality

Confidentiality is a significant issue, which can have important ramifications for participation. Baker has argued that collecting feedback in sensitive areas such as child welfare, for example, requires both confidentiality and efforts to convince survey participants that there will be no way for their responses to be linked to them otherwise they may be unwilling to participate. Confidentiality concerns can make it difficult to gain the consent of some customers. It is possible that customers willing to participate in satisfaction surveys may be more satisfied, in part because those that are most unsatisfied are skeptical that their input would be kept confidential or would indeed change anything. This could skew the results of any satisfaction survey and provide an overly positive assessment of the service.

5. Customer Expectations and Experiences

As it was noted earlier customer satisfaction is determined by measuring the gap between expectations and perceptions of performance. This raises a number of important considerations when undertaking customer satisfaction research.

6. Social and cultural background of customers

Another important consideration is the impact that a customer's unique social or cultural background has on the way that customer satisfaction is measured. These differences may influence how satisfaction is measured, data is collected, results are interpreted and actions are taken to improve service quality.



CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Background

Coffee shop is one of retail business. Sales of cafés in Thailand reached more than 6 billion US dollars in 2012. The increasing development of coffee chains was the main driver of growth of the coffee industry, with 9 percent outlet expansion and 11 percent current value growth (Euromonitor, 2014) To achieve profit and provide customer satisfaction the shop owner have to set the operation and improve standard to be perfection from customer point of view.

Coffee Shops in Thailand by Mintel Global Market claims both chain store and independent coffee shops are rapid spread throughout the country within the last decade. Coffee shops are defined as outlets where coffee accounts for a sizeable part of sales with quite a restricted, mainly packaged, food offer and small amounts if any. In some countries it therefore includes outlets such as bakery shops and bars. Thailand's Coffee market are intended to continually and accelerative grow in the nearly future for at least five years period. It should be noted that the business regarding roasted coffee parlors has its roots in Thailand for a period of time, but it has just become popular in 2010. The growth rate of the business is continuing to increase by 10% percent (Mintel Global Market, 2012) The growth rate can be seen from various customer groups. From the past, the main group for the business was limited only to the businessmen and travelers. But presently the target group is expanding to office people as well as students. The business regarding coffee parlors in Thailand is very interesting as it lights up many opportunities that are centered on the idea of drinking coffee for entertainment and lifestyle.

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The case study is from the coffee shop located in Bangkok. This shop provided freshly made coffee, non-alcoholic beverages, light meal and some merchandise product to customer. The purpose of this study was to study and compare the factors which influence in operation of the coffee shop. To identify which factor is a positive effect on the financial performance of the coffee shop. To improve daily operation in a coffee shop for a grown profitable and positive satisfaction from customer. This coffee shop served both traditional and innovative espresso and coffee beverages to the highest standards, and serves those beverages in a space that invites customers to socialize, enjoy great coffee and food, and relax.

Coffee Shop Profile

Locations and Shop Detail

Address : 1858 Bangna-Trad Rd., Bangna Sub-district, Bangna District, Bangkok 10260, Thailand

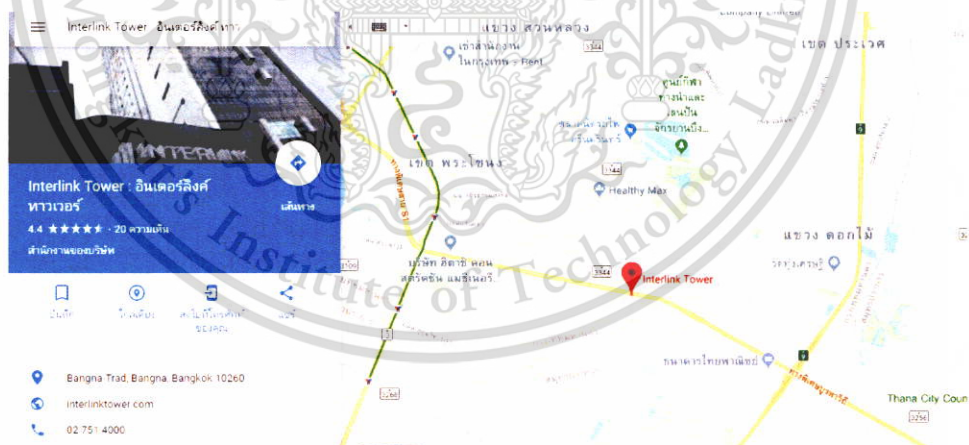


Figure 3.1 Map of coffee shop

Working hour : MON-SAT 06.00am – 07.00pm

Business Type : SMEs

Shop Space : 50.00 Square Meters

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Coffee Shop Picture

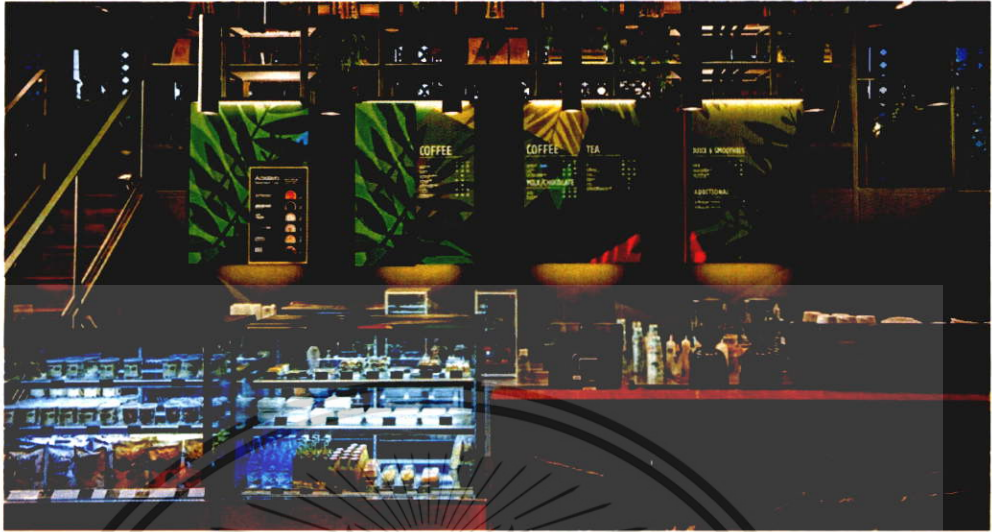


Figure 3.2 Picture of Coffee Shop

Participants and location of the study

Participants

- Coffee shop staffs
- Customers
- Coffee shop owner

3.2 Research Process

As state earlier, this study from question how to make more profitable and receive the positive satisfaction from customer. First, understand the current situation and get satisfaction result from customer. Secondly define main factor which effected to profit of the business. Then apply the new operation together with data collection. Finally get satisfaction from customer again and analysis the data.

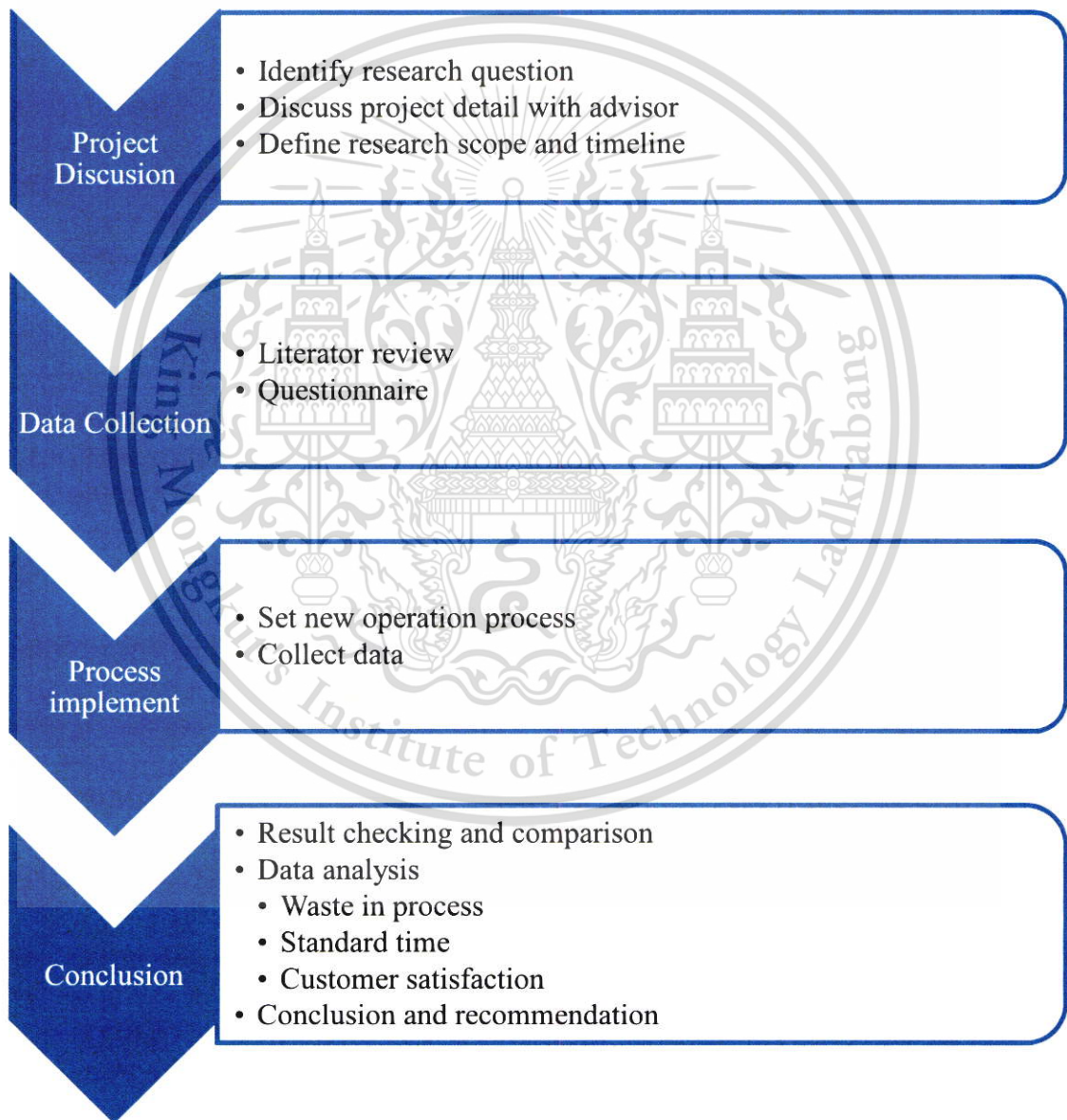


Figure 3.3 Research Process

Data Analysis Procedure

The collected data were analyzed include waste in operation, standard time and customer satisfaction, which have been discussed in section 2.4, 2.5 and 2.6 respectively. The result of this study was presented in form of table, in term of summary and in the term of average result.




3.3 Coffee Shop Operation

As the coffee shop is one of retail business, the current operation of the coffee shop can be demonstrated with below table, figure and information,

Staff Activity

This coffee shop hired 3 staffs to support and maintain daily operation of the coffee shop, here below the staff responsible and activities.

Table 3.1 : Detail of Staff

Staff no.	Roll/Activity	Sign
Staff 1	Cashier	 Staff 1 Cashier
Staff 2	Barista 1	 Staff 2 Barista 1
Staff 3	Barista 2	 Staff 3 Barista 2

The responsible of each staff in Table 3.1 can be described below,

- Cashier in a coffee shop as defined with staff no.1 must know detail of all beverage and merchandises, understanding how to operate an electronic

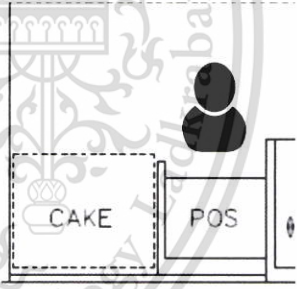
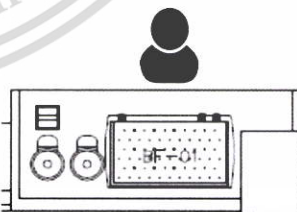
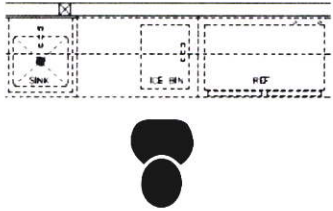
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cash register (POS) and have basic math skills that allow them to give correct change to customers who pay cash for a purchase.

- Barista in a coffee shop as defined with staff no.2 must know detail of all beverage and understanding how to operate a coffee machine including a coffee bean grinding machine. Not only the machine they must know how to make a good quality of the fresh-coffee.
- Barista in a coffee shop as defined with staff no.3 must know detail of all beverage and understanding how make a beverage from coffee, tea or many kinds of juice. Then they serve the beverage to customer and finish the order.

Table 3.2 : Detail of Work Station

Station No.	Activity	Picture
STN1	Customer Order Receive	
STN2	Espresso Bar	
STN3	Coffee Mixing Bar	

Coffee Shop Station Purpose

As show in table 3.2, it can be explained in detail for the purpose of each station in this coffee shop as below,

- Station no.1 as defined as STN1 in the table. This station provided work space for cashier to conduct the order from customer.
- Station no.2 as defined as STN2 in the table. This station provided work space for barista to create the good quality of the espresso coffee and all others beverage such as tea.
- Station no.3 as defined as STN3 in the table. This station provided work space for barista to use a good quality of the espresso coffee to create a handcraft beverage like Mocha, Macchiato or others special beverage before serve to customer.

3.4 Current Operation of the Coffee Shop

As the current operation, each of staff have to standby at each assigned station and each task can transfer their job from station to next station. For more understanding the current process can shows with the flow chart in below figure

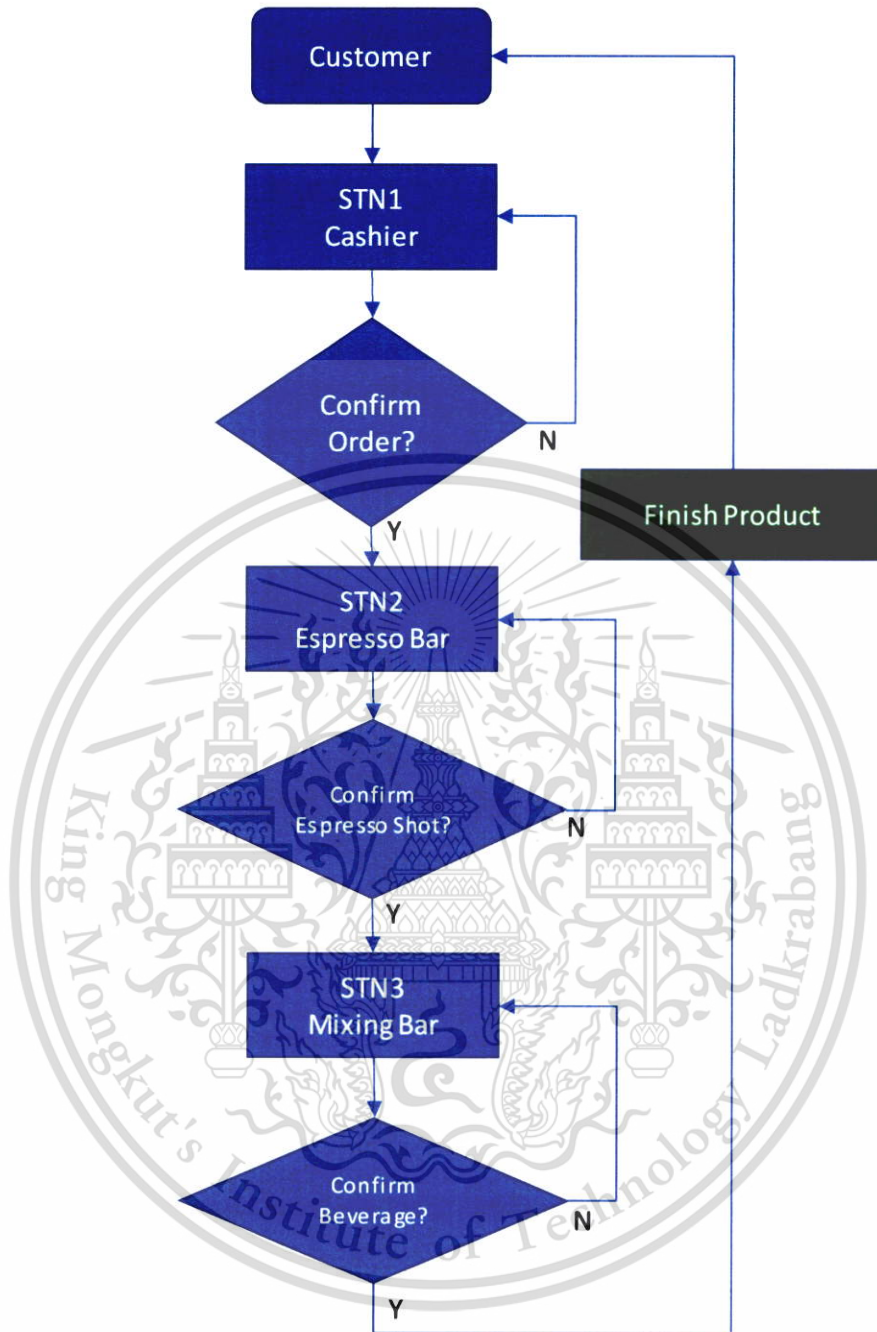


Figure 3.4 : Flow of Current Operation

Operation Process

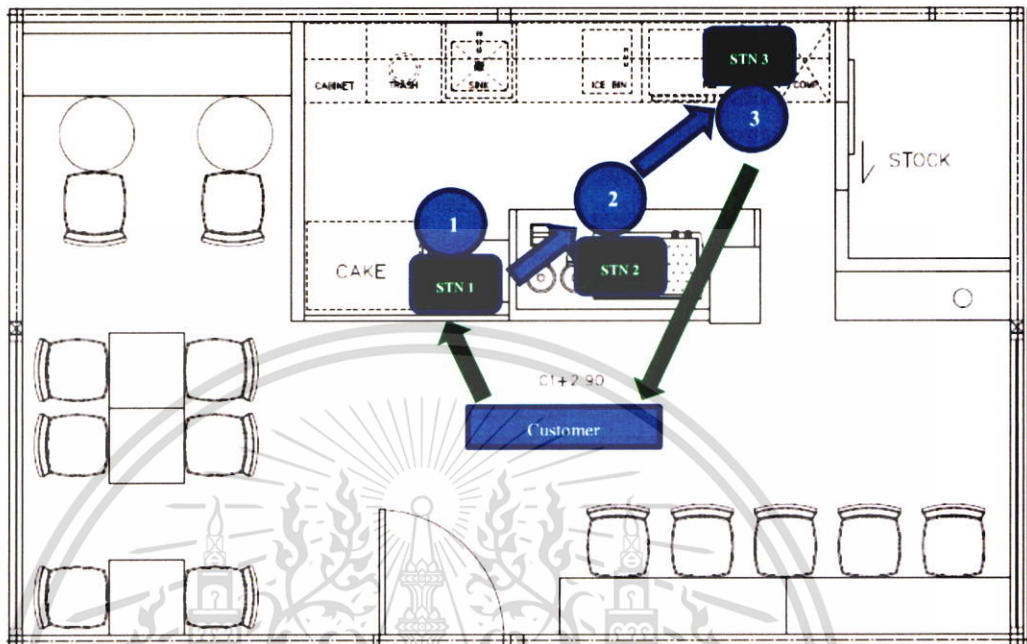


Figure 3.5 : Current Operation Layout

- Step 1 : Customer order coffee or beverage from menu list, Station 1 Cashier create order in POS System, repeat confirm order with customer, give receipt and change to customer then send order request to Station 2 Barista 1 and come back to receive order from next customer
- Step 2 : Station 2 Barista 1 received an order from Station 1 Cashier, make espresso shot per as request by customer (Hot / Iced / Blended) then send the right espresso shot to Station 3 Barista 2
- Step 3 : Station 3 Barista 2 received espresso shot from Barista 1 and add some ingredient per as request by customer (Hot / Iced / Blended) then serving a beverage to customer

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3.5 New Operation of the Coffee Shop

Since the new operation has been set and aligned, some station has been considered to not rotate to keep the order from customer continue. some of staff able to rotate to each station and finish the order before serving the beverage to customer. For more understanding the new process can show as below flow chart

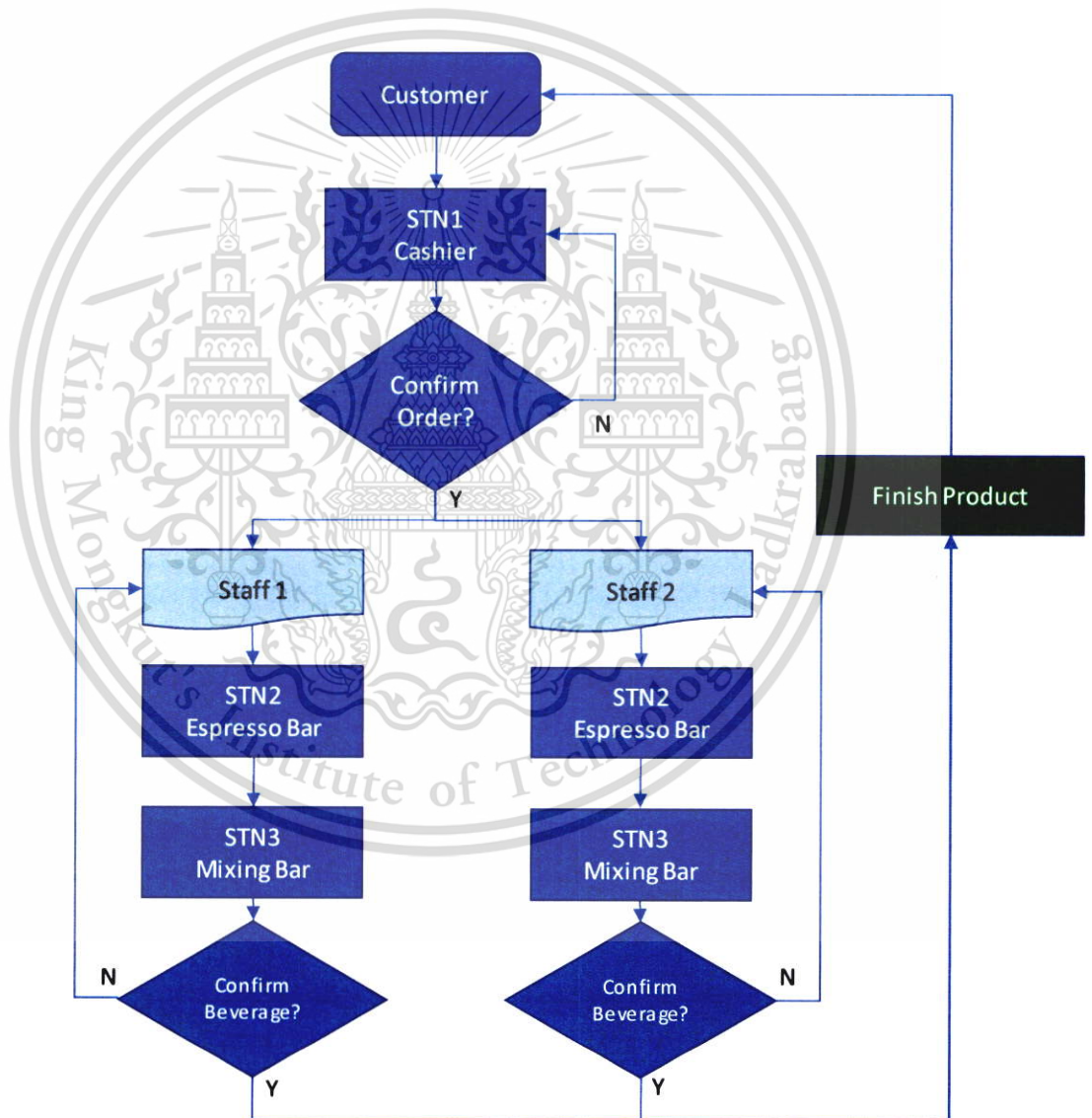


Figure 3.6 : Flow of New Operation

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New Operation Process

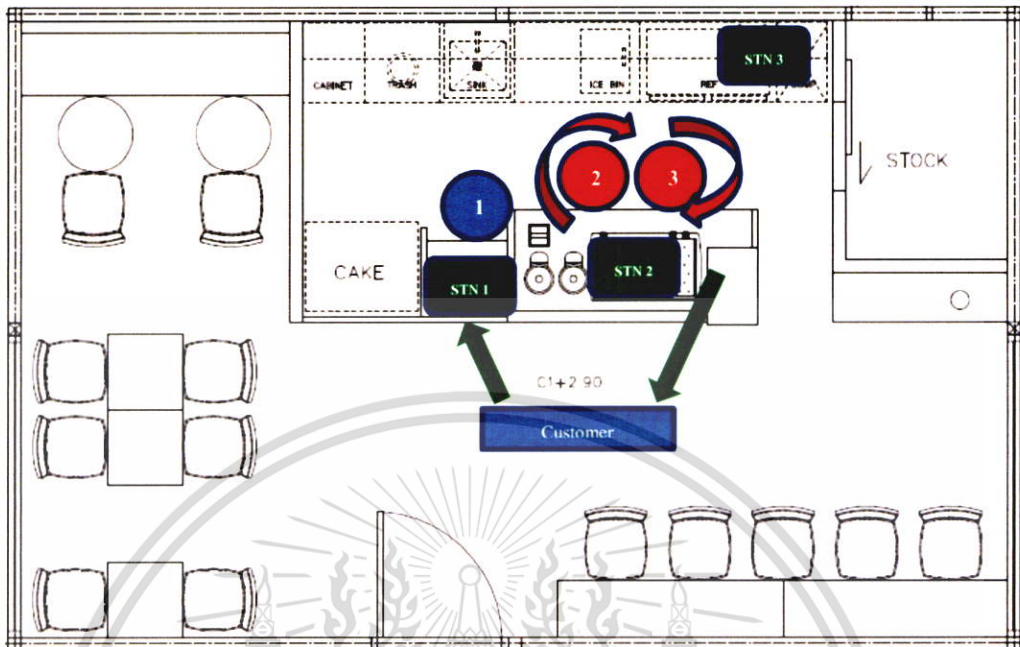


Figure 3.7 : New Operation Layout

- Step 1 : Customer 1 order coffee or beverage from menu list, Station 1 Cashier create order in POS System, repeat confirm order with customer, give receipt and change to customer then send order request to Station 2 Barista 1 and come back to receive order from next customer
- Step 2 : Station 2 Barista 1 received an order from Station 1 Cashier, make espresso shot per as request by customer (Hot / Iced / Blended) then go to Station 3 to add some ingredient per as request by customer and finally serving a coffee to customer 1
- Step 3 : Station 2 Barista 2 received an order from Station 1 Cashier, make espresso shot per as request by customer (Hot / Iced / Blended) then go to Station 3 to add some ingredient per as request by customer and finally serving a coffee to customer 2

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3.6 Waste in the Operation

The study tried to compare which is waste in the process before and after setup a new process. When the staff found waste in the process, they must to record all the detail example date, receipt no., name of staff and name of menu in the table/check sheet below.

Receipt No.	Date / Time	Staff Name	Menu	Converts to THB	Remark
1880	15 / 01 / 2018	Toon	Espresso (I)	20	
1811	15 / 01 / 2018	Toon	Green Tea (I)	20	
1845	15 / 01 / 2018	Toon	Americano (H)	14	
1927	15 / 01 / 2018	Toon	Chocolate (I)	20	
1916	15 / 01 / 2018	Toon	Latte (I)	26	
1987	15 / 01 / 2018	Toon	Espresso (I)	20	
2005	15 / 01 / 2018	Toon	Mocha (I)	24	
2041	15 / 01 / 2018	Toon	Tea (HD)	16	
2058	15 / 01 / 2018	Toon	Americano (I)	20	
2061	15 / 01 / 2018	Toon	Green Tea (I)	20	

Figure 3.8: Example of Wrong Order Check Sheet

Since the material cost has been shown and indicated for every type of beverages then the researcher able to calculate and indicated financial lost in term of money (Baht). Here below table of material cost per each beverage.

Table 3.3 : Beverage Material Cost

Menu	Sale Price(THB)	Cost per Unit (THB)
Espresso - HOT	35	14
Espresso - ICED	50	20
Espresso - BLENDED	55	22
Cappuccino - HOT	45	18
Cappuccino - ICED	55	22
Cappuccino - BLENDED	60	24
Mocha - HOT	50	20
Mocha - ICED	60	24
Mocha - BLENDED	65	26

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Table 3.3 : Beverage Material Cost (Continue)

Menu	Sale Price(THB)	Cost per Unit (THB)
Latte - HOT	50	20
Latte - ICED	60	24
Latte - BLENDED	65	26
Americano - HOT	35	14
Americano - ICED	50	20
Tea - HOT	40	16
Tea - ICED	45	18
Tea - BLENDED	50	20
Green Tea - HOT	45	18
Green Tea - ICED	50	20
Green Tea - BLENDED	55	22
Lemonade Tea - ICED	45	18
Chocolate - HOT	40	16
Chocolate - ICED	50	20
Chocolate - BLENDED	55	22
Smoothies - BLENDED	60	24
Juice - ICED	40	16
Juice - BLENDED	45	18

3.7 Standard Time in Operation

The study compared standard time in the process before and after setup a new operation. When staff finish each single order and beverages had been served to customer, they have to record time in the copy of receipt, the rest of required information such as receipt no., start time and name of menu able to export from POS system. Here below example of receipt and Standard time check sheet,

คิวที่ No. 3
ใบเสร็จรับเงินใบกำกับภาษีอย่างย่อ
บมจ.ปตท.(888 ENCO A)
Cafe Amazon
TAX ID:0107544000108
POS ID: xxxxxxxxxxxx
DATE 10/09/2558 17:38
Tax Invoice No.888RC092558/000066
CASHIER : admin system
No Customer 1

คาปูชิโน เย็น	1	55.00
Total Baht		55.00
NET BAHT		55.00
Cash : 55.00	Change	:0.00
VATable		55.00
VAT 7.00%		3.60

ราคารวมภาษีมูลค่าเพิ่มแล้ว
** ขอขอบคุณที่ใช้บริการ **

PTT Free WiFi Passcode
C0024fdUzeayr
(กรุณากรอกอักขระให้ถูกต้อง)

Figure 3.9: Example of Receipt

Receipt No.	STA Time	FIN Time	Total Item Hot	Total Item Ice	Total Item Blended
22/01/22 - 3100	09.05.11	09.07.11	1	1	-
- 3110	09.18.10	09.19.00	1	-	-
- 3120	09.52.17	09.55.25	1	2	-
- 3130	10.08.05	10.11.30	-	1	1
- 3140	10.17.00	10.19.50	2	1	-
- 3150	10.52.20	10.54.38	-	-	1
- 3160	11.07.10	11.09.09	1	1	-
- 3170	11.25.40	11.29.56	1	1	1
- 3180	12.10.20	12.13.43	-	1	1
- 3190	12.30.03	12.31.44	2	-	-
- 3200	12.55.15	12.57.30	-	2	-
- 3210	13.15.10	13.18.34	-	1	1
- 3220	13.40.02	13.42.02	1	1	-
- 3230	14.02.30	14.07.01	-	-	2
- 3240	15.20.10	15.22.29	-	2	-
- 3250	16.12.17	16.15.42	-	1	1
- 3260	17.25.03	17.27.22	-	-	1
- 3270	18.12.08	18.14.25	-	-	1

Figure 3.10: Example of Order Time Record Check Sheet

Receipt No. = Export from POS

STA Time = Record by staff

FIN Time = Record by staff

Due to time format in the customer's receipt was shown only hour and minute format. In this study the procedure must record time in second format so a stopwatch as show in below figure has been used in this study.



Figure 3.11: Example of Stopwatch

Since the standard time per each category of beverage had been set then the process able to compare with actual average time from each product.

Table 3.4 : Beverage Standard Time

Menu	Process Time (Sec)
BEVERAGE - HOT	45
BEVERAGE - ICED	60
BEVERAGE - BLENDED	120

3.8 Customer Satisfaction

This study not only to analysis in term of lose in the process but also have to be proven in term of quality and satisfaction result from customer. The benefits of customer survey methodology has been used to support this topic.

3.8.1 Design Questionnaire and Survey Form

The questionnaire consists of two parts, the first part asked about personal information of customer while the second part asked about satisfaction with the services of coffee shop. The sets of questionnaires first approved by advisor and adjusted according to recommendation from the specialists. To make sure this survey can be understanding by all participants, a set of survey had been tested with 10 customers and adjusted in term of wordings and others related to this questionnaire.

3.8.2 Questionnaire Collection

The participants, who were purposively selected by Purposive Sampling (also known as judgment, selective or subjective sampling) is a sampling technique in which researcher relies on their own judgment when choosing members of population to participate in the study (Black K, 2010), were 100 customers who often visit to this coffee shop. The survey was distributed to customer to evaluate at day 10, 20, 30, 40 and 50 of each process. Here below date for each evaluation,

Table 3.5 : Date of Evaluation

Day	Date of Evaluation Current Operation	Date of Evaluation New Operation
10	25 NOV 2017	24 JAN 2018
20	7 DEC 2017	5 FEB 2018
30	19 DEC 2017	16 FEB 2018
40	30 DEC 2017	28 FEB 2018
50	12 JAN 2018	12 MAR 2018

Here below the criteria to ask customer in a survey form of this study,

Part I : Personal information

1. Gender
2. Age
3. Occupations
4. Frequency of Visits

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Part II : Satisfaction Level

Satisfaction Level with coffee shop were “Extremely Satisfied = 5”, “Very Satisfied = 4”, “Fairly Satisfied = 3”, “Very dissatisfied = 2” and “Extremely dissatisfied = 1”

1. How do you rate the taste of your coffee / beverage?
2. How do you rate the waiting time to order?
3. How do you rate the waiting time to be served?
4. How do you rate the accuracy of your coffee order?
5. How do you rate the product quality?
6. How do you rate the services of the staff?
7. How do you rate cashier process the transaction quickly and effectively?
8. How do you rate overall cleanliness of the coffee shop?
9. How do you rate the overall experience about product at this coffee shop?
10. How do you rate the overall experience about service at this coffee shop?

CHAPTER 4

RESULTS AND DISCUSSIONS

This study attempted to find the operation improvement for coffee shop. As stated in the previous chapter, the researcher selected a sample and collected data in 100 days, the first 50 days as current operation and another 50 days as improved operation. Base on this samples, the operation improvement was carried out to find the new procedure and customer satisfaction. The obtained results were analyzed by using statistical analysis. For the better understanding, the results were divided and presented under following sections and information.

This study area covered one coffee shop as a case study. The operation details were collected during November 2017 to March 2018 which separate into two phases as follows,

Current operation period	15 NOV 2017 – 12 JAN 2108
New operation period	13 JAN 2018 - 12 MAR 2018
Coffee Shop operation time	MON-SAT / 06.00 – 19.00

The studied factors are waste from operation process, operation time and customer Satisfaction. The results were compared between current operation and new operation.

In order to achieve the results of operations improvement, three indicators were used to analyze, waste in operation process, operation time and customer satisfaction.

4.1 The Waste in Operation Process

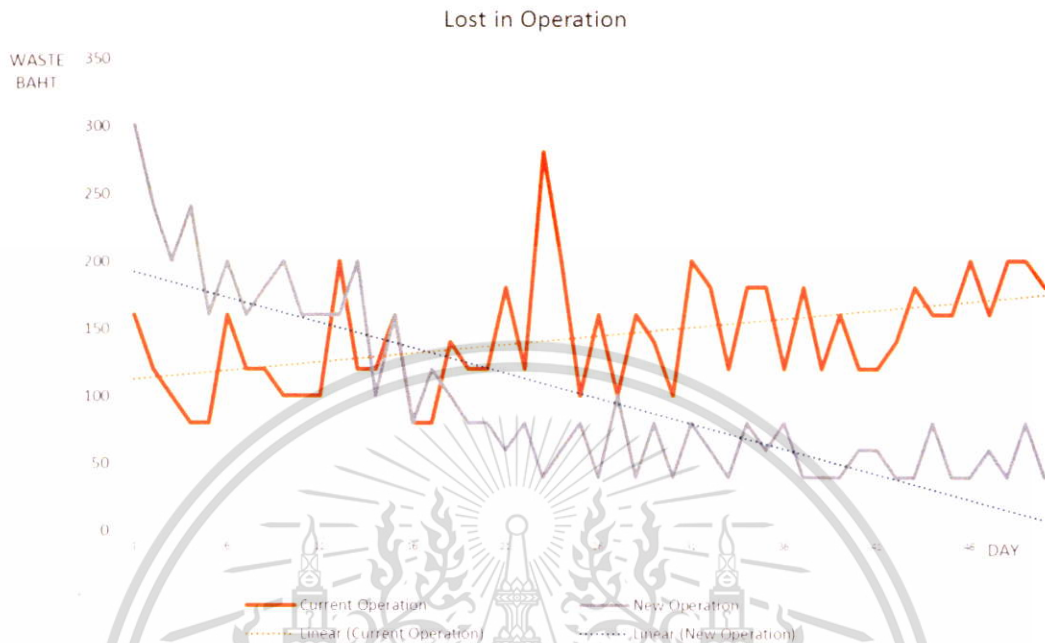


Figure 4.1 Waste in operation by comparing current and new operation

Figure 4.1 shows waste in operation by comparing current and new operation. Data from 50 days of current operation is shown in orange line. They were conducted to identify the waste in operation of current process. Data from 50 days of new operation is shown in grey line. They were conducted to identify the waste in operation of new process. Daily incorrect order recorded by staffs and will be calculated as waste from operation on terms of financial matters.

From the data, the graph presents high frequency of waste in operation of current operation. Comparing with new operation, it appears that an average of waste in operation is lower.

Table 4.1 Summary of the waste in operation

Waste in Operation		
	Current Operation (BAHT)	New Operation (BAHT)
Min	80.30	40.15
Max	281.06	301.14
Average	144.15	100.38

Table 4.1 shows the highest waste in current operation is 281.06 Baht and the lowest waste is 80.30 Baht. The highest waste in new operation is 301.14 Baht and the lowest waste is 40.15 Baht. However, in average, the waste per day in new operation is 100.38 Baht while the waste in current operation is 144.15 Baht.

4.2 Standard Operation Time

Operation time is collected from the operation of coffee brewing. There are three categories of beverage which are hot menu, iced menu and blended menu. Each type required different standard operation time. Daily average of operation time was recorded by staffs. The operation time of each beverage types are as follows,

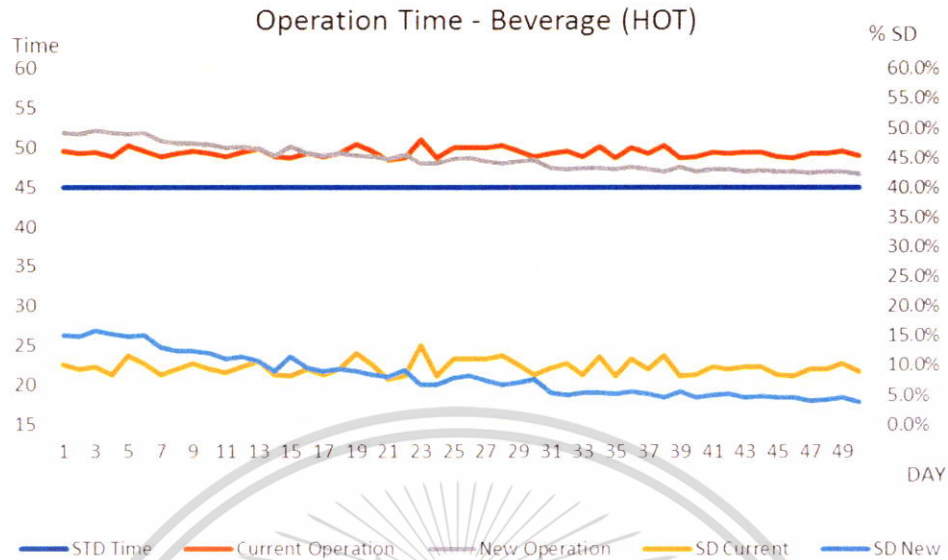


Figure 4.2 Operation time of hot menu by comparing current and new operation

From Figure 4.2 shows operation time of hot menu by comparing current and new operation. Data from 50 days of current operation is shown in orange line. They were conducted to identify the operation time of current process. Data from 50 days of new operation is shown in grey line. They were conducted to identify the operation improvement of new process. Comparing with new operation, it appears that an average of operation time is lower.

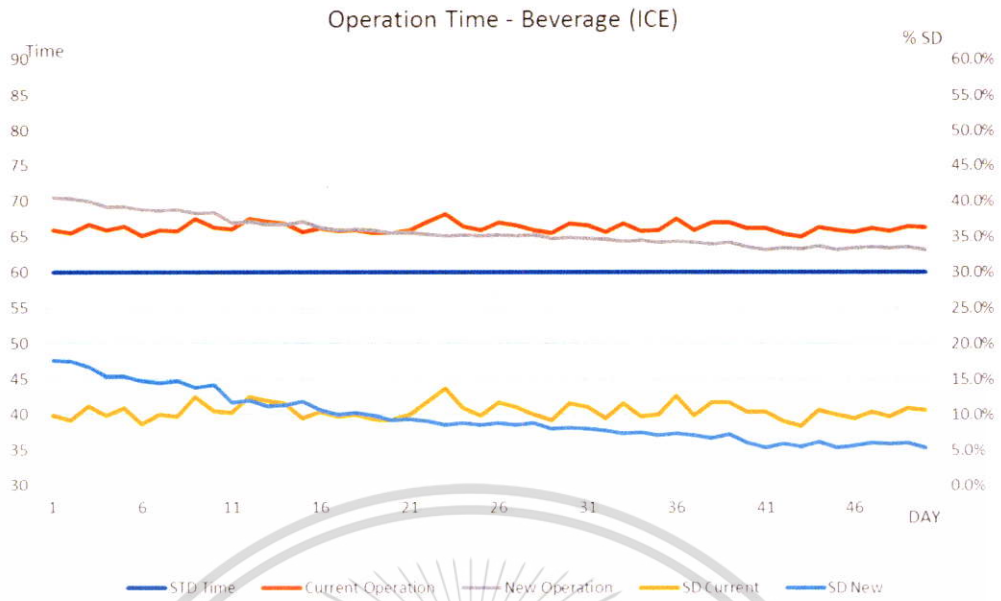


Figure 4.3 Operation time of iced menu by comparing current and new operation

From Figure 4.3 shows operation time of iced menu by comparing current and new operation. Data from 50 days of current operation is shown in orange line. They were conducted to identify the operation time of current process. Data from 50 days of new operation is shown in grey line. They were conducted to identify the operation improvement of new process. Comparing with new operation, it appears that an average of operation time is lower.

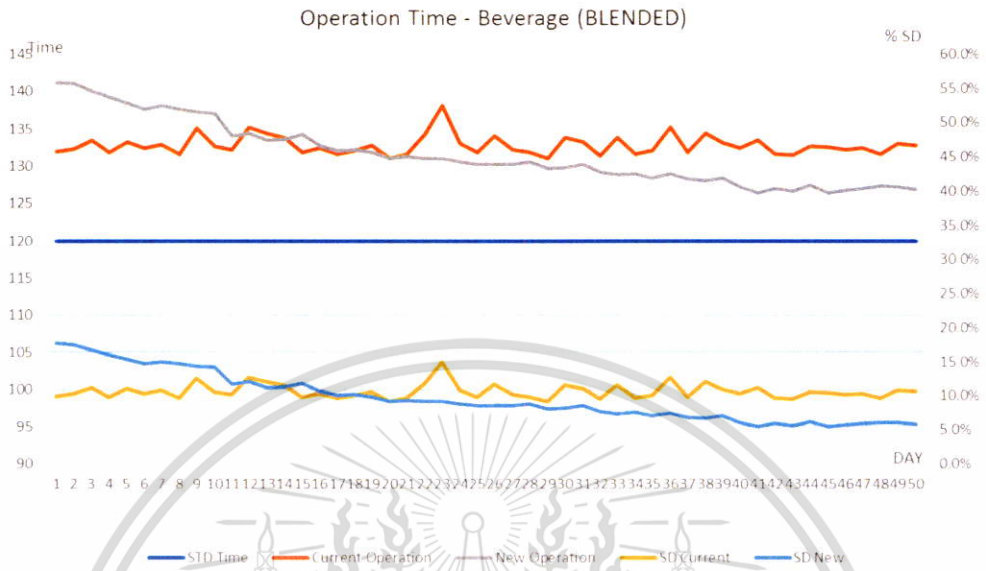


Figure 4.4 Operation time of blended menu by comparing current and new operation

From Figure 4.4 shows operation time of blende menu by comparing current and new operation. Data from 50 days of current operation is shown in orange line. They were conducted to identify the operation time of current process. Data from 50 days of new operation is shown in grey line. They were conducted to identify the operation improvement of new process. Comparing with new operation, it appears that an average of operation time is lower.

Table 4.2 Summary of the operation time

Beverage Type	Standard Time (SEC)	Current Process				New Process			
		MIN (SEC)	MAX (SEC)	Average Time (SEC)	Percent SD	MIN (SEC)	MAX (SEC)	Average Time (SEC)	Percent SD
BEVERAGE - HOT	45.00	48.40	51.00	49.34	9.64	46.70	52.10	48.69	8.21
BEVERAGE - ICED	60.00	65.00	68.20	66.28	10.46	63.20	70.60	65.73	9.55
BEVERAGE - BLENDED	120.00	131.00	138.00	132.76	10.64	126.40	141.20	131.53	9.61

From Table 4.2 shows the summary of the operation time in each menu. Overall, the operation time of new process is lower for every type of beverage.

- **BEVERAGE – HOT**

The highest operation time of current operation is 51.00 seconds and the lowest operation time is 48.40seconds. The highest operation time in new operation is 52.10 seconds and the lowest operation time is 46.70 seconds. In average, the operation time of new operation is 48.69 seconds which is lower than operation time of current operation at 0.65 seconds per menu.

- **BEVERAGE - ICED**

The highest operation time of current operation is 68.20 seconds and the lowest operation time is 65.00 seconds. The highest operation time of new operation is 70.60 seconds and the lowest operation time is 63.20 seconds. In average, the operation time of new operation is 65.73 seconds which is lower than operation time of current operation at 0.55 seconds per menu.

- **BEVERAGE - BLENDED**

The highest operation time of current operation is 138.00 seconds and the lowest operation time is 131.00 seconds. The highest operation time of new operation is 141.20 seconds and the lowest operation time is 126.40 seconds. In average, the operation time of new operation is 131.53 seconds which is lower than operation time of current operation at 1.23 seconds per menu.

4.3 Customer Satisfaction

The customer satisfaction was conducted every 10 days by using questionnaire technique. As described in section 3.8 that the questionnaire consists of two parts. The first part is to gather personal information and the second part is about customer satisfaction level. The satisfaction score rank is determined that “Extremely Satisfied = 5”, “Very Satisfied = 4”, “Fairly Satisfied = 3”, “Very dissatisfied = 2” and “Extremely dissatisfied = 1” Here below are the results from this study.

Participant’s Personal Information

Table 4.3 Participant’s Gender

Gender	n	%
Male	565	56.50
Female	435	43.50

Table 4.3 reveals that out of 1000 participants in this study, 565 (56.50%) were male, 435 (43.50%) were female.

Table 4.4 Participant’s Age

Age	n	%
25 or less	75	7.50
26 - 35	383	38.30
36 - 45	375	37.50
Over 46	167	16.70

Table 4.4 shows that the participants in the age range of 26-35 were at the highest number with the total of 383 (38.30%), followed by those of 36-45 with the total of 375 (37.50%), those over 46 with the total 167 (16.70%) and those 25 or less with the total of 75 (7.50%) respectively.

Table 4.5 Participant's Occupation

Occupation	n	%
Students	35	3.50%
Company Employees	765	76.50%
Government Officers	121	12.10%
Business Owners	79	7.90%

Table 4.5 illustrates the participants occupation. It was found that the participants who were company employees were at the highest number, with the total of 765 (76.50%) followed by those who were government officers, with the total of 121 (12.10%), business owners, with the total of 79 (7.90%), and lastly those with students, with the total of 35 (3.50%)

Table 4.6 Participant's Frequency of Visits

Frequency of Visits	n	%
Once a week	53	5.30%
Twice a week	82	8.20%
Three times a week	227	22.70%
More than three times a week	638	63.80%

Table 4.6 shows that the participants who visited this coffee shop more than three times a week were the highest in number (63.80%), followed by those who visited this coffee shop three times a week (22.70%), twice a week (8.20%) and once a week (5.30%) with the total participants for each group of 638, 227, 82 and 53 respectively.

Customer Satisfaction Level



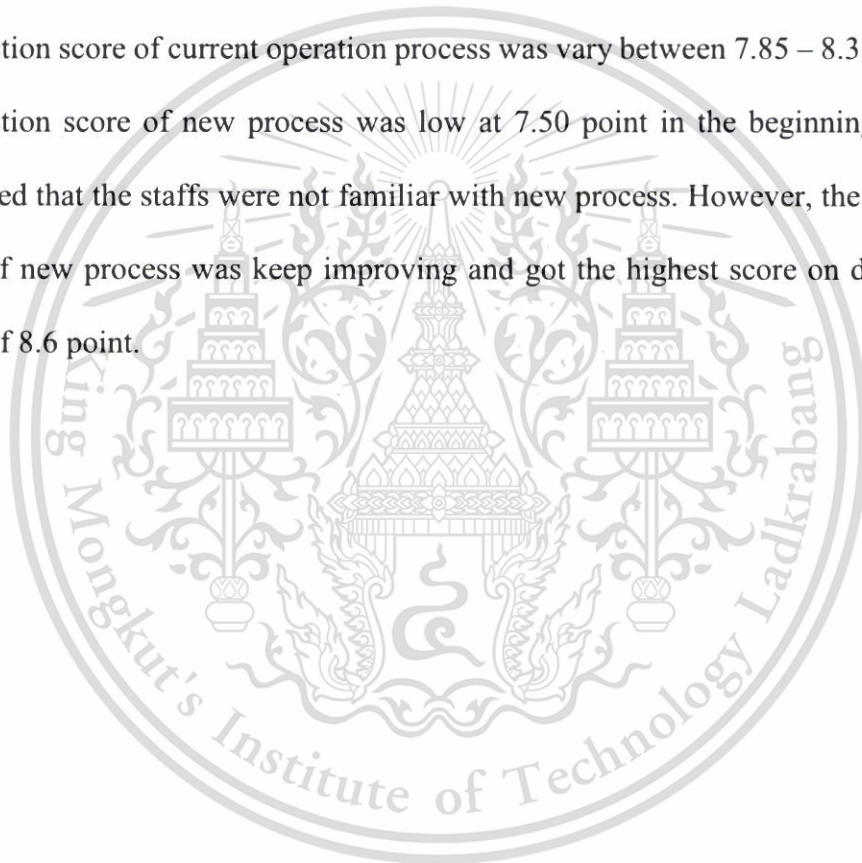
Figure 4.5 Customer satisfaction by comparing current and new operation

From Figure 4.5 shows customer satisfaction by comparing current and new operation. Data from 50 days of current operation is shown in orange line. They were conducted to identify the customer satisfaction of current process. Data from 50 days of new operation is shown in grey line. They were conducted to identify the customer satisfaction. Comparing with new operation, it appears that an average of customer satisfaction is higher.

Table 4.7 Summary of the Customer Satisfaction

Day	Current Operation	New Operation
10	8.20	7.50
20	8.10	7.80
30	8.35	8.30
40	7.85	8.50
50	8.00	8.60

From Table 4.7 shows the summary of the Customer Satisfaction. The satisfaction score of current operation process was vary between 7.85 – 8.35 point. The satisfaction score of new process was low at 7.50 point in the beginning. It can be described that the staffs were not familiar with new process. However, the satisfaction score of new process was keep improving and got the highest score on day 50th at a result of 8.6 point.



CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to study and compare the factors which influence on the operations of the coffee shop. The researcher aims to find out an answer to a question about how to make an improvement on the operation in coffee shop.

5.1 Conclusion

In this study, the researcher considered on how to improve the operation of the coffee shop for a sustainable growing of the business. The main key factors were picked its about waste in the operation process and how to control as already discussed in chapter 2 and chapter 3, while the second key factor was the operation time to make a product. Not only for the result in coffee shop operation, the customer satisfaction or feedback from customer also importance for business owner to understand the feeling from their customer.

The study tried to setup the new operation process and compare main key factors; waste in operation process, operation per unit and customer satisfaction collected before and after the new operation applied.

The results of the study showed positive value of main key factors. For the waste in operation, in average, the waste in current operation is 144.15 Baht per day while the new operation is 100.38 Baht per day which is 43.77 Baht lower than the waste in current operation. Waste has been decreased due to the new operation designed to manage communication process between staffs. For operation time, comparing with current and new operation process, it appears that all type of beverages an average time of new operation is lower than the current one. The result showed that all of staffs

familiarize with job at all working station. The result of last factor is customer satisfaction. The satisfaction score of new process was low as 7.50 point at the beginning. It can be described that the staffs were not familiar with the new operation. However, the satisfaction score of new process was keep improving and got the highest score on day 50th as a result of 8.6 point. The result of this study may suggest the possibility of factor which effects to the success of coffee shop business and sustainable growing.

5.2 Recommendation for further study

Since the coffee shop in Thailand has been spread to many locations, such as tourist attractions, the rest-area on express way or gas station where different customers are gathered therefore the further study regarding the operations improvement for a coffee shop is suggested.

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APPENDIX A

Customer Survey Form

Questionnaire

This questionnaire is designed for a research study of Master of Science in Logistics and Supply Chain Management, International College King Mongkut's Institute of Technology Ladkrabang. The objective is to investigate customer satisfaction with the coffee shop in Bangkok. Your cooperation in completing this questionnaire will highly appreciated. All the information gained will be treated confidentially.

Part I: Personal information

Please mark "✓" in the box that best describes you.

1. Gender

Male Female

2. Age

25 or less 26 - 35
 35 - 45 Over 46

3. Occupations

Students
 Company Employees
 Government Officers
 Business Owners

4. Frequency of Visits

Once a week Twice a week
 Three times a week More than three times a week

Part II: Satisfaction Level with the Coffee Shop

Items	I am satisfied with the following items	Satisfaction Level				
		Extremely Satisfied (5)	Very Satisfied (4)	Fairly Satisfied (3)	Very dissatisfied (2)	Extremely dissatisfied (1)
1	How do you rate the taste of your coffee beverage?					
2	How do you rate the waiting time to order?					
3	How do you rate the waiting time to be served?					
4	How do you rate the accuracy of your coffee order?					
5	How do you rate the product quality?					
6	How do you rate the services of the staff?					
7	How do you rate cashier process the transaction quickly and effectively?					
8	How do you rate overall cleanliness of the coffee shop?					
9	How do you rate the overall experience about product at this coffee shop?					
10	How do you rate the overall experience about service at this coffee shop?					

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