

Chapter 4

Management Analysis

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Business is an economic institution whose goal is economic survival and whose activities are dominated by the profit motive. Its primary purpose is to create and satisfy customers and make profit. To achieve this purpose, business must be skillfully managed.

Management is defined as the art of conducting and supervising a business or as using judgment in business affairs. A manager is the one who actively directs, controls and manipulates his or her business environment in a manner that takes account of the risks involved in order to realize monetary gain. Successful business leaders have stressed that good management skills, whether in a large corporation or in a one-person business, are vital to the success of a business. Management of *Umbrella Making Center 1978 Co., Ltd* can be classified as family business management.

Management of the organizations is comprised of 4 main functions, which are planning, organizing, leading and controlling¹.

This chapter shows an overall picture and details of these 4 functions of management at *Umbrella Making Center 1978 Co., Ltd*

I. Planning

Planning involves defining an organization's goals, which for *Umbrella Making Center 1978 Co., Ltd* are product quality and customer satisfaction.

As mentioned earlier that management characterizes the process of leading and directing all or part of an organization through the deployment and manipulation of resources (human, financial, material, intellectual or intangible). One can also think of management functionally, as the action of measuring a quantity on a regular basis and of adjusting some initial plan, and as the actions taken to reach one's intended goal. Then planning is a vital function that establishes an overall strategy to achieve organization's goal as well as develops a comprehensive hierarchy of plans in order to integrate and coordinate activities

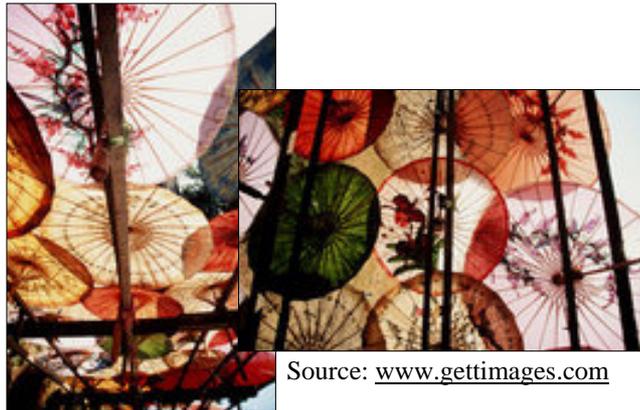
For *Umbrella Making Center 1978 Co., Ltd*, the owner is the center of the firm's strategy planning and let the assistant in each department assigns the jobs to his or her subordinates².

Communication management and staffs are made through meeting with chief of each department and then they will clarify to their subordinates³.

¹ Stephen P. Robbins and Mary Coulter, *Management* (Prentice-Hall International, Inc. 2002) Page 8.

²From interview with Mr. Kiattipong Pipatjariya (Personnel Manager) on 7th October 2005

³ Ibid.

Figure 4-1: Paper umbrella

Source: www.gettimages.com

II. Organizing

Organizing is the process of creating an organization's structure. This process is important and serves many purposes. The challenge for managers is to design an organizational structure that allows employees to effectively and efficiently do their work.

a. Organization Structure

Organizational design at *Umbrella Making Center 1978 Co., Ltd*, is a functional structure which is an organizational design that groups similar or related occupational specialties together, it's the functional approach to departmentalization applied to the entire organization. This is appropriate for a small to medium sized firm. Employees tend to be specialists in the business functions important to that industry, such as manufacturing, marketing, finance, and human resources, as will be seen in below chart.

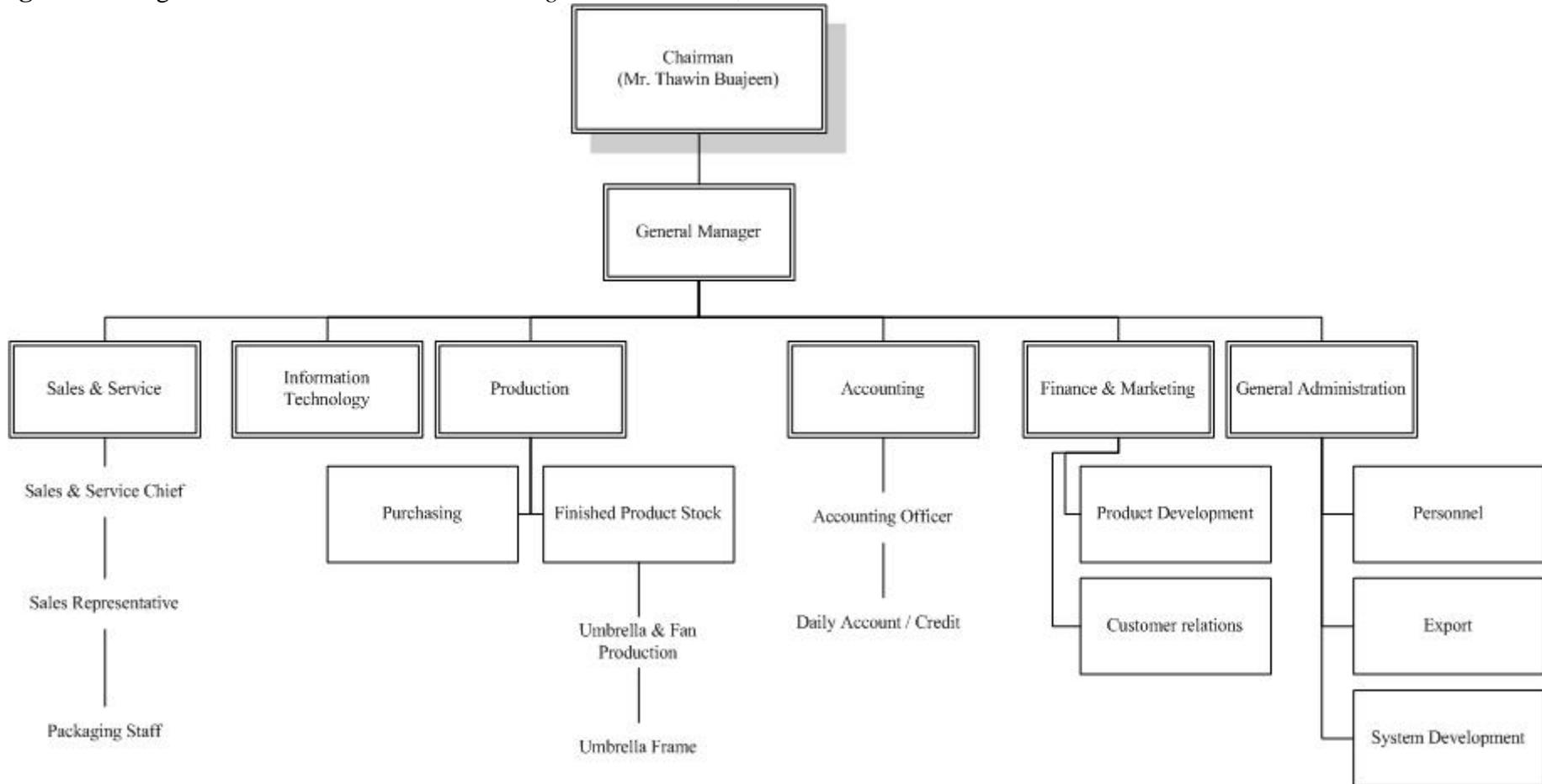
In the past, this organization was called Umbrella Making Center which was formed as family business but at the present it was registered in the form of company, named *Umbrella Making Center 1978 Co., Ltd*. This company is owned by Mr. Thawin Buajeen, chairman. The general manager is Ms. Kannika Buajeen, his daughter.⁴

Figure 4-2: Traditional Northern Thai People

Source : www.gettimages.com

⁴ Op.cit Mr. Kiattipong Pipatjariya's interview.

Figure 4-3: Organization Chart at *Umbrella Making Center 1978 Co., Ltd.*⁵



⁵ Organization chart board hanging on the wall at Umbrella Making Center Co., Ltd.

Each member in *Umbrella Making Center 1978 Co., Ltd* has the skills in different fields. To manage effectively, top management has to set up a simple organization design for their own community with delegation that will help them in competitive management. Managers get things done through other people. Because there are limits to any manager's time and knowledge, effective managers need to understand how to delegate the work⁶.

Delegation is the assignment of authority to another person to carry out specific duties, it allows an employee at *Umbrella Making Center 1978 Co., Ltd.*, to make decisions.

b. Corporate Culture

Corporate culture is the collection of beliefs, expectations, and values learned and shared by a corporation's members and transmitted from one generation of employees to another⁷. The corporate culture generally reflects the values of the founder and the mission of the firm

Umbrella Making Center 1978 Co., Ltd has the northern Thai family style which the main characteristic is quite unique which is very neat then it reflects to their works in the same way. The harmonization among them shows in the high degree. It creates a good organizational climate such as warmhearted feeling among all members of the company. The atmosphere of working is encouraging. The rules and regulations are just declared to make employees recognize the sense of discipline.

As a family business, the management of *Umbrella Making Center 1978 Co., Ltd* also develops the informal structure within organization. The informal structure of the company makes working conditions flexible. Moreover, this kind of structure also facilitates all employees for better cooperation and coordination. Informal structure has no written rules, it is not easy to identify, and has unclear membership guidelines⁸. The advantages of informal structure can pass any information to employees and also can provide feedback quickly.

The company creates the value of conformity to standard and customer satisfaction in the mind of employees at all level⁹.

⁶ Op.cit Mr. Kiattipong Pipatjariya's interview

⁷ Thomas L. Wheelen and J. David Hunger, *Strategic management and Business Policy* (Pearson Prentice Hall, 2004) Page 88.

⁸ Op.cit Mr. Kiattipong Pipatjariya's interview

⁹ Ibid

c. Human Resource Management

Human resource management process at *Umbrella Making Center 1978 Co., Ltd*, which consists of eight activities necessary for staffing the organization and sustaining employee performance. The first three activities ensure that employees are identified and selected and the next two activities involve providing employees with knowledge and skills and the final two activities entail making sure that the organization retains competent and performing employees who are capable of sustaining performance which will show the process in detail as follow

Planning

Human resource planning is the process by which managers ensure that they have the right number and kinds of people in the right places, and at the right times, who are capable of effectively and efficiently performing assigned tasks

At *Umbrella Making Center 1978 Co., Ltd*, planning process is done by the general manager and also human resource manager. In this process, needed data are production capacity, order on hand, minimum wage rate (see table 4-1 : Minimum wage rate) but for *Umbrella Making Center 1978 Co., Ltd*, it uses 147 THB for wage rate per day¹⁰.

Table 4-1 : Minimum Wage Rate

(The enforcement of the new minimum wage rate made in August 1, 2005.)

Area	Wage rate
Bangkok, Nonthaburi, Nakornpratom, Pratumthani, Samutprakarn and Samutsakorn	181
Phuket	178
Chonburi	163
Saraburi	161
Nakornratchasima	156
Chiang Mai , Pang-nga, Ranong and Rayong	153
Pranakornsriyuthaya	152
Chachengsao	150
Kanchanaburi and Krabi	148
Prachaubkirikhan, Petchaburi, Ratchaburi and Samutsongcram	147
Chantaburi, Lopburi and Anghong	146
Chumporn, Trang, Trad, Prachinburi, Lumpoon, Srakaew, Singhaburi and Sukhothai	145

¹⁰ Ibid

Area	Wage rate
Kalasin, Khonkean, Burirum, Pattani, Yala, Loei, Songkha, Satoon and Udonthani	144
Kampaengpetch, Tak, Nakornsawan, Pattalung, Phitsanulok, Petchaboon, Lumpang, Suphanburi, Suratthani and Uttraradit	143
Chainat, Chaiphum, Chaingrai, Nakornpanom, Nakornsrihammarat, Mugdahan, Yasotorn, Roi-ed, Srisaket, Sakonnakorn, Nongkhai, Nongbualumpoo and Uthaithani	142
Nakornnayok, Pichit, Maehongsorn, Surin, Ubonratchatani and Amnatchareon	141
Nan, Payao, Phrae and Mahasaracram	140
Naratiwat	139

Source : http://eng.mol.go.th/statistic_01.html

Recruitment

Recruitment is the process of locating, identifying, and attracting capable applicants. Recruitment at *Umbrella Making Center 1978 Co., Ltd* is informal style because staffs and applicants are local neighbors. But now there's labor force from every region not only in Chiang Mai or Northern region.

Table 4-2 : No. of employees at *Umbrella Making Center 1978 Co., Ltd*

Employee type	Male	Female
1. Monthly paid employee	23	17
2. Daily paid employee	14	56
3. Sub contract	17	50

Source: Organization chart at *Umbrella Making Center 1978 Co., Ltd*¹¹

Selection

Selection is the process of screening job applicants to ensure that the most appropriate candidates are hired. Like other company, candidates have to be interviewed for background investigations and physical examination but it's in informal style not like in big organization¹². Manager does the selection process. Only the experienced person will be hired, this criteria is more important than educational background since this company is skilled labor intensive

Socialization

Socialization is the process that provides harmony and reduces conflict between staffs. In this step, some companies conduct the process called

¹¹ Organization chart board hanging on the wall at *Umbrella Making Center Co., Ltd*.

¹² Op.cit Mr. Kiattipong Pipatjariya's interview

orientation, the process to introduce new employee to his or her job and the organization. This process seems to be the least important for *Umbrella Making Center 1978 Co., Ltd* since most staffs come from the same area but anyway it's still important because as mentioned earlier that nowadays there're more staffs who come from other regions¹³.

Training and Development

Most training is directed at upgrading and improving an employee's technical skills, including basic skills as well as job-specific competencies. Since most employees at *Umbrella Making Center 1978 Co., Ltd* have skill in this kind of product because this knowledge and skill were passed on from generation to generation. Anyway at *Umbrella Making Center 1978 Co., Ltd*, there're on the job training which is in 3 month probation period¹⁴. During this time new staffs will be trained according to the department that they are assigned to be in.

For development, even though new staffs can perform the job quite well, manager has to find the way to develop their employees to work more effectively and efficiently. At *Umbrella Making Center 1978 Co., Ltd*, one way of employee development is third language training. Sale representatives at *Umbrella Making Center 1978 Co., Ltd* can speak Italian besides English which is a common language used for communication with their foreign customers¹⁵. And it was surprisingly that staffs who can speak Italian didn't have this skill by training from Italian teacher but read from the Italian practice books and from their listening from Italian customers and then use it in their job so their skills were improved gradually

Figure 4-4: Umbrella Painting and Bamboo Stick Trimming



Source : www.gettyimages.com

Performance Appraisal

This is the process of establishing performance standards and evaluating performance in order to arrive at objective human resource decisions. At *Umbrella Making Center 1978 Co., Ltd*, the manager and chief of every department will evaluate the performance of their staffs by 100% inspection of the quantity and quality of umbrella made by each employee. As mentioned earlier that there's 3 month probation period, if it's beyond this period and

¹³ Ibid

¹⁴ Ibid.

¹⁵ Ibid.

employees can't perform quite well for assigned jobs, they will be rotated to other departments and probation period will be extended to another 3 months

Promotion and Transfer

Since organization at *Umbrella Making Center 1978 Co., Ltd* is family style. The way to grow vertically to higher level is quite difficult except when the company expands the business¹⁶.

D. Incentives

To ensure coincidence between the needs of company and the needs of the employees as individuals, management should develop an incentive program that rewards desired performance. Incentive plans should be linked in some way to corporate and divisional strategy.

Incentives at *Umbrella Making Center 1978 Co., Ltd*, can be seen obviously in the position of sales representatives and umbrella painter.

For sales representatives, as the aim to motivate their sales staff for higher sale volume and better performance, management has the policy of 1.5 percent commission from sale price.

Figure 4-5: Umbrella Painting



Source : www.trekearth.com



Source : www.gettyimages.com

At *Umbrella Making Center 1978 Co., Ltd.*, There're umbrellas in many plain colors such as pink, yellow, blue, or so on, customers can ask the umbrella painters to write any words in any languages or can ask them to paint any designs

¹⁶ Ibid

that customers specially want and then pay them for the extra service. Company will get just only the price of plain umbrella.

III. Leading

Leading is management function that involves motivation subordinates, influencing individuals or teams as they work, selecting the most effective communication channels, or dealing in any way with employee behavior issues¹⁷. Leading or directing is influencing people's behavior through motivation, communication, group interaction, leadership and discipline. The purpose of leading is to channel the behavior of all personnel to accomplish the company's objectives while simultaneously helping them reach their own career goals.

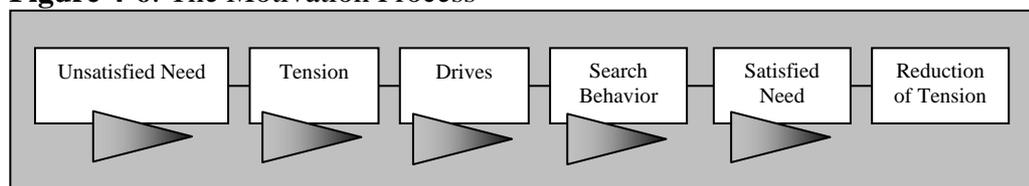
Manager's implementation involves leading people to use their abilities and skills most effectively and efficiently to achieve organizational objectives. Without direction, people tend to do their work according to their personal view of what tasks should be done, how, and in what order.

Leading function is very important to family business like at *Umbrella Making Center 1978 Co., Ltd.* Business owner must be able to mobilize all staffs to work as a team to achieve company's goal. Whether a team is led by a family member or non-family member, the employees' performance still depends on the practice of having a good leadership.

a. Motivation

Motivation is the willingness to exert high level of effort to reach organizational goals, conditioned by the effort's ability to satisfy some individual need. Motivation is the inner force that directs employee behavior, also plays an important role. Managers should be a motivators who the important factors that increase job satisfaction

Figure 4-6: The Motivation Process



Source : Management, Stephen P. Robbins and Mary Coulter, *Management* (Prentice-Hall International, Inc. 2002)

Highly motivated people perform better than unmotivated people. At *Umbrella Making Center 1978 Co., Ltd.*, employees are motivated quite well by

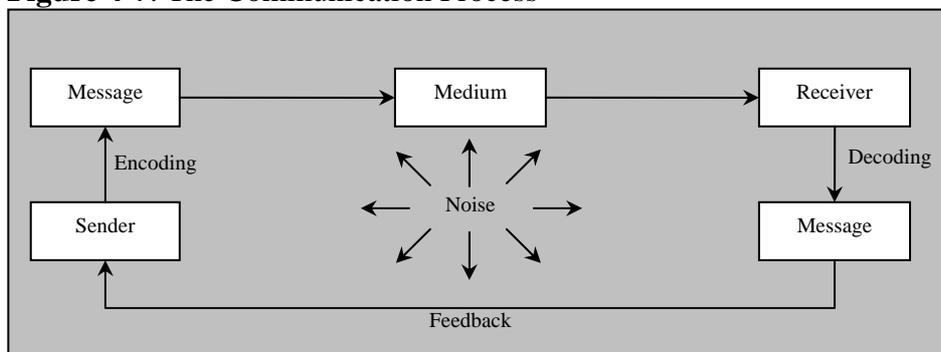
¹⁷ Op.cit Stephen P. Robbins and Mary Coulter, *Management* Page 8.

their creative works. In case of umbrella painters for example, they were empowered to design according to their imaginations for the picture to be painted on umbrella. Other activities also motivate employees to work efficiently such as dining out or the feeling of they're one of the important part in this organization or simply say that they're as one member of the family also motivate employees to work more efficiently and effectively¹⁸.

b. Communication

Communication is the transfer and understanding of meaning among members in organization

Figure 4-7: The Communication Process



Source : Management, Stephen P. Robbins and Mary Coulter, *Management* (Prentice-Hall International, Inc. 2002)

Communication also plays a major role in family business. It affects the relationships among family members on the management team and their relationships with employees. Communication at *Umbrella Making Center 1978 Co., Ltd.*, can be classified into two forms¹⁹. The first one is two way communications, it will be applied when employers and employees want to share any opinions. Managers and staffs will discuss with each other by setting a meeting on monthly and weekly basis. Second one is one way communication, it will be used when direction or supervision is made by employers or supervisors. Communication influences the day to day relations among all in company. It also affects the willingness of manager to provide useful information and on the other hand it can make employee feel as a part of the business.

c. Leadership

Leadership is the directing of activities toward the accomplishment of corporate objectives and the process of influencing the behavior of others toward

¹⁸ Op.cit Mr. Kiattipong Pipatjariya's interview.

¹⁹ Ibid

a vision of future. Leadership is important because it sets the tone for the entire corporation.

At *Umbrella Making Center 1978 Co., Ltd.*, this function is led by owner and managers. When any problems occur, managers can decide by themselves, unless the problem is so important, the owner will made the decision.

Figure 4-8: Paper Umbrella



Source : www.gettyimages.com

IV. Controlling

Control is the process of monitoring activities to ensure that employees are being accomplished as planned and of correcting any significant deviations²⁰. All managers should be involved in the control function even if their units are performing as planned. An effective control system ensures that activities are completed in ways that lead to the attainment of the organization's goals.

There're main purposes of controlling. The first one is adapting for environmental change. Since market changes all the time, at *Umbrella Making Center 1978 Co., Ltd.*, managers and staffs have to create new products or umbrella design to meet customer needs and also as the change of competitors products²¹.

The second purpose is limiting the accumulation of errors. All umbrella components and final products are manmade then it is unavoidable for human error. At *Umbrella Making Center 1978 Co., Ltd.*, every process will be 100% checked by chief of that department before sending these outputs to the next step. It is 100% quality checking because it will be time wasting if they found that final products don't conform as the quality standard²².

²⁰ Op.cit Stephen P. Robbins and Mary Coulter, *Management* Page 496.

²¹ Op.cit Mr. Kiattipong Pipatjariya's interview.

²² Ibid

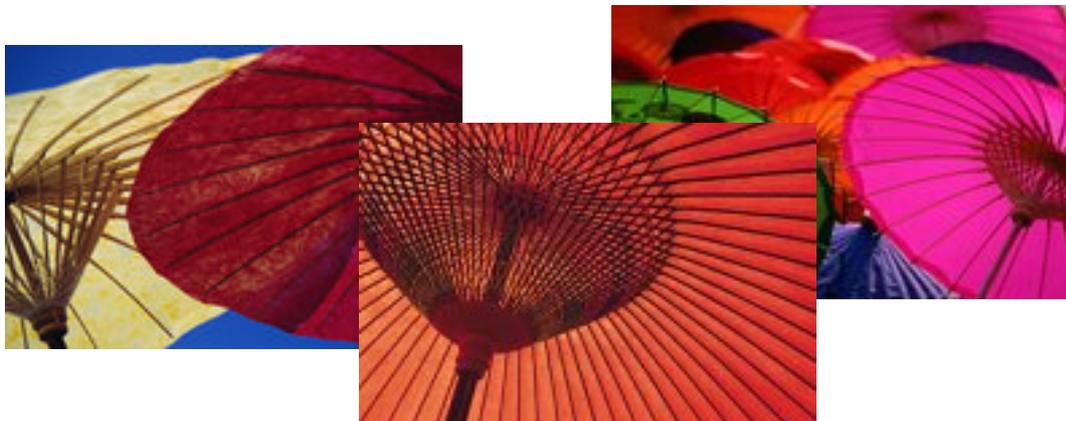
Controlling process covers 3 areas, human resource, finance, and production. For human resource, management set rules and regulations that all employees should follow.

Samples of working rules and regulations²³

- Working days are scheduled on Monday to Saturday. For sales representatives, they can choose any one day for holiday but they have to inform supervisor about their decision before, since the store opens everyday then supervisor has to handle manpower to serve customers on Sunday
- Working hours is 8.00 – 17.00
- Employees have to sign their name before working for attendance checking
- Lunch hour is 12.00 – 13.00

For financial issue, management plays an important role in controlling since source of fund at *Umbrella Making Center 1978 Co., Ltd.*, is equity²⁴. For detail, it can be seen in next part about financial analysis. Production is also the function that management has to pay attention to, since high proportion of total cost comes from production. This process involves procurement, inventory, and quality of final product.

Figure 4-9: Paper Umbrella



Source : www.gettyimages.com

V. Management Strategies

A strategy forms a comprehensive master plan stating how the organization will achieve its objectives and describes a company's overall

²³ Ibid

²⁴ Ibid

direction in terms of its general attitude toward growth and the management of its business and product lines²⁵.

The strategies at *Umbrella Making Center 1978 Co., Ltd.*, can be categorized into 3 main activities, human resource, production and finance.

Human resource Management

The main purpose of *Umbrella Making Center 1978 Co., Ltd.* is to create work for neighbor people then local labor do not have to move out for finding the job. But as the change of society and environment make young labor not interested in this kind of job and business then at present, employees at *Umbrella Making Center 1978 Co., Ltd.* come from many regions. Human resource manager has to give much intention in training since new staffs don't have experience and socialization is also important for new comers.

Production Management

The company has to produce quality products by adding value on them²⁶. At *Umbrella Making Center 1978 Co., Ltd.*, nowadays there're not only souvenirs but also product that can be used in every day life such as station umbrella and this kind of product draws many interested customers not only in Thailand as can be said from export amount.

Made to order is also the strategy that *Umbrella Making Center 1978 Co., Ltd.* apply because of doing this there won't have too much inventory and it can make the firm know the need and product style that customers want and can use this information to produce the products in store other than measure from product sale moving whether it's slow or fast moving then eliminate non and slow moving products out from the store²⁷.

Subcontracting is also production strategy at *Umbrella Making Center 1978 Co., Ltd.*, since for some components or raw material it would be better to hire or buy from other more skilled partners²⁸.

Financial Management

As stated before that source of fund at *Umbrella Making Center 1978 Co., Ltd.* is equity. There's no policy for borrowing.²⁹

²⁵ Thomas L. Wheelen and J. David Hunger, *Strategic Management and Business Policy* (Pearson Education International, 2004) Page 13.

²⁶ Op.cit Mr. Kiattipong Pipatjariya's interview

²⁷ Ibid

²⁸ Ibid

²⁹ Ibid

Environmental Management

Environmental Management is the management of the humankind's interaction with and impact upon the environment. The need for environmental management can be viewed from a variety of perspectives. A more common philosophy and impetus behind environmental management is the concept of carrying capacity. Simply put, carrying capacity refers to the maximum number of organisms a particular resource can sustain. Environmental management is therefore not the conservation of the environment solely for the environment's sake, but rather the conservation of the environment for humankind's sake.

Environmental management involves the management of all components of the bio-physical environment, both living and non-living. This is due to the interconnected and network of relationships amongst all living species and their habitats. The environment also involves the relationships of the human environment, such as the social, cultural and economic environment with the bio-physical environment.

As will be seen in production analysis session, bamboo is the most important material for making umbrella. And at the present *Umbrella Making Center 1978 Co., Ltd.*, has to order this material from suppliers in other provinces not in Chiang Mai anymore since the shortage of natural bamboo in this area. To handle with this problem, *Umbrella Making Center 1978 Co., Ltd.* seek suppliers who grow the bamboo not who sell bamboo which grow naturally in forest, to avoid the scarcity in some seasons.

In production process at *Umbrella Making Center 1978 Co., Ltd.*, most components are natural not synthesized but anyway this kind of components still be used such as lacquer or oil paint in umbrella painting process then the way of managing the waste produced by this chemical material still be in concern. Besides that the dust from drilling or trimming the wood such as bamboo, Kraton, Mokman or other soft wood for making upper and lower heads is in concern also.

At *Umbrella Making Center 1978 Co., Ltd.*, the way they manage with the dust is to separate the work of cutting, drilling or grinding to control area then all these processes are conducted in closed system which located on the back of area then the dust doesn't circulate to outside. About waste from painting material, there's not serious procedure to properly treat before releasing to outside. Painting employees do not much realize the harmfulness of this kind of pollution.

VI. Strengths and Weaknesses

Strengths

1. Business originator, *Umbrella Making Center 1978 Co., Ltd.* was founded in 1978 and it was the first souvenir producer in this area. This can bring trust and fame to the firm

2. Sole proprietorship, since *Umbrella Making Center 1978 Co., Ltd.* Is a small business, this kind of structure is the easiest and least expensive form.
3. Flexibility, management can quickly respond to the needs of the business and can make the day-to-day decisions so often critical to business's success

Weaknesses

1. Operation of traditional production style, it quite depends upon nature. In rainy season, it's time consuming to dry paper by sun light, this can make production and delivery behind schedule.
2. Lacking of information technology, in case of inventory control, it's still manual control style if computer is utilized, there'll make the work more efficient.
3. Lack of mission, mission is the purpose of an organization³⁰, if there's mission statement then all employees will know and realize about the objectives of the organization that they're a part of corporation's success.

Figure 4-10: Paper Umbrella



Source : www.gettyimages.com

VII. Conclusions and Recommendations

Management at *Umbrella Making Center 1978 Co., Ltd.*, can link to others functions such as, marketing, production or so on. Management is the general guideline for enrichment of this community. It can be said that management plays a vital role to give direction for all functions in the organization.

This part has divided management at *Umbrella Making Center 1978 Co., Ltd.*, into four main functions, planning, organizing, leading and controlling. The management at *Umbrella Making Center 1978 Co., Ltd.*, is family business style

³⁰ Op.cit Stephen P. Robbins and Mary Coulter, *Management* Page 185.

and it just registered as the form of company then management has to adjust their style to be compatible with new pattern of organization and the change of society and environment. Anyway management style at *Umbrella Making Center 1978 Co., Ltd.*, is simple traditional, very flexible, informal and rely on the ability of the manager and decision of the owner. The company is still well organized by family members and its management decisions are in the hand of owner. Anyway management activities seemed not to be done systematically, but it insignificantly affects the company's current operation.

Figure 4-11: Paper Umbrella



Source: www.gettyimages.com

At *Umbrella Making Center 1978 Co., Ltd.*, there're weaknesses that have to be rectified and also the strengths that have to be enhanced. The recommendations for *Umbrella Making Center 1978 Co., Ltd.* are as follow:

1. Information technology should be more utilized since it can help every process to be done more efficiently and all employees should be trained about this knowledge. Umbrella Making Center just changed the organization format from partnership to company, management should take the advantage of this kind of technology to make the organization work more systematically. New channel to communicate with customers by website should be created also since there're just only e-mail, telephone and facsimile that *Umbrella Making Center 1978 Co., Ltd.* uses to contact with customers. Information on website can also promote all products at *Umbrella Making Center 1978 Co., Ltd.* and it can make the order process shorter and make the communication between company and customers easier also.
2. Even though *Umbrella Making Center 1978 Co., Ltd.* was the originator in this business, as time passed competition in this business also increases since government tries to promote tourism in every region. First originator may not be significant since customers will be aware of quality and service. Every parts in the organization should be adapted as there's change all the time such as competitors, products, customer behavior, law and regulations, or cost of material.
3. About environmental aspect, all employees should be more realized about pollution from production process. Management may give the information

to all employees for the result of polluted water for example if it is released without proper treatment to natural water resources.

4. Umbrella making cluster is an interesting issue since there're many umbrella makers in this district. This cluster may contribute cooperation among all makers. One type of competitive clusters, based on different kinds of knowledge is historic knowhow-based clusters. This is based on more traditional activities that maintain their advantage in know-how over the years, and for some of them, over the centuries. clusters have the potential to affect competition in three ways
 - by increasing the productivity of the companies in the cluster,
 - by driving innovation in the field
 - by stimulating new businesses in the field³¹

5. Community forest, as mentioned that wood is the most important material for making umbrella and it has to be supplied from other provinces, community forest may be the answer for shortage in this area. Community forestry means many things to many people. It suggests an approach that takes social equity and sustainability, moving toward a decentralized mode of managing forests according to local knowledge and local priorities. In Thailand, community forestry is more of a social movement than a government program. Many local communities have made arrangements and conserving forests near where they live. It is generally agreed that community forestry involves interaction between human society and the forest resources. Sustainability of forest resources will be very much dependent on human behavior towards these resources. Forest management depends on how the community and its members can benefit from the resources that they manage. From data in Table 4-3: Forest area in year 2000, there's approximately 16,468 square kilometers forest area that can be utilized for community forest. Anyway everybody in community should realize the concept of community forest. This concept also creates employment for local people.

³¹ www.wikipedia.com

Table 4-3: Forest Area (Year 2000)

Region and province	Total area	Total forest Area	Forest Area										Forest Plantation	Secondary Growth Forest
			Total	Tropical Evergreen Forest	Mixed Deciduous Forest	Dry Dipterocarp Forest	Swamp Forest	Inundated Forest	Beach Forest	Pine Forest	Bamboo Forest	Mongrove Forest		
Northern Region	172,271.3	98,058.8	94,477.8	19,873.6	66,291.3	8,062.1	-	-	-	93.2	157.7	-	1,943.9	1,637.0
Chiang Mai	22,117.3	16,468.5	16,282.7	4,973.7	8,985.9	2,322.0	-	-	-	1.2	-	-	130.9	54.8
Lamphun	4,475.5	2,710.8	2,634.5	75.9	1,848.5	710.2	-	-	-	-	-	-	40.5	35.7
Lampang	12,488.9	9,099.9	8,036.7	979.8	6,407.8	648.1	-	-	-	-	1.0	-	704.5	358.7
Uttaradit	7,834.2	4,733.1	4,645.7	749.5	3,522.8	373.4	-	-	-	-	-	-	47.0	40.4
Phrae	6,481.8	4,497.6	4,271.5	579.9	3,179.4	511.9	-	-	-	-	0.3	-	180.5	45.6
Nan	12,185.3	9,382.3	9,260.1	1,114.0	7,712.1	427.3	-	-	-	6.7	-	-	88.1	34.1
Phayao	6,184.3	3,482.1	3,433.6	866.1	2,114.0	453.5	-	-	-	-	-	-	34.6	13.9
Chiang Rai	11,581.7	5,369.4	5,304.7	353.5	4,807.4	86.6	-	-	-	57.3	-	-	17.1	47.5
Mae Hong Sorn	12,747.3	11,439.7	11,417.7	2,588.7	8,280.7	520.3	-	-	-	27.9	-	-	15.8	6.3
Nakhon Sawan	9,531.7	894.9	843.0	72.6	658.0	112.4	-	-	-	-	-	-	26.1	25.8
Uthai Thani	6,659.9	3,414.2	3,362.0	779.2	2,340.0	167.9	-	-	-	-	74.9	-	19.6	32.6
Kamphaeng Phet	8,630.6	2,138.0	1,955.5	311.8	1,595.9	47.8	-	-	-	-	-	-	140.3	42.2
Tak	17,264.3	13,333.4	12,787.0	3,951.4	7,593.8	1,173.3	-	-	-	-	68.6	-	17.0	529.3
Sukhothai	6,643.2	2,367.2	2,223.3	567.0	1,599.4	56.6	-	-	-	-	0.3	-	114.6	29.3
Phitsanulok	10,645.1	4,270.1	4,094.9	743.1	3,269.1	82.7	-	-	-	-	-	-	10.9	164.3
Phichit	4,281.6	13.3	12.5	-	12.5	-	-	-	-	-	-	-	0.8	-
Phetchabun	12,518.9	4,444.6	3,912.5	1,167.7	2,364.0	368.1	-	-	-	-	12.7	-	355.4	176.7

Source: Forestry Department, Ministry of Agriculture and Cooperatives