

A MODEL OF AN OFFICE AUTOMATION SYSTEM IMPLEMENTATION IN SMALL AND MEDIUM ENTERPRISES

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ABSTRACT

Due to a high level of business competitiveness in the globalization era, the nation's small and medium enterprises (SMEs) have encountered various limitations ranging from numerous problems in production planning, inadequate competency in manufacturing technology and inexperience in manipulating raw materials, supplies and marketing. These troubles inevitably affect goods and services quality, and production costs become higher than that of the well-resourced and competent large enterprises (LEs). Threatening circumstances disturb the SME's turnover level and make it rather difficult for them to compete among more proficient LEs market. Thus, SMEs need to improve their managerial strategy to minimize the total production cost and maximize their ability to contend with the skilled LEs. The application of information technology, particularly the automation office system modified in the SME's sector would be likely to enhance the operation and decision making. As the approach would possibly lessen manufacturing costs and promote long-term cost savings, SMEs would be able to survive in the tough and competitive business industry. Regarding the office automation principle, three main aspects comprising computer, office and communications technologies are thoroughly integrated. In a real application, the administration needs to raise the awareness of employees so that they gradually become more familiar with the novel model, grasp beneficial concepts, and discern that the office automation system could facilitate their workflow and be dedicated to provide efficiency in their office. As a suggestion, installed communications equipment should be small size to favor of cost saving and cost effectiveness. Needs analysis and proper design of pertinent equipment for the business should be conducted. Staff training in state-of-the-art technology, as well as assessment of operation efficiency system achievement, and cost effectiveness would be required.

Keywords: SMEs, model, office automation, information technology.

INTRODUCTION

Worldwide extreme business competition in the globalization era has led many countries to adopt strategies to improve product quality and adjust their merchandise price to enable them to participate in the business contest and survive in the world market. The writer perceives two areas recently affecting Thai SMEs operation, which comprise high the product cost and constant strong Thai baht. Therefore, our SMEs encounter some problems in the manipulation of cost management and are likely to be beaten by large industries that are well equipped in terms of production technology, design, research and development, as well as essential elements including budget, personnel, machinery, logistics and marketing. Furthermore, large-scale enterprises' mass production allows lower product price. In customer's confidence and satisfaction depend particularly on the company profile. Factors like after-sales service, warranty policies, rapidity, accuracy of trading and service are truly significant for enterprise's achievement. In this manner, SMEs need to adapt a management model to reduce the cost and enable them to compete with large firms. The adoption of automatic technological devices that link business information could be an alternative facilitating daily office routine of the employees.

The objectives of this article are to suggest a model of an office automation system that would particularly save long-term cost and to improve working efficiency of SMEs human resources. Consequently, the production cost in the globalization industries could be reduced.

Why Do Small and Medium Enterprises (SMEs) Need Automation Office System

The Ministry of Industry (SMEs Supporting Office, Ministry of Industry, 2006) defines a small enterprise as a small business where venture capital funds must not exceed 50 million baht and the number of workforce must not be over 50 employees. Meanwhile the venture capital of a medium enterprise falls between 50-200 million baht and the number of staff reaches 50-200 employees. Nowadays small

and medium enterprises take a role in reinforcing the nation's economic structure as well as lessen unemployment condition. However, an obstacle comes from the inadequate administrative skills and perspective on business management. Such aspects are important to assist SMEs to be able cope with the rapid technological change in modern globalization.

According to the 2006 statistics of the Ministry of Industry, Thailand contained 2,287,057 enterprises, including 4,292 large enterprises, 9,791 medium enterprises, and 2,264,734 small enterprises. Another 8,240 business firms could not be categorized. These figures accounted for 0.2, 0.4, 99.0, and 0.4 percent, respectively. These 2,274,525 small and medium enterprises in 2006 accounted for 99.4 percent of the nation's entire business activities.

From the Ministry of Industry's report of import-export structures by group category in the year 2006, the total numbers of 25,445 Thai exporters were classified as 22,410 SMEs, 1,805 large enterprises, while the remaining 1,230 business firms were not categorized in any group. The figures revealed merely a small group of large enterprise exporters. The export price index was 70 percent of all export products. With regard to the whole 37,867 importers, only 2,066 large enterprise importers spent US\$ 83.191.3 million (64.4 percent of all import expenses). The statistics reveals the influential impact of large enterprise upon the nation's import-export structures. On the other hand, while countless SME importers and exporters make a considerable number of trading transactions, it is necessary that pertinent government organizations support such entrepreneurs as to facilitate their operation and product export. This reinforcement would help the nation earn more revenues and thus reinforce the economic structure of the country (Customs House, Ministry of Finance, 2006).

From survey conducted by the Ministry of Industry's SME Department, the large enterprise earning higher export revenues than the small and medium enterprises were due to well-resourced conditions and more advantages over SME in terms of foreign trade exchange by competent staff, higher

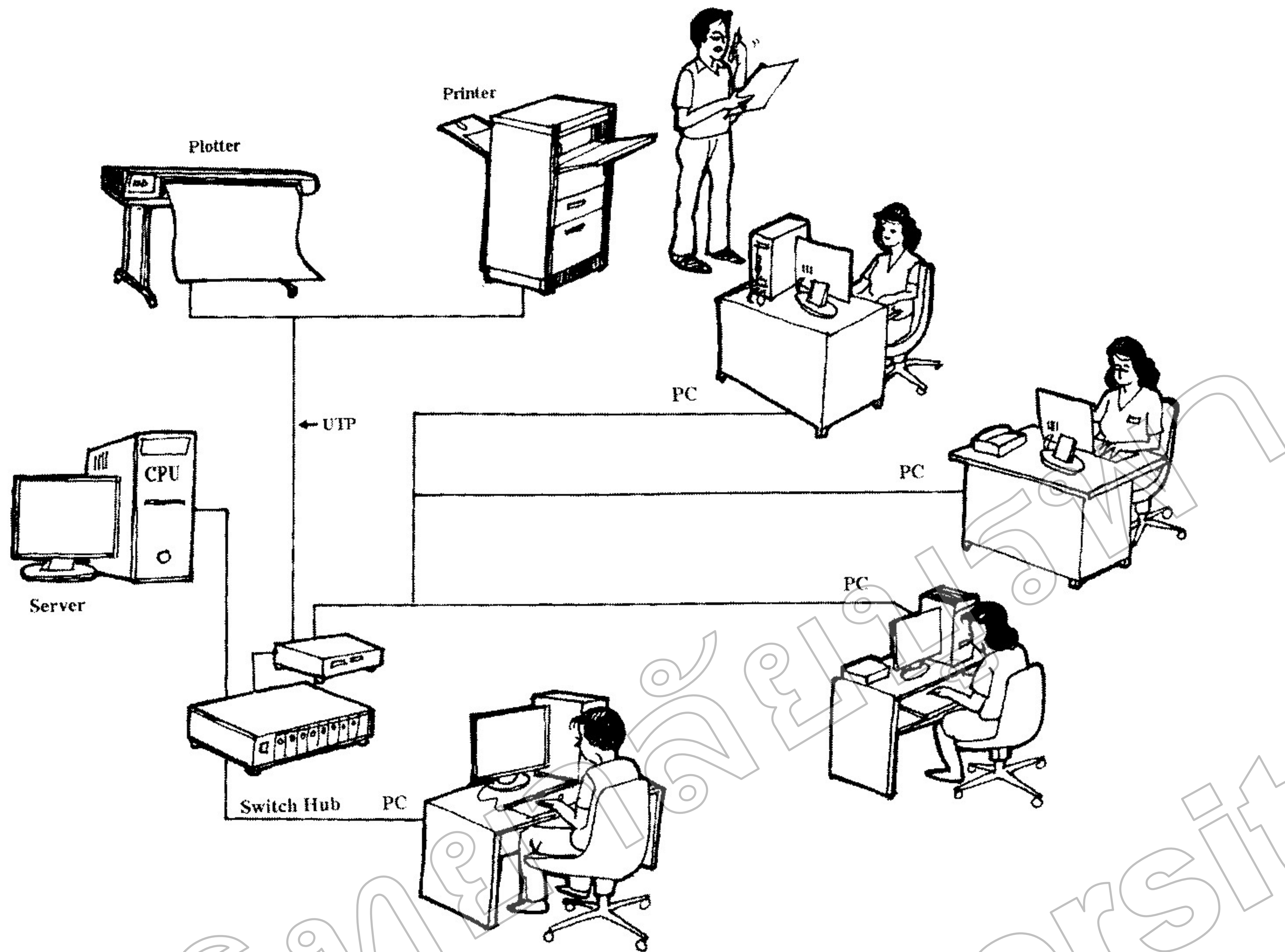


Figure 1. Installation of computer network systems and office automation equipment for increasing work efficiency of employees.

technology assisting mass production at minimum costs, more considerable amount of venture capital, superior search capability for new markets, as well as enhanced ability to promote trade in foreign countries. The writer thus perceives a unique model for SMEs organization management, i.e., adopting an office automation system that would maximize existing employees. The stated model could reduce the number of employees, save on non-renewable resources, encourage rapidity in communication among organization units, facilitate trading with foreign countries and thus entrepreneurs would be able to meet the foreign customers' demands (Figure 1). Implementing the office automation system in the SME's workplace could probably reduce the production cost as IT technology supports existing office procedures and functions by manipulating a variety of resources, such as machinery, raw materials, office supplies, staff, and financial budgets. Office automation also could assist in making business decisions with rapid operation.

According to Thientong (1994), automation systems indicate any self-correcting systems dealing with information and are sustained by automation-related theories. The system thus enables the administration to make precise and prompt decisions. The management of information via the office automation system incorporates the application of modern effectively propagating news and information.

The writer agrees with above concepts and would like to include the idea that the office equipment used should be technologically advanced and automated so that employees' working efficiency could be improved. Tasks and connections among organizations could then be carried out with high cost saving and more convenience. In this manner, Thai SME would be able to cope with other national and international large industries. In addition, competent SMEs entrepreneurs need to improve the office automation system so that the operation becomes cost-effective and highly efficient.

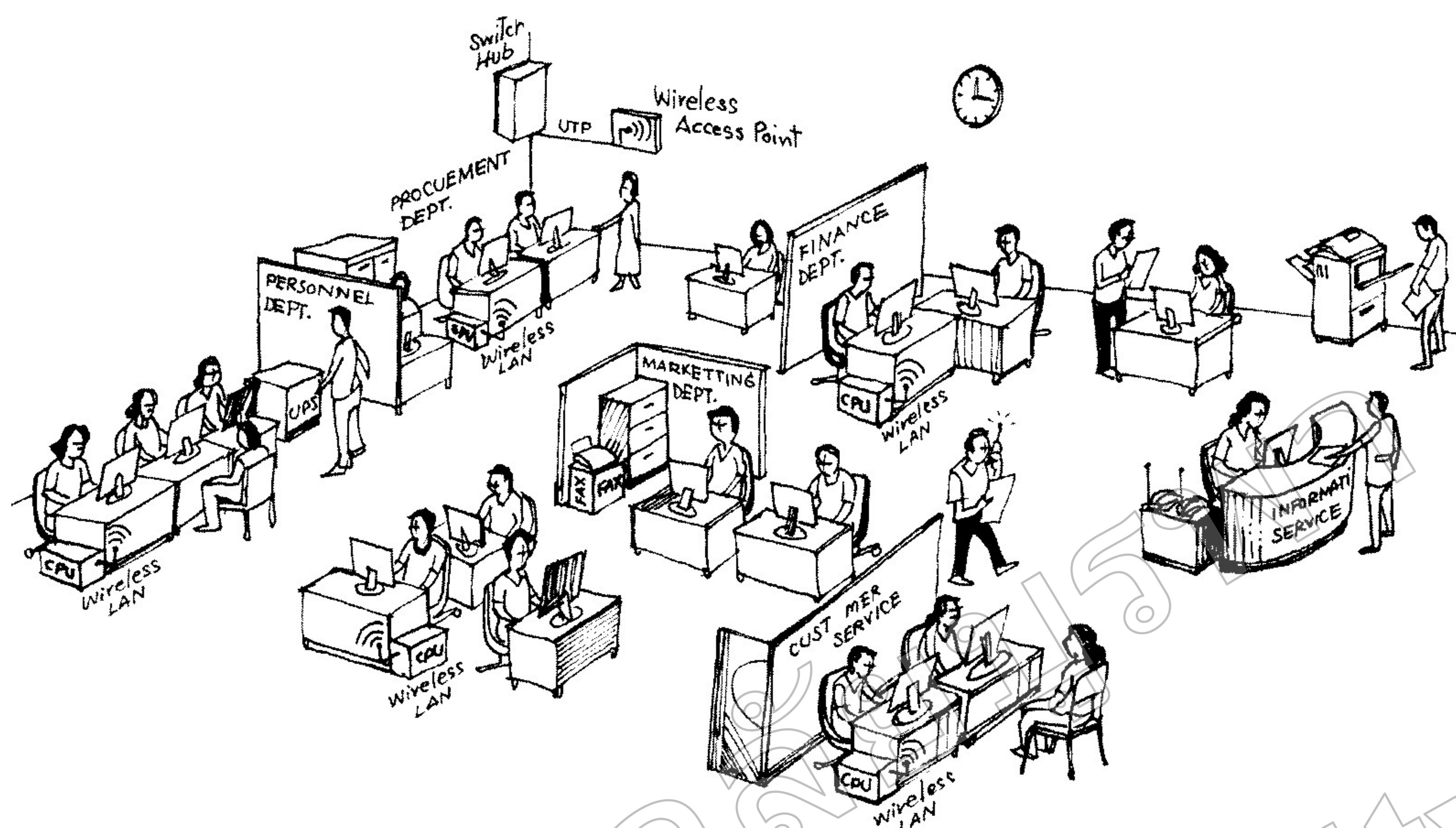


Figure 2. Information network systems by using wireless access point in business organization.

The plan can be carried out by considering investing on IT networks in the office. In so doing, the companies will be well prepared for the potential challenges in the world market.

Installation of an Office Automation System

From the writer's experience, office automation refers to varied computer machinery and software used to digitally collect, create, store, analyze solutions, and relay office information needed. By this means, the number of employees and paperwork could be downsized, time could be saved and communication efficiency inside, outside, and between organizations could be enhanced. A disadvantage of SME seems to be their inferior production capacity. Since the large enterprises possess the high potential of mass production and superior manipulation of manufacturing resources, their production cost becomes far lower than that of SME. Applying office automation system to various units, e.g., marketing, production, QC, logistics, procurement, finance and accounting, or Personnel Departments could support more efficient functioning in the organization (Figure 2). Information could be transmitted via

network links such as electronics mail, LAN, and advanced technology equipment including digital telephone, fax, satellite communications, and as cutting-edge printers. This concept implies a suggestion for saving production cost. It is also remarkable that the technology also combines human resources, hardware, and software.

CPU = Computer Unit

UTP = Unshielded Twisted Pair

UPS = Uninterruptible Power Supply

Suggestions for Implementation of Office Automation Systems in SMEs

The following three features must be taken into consideration regarding the adoption of office automation system:

1. Computer technology, that refers to hardware and software.
2. Office technology that comprises workplace equipment like copying machines and modern printers.
3. Communications technology that includes telephone and satellite communication.

Effective and satisfactory office automation

in SME clusters may require a steady and constant pace as a drastic change could discourage employees who tend to believe that they are being replaced by automation technology. The staff's concern about job loss might instigate objections and complaints. Some suggestions for setting an office automation system would be as follows:

1. Holding a meeting so that everyone understands the managerial policy to install an office automation system for increasing work efficiency. Employees could share their ideas and any advice for modernizing their workplace.

2. Analyze the needs for office appliances as well as surveying employees' requirements for modern equipment training.

3. Have experts design the systems and install automation equipment suitable for operations, such as computer systems, networking, data analyzing, and filing systems.

4. Explore information and facts about office automation supplies from sales representatives from a wide range of companies before making decision on the high quality products best suited to the company's operation and financial budget. After-sales service such as merchandise warranty, after-sales support, training, available replacements and maintenance services should also be taken into account.

5. The purchase and installation of automation office devices require a panel of experts to be a committee in charge. Employees' optimal work atmosphere must always be kept in mind.

6. Provide office equipment training programs as application guidelines.

7. Assess employees' working efficiency after the implementation of office automation systems. The evaluation should emphasize cost effectiveness, time and cost saving, as well as higher efficiency among organization communication.

The office automation system concept is recommended to improve the office managerial system in which a wide range of business costs could be decreased. Employees would get a chance to participate in decision making and giving advice; therefore, the administrative and staff's

comprehension, as well as their awareness about the innovative nation automation system, would be finely tuned. Personnel's satisfaction and moral would be reinforced. Thus, they would benefit from the company's operation (Myers, 1982).

CONCLUSION

At the present time, the small and medium enterprises managerial teams need to exert great efforts to ensure their business endurance and survival. Business accomplishment could be achieved by perseverance, diligence, constant observation on global economic situation, well-rounded knowledge and background experience to facilitate analyzing the continuous change of world markets. The decision making process is certainly based on facts and information. In the future, implementation of an office automation system seems to be indispensable for SMEs. By this means, entrepreneurs can keep up with the current technological revolution. Such advanced technology would contribute to more efficient office work, decreased production costs, and more rapid services for clients. Enterprises would then be able to compete in the business world. Thanks to an office automation system, the number of employees and risks in decision-making would be decreased while information accuracy and rapidity can be enhanced, resulting in better long-term endurance in the business realm for Thai SMEs.

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