Kennesaw State University
DigitalCommons@Kennesaw State University

Dissertations, Theses and Capstone Projects

4-1-2009

Internship in Information Technology Service

Weiqiang Li

Follow this and additional works at: http://digitalcommons.kennesaw.edu/etd

Part of the Public Affairs, Public Policy and Public Administration Commons

Recommended Citation

Internship in Information Technology Service

Weiqiang Li

An Internship Paper

Submitted in Partial Fulfillment

Of the Requirements for the

Master of Public Administration

Kennesaw State University

March 15, 2009

Executive Summary

This spring semester I had the opportunity to do my internship in department of Information Technology Service (ITS) in KSU. I interned in the Computer Lab which is one division of ITS.

The purpose of my internship is to demonstrate the ability to apply what I have learned from the classroom to an actual work experience. The analysis of the theory taught in classroom and its application in practice also is showed in the internship paper.

My internship paper was mainly composed of there parts: description of internship, policy analysis in ITS, and recommendations. The first part was the description of my internship in ITS. It included the organizational structure of ITS, the mission and statement, what I did during the internship, and the analysis of Strength, Weakness, Opportunity and Threats (SWOT) in Computer Lab. The second part was important one. In this part, I focused on the analysis of policy making and explained how the policies are being made in ITS. I took the Zimbra email system as a typical example to analyze the policy making in this department. There were some differences between the theory taught and the application in practice. The last part included something special in the internship, the connections of public administration theory, the comparison between Kennesaw State University and the college in China, and some recommendations and suggestions.

At the end of the paper, there is a conclusion to sum up what I learned from the internship.

CONTENTS

INTRODUCTION

My internship took place in department of Information Technology Service (ITS) in KSU. ITS is responsible for providing information technology support for students, faculty, and staff in Kennesaw State University. I worked in the Computer Lab which is one important division of ITS, from January to May, 2009. The Objective of my internship is to apply the Public Administration theory (PA) which I learned from the class to the practice in public sector and compare their differences.

DESCRIPTION OF THE INTERNSHIP

ITS plays a very important role in KSU, which is composed of nine divisions –Client-Server, Information Security, IT Inventory Management (ITIM), IT Labs, Networking, Business Operations, Service Desk, Technology Outreach and Telecommunications (Figure1).
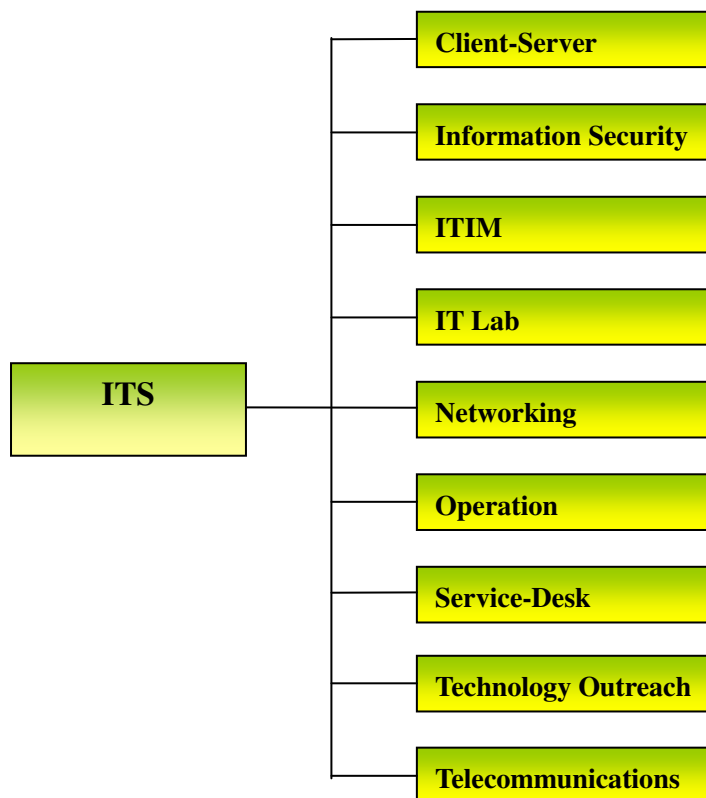

Figure 1

There are about 55 staff working in this department. The mission of ITS is to provide information technology leadership and support that enables Kennesaw State University to fulfill its instructional and administrative functions in an efficient, effective, and timely fashion[1]. Each division has different function in ITS, which can be showed as follow:

1. Client-Server

The Client-Server group is one of many divisions within the Information Technology Services (ITS) department at KSU. The Client-Server group offers over 100 applications; administers over 70 different servers such as Windows, Linux, UNIX, Netware, MacOS; supports student, staff and faculty email; and provides identity management, web development, and an enterprise backup solutions.

This group also helps to make faculty, staff, and students' everyday tasks easier and more efficient such as researching, testing, and implementing new technologies for future use.

2. Information Security

This is a special division in ITS department. The mission of the KSU Information Security Office (ISO) is to assure the security of the University's Information resources and provide a safe computing environment for the KSU community.

This mission of ISO is achieved through the utilization of policy and procedures, security training and awareness, and technical controls. This group also supports the

---

[1] http://its.kennesaw.edu/its_mission.htm

university's teaching, learning, and public service missions through partnership with faculty, staff, and students[2].

3. IT Inventory Management (ITIM)

The ITIM Division is responsible for setup and installation, relocation, and inventory management of PC desktop computers and peripheral devices such as printers and scanners. This group supports staff, faculty, and computer lab machines at KSU. For instance, if there is a request relocation of existing IT equipment, they will quickly response and sent technology assistant to solve the problem. This is a small division but it is the basic and key part of ITS department.

4. IT Lab

The Information Technology Labs is the most important and advantageous for students and staff in KSU. The mission of this group is offering the computer sources and net work service for the students and staff in KSU.

The services in IT Lab include: Computer Application source, Printing and Copying, Faxing, Wireless Network Access, P-Drive Service, and other special services such as machines for handicaps, scanning machines, and machines for group use. Further more, if the students and staff have any problem with their laptops and net working, they can supply the technologic help to solve the problems.

5. Networking

The Network Operations division is responsible for installing and maintaining the network infrastructure in KSU. KSU has over 100 subnets supplied by over 600

---

[2] http://www.kennesaw.edu/infosec/index.html

switches and two core routers that are connected with over five miles of fiber optic cable. The switches provide access to numerous campus servers running on a variety of platforms and Operating Systems such as Windows 2000, Windows 2003, Novell Netware, HPUX, Solaris and Linux. This infrastructure also provides a link to the Internet for over 20,000 users[3].

Network Operations provides all the enterprise services to the campus. These services include: Domain Name Services (DNS), Dynamic Host Control Protocol (DHCP), Network Time Service, and Windows Internet Naming Service (WINS).This division is also responsible for managing the Campus Firewall protecting KSU's network from outside attacks by viruses, Trojans, spammers and hackers.

6. Operations

The Operations division serves is a central hub of all of the ITS divisions. It is also responsible for the main phone line in KSU.

Each KSU owned laptop will now have a STOP tag, embossed KSU decal, and a Bios Splash Screen and Screensaver (Windows Only) installed in an effort to deter theft. Each time the computer boots up, the BIOS will display 'Property of Kennesaw State University[4].

7. Service Desk

The Service Desk is the most important part of services in KSU. The Service Desk offer many kinds of services to the faculty, staff and students by this service

---

[3] http://its.kennesaw.edu/Networking/index.htm
[4] http://its.kennesaw.edu/operations/index.htm

platform. The services divided into two parts: one is for faculty and staff and the other one is for students (Figure 2).

faculty and staff	students
• NetID & KSUID	• New Student – Getting Started
• Email	• Student Server
• WebCT Vista	• IT Training
• Owl Express	• File Storage
• Track-It	• Frequently Asked Questions
• Viruses / Hoaxes / Spyware	• Atlas Server
• File Storage	• Computing
• New Hire Information	• Wireless Network Access
• Web Publishing	• Software Downloads
• Dreamweaver Update - Faculty/Staff	
• Kronos	
• IT Training	
• Network Requests	
• Technology Equipment Purchases	
• Moving Equipment	
• Wireless Network Access	

Sources: http://its.kennesaw.edu/helpdesk/index.htm

Figure 2

8. Technology Outreach

The ITS Technology Outreach group is a cooperative team devoted to transferring technical knowledge across the Kennesaw State University campus community. The mission of this group is to facilitate the transfer of knowledge from the people who implement technology on campus to the people who use the technology[5].

---

[5] http://its.kennesaw.edu/techoutreach/index.php

9. Telecommunications

Telecommunications is a division of Information Technology Services. This group is responsible for all telephone connectivity at KSU, excepting the student apartments. This connectivity includes all moves, adds, changes and repairs, as requested by departmental personnel. Telecom is also responsible for the acquisition of pagers, as well as obtaining proper approval for purchases of cell phones.

Telecommunications is also responsible for all of the voice and data cable installed throughout campus. Telecom works closely with Plant Operations Facilities - Planning and Design, to ensure that the proper wiring infrastructure is provided in new and renovated buildings. Extensive time and effort has gone into cable installations in an effort to bring KSU current for upcoming technology changes.
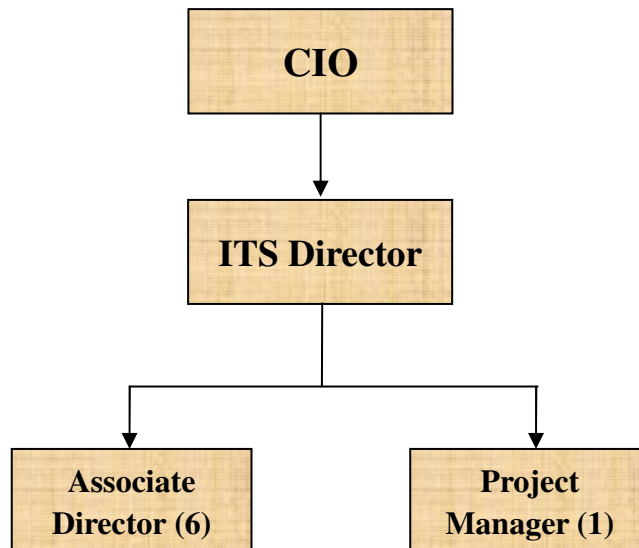
The Hierarchy Structure of ITS

Figure 3

Figure 3 shows the hierarchy structure of ITS department in KSU. The Chief

Information Officer (CIO) whose name is Mr. Randy Hind, in charge of Information Technology Service and Library. The director of ITS is named Ms. Lectra Lawhorne. She has 6 associate directors and one project manager. Each associate director or manger is responsible for different divisions in ITS.

I interned in the Computer Lab which is one division of ITS. There are 6 staff and 30 students working in computer labs. The work mission in this division is offering the computer sources and net work service for the students, faculty and staff in KSU. The services in computer lab include offering printing and faxing services in the labs. My associate director, whose name is Ms. Christina Coronado, in charge of the section of Service Desk, Labs, Technology Outreach, and Technology Support for Individual Colleges (TSS).

As a lab assistant, my main work is to assist with the manager to administrate the labs in KSU. I serve the people who use the labs, and try my best to help them. Further more, if the students and staff have any problem with their laptops and net working, I can supply the technological help to solve the problems. I also participated in Zimbra program which is a new email system in KSU.

My manager is Mr. Rami Abdul-Hadi, whose daily job is to assists in the administration of the KSU Help Desk and ITS Computer labs. As a staff in ITS, he responds to phone calls and emails to the Help Desk as needed. As a manager, Mr. Rami Abdul-Hadi assists with the implementation of new polices and procedures within the Labs and Help Desk. And he assists with the budgeting and forecasting needs of Labs and Help Desk. He also assists with the management with approx 30

student assistants and 6 full time staff. Some times he plays a role as liaison between ITS and other lab coordinators. He develops and maintains documentation for internal and external users. On some weekends, he has to work in evening or early morning hours.
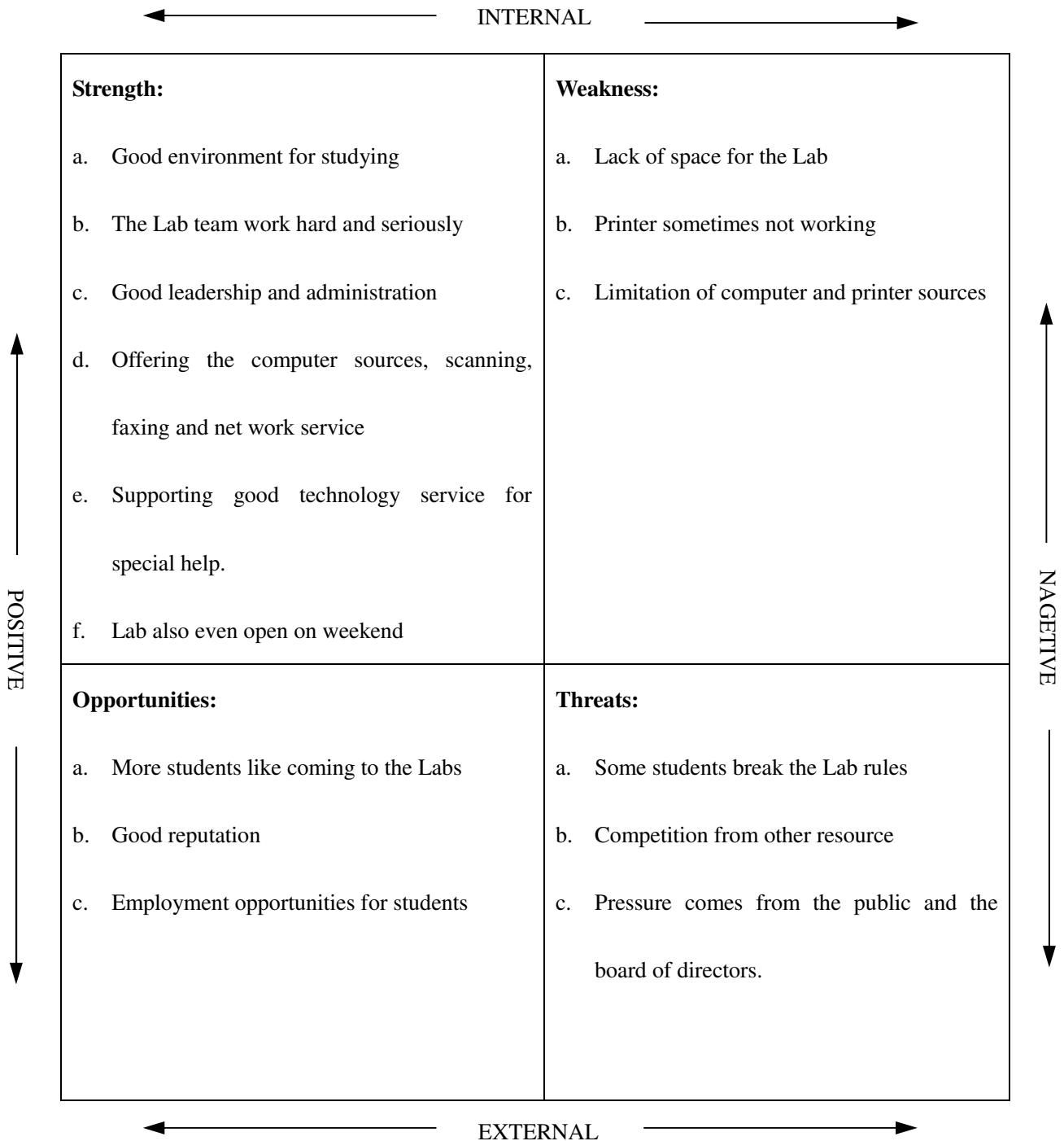
A SWOT analysis in Computer Lab

SWOT Analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or in a business venture. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieving that objective[6]. SWOT means Strength, Weakness, Opportunity and Threats. SWOT is a tool to analyze the internal advantages and disadvantages of organizations. The external opportunity and threats also be analyzed by this method.

Figure 4 shows the SWOT analysis in the computer lab. In the internal analysis of computer lab, the strength include many aspects, such as good environment for studying, the Lab team work hard and seriously, good leadership and administration, etc. The weakness comprises lack of space for the Lab, printer sometimes not working, Limitation of computer and printer sources. For the external part, the opportunities for the computer lab are more students like coming to the Labs, good reputation, and employment opportunities for students. Some students break the Lab rules, Competition from other resource, and pressure comes from the public and the board of directors.

---

[6] Burkhart, Patrick L. and Reuss, Suzanne. "Successful Strategic Planning: A Guide for Nonprofit Agencies and Organizations." Newbury Park: Sage Publications, 1993.

In order to improve the efficiency and effectiveness, the computer lab need to decrease the weakness and the threats. For example, the computer lab can make a new project plan for building some new labs to extend the space. It also needs to buy more new computers and printers. On the other hand, the staff and lab assistants need to

INTERNAL

Strength:	Weakness:
a. Good environment for studying	a. Lack of space for the Lab
b. The Lab team work hard and seriously	b. Printer sometimes not working
c. Good leadership and administration	c. Limitation of computer and printer sources
d. Offering the computer sources, scanning, faxing and net work service	
e. Supporting good technology service for special help.	
f. Lab also even open on weekend	
Opportunities:	Threats:
a. More students like coming to the Labs	a. Some students break the Lab rules
b. Good reputation	b. Competition from other resource
c. Employment opportunities for students	c. Pressure comes from the public and the board of directors.

POSITIVE

NAGETIVE

EXTERNAL

Figure 4

improve their personal computer skills to help people. To improve the strength and seize the opportunity also can make the computer lab more efficient and effective on their services.

POLICIES ANALYSIS IN ITS

During my internship, I found that policy making was very important and could be seen in any section in ITS. Compare to the Policy Analysis theory, the policy making in ITS seemed quite different but still successes. The definition of one policy in ITS is a principle, a plan, or a course of action which is adopted and pursued by the ITS department.

As we learned from Public Analysis theory, the process of a policy making includes these steps: problem definition, stakeholders, assembling evidences, alternatives construction, outcomes projection, criteria selection and trade-off, and making a decision[7]. The procedure of policy making in ITS almost follow these steps (Figure 5) but sometimes for some policy they do not need to follow all the steps.

Figure 5

---

[7] Eugene Bardach. *A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem-Solving,* 2004. 2nd edition.

Ms. Christina Coronado, the assistant director who is in charge of the Service Desk, Labs, Technology Outreach and TSS said: "Sometimes we just want the policy can be implemented in time, we don't pay more attention on some steps of policy making". Ms. Christina Coronado also has power to make a policy and let her staff to implement it. Before making this policy, she might listen to her staff's advice or take other universities as reference. For some important policy, she might hold a meeting with the managers and discussed the problem. They might need to collect and assemble some data and make some options. Then they compared these options and made a decision to choose the best one for them. Some of the steps can be applied to them.

We can take the new mail system for example to verify how the policy being made in ITS. In order to learn more about difference between policy making in ITS and theory, we use these steps to analyze:

Step 1: Background. Before using the new email system--Zimbra, there were three email systems in KSU, which are Student Email, Atlas Email and Groupwise email. The first two email systems provide the email service for students in KSU. Groupwise email system only serves the faculty and staff in KSU.

Groupwise email is an essential mode of communication for all staff in KSU Professional Teacher Education Unit. As a KSU faculty, he/she activates and accesses his/her Groupwise email frequently. Critical information will be communicated using Groupwise email rather than private email accounts in KSU. The professors or other staff must use Groupwise email as the official

communication with student. The Groupwise email system is 10 years old.

Step 2: Problem Definition. In recent years, with the university development and changes, the number of students has been increasing. The organization structure of KSU Professional Teacher Education is stronger than before. It illustrates the fact that there is more and more faculty and staff working in KSU. It illuminate that the numbers of user also increase rapidly.

Now the Groupwise email system has more problems and it can't meet more and more users' needs. A general consensus of users pointed to the emerging limitations of the existing email service. It can't offer larger storage space for the users. For instance, as inboxes growing each semester, many users have to spend valuable time filing and retrieving messages. Additionally, they have to delete email messages frantically to stay under the set fifty megabyte limit. Consequently, a new email service with key end-user benefits was selected to replace Groupwise.

On the basis of the above, the problem can be defined as -- the limitations of old email system affected the efficiency of KSU's faculty and staff.

Step 3: Stakeholders. As can be seen from Figure 6, the stakeholders in this case are listed mainly as follows: faculty and staff, students, ITS Department, KSU Board, Public, and the Company of Groupwise. As the faculty and staff are the users of this email system and the students have strong relationship with these users. Consequently the faculty and staff, students are the most important stakeholders in this case.
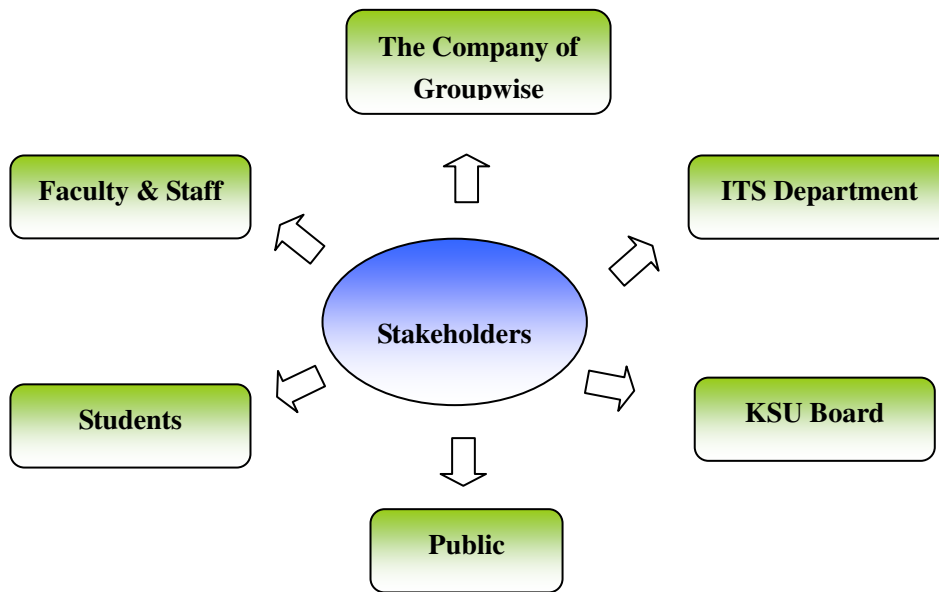
Figure 6

Step 4: Assemble Evidences. According to the current situation, the data were collected in three perspectives: (1) Faculty and staff's information in KSU; (2) Students' information; and (3) Data of current email system in ITS. The more detail of these evidences can be showed as follow:

Firstly, the faculty and staff's information is most important because they are the End-User for Groupwise email system. The information collected include: the satisfaction survey for old email service; the defect of the old email system; the numbers of Groupwise users;

Secondly, we must attach importance to the student information. The purpose of using Groupwise email system is to build a communicational bridge between the professors and students. The students' opinions play an important role. These evidences which reflect the problem of Groupwise email system indirectly include: the satisfaction survey of the communication with their professors; the numbers of

student email users.

At last, ITS department has more authoritative and persuasive data in Groupwise email system. These data include: the data of messages of Groupwise in recent 10 years; the storage space of Groupwise; the error report of Groupwise; the information about the complaint from the end-users; the pressure from the university control board and public.

Step 5: Alternatives Construction. After analyzed the data collected, we can construct two alternatives:

(1) Use a new email system (Zimbra) instead of the old system;

(2) Keep and improve the old mail system (Groupwise).

Step 6: Outcomes Projection. According to policy analysis theory, the following factors were taken into consideration, when they forecasted the outcomes of the options:

(1) Forecasted the quantitative data of the email system condition for 10 years periods;

(2) Forecasted the outcomes of the underlying factors affected such as the option was not implemented;

(3) Forecasted each option as a policy was implemented, what was the outcome of the email system condition. Figure 7 shows the outcomes of each option we just forecasted:

Option Strongpoint &Shortcoming	Option(1): Use a new email system (Zimbra) instead of the old system	Option(2): Keep and improve the old mail system (Groupwise)
Strongpoint	a. More efficient and effective b. A much larger storage space c. Powerful search tools that can quickly scan a user's email and pull up relevant content d. Support for mobile smart devices such as iPhone, Blackberry and Palm e. A rich interactive f. Ability to 'drag and drop' messages into new folders or the trash g. Group scheduling which recognizes and acts on certain text in messages. h. It has been implemented successfully by over 500 universities in the nation	a. Easy to use for staff b. Decline the budget on users' training c. more convenient for maintaining
Shortcoming	a. It takes time and cost on new users training b. May not easy for users at first time c. Need to test the stability before using it.	a. Not enough storage space b. It takes time on filing and retrieving messages c. Limitation at interaction d. Didn't support for mobile smart devices e. It is difficult to update and improve the 10 years old email system f. It affect the communication between the staff and students

Figure 7

Step 7: Criteria Selection and Trade-off. We can use efficiency, effectiveness,

budget, feasibility and acceptability as the criteria to evaluate these two options. The

starts (Figure 8) was used to score those tow options. Five starts represent the

highest score (5 points) and 1 start only gets 1 point.

Figure 8

As can be seen from Figure 8, the new email system is more efficiency, effectiveness and acceptability than the old email system. But it takes a lot of money to buy the new email system. The old email system saves money because they just spends little budget on the maintenance and update. These two options almost get the same score on feasibility. It means that all of them can be easily to be implemented.

Step 8: Making a Decision. Basing on the consequences and trade offs (Figure 8), the option (1) has the high score of 21 points while the option (2) only gets 15 points. It means that the option (1) should be the better choice for ITS. After finishing all of the eight steps, we can make a decision to choose the option (1) as the new policy to implement.

FINDINGS AND SUGGESTIONS

As a public department, ITS has made a great success on Public Administration (PA). The connection of PA theory can be showed as follow:

At first, the Organization theory applied in ITS. This department has a good

longitudinal hierarchy structure[8]. From CIO to the staff who is the bottom, every one in this department has a clear-cut assignment of responsibility.

Secondly, the process of policy making in ITS is almost the same with Policy Analysis theory while still has some differences. For the case mentioned above, the policy of using Zimbra email system for KSU staff main include the eight steps of Policy Making theory. Ms. Christina Coronado, who is the associate director, held a meeting for discussing the new policy making. They might not pay more attention on the steps of policy making such as problem definition, stakeholders. It would take time on following all steps in policy making theory. Actually they just focused on old email system problem and gave some solutions. They also looked into what has been successful for other learning institutes. Zimbra has been implemented successfully by over 500 universities in the nation. Considering the possibility, efficiency and effectiveness, Ms. Christina Coronado agreed to use Zimbra email system and submitted this decision to Ms. Lectra Lawhorne, who is the director of ITS. When the approval came from Ms. Lectra Lawhorne, it was proposed to Mr. Randy Hinds, the Vice President of Operation for final approval. After finishing this process above, the new policy would be implemented.

At last, Women Leadership is obviously seen in this department. As we learned from Leadership & Ethics in Public Service, there is an "Evidence of Glass Ceiling" in women leadership[9]. It means that it is difficult for women ascend into elite leadership position. But the fact in this department proved that Ms. Christina

---

[8] Shafritz, Ott, and Jang. *Classics of Organizational Theory*, 6th Ed, 2005.05.
[9] Northouse, Peter G. *Leadership: Theory and Practice*. 4th ed. Thousand Oaks, CA: Sage, 2007.

Coronado and other women leaders has broken the "Glass Ceiling" and are achieving success.

I have been working in I work in the Computer and Internet Service Center (CISC) of Lushan College since 2006. This is a new college which was founded in 2004. The department which I work in has the same mission as ITS in Kennesaw State University. As different infrastructure construction and different cultural background, we can learn something from the comparison between KSU and LC.

(1). The variety and universality of Information Technology services:

In KSU, all kinds of IT services can be accessed from anywhere at any time. All the faculty or staff and students can enjoy the services in KSU, such as Web CT, email service. But in LC, the IT service is poor because of its limitation on equipments and technology. As a new college in China, LC still needs to improve their effectiveness of their services.

(2). The communication between professors and students:

There are many ways for professors communicating with the students after the class in KSU, such as using email system, WebCT service. With the Zimbra email system, the student can easily make an appointment with their professors. In LC, the email system seldom be used to be the communication tool for the professors and students. They may prefer using QQ which is the software for people to communicate each other by internet. They didn't consider the email in campus as the official tool to communicate with each other. Some times the professors miss the student's appointment. It is inefficiency.

(3). The organization structure:

In KSU, the ITS department has a good longitudinal hierarchy structure. Every one in this department has a clear-cut assignment of responsibility. They can make work more effective and efficient. Comparing to KSU, LC needs to improve the organization structure and hire more professional technology people in ITS department.

(4). The policy making:

The policy making process are almost the same between KSU and LC. The director has more power and right in making a policy decision. It seems that the director in LC has more power and authority than in KSU in making a policy decision.

At the same time of learning from internship in ITS, I also have some personal views and recommendations:

(1) Simplify the process of policy making. It depends on the different situation, we may overstep some steps of policy making to make more efficient and effective in administration.

(2) Improve the efficiency on administrating the computers in the Labs. I suggest that the Lab using software for the unity of computers management. The staff or student assistant can easily open, shutdown, and monitor all computers in the Lab.

CONCLUSION

I experienced a signification internship in ITS and I benefited a lot from the

internship. And I just focus on two parts in my internship. One is internship work description while the other one is policy making analysis in ITS department. All of them have consanguineous connection of PA theory. What I learned can apply to practice when I come back to China.

To sum up, to do internship in public department like ITS is very helpful. It can make the MPA students getting deeper understanding the knowledge they learned from the textbook. The fact indicated that MPA program is a successful project in KSU.

Reference:

[1] http://its.kennesaw.edu/its_mission.htm

[2] http://www.kennesaw.edu/infosec/index.html

[3] http://its.kennesaw.edu/Networking/index.htm

[4] http://its.kennesaw.edu/operations/index.htm

[5] http://its.kennesaw.edu/techoutreach/index.php

[6] Burkhart, Patrick L. and Reuss, Suzanne. "Successful Strategic Planning: A Guide for Nonprofit Agencies and Organizations." Newbury Park: Sage Publications, 1993.

[7] Eugene Bardach. *A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem-Solving,* 2004. 2nd edition.

[8] Shafritz, Ott, and Jang. *Classics of Organizational Theory*, 6th Ed, 2005.05.

[9] Northouse, Peter G. *Leadership: Theory and Practice*. 4th ed. Thousand Oaks, CA: Sage, 2007.