AN ACADEMIC SERVICE MODEL FOR KING MONGKUT INSTITUTE OF TECHNOLOGY, LADKRABANG, BASED ON PERCEIVED COMMUNITY NEEDS

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Abstract

The purposes of this study were to study the level of Ladkrabang community needs analyzed by service principles and the types of academic services offered by King Mongkut Institute of Technology Ladkrabang [KMITL], to study the academic services model based on community needs and to assess the academic services model based on community of KMITL. The research methodology was divided into 4 stages. Firstly, to study the Ladkrabang community needs towards the service principles of academic service and to study the Ladkrabang community needs towards the type of academic service of KMITL classified by community type. Secondly, to draft the academic service model based on community of KMITL. Thirdly, to assess the academic service model based on community of KMITL. Finally, to write and to disseminate the report. The result revealed that the academic services model based on community of KMITL was composed of 4 goals, 3 types of communities, 5 service principles, and 4 types of academic services.

Keywords: Academic service Model, Academic service principles, community, KMITL

บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาความต้องการของชุมชนลาดกระบังต่อหลักการให้บริการ
วิชาการและประเภทของการบริการวิชาการของสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหาร
ลาดกระบัง ศึกษารูปแบบการบริการวิชาการ โดยยึดชุมชนเป็นฐาน และประเมินรูปแบบการบริการ
วิชาการ โดยยึดชุมชนเป็นฐานของสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง
การดำเนินการวิจัยแบ่งออกเป็น 4 ขั้นตอน ได้แก่ 1) ศึกษาความต้องการของชุมชนลาดกระบังต่อ
หลักการให้บริการวิชาการ และศึกษาความต้องการของชุมชนลาดกระบังต่อประเภทของการบริการ
วิชาการของสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบังจำแนกตามประเภทของชุมชน 2)

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ยกร่างรูปแบบการบริการวิชาการ โดยยึดชุมชนเป็นฐานของสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหาร
ลาดกระบัง 3) ประเมินรูปแบบการบริการวิชาการ โดยยึดชุมชนเป็นฐานของสถาบันเทคโนโลยี
พระจอมเกล้าเจ้าคุณทหารลาดกระบัง และ 4) เขียนรายงานและเผยแพร่ผลการวิจัย ผลการวิจัยพบว่า
รูปแบบการบริการวิชาการ โดยยึดชุมชนเป็นฐานของสถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง
ประกอบด้วย วัตถุประสงค์ของการบริการวิชาการ 4 ข้อ ประเภทของชุมชน 3 ประเภท หลักการให้
บริการ 5 หลักการ และประเภทของการให้บริการวิชาการ 4 ประเภท

INTRODUCTION

It is believed that education is the pillar of human beings, democracy, permanent development, and peace (Lapapun Juwong et al., 1999). In the current atmosphere of "globalization" and the "information age", human preparation for the 2100's has become the major responsibility of any higher educational institutes (Rung Kwandaeng, 1999). Higher educational institutes around the world are expected to be the knowledge centers or society's brain which provide scholars, research, social service, and cultural support (Sippnon Katutut, 2009). Up until now, higher educational institutes including universities have managed to separate learners from their community as well as the higher educational institutes themselves (Rung Kwandaeng, 1999). Society's brain was not able to put knowledge into action. As a result, higher educational institutes should realize its responsibility to maintain values, the idea of peace, and the community's wisdom (Lapapun Juwong et al., 1999). University should also adjust the roles of excellence into teaching, research, extension, and social relevance. In other words, universities should not be the centers of knowledge commercially, but those of wisdom by learning from society, understanding society's need, and taking responsibility for the society or nation. It is related to the notions of the Office of the Education Council, Ministry of Education, toward the university resolution's purpose (2003) that higher educational institutes are to use academic power in order to strengthen their communities.

Social service is one of a university's responsibilities in order to support the role of academic power. To strengthen communities, university should create social services, especially activities that are aimed to eliminate poverty, violence, illiteracy, famine, regression of the surrounding area, and illness, by adapting muti-disciplinary methods and cross field studies in order to analyze various kinds of problems. The social services mentioned earlier should be related to societies' need in the present and in the future (Lapapun Juwong et al., 1999). On the one hand, it reflects the ideal of partnerships between higher educational institutes and society. On the other hand, the interpretation of the social services is still too narrow; that is, higher educational
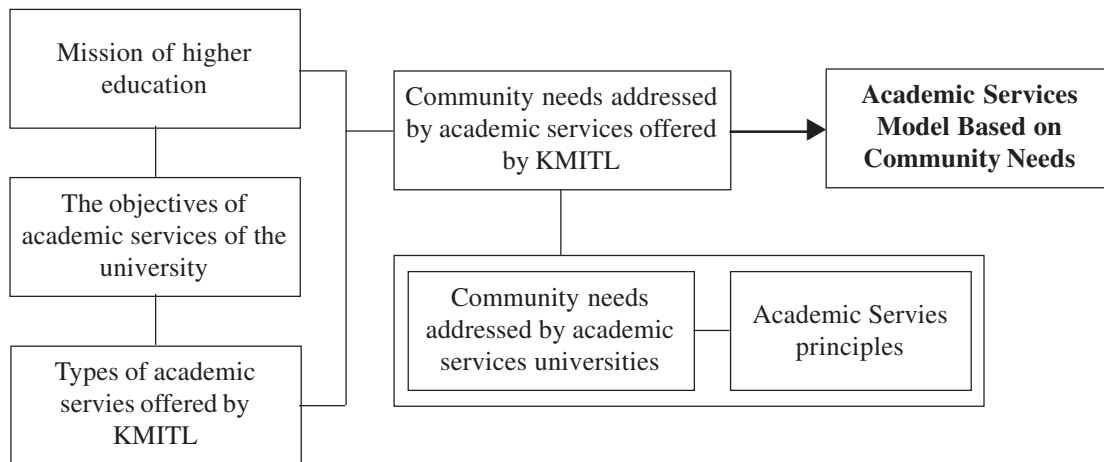
Figure 1: Schematic diagram of the conceptual framework of an Academic Services Model for King Mongkut Institute of Technology, Ladkrabang, Based on Community Needs.

institutes are academic centers where knowledge is delivered to the society while the society might not aim to gain it. It leads the higher educational institutes to the state of "floating over societies" (Professor Fills, 2009).

The societies' expectations toward higher educational institutes' roles causes them to adjust their roles in order to respond to the expectations. From this point of view, the academic services of the higher educational institutes are rather vague and do not respond to the societies' needs. As a result, I was interested in investigating community-based academic service patterns so as to discover principles and patterns of academic services which could respond to the societies' needs correctly.

The conceptual framework was developed following an analysis of the written documents of Berry, Zeithamal and Parasuraman (1990), the Office of the Higher Education Commission (2004), the Office of the Permanent Secretary of Ministry of University Affairs (2002),

Petchsuda Phumipun (2006), and the Bureau of Academic Service Support of KMITL (2009) and is summarized in Figure 1.

The purposes of this study were to study the level of Ladkrabang community needs towards the service principles and the types of academic services offered by the King Mongkut Institute of Technology, Ladkrabang [KMITL], to study the academic services model based on community needs and to assess the model of academic service offered by KMITL based on community needs.

RESEARCH METHODOLOGY

Sample

The sampling group that was used to study the Ladkrabang community needs on the service principle of academic service and to study the Ladkrabang community needs towards the type of academic ser-

vice consisted of 582 people from the general public, school and private enterprise at Ladkrabang district. And the sampling group that was used to assess the academic services model based on community needs consisted of 10 experts in the fields of the general public, school and private enterprise at Ladkrabang district, the representative of the office of supporting and service of academic of KMITL and the representative of other higher education institutes.

Instruments

The instrument of the Ladkrabang community needs to the service principles of academic services and the type of academic services was developed based on the documents analysis. The questionnaire was divided into 5 parts and consisted of 73 items. The constructed questionnaire was reviewed by five experts with IOC value which felled between IOC value of 0.00-1.00 and then the questionnaire was developed by the comments of five experts. The questionnaire was first tried out with a sample size of 30. An analysis was carried out with those returned questionnaires, and the value of the alpha coefficient was at 0.976. The modified questionnaire was sent to the selected sample groups from the general population, school and private enterprise at Ladkrabang district that consisted of 582 of general people, school and private enterprise. Only 91.58 % of the questionnaires were returned. All returned questionnaires were used in the analysis of frequency, percentage, mean, and standard diviation. Ten experts selected through the focus group subsequently reviewed this

outline of academic services model based on community. The academic services model based on community was then revised according to the comments of ten experts which resulted in the final version of the academic services model based on community of KMITL.

RESULTS

The overall result of Ladkrabang community needed to the academic service principles of KMITL

Ladkrabang community needed to the academic service principles of KMITL were high ($\bar{x}$= 3.85). When each principle was analysed by its mean, the responsiveness principle was the highest (=3.91). The second principle was the reliability ($\bar{x}$ = 3.86). The third principle was the assurance (= 3.85). The forth principle was the tangibility (= 3.83). The final principle was the empathy (= 3.79). Results of analysis are summarized in Table 1.

The Overall Result of Ladkrabang Community Needed To the Type of Academic Service of KMITL on 6 Aspects Classified By Community Type

Three types communities had needs that are addressed by the types of academic services offered by KMITL that were high (= 3.84, 3.73, 3.61). When considered by community type, the people in the general public had the highest needs (= 3.84). The second highest level of need came from the school (= 3.73). And the third highest level was from the private enterprises

Table 1: Demonstrated mean, S.D., level of need, and range of Ladkrabang community need toward the academic service principles of KMITL as a whole and as a principle

Ladkrabang community need toward the academic service principles (n = 533)	Mean ( )	Standard Diviation (S.D)	Levels of needs	Range
1. Reliability	3.86	.762	High	2
2. Assurance	3.85	.816	High	3
3. Tangibility	3.83	.744	High	4
4. Empathy	3.79	.896	High	5
5. Responsiveness	3.91	.865	High	1
Total	**3.85**	**.719**	**High**	

(= 3.61). The general public highest needs were for developing and designing computer networks, geographical information, and technological information and communication systems (= 3.93). The second highest needs was for the other related fields (= 3.88). And the third highest was for management training programmes (= 3.86). The schools had the highest needs for the other related fields (= 3.84), followed by the developing and designing computer network, geographical information, and technological information and communication systems (= 3.80), and finally management training programmes (= 3.74). Private enterprises had the highest needs for developing and designing computer network, geographical information, and technological information and communication systems (= 3.81), the second highest for intellectual property (= 3.64) and the third highest for other related fields (= 3.62). The results of the analysis are summarized in Table 2.

From the results shown in table 1 and 2, the researcher adopted to draft the Academic Services Model for KMITL Based on Community Needs and then ten experts discovered through the focus group, subsequently reviewed the outline of the Academic Services Model Based on Community Needs. The Academic Services Model Based on Community Needs was then revised according to the comments of ten experts which resulted in the final version of the Academic Services Model Based on Perceived Community Needs addressed by the KMITL as shown in Figure 2.

Academic Service Objectives

1. To become convenient and reachable sources of knowledge, information, technologies, and innovations for people who lived in the Ladkrabang community. This could support their various needs and valuable lifestyle.

2. To become centers of tools and places that benefited the Ladkrabang community such as seminar holding, public announcement, research center, science center, laboratory, institutes' demonstration garden. This could develop people's life quality.

3. To become the knowledge connec-

Table 2: Demonstrated Mean, S.D., Level, and Range of the Ladkrabang Community Needs Analyzed By the Types of Academic Services Offered By KMITL Classified By 6 Types of Academic Services

The type of academic service of KMITL (n = 533)	General population (n = 349)				private enterprises (n = 148)				Schools (n = 36)			
	Mean ($\bar{x}$)	Standard Deviation (S.D)	Levels of needs	Range	Mean ($\bar{x}$)	Standard Deviation (S.D)	Levels of needs	Range	Mean ($\bar{x}$)	Standard Deviation (S.D)	Levels of needs	Range
1. Researching and giving advice	3.81	.85	High	4	3.59	1.04	High	4	3.68	.67	High	4
2. Developing and designing computer network, geographical information, and technological information and communication systems	3.93	.85	High	1	3.81	.82	High	1	3.80	.62	High	2
3. Management training programmes	3.86	.78	High	3	3.58	.80	High	5	3.74	.69	High	3
4. Intellectual property	3.78	.90	High	6	3.64	1.13	High	2	3.64	.79	High	6
5. Testing and analyzing	3.79	.83	High	5	3.43	.96	Moderate	6	3.67	.63	High	5
6. The other related fields	3.88	.80	High	2	3.62	.80	High	3	3.84	.74	High	1
Total	**3.84**	**.69**	**High**	**1**	**3.61**	**.77**	**High**	**3**	**3.73**	**.63**	**High**	**2**

The academic service principle
    First principle: to meet the needs of the client.
    Second principle: reliability and assurance of servie
    Third principle: the facilities
    Fourth principle: care service
    Fifth principle: policies of the institute

1. Type of academic services for the general public
1.1 the developing and designing computer network, geographical information, and technological information and communication systems
1.2 the second is the other related fields
1.3 the managing training programmes
1.4 researching and giving advice
1.5 testing and analyzing
1.6 intellectual property.

2. Type of academic services for provate enterprises
2.1 the developing and designing computer network, geographical information, and technological information and communication systems
2.2 intellectual property
2.3 the other related fields
2.4 researching and giving advice
2.5 the managing training programmes
2.6 testing and analyzing.

3. Type of academic services for school
3.1 the other related fields
3.2 the developing and desgning computer network, geographical information, and technological information and communication systems
3.3 the managing training programmes
3.4 researching and giving advice
3.5 testing and analyzing
3.6 intellectual property.

4. Other types of academic service that the community needs
4.1 internet service to the community
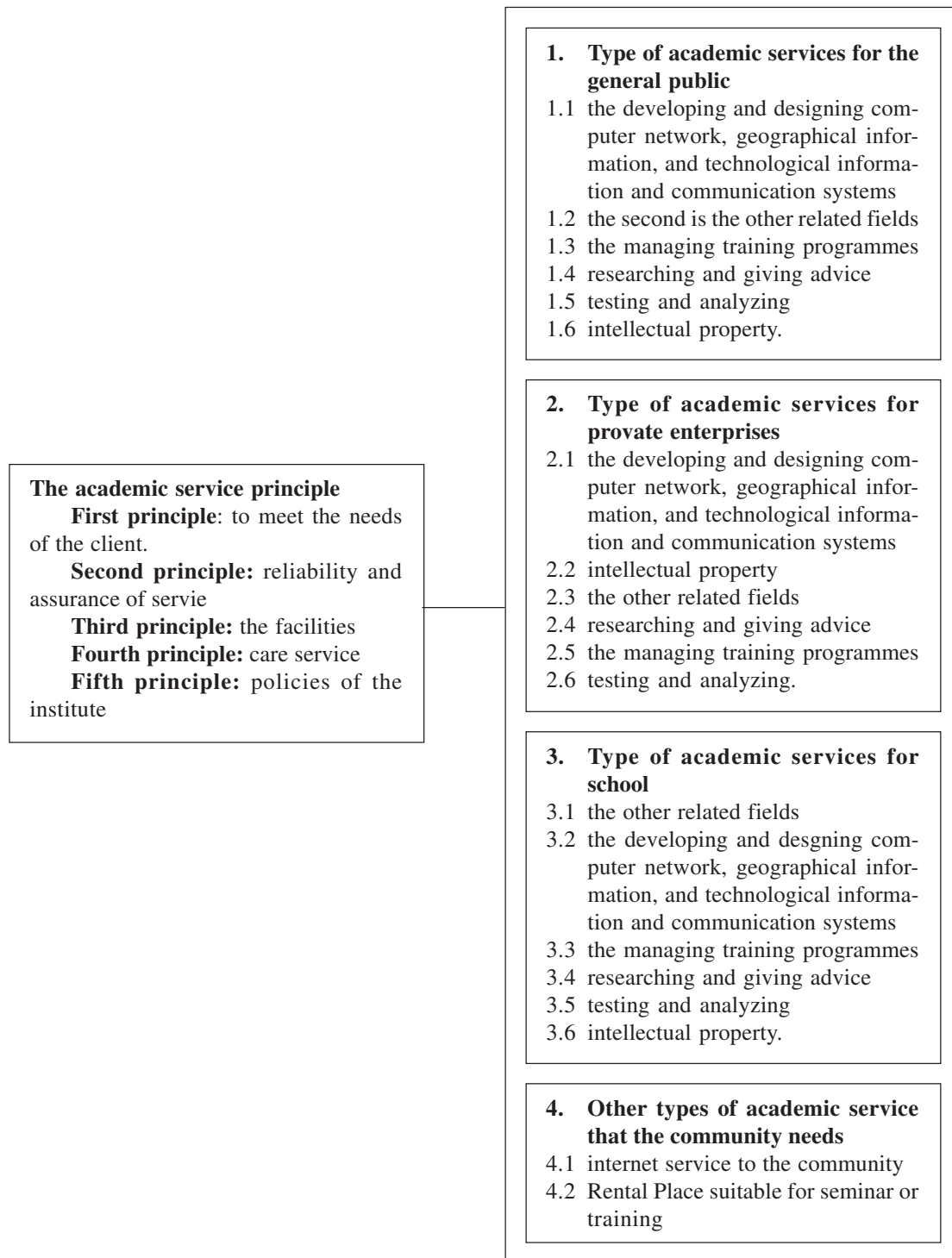4.2 Rental Place suitable for seminar or training

Figure 2: The Academic Service Model for KMITL Based on Perceived Community Needs

tion between specialists' institutes and the Ladkrabang community. This could expand and extend the knowledge.

4. To give opportunities to the Ladkrabang community in taking benefits from learning resources and exchanging knowledge. From this point, the Institute would participate in providing activities and solving problems. This could develop the community by using knowledge in order to link it to more universal knowledge.

Community Types

1. General People
2. Private enterprises
3. Schools

The Academic Service Principles Based On Community Needs

The academic service principles based on community need are the concept of academic service quality that occurred during King Mongkut's Institute of Technology Ladkrabang with community to community satisfaction which composes of five principles.

First principle: to meet the needs of the client.
1. A willingness to serve.
2. Equality of providing services to clients.
3. The service meets the needs of the client.
4. The service with modern technology.
5. The information needs of the client.
6. Availability of services to clients immediately.
7. Finishes the period of service is clear.

Second principle: reliability and assurance of service.
1. The ability of providers to provide flawless service.
2. Security in the service.
3. Ensure that they receive good service.
4. The information provided is current.
5. The question the provider's knowledge. Understanding about what is available.
6. Record details of the client and the service is accurate.
7. To provide a modestly consistent.
8. Priority of service.
9. The appropriateness of the fee.
10. To provide services to clients within a given time.
11. Follow-up services to improve service delivery.

Third principle: the facilities.
1. The clarity of the documents related to the service.
2. Service providers dress appropriately.
3. The availability of materials and equipment in service.
4. The availability of the building and place in a serving.
5. Contact versatile and easy access.
6. Service system is not complex.
7. To public the information about service by brochure, newsletter, bill board or website.

Fourth principle: care services
1. There are officers to ease with customer.
2. Enthusiasm to service.
3. To interest in problem solving to customer.

4.   To give the service information during the service period.

5.   To understand the individual customer needs.

6.   There are problem solving service or giving advice of after service.

Fifth principle: policies of the institution

1.   To develop the role of teaching, research, to extend the knowledge to social, and social relevance.

2.   To develop the role of "center of Wisdom" that to learn from community, understand the community needs, and to response the social for reduce the gap between the institute with the community.

3.   To provide the academic service equitable and evenly.

4.   The academic service by proactive with public mind.

5.   To encourage faculty, staff and students of the institutions involved in providing academic services to the community on a regular basis.

The Types of Academic Services Offered By KMITL

The types of academic services offered by KMITL are based on the mission of KMITL which is to lead in the dispersal of knowledge and experience that are published and broadcast to all sectors of Ladkrabang based on Laadkrabang Community needs. And the Institution also has the ability to provide services that are relevant to community needs in term of the following elements.

1.   The general people had needs towards the developing and designing computer network, geographical information,

and technological information and communication systems at first, the second is the other related fields, the third is the management training programmes, the fourth is researching and giving advice, the fifth is testing and analyzing, and the last is intellectual property.

2.   The private enterprises had needs towards the developing and designing computer network, geographical information, and technological information and communication systems at first, the second is intellectual property, the third is the other related fields, the fourth is researching and giving advice, the fifth is the management training programmes, and the last is testing and analyzing.

3.   The schools had needs towards the other related fields at first, the second is the developing and designing computer network, geographical information, and technological information and communication systems, the third is the management training programmes, the fourth is researching and giving advice, the fifth is testing and analyzing, and the last is intellectual property.

4.   Other types of academic service that community needs composes of internet service to community and rental place suitable for seminar or training.

DISCUSSION

1.   The overall results revealed that the Ladkrabang community needs addressed by the academic principles of King Mongkut's Institute of Technology Ladkrabang were high due to the fact that services were abstract activities between

people who gave and received services (Gronroos citing in Thirakit Nawarat Na Ayutthaya, 2009). At the same time, people who received the services also wanted generous, helpful, convenient, and equal actions (Vajra Vajrasthira, 1996). In a way, services are mental consumption which depends on customer satisfaction. If any service center could provide services that satisfied their customers, they would be impressed and come back to use the services again (Thiradetch Rilmongkon, 1999). It was related to the academic service survival index for independent organizations in the universities of Wullop Chantrakul (2001) that levels of customer satisfaction toward the services were one of the academic service survival index.

2. The overall result revealed that the Ladkrabang community needs to academic service types of King Mongkut's Institute of Technology Ladkrabang was high. People who lived in the community needed to find and apply treasures of knowledge in order to use them as a tool for living (Anuchart Puangsumlee et al., 2007). Consequently, higher educational institutes became the community's expectation for being community's brain or wisdom centers (Sippanon Katutut, 2009), to use academic power for strengthening the community (Office of the Education Council, Ministry of Education, 2003). Moreover, the community wanted some opportunities to obtain benefits from the higher educational institutes equally (Amonvitch Nakorntup, 2000) in order for people to enhance their wisdom for future use.

The Ladkrabang community need in terms of computer network development, geographical information, and information technology-communication system was the highest because current and future lifestyles need technological systems, this is especially scenario need for a computer network development system because it changs rapidly and continuously. People, who lived in the community, realized that unless they could use information technology systems, they could be beaten by others. In addition, the image and reputation of King Mongkut's Institute of Technology Ladkrabang in the area of technology were outstanding and acceptable. On the other hand, the Ladkrabang community perceived needs toward intellectual property was the lowest because the unorganized knowledge was unable to create innovations under intellectual property registration. Consequently, the need of intellectual property was out of reach for the public people.

The enterprises need toward computer network development, geographical information, and information technology-communication system was the highest because technology was the important input factor for enterprises' productivity system whether they produced goods or services. As a matter of fact, the enterprises realized how advantages of having higher technologies than their rivals; that was, they tended to have more market share. Consequently, the enterprises would receive more profit and customer confidence. In a way, the image and reputation in technology of King Mongkut's Institute of Technology Ladkrabang were outstanding and acceptable. The institute, then, paid the most attention to computer network development, geographical information, and information technology-communication

system. The lowest need was testing and analyzing because the enterprises located in the Ladkrabang area were not the headquarters or were co-investment companies between Thailand and foreign countries. The enterprises were trained in specific testing and analyzing system from the headquarters or the co-investment companies. Then it was unnecessary for the enterprises to receive this academic service.

The educational institute need toward others including information service through library and radio, academic broadcast, academic broadcast center on website, academic exhibition, and seminar was the highest because the principle responsibility of educational institutes was to provide learning for people living in the community. In order to achieve quality learning, it needed the educational institutes to use the current information and knowledge. As a result, personnel working in the educational institutes were to constantly study in order to be useful for any educational management development. The lowest need was the intellectual property because the knowledge of the educational institutes was limited and was unable to create innovations intellectual property registration. Consequently, the need of intellectual property was out of reach for the educational institutes.

SUGGESTIONS

1. The Suggestions for Use

1.1 KMITL should improve its system and develop the people who are related to the academic services by considering people's need such as being fast, delight-

ful, and willing to serve. Moreover, there should be readiness, the ability to help and provide any services.

1.2 KMITL should give some priority to develop the service of computer network system, geographical information, and technological information and communication systems for general people, schools, and enterprises in the Ladkrabang area.

1.3 KMITL should provide a model of researching and giving advice, managing instruction programmes, testing and analyzing, and other related fields models for people and educational institutes that is different from the enterprises'.

1.4 KMITL should develop the academic service policies to proactive that reduces the gap between the institute with community and to support the institute image. To act as a source of technical services to the community to get to know thoroughly.

2. The Suggestions for the Next Study

2.1 There should be the development of community-based academic services model similar to that which KMITL is using at the nation level.

2.2 There should be some more in dept study about the needs of general public, schools, and enterprises toward the type of academic services by elements study

2.3 There should be some study of any factors that support the academic services for the community of KMITL's lecturers.

2.4 There should be a study of a publication model for academic service offered by KMITL.

2.5 There should be a study of teaching intregration of KMITL to community academic service.

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