

## **CHAPTER 4**

### **Data Analysis and Result**

The objectives of this study were to examine the current condition and the needs in the research management assessment, to generate as well as to monitor the quality of the research management assessment model, and to examine the implementation result of research management assessment model for private universities. In this study, the researcher conducted with Research and Development and presented the results of data as shown in the research methodology into 4 parts as follows.

Part 1 Result of examining the current condition and the needs in the research management assessment for private universities

Part 2 Result of examining the factors, indicators and criteria relating to the research management for private universities

Part 3 Result of generating and monitoring the quality of the research management assessment model for private universities

Part 4 Result of examining the implementation of research management assessment model for private universities

#### **Part 1 Result of examining the current condition and the needs in the research management assessment for private universities**

##### **1.1 Result of examining concepts, theories, and other documents related the factors of both research management and assessment model**

From the research synthesis, there were 19 significant factors of the research management in higher education institutions of Thailand related both private and public higher education institutions including employing the national research management system as a consideration. The research concluded that factors of research management could comprised of 10 factors: 1) policy and research plan 2) structure and research organization management 3) research budgets 4) research personnel 5) research materials and facilities 6) production and controlling quality of research 7) follow-up

and assessment 8) research publishing, publicizing and application 9) research network 10) systems and supporting protocols such as motivation etc.

Besides, the researcher synthesized a lot of researches related factors of assessment model from Sirichai Kanjanawasee ( 2 004) together with Sathianpak Mookdee (2011). Also, the researcher concluded that factor of assessment model could comprise of 7 factors: 1) purposes of evaluation, 2) subjects of assessment, 3) assessor, 4) assessment method, 5) indicators of assessment, 6) criteria of assessment, and 7) giving feedback.

## **1.2 Result of examining the current condition and the needs in the research management assessment for private universities**

Examining the current condition and the needs in the research management assessment for private universities which was the study of these assessment model factors: 1) purpose of assessment 2) subjects of assessment 3) assessor 4) assessment method 5) indicators of assessment 6) assessment criteria and 7) giving feedback. Besides, the study of the research management factors contained 1) policy and research plan 2) structure and research organization management 3) research budgets 4) research personnel 5) research materials and facilities 6) production and controlling quality of research 7) follow-up and assessment 8) research publishing, publicizing and application 9) research network 10) systems and supporting protocols such as motivation etc. Thus, the researcher in this study would present the result into 2 parts as follows.

### **Part 1 General Information**

General Information of the respondents included sex, highest education, working position, working experience, experiences related to research management. It is shown in Table 4.1 below.

**Table 4.1** Number and percentage of sample group classified by their general information

<b>General Information</b>	<b>Number</b>	<b>Percentage</b>
<b>Sex</b>		
Male	16	40.0
Female	24	60.0
	40	100.0
<b>Highest Education</b>		
Bachelor degree/ Undergraduate	5	12.5
Master degree/ Graduate	22	55.0
Doctorate degree/ Postgraduate	13	32.5
	40	100.0
<b>Working Position</b>		
1. Policy Level	8	20.0
1.1 Vice-Rector for Academic Affairs of Research	(3)	(7.5)
1.2 Director of Research Division	(5)	(12.5)
2. Practitioner Level: researchers	18	45.0
3. Coordinator Level: personnel in Research division	14	35.0
	40	100.0
<b>Experiences related to Research Management</b>		
Used to	26	65.0
Never	14	35.0
	<b>40</b>	<b>100.0</b>

From Table 4.1, it can be seen that most of respondents are female and are at 60 percent and most of the highest education, Master degree or Graduate is at 55 percent and Doctorate degree/ Postgraduate and Bachelor degree/ Undergraduate are 32.5 and 12.5 respectively.

In respect of working position, Practitioner Level are most at 45 percent. The Coordinator Level are at 35 percent and Policy Level are at 20 percent which could be comprised of Vice-Rector for Academic Affairs of Research with 7.5 percent and Director of Research Division at 12.5 percent respectively.

For the respect of experiences related to research management, people who have already had an experience are at 65 percent and who have never had one are at 35 percent respectively.

**Part 2** The current condition and the needs in the research management assessment together with the test of difference between the current condition and the needs in the research management for private universities

The current condition and the needs in the research management assessment would to study the following factors of assessment model: 1) policy and research plan 2 ) structure and research organization management 3) research budgets 4) research personnel 5) research materials and facilities 6) production and controlling quality of research 7) follow-up and assessment 8) research publishing, publicizing and application 9) research network 10) systems and supporting protocols such as motivation etc. as shown in Table 4.2- Table 4.8

**Table 4.2** Mean and the standard deviation of current condition and the needs in the research management for private universities in the sample group classified by the purpose of assessment (n = 40)

Purpose of Assessment	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	1. Setting purpose in assessment of policy and research plan	3.38	1.02	Moderate	4.37	0.75	
2. Setting purpose in assessment of structure and research organization management	3.15	1.04	Moderate	4.24	0.85	High	5.794**

**Table 4.2** (continued)

Purpose of Assessment	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	3. Setting purpose in assessment of research budgets	3.54	1.10	High	4.47	0.80	
4. Setting purpose in assessment of research personnel	3.28	0.86	Moderate	4.32	0.84	High	7.149**
5. Setting purpose in assessment of research materials and facilities	3.03	0.84	Moderate	4.18	0.87	High	7.552**
6. Setting purpose in assessment of production and controlling quality of research	3.67	0.96	High	4.47	0.69	High	5.270**
7. Setting purpose in assessment of follow-up and evaluation	3.74	0.88	High	4.50	0.65	High	4.783**
8. Setting purpose in assessment of research publishing and application	3.38	0.99	High	4.47	0.65	High	6.337**
9. Setting purpose in assessment of research network	2.90	1.10	Moderate	4.26	0.76	High	7.968**
10. Setting purpose in assessment of systems and supporting protocols	3.08	0.98	Moderate	4.18	0.83	High	5.980**

\*\* p < .01

From Table 4.2, it reveals that the sample group agreed that purposes in assessment relating to the current condition were on the “moderate” to “high” level or in average from 2.90 to 3.74. Also, all respects of the needs of purposes of assessment are in the “high” level which are from 4.18 to 4.50.

To compare the difference the current condition and the needs in purposes of assessment, it found out that the current condition of assessment and the needs of assessment are significantly different at .01 in every respect. Thus, it can be concluded that the needs in purposes of assessment in every factor of research management are significant.

**Table 4.3** Mean and the standard deviation of the current condition and the needs in the research management assessment for private universities of the sample group classified by the subjects of assessment (n = 40)

Subjects of Assessment	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
1. Setting purpose in assessment subject of policy and research plan	3.33	0.93	Moderate	4.26	0.69	High	5.929**
2. Setting purpose in assessment subject of structure and research organization management	3.18	1.05	Moderate	4.21	0.84	High	6.249**
3. Setting purpose in assessment subject of research budgets	3.41	0.97	Moderate	4.37	0.71	High	5.704**
4. Setting purpose in assessment subject of research personnel	3.10	0.91	Moderate	4.37	0.63	High	7.364**
5. Setting purpose in assessment subject of research materials and facilities	3.03	0.93	Moderate	4.32	0.77	High	7.420**
6. Setting purpose in assessment subject of production and controlling quality of research	3.31	0.89	Moderate	4.34	0.78	High	6.012**
7. Setting purpose in assessment subject of follow-up and evaluation	3.46	0.82	Moderate	4.47	0.60	High	6.629**

**Table 4.3** (continued)

Subjects of Assessment	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	8. Setting purpose in assessment subject of research publishing and application	3.46	0.82	Moderate	4.47	0.60	
9. Setting purpose in assessment subject of research network	2.87	1.10	Moderate	4.13	0.81	High	5.706**
10. Setting purpose in assessment subject of systems and supporting protocols	3.00	1.00	Moderate	4.08	0.88	High	5.278**

\*\* p < .01

From Table 4.3, it can be found out that the sample group agreed that the current condition involving subjects of assessment are on the “moderate” in every item which are from 2.87 to 3.46. Besides, every respect of the needs of subjects of assessment are in the “high” level which is from 4.08 to 4.47.

For the test of difference between the current condition and the needs in subject of assessment, it reveals that the current condition of assessment and the needs of assessment are significantly different at .01 in every respect. So, it can be concluded that the needs in subjects of assessment were in every factor of research management.

**Table 4.4** Mean and the standard deviation of the current condition and the needs in the research management for private universities of the sample group classified by the assessors (n = 40)

Assessor	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	1. Setting the assessor of policy and research plan	3.13	1.06	Moderate	4.13	0.80	
2. Setting the assessor of structure and research organization management	2.82	0.94	Moderate	4.18	0.72	High	7.328**
3. Setting the assessor of research budgets	3.13	1.03	Moderate	4.31	0.73	High	6.865**
4. Setting the assessor of research personnel	3.08	1.01	Moderate	4.26	0.72	High	6.438**
5. Setting the assessor of research materials and facilities	2.85	0.90	Moderate	4.05	0.79	High	6.966**
6. Setting the assessor of production and controlling quality of research	3.36	1.01	Moderate	4.28	0.69	High	6.062**
7. Setting the assessor of follow-up and assessment	3.36	0.87	Moderate	4.36	0.74	High	7.029**
8. Setting the assessor of research publishing and application	3.10	1.17	Moderate	4.33	0.62	High	6.393**
9. Setting the assessor of research network	2.72	1.10	Moderate	4.26	0.75	High	7.666**
10. Setting the assessor of systems and supporting protocols	2.95	1.05	Moderate	4.15	0.84	High	6.180**

\*\* p < .01

From Table 4.4, it reveals that the sample group agreed that the current condition relating to the assessor is on the “moderate” in every item which is from 2.72 to 3.36. Also, the needs of assessor are in the “high” level which is from 4.05 to 4.36 in every respect.



For the test of difference between the current condition and the needs in subject of assessment, it reveals that the current condition of assessment and the needs of assessment are significantly different at .01 in every respect. So, it can be concluded that the needs in the respect of assessor appear in every factor of research management.

**Table 4.5** Mean and the standard deviation of the current condition and the needs in the research management for private universities of the sample group classified by the assessment method (n = 40)

Assessment Method	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	1. Setting Assessment Method in policy and research plan	3.08	1.07	Moderate	4.13	0.94	
2. Setting Assessment Method in structure and research organization management	2.95	0.99	Moderate	4.18	0.90	High	7.381**
3. Setting Assessment Method in research budgets	3.43	1.01	Moderate	4.38	0.70	High	5.797**
4. Setting Assessment Method in research personnel	3.25	0.90	Moderate	4.33	0.69	High	7.417**
5. Setting Assessment Method in research materials and facilities	2.83	0.96	Moderate	4.18	0.71	High	8.527**
6. Setting Assessment Method in production and controlling quality of research	3.40	1.03	Moderate	4.33	0.62	High	5.460**
7. Setting Assessment Method in follow-up and assessment	3.43	0.93	Moderate	4.35	0.74	High	6.195**

**Table 4.5** (continued)

Assessment Method	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	8. Setting Assessment Method in research publishing and application	3.13	1.04	Moderate	4.45	0.60	
9. Setting Assessment Method in research network	2.63	0.87	Moderate	4.13	0.83	High	8.379**
10. Setting Assessment Method in systems and supporting protocols	2.93	1.00	Moderate	4.13	0.88	High	6.676**

\*\* p < .01

From Table 4.5, it shows that the sample group agreed that the current condition relating to the assessment method was on the “moderate” in every item which was from 2.63 to 3.43. Also, the needs of assessment method were in the “high” level which was from 4.13 to 4.45 in every respect.

For the test of difference between the current condition and the needs in assessment method, it shows that the current condition and the needs of assessment are significantly different at .01 in every respect. Thus, it can be concluded that the needs in the respect of assessment method appear in every factor of research management.

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**Table 4.6** Mean and the standard deviation of the current condition and the needs in the research management for private universities of the sample group classified by the indicator of assessment (n = 40)

Indicator of Assessment	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	1. Setting indicator of assessment in policy and research plan	3.55	0.90	High	4.30	0.65	
2. Setting indicator of assessment in structure and research organization management	3.20	0.91	Moderate	4.15	0.70	High	5.940**
3. Setting indicator of assessment in research budgets	3.58	0.98	High	4.30	0.65	High	5.064**
4. Setting indicator of assessment in research personnel	3.23	0.97	Moderate	4.28	0.64	High	7.343**
5. Setting indicator of assessment in research materials and facilities	3.08	1.00	Moderate	4.20	0.72	High	6.993**
6. Setting indicator of assessment in production and controlling quality of research	3.50	1.06	Moderate	4.40	0.63	High	5.264**
7. Setting indicator of assessment in follow-up and assessment	3.40	1.01	Moderate	4.40	0.59	High	5.954**
8. Setting indicator of assessment in research publishing and application	3.43	1.15	Moderate	4.45	0.50	High	5.670**
9. Setting indicator of assessment in research network	2.88	1.07	Moderate	4.23	0.73	High	7.371**
10. Setting indicator of assessment in systems and supporting protocols	3.03	1.03	Moderate	4.20	0.69	High	6.714**

\*\* p < .01

From Table 4.6, it shows that the sample group agreed that the current condition regarding to the indicator of assessment was from the level of “moderate” to “high” in every item which are from 2.88 to 3.58. Also, the needs of indicator of assessment are in the “many” level which is from 4.15 to 4.45 in every respect.

For the test of difference between the current condition and the needs in indicator of assessment, it shows that the current condition and the needs of assessment are significantly different at .01 in every respect. To conclude, it can be seen that the needs in the respect of indicator of assessment appear in every factor of research management.

**Table 4.7** Mean and the standard deviation of current condition and the needs in the research management for private universities in the sample group classified by assessment criteria (n = 40)

Assessment Criteria	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpretation	$\bar{X}$	S.D.	Interpretation	
	1. Setting assessment criteria in policy and research plan	3.31	0.95	Moderate	4.23	0.74	
2. Setting assessment criteria in structure and research organization management	3.15	0.99	Moderate	4.15	0.84	High	6.087**
3. Setting assessment criteria in research budgets	3.72	1.02	High	4.54	0.55	Highest	5.997**
4. Setting assessment criteria in research personnel	3.36	0.93	Moderate	4.36	0.63	High	7.550**
5. Setting assessment criteria in research materials and facilities	3.18	0.97	Moderate	4.33	0.58	High	7.723**
6. Setting assessment criteria in production and controlling quality of research	3.44	1.02	Moderate	4.41	0.59	High	6.169**

**Table 4.7** (continued)

Assessment Criteria	Current Condition			Needs			t
	of Assessment			of Assessment			
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
7. Setting assessment criteria in follow-up and assessment	3.31	0.89	Moderate	4.38	0.59	High	7.242**
8. Setting assessment criteria in research publishing, publicizing and application	3.36	1.06	Moderate	4.44	0.55	High	6.837**
9. Setting assessment criteria in research network	2.95	1.02	Moderate	4.26	0.68	High	7.563**
10. Setting assessment criteria in systems and supporting protocols	3.00	1.08	Moderate	4.23	0.71	High	0.552

\*\* p < .01

From Table 4.7, it shows that the sample group agreed that the current condition relating to the assessment criteria was on the “moderate” to “high” level in every item which are from 2.95 to 3.72. Also, the needs of assessment criteria are in the “high” to “highest” level which are from 4.15 to 4.54 in every respect.

For the test of difference between the current condition and the needs in assessment criteria, it shows that the current condition and the needs of assessment are significantly different at .01 in every respect except item 10) setting assessment criteria in systems and supporting protocols. Thus, it can be concluded that the needs in the respect of assessment criteria appear in every factor of research management but in respect of systems and supporting protocols.

**Table 4.8** Mean and the standard deviation of current condition and the needs in the research management for private universities in the sample group classified by giving feedback of assessment (n = 40)

Giving Feedback of Assessment	Current Condition of Assessment			Needs of Assessment			t
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
	1. Giving Feedback of Assessment of policy and research plan	3.00	1.09	Moderate	4.16	0.68	
2. Giving Feedback of Assessment of structure and research organization management	2.79	1.02	Moderate	4.16	0.68	High	7.839**
3. Giving Feedback of Assessment of research budgets	3.24	1.00	Moderate	4.34	0.63	High	6.761**
4. Giving Feedback of Assessment of research personnel	3.05	1.16	Moderate	4.34	0.53	High	6.992**
5. Giving Feedback of Assessment of research materials and facilities	2.84	1.08	Moderate	4.26	0.64	High	8.295**
6. Giving Feedback of Assessment of production and controlling quality of research	3.16	0.95	Moderate	4.39	0.59	High	8.089**
7. Giving Feedback of Assessment of follow-up and assessment	3.16	0.97	Moderate	4.34	0.63	High	7.231**
8. Giving Feedback of Assessment of research publishing, publicizing and application	3.11	1.06	Moderate	4.39	0.55	High	7.143**
9. Giving Feedback of Assessment of research network	2.63	1.08	Moderate	4.24	0.59	High	8.110**

**Table 4.8** (continued)

Giving Feedback of Assessment	Current Condition			Needs			t
	of Assessment			of Assessment			
	$\bar{X}$	S.D.	Interpre- tation	$\bar{X}$	S.D.	Interpre- tation	
10. Giving Feedback of Assessment of systems and supporting protocols	2.74	0.98	Moderate	4.32	0.66	High	9.217**

\*\* p < .01

From Table 4.8, it shows that the sample group agreed that the current condition regarding to giving feedback of assessment is from the level of “moderate” in every item which is from 2.63 to 3.24. Also, the needs of giving feedback of assessment are in the “high” level which is from 4.16 to 4.39 in every respect.

For the test of difference between the current condition and the needs in giving feedback of assessment, it shows that the current condition and the needs of assessment are significantly different at .01 in every respect. To summarize, it can be seen that the needs in regard of giving feedback of assessment appear in every factor of research management.

## **Part 2 Result of examining the factors, indicators and criteria relating to the research management for private universities**

For examining the factors, indicators and criteria relating to the research management for private universities, the research in this study divided the research into these following four small steps.

2.1 Analyzing and synthesizing the documents and researches involving the factors and indicators of research management in order to be an expert’s interviewing framework regarding to research management for other universities.

The result of interviewing can be concluded as follows.

Indicator 1 Policy and research plan comprise 7 indicators as follows.

1.1) The policy and research plan corresponding with the policy and national research strategies

- 1.2) The policy and research plan responding to both in and outsource
- 1.3) Setting policy and research plan which is clear and practicable
- 1.4) Setting policy and research plan from participation among interested persons
- 1.5) Creating the research plan according to the cycle of PDCA
- 1.6) A research plan promoting and supporting the university visions
- 1.7) A working plan corresponding with the research of the universities

Indicator 2 Structure and research organization management consist of 7 indicators as follows.

- 2.1) A structure of the organization which includes a sector taking charge of the research directly such as office of research etc.
- 2.2) A clear structure of research organization management in aspect of person responsible
- 2.3) A structure containing a system and protocol of research management accordant with a purpose of university research
- 2.4) A structure corresponding with the context of the mission and responsibility involving researches
- 2.5) A flexibles structure and an organization research management
- 2.6) A structure and an organization research management with clear job descriptions
- 2.7) A structure having a system and a protocol promoting and supporting researches

Indicator 3 Research budgets include 9 indicators as follows.

- 3.1) Systems and protocols relating to statement of support doing researches provided
- 3.2) A suitable and sufficient budget allocation of a university research
- 3.3) A budget allocation for being as a research subsidy and other research activities such as training sessions etc.
- 3.4) Percentage of teachers/ personnel who gain the scholarship for internal and external universities



3.5) A number of budget for researches and parties in the institutes for teachers/ personnel of permanent contract

3.6) A subsidy allocation for supporting the researches to various faculties with appropriateness, and entirety.

3.7) The issue of materials of a budget involving a research each chance with convenience, rapidity and timeliness

3.8) The issue of materials of a budget subsidy with a handbook or the instructions of step of issue of materials

3.9) Budget subsidy of research corresponding with the research plans

Indicator 4 Research personnel consist of 10 indicators as follows.

4.1) Personnel involving a research in a policy level need to have visions and abilities of research management.

4.2) Personnel involving a research in a policy level are the characteristic of a flexible person who work flexibly.

4.3) Personnel in a division of research in a policy level are knowledgeable and skillful in doing research.

4.4) Personnel in a division of research are friendly.

4.5) Personnel in a division of research work in a full time for providing service potentially.

4.6) A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.

4.7) A number of personnel in a division of research are suitable for work.

4.8) Personnel involving a research need to be discipline and have morals relating doing a research well.

4.9) Percentage of personnel involving a research have knowledge of doing researches in order to facilitate the research production.

4.10) A protocol and personnel development plan involving research includes the short-term, middle-term and long- term period.

Indicator 5 Research materials and facilities comprise 7 indicators as follows.

- 5.1) Sufficiency and modernity of the equipment, instruments or durable articles and laboratory
- 5.2) Systems include supervisors and research clinic for assisting researchers
- 5.3) Modern and efficient materials, equipment and laboratory to facilitate doing researches
- 5.4) Various packages to facilitate doing researches such as data analysis programs etc.
- 5.5) Information technology system for researches to easily log in and be convenient for searching
- 5.6) Internal and external resources in university
- 5.7) Percentage of expenses of the information technology system, computer and other instruments for researches

Indicator 6 Production and controlling quality of research include 6 indicators as follows.

- 6.1) Distinct and practicable systems and protocols regarding the production and quality controls of the researches
- 6.2) Consideration of research proposal from the experts and specialists in each field
- 6.3) Progress report of research projects provided in each period until the end of the project in order to control the quality as a plan
- 6.4) A number of researches done and its quality control in each period of the procedure
- 6.5) Quality controls of researches by the expert's assessment in each field for the accuracy of the research methodology
- 6.6) Announcement about the production and the research quality control

Indicator 7 Follow-up and assessment consist of 8 indicators as follows.

- 7.1) A system and protocol in reporting in order to follow up and assess the progress of research project
- 7.2) A friendly atmosphere of follow - up and assessment
- 7.3) A follow- up and assessment of research management as due- date plan

- 7.4) Percentage of researches planned
- 7.5) A follow-up and assessment with acceptable criteria
- 7.6) Acceptable and sufficient assessment from specialists in specific fields
- 7.7) Participation in assessment from interested people in researches to get the most of advantages of researches
- 7.8) Giving opportunities to adjust the research results after the assessment from the assessors

Indicator 8 Research publishing, publicizing and application include 8 indicators as follows.

- 8.1) Budget allocation for publishing and publicizing both domestic and foreign researches
- 8.2) Systems and protocols of publicizing and driving researches to utilization
- 8.3) Percentage of researches and journals published, publicized and utilized to professors in the local, national and international level
- 8.4) Promoting knowledge sharing of research result to the development community and society around universities
- 8.5) Supporting a patent registration or intellectual property protection
- 8.6) Supporting researches in a field of commercial interests
- 8.7) Supporting the journal writing skill for publishing and publicizing
- 8.8) Arranging an academic conference for publishing and publicizing researches
- 8.9) Publishing international standard research journals for publishing and publicizing researches

Indicator 9 Research network comprises 8 indicators as follows.

- 9.1) Systems and protocols cooperating with other networks for research cooperation from both the public and private sectors
- 9.2) Sharing the resources and cooperating with other research institutes
- 9.3) A number of research networks from both public and private sectors
- 9.4) Promoting the research cooperation as an interdisciplinary network

9.5) Sharing research information among the network in both domestic and foreign institutes

9.6) Supporting doing researches with other domestic and foreign institutes

9.7) Arranging academic conference with other institutes continuously

9.8) Supporting the training program and visit program among the research network

Indicator 10 Systems and supporting protocols such as motivation etc. consist of 7 indicators as follows.

10.1) Giving opportunities for young researchers in order to earn more scholarships

10.2) Appropriate allocation of load regarding the research influencing on research facilitation

10.3) Special rewarding for good quality of research as a prominent one

10.4) Selecting prominent researchers for annual best awards

10.5) Integrating the research with meritorious working assessment with acceptable standard criteria

10.6) Supporting the researchers in working progress and getting promotion

10.7) Rule and regulation adjustment being as an obstacle of research flexibility and facilitation

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## 2.2 Result of analysis of the IOC value from the experts to develop the indicators of research management for the second round

The researcher analyzed data from the first interviewing to find out the value of IOC which must be 0.8 or above and to assure that the indicators gained are corresponding with the indicators of research management from the experts. The results of the IOC value were concluded in Table 4.9 – Table 4.18

**Table 4.9** Result of index value of the research management factor in aspect of policy and research plan

Factor of research management	Indicator	IOC	Interpretation
1. policy and research plan	1.1 The policy and research plan corresponding with the policy and national research strategies	1.00	Pass
	1.2 The policy and research plan responding to both internal and external budget resources	1.00	Pass
	1.3 Setting policy and research plan which is clear and practicable	1.00	Pass
	1.4 Setting policy and research plan from participation among interested persons	0.71	Fail
	1.5 Creating the research plan according to the cycle of PDCA	1.00	Pass
	1.6 A research plan promoting and supporting the university visions	1.00	Pass
	1.7 A working plan corresponding with the research of the universities	0.86	Pass
	<b>Additional Issues</b> - Research plans can continuously drive the young researcher's development		

From Table 4.9, Result of index value of the research management factor in aspect of policy and research plan, it found out that indicator 1.1 to 1.7 were “Pass.” However, indicator 1.4 “Setting policy and research plan from participation among interested persons” was “Fail.”

**Table 4.10** Result of index value of the research management factor in aspect of structure and research organization management

<b>Factor of research management</b>	<b>Indicator</b>	<b>IOC</b>	<b>Interpretation</b>
2. structure and research organization management	2.1 A structure of the organization which includes a sector taking charge of the research directly such as office of research etc.	1.00	Pass
	2.2 A clear structure of research organization management in aspect of person responsible	1.00	Pass
	2.3 A structure containing a system and protocol of research management accordant with a purpose of university research	1.00	Pass
	2.4 A structure corresponding with the context of the mission and responsibility involving researches	1.00	Pass
	2.5 A flexibles structure and an organization research management	0.86	Pass
	2.6 A structure and an organization research management with clear job descriptions	1.00	Pass
	2.7 A structure having a system and a protocol promoting and supporting researches	1.00	Pass
	<b>Additional Issues</b> - None		

From Table 4 .1 0 , Result of index value of the research management factor in aspect of structure and research organization management, it found out that indicator 2.1 to 2.7 were “Pass.”

**Table 4.11** Result of index value of the research management factor in aspect of research budgets

<b>Factor of research management</b>	<b>Indicator</b>	<b>IOC</b>	<b>Interpretation</b>
3. research budgets	3.1 Systems and protocols relating to statement of support doing researches provided	1.00	Pass
	3.2 A suitable and sufficient budget allocation of a university research	0.86	Pass
	3.3 A budget allocation for being as a research subsidy and other research activities such as training sessions etc.	0.86	Pass
	3.4 Percentage of teachers/ personnel who gain the scholarship for internal and external universities	1.00	Pass
	3.5 A number of budget for researches and parties in the institutes for teachers/ personnel of permanent contract	0.86	Pass
	3.6 A subsidy allocation for supporting the researches to various faculties with appropriateness, and entirety.	0.71	Fail
	3.7 The issue of materials of a budget involving a research each chance with convenience, rapidity and timeliness	0.86	Pass
	3.8 The issue of materials of a budget subsidy with a handbook or the instructions of step of issue of materials	0.86	Pass
	3.9) Budget subsidy of research corresponding with the research plans	1.00	Pass
	<b>Additional Issues-</b> None		

From Table 4.11 Result of index value of the research management factor in aspect of research budgets supporting and promoting researches, it reveals that indicator 3.1 – 3.9 were “Pass.” Except indicator 3.6 which involves personnel in a division of research working in a full time for providing service potentially was “Fail.”

**Table 4.12** Result of index value of the research management factor in aspect of research personnel

Factor of research management	Indicator	IOC	Interpretation
4. research personnel	4.1 Personnel involving a research in a policy level need to have visions and abilities of research management.	1.00	Pass
	4.2 Personnel involving a research in a policy level are the characteristic of a flexible person who work flexibly.	0.57	Fail
	4.3 Personnel in a division of research in a policy level are knowledgeable and skillful in doing research.	1.00	Pass
	4.4 Personnel in a division of research are friendly.	0.86	Pass
	4.5 Personnel in a division of research work in a full time for providing service potentially.	0.71	Fail
	4.6 A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.	0.86	Pass
	4.7 A number of personnel in a division of research are suitable for work.	0.86	Pass
	4.8 Personnel involving a research need to be discipline and have morals relating doing a research well.	1.00	Pass
	4.9 Percentage of personnel involving a research have knowledge of doing researches in order to facilitate the research production.	0.86	Pass
	4.10 A protocol and personnel development plan involving research includes the short-term, middle-term and long- term period.	1.00	Pass
	<b>Additional Issues – None</b>		



From Table 4.12 Result of index value of the research management factor in aspect of research personnel, it reveals that indicator 4.1 – 4.10 were “Pass.” Except indicator 4.2 which involves the personnel involving a research in a policy level are the characteristic of a flexible person who work flexibly and indicator 4.5 regarding “Personnel in a division of research work in a full time for providing service potentially” were “Fail.”

**Table 4.13** Result of index value of the research management factor in aspect of research materials and facilities

<b>Factor of research management</b>	<b>Indicator</b>	<b>IOC</b>	<b>Interpretation</b>
5. research materials and facilities	5.1 Sufficiency and modernity of the equipment, instruments or durable articles and laboratory	0.86	Pass
	5.2 Systems include supervisors and research clinic for assisting researchers	1.00	Pass
	5.3 Modern and efficient materials, equipment and laboratory to facilitate doing researches	1.00	Pass
	5.4 Various packages to facilitate doing researches such as data analysis programs etc.	1.00	Pass
	5.5 Information technology system for researches to easily log in and be convenient for searching	1.00	Pass
	5.6 Internal and external resources in university	0.71	Fail
	5.7 Percentage of expenses of the information technology system, computer and other instruments for researches	0.71	Fail
	<b>Additional Issues – None</b>		

From Table 4.13 Result of index value of the research management factor in aspect of research materials and facilities, it reveals that indicator 5.1 – 5.7 were “Pass.” Except indicator 5.6 “Internal and external resources in university” and indicator 5.7 “Percentage of expenses of the information technology system, computer and other instruments for researches” were “Fail.”

**Table 4.14** Result of index value of the research management factor in aspect of production and controlling quality of research

Factor of research management	Indicator	IOC	Interpretation
6. production and controlling quality of research	6.1 Distinct and practicable systems and protocols regarding the production and quality controls of the researches	1.00	Pass
	6.2 Consideration of research proposal from the experts and specialists in each field	1.00	Pass
	6.3 Progress report of research projects provided in each period until the end of the project in order to control the quality as a plan	1.00	Pass
	6.4 A number of researches done and its quality control in each period of the procedure	1.00	Pass
	6.5 Quality controls of researches by the expert’s assessment in each field for the accuracy of the research methodology	0.86	Pass
	6.6 Announcement about the production and the research quality control	0.86	Pass
	<b>Additional Issues</b> – None		

From Table 4.14 Result of index value of the research management factor in aspect of production and controlling quality of research, it found out that indicator 6.1- 6.6 were “Pass.”

**Table 4.15** Result of index value of the research management factor in aspect of follow-up and evaluation

<b>Factor of research management</b>	<b>Indicator</b>	<b>IOC</b>	<b>Interpretation</b>
7. follow-up and evaluation	7.1 A system and protocol in reporting in order to follow up and assess the progress of research project	1.00	Pass
	7.2 A friendly atmosphere of follow - up and assessment	0.86	Pass
	7.3 A follow- up and assessment of research management as due- date plan	1.00	Pass
	7.4 Percentage of researches planned	1.00	Pass
	7.5 A follow- up and assessment with acceptable criteria	1.00	Pass
	7.6 Acceptable and sufficient assessment from specialists in specific fields	1.00	Pass
	7.7 Participation in assessment from interested people in researches to get the most of advantages of researches	1.00	Pass
	7.8 Giving opportunities to adjust the research results after the assessment from the assessors	1.00	Pass
	<b>Additional Issues – None</b>		

From Table 4.15 Result of index value of the research management factor in aspect of follow-up and evaluation, it shows that that indicator 7.1- 7.8 were “Pass.”

**Table 4.16** Result of index value of the research management factor in aspect of research publishing, publicizing and application

<b>Factor of research management</b>	<b>Indicator</b>	<b>IOC</b>	<b>Interpretation</b>
8. research publishing, publicizing and application	8.1 Budget allocation for publishing and publicizing both domestic and foreign researches	1.00	Pass
	8.2 Systems and protocols of publicizing and driving researches to utilization	1.00	Pass
	8.3 Percentage of researches and journals published, publicized and utilized to professors in the local, national and international level	1.00	Pass
	8.4 Promoting knowledge sharing of research result to the development community and society around universities	1.00	Pass
	8.5 Supporting a patent registration or intellectual property protection	1.00	Pass
	8.6 Supporting researches in a field of commercial interests	1.00	Pass
	8.7 Supporting the journal writing skill for publishing and publicizing	1.00	Pass
	8.8 Arranging an academic conference for publishing and publicizing researches	1.00	Pass
	8.9 Publishing international standard research journals for publishing and publicizing researches	1.00	Pass
	<b>Additional Issues – None</b>		

From Table 4.16 research publishing, publicizing and application, it reveals that indicator 8.1 to 8.9 were “Pass.”

**Table 4.17** Result of index value of the research management factor in aspect of research network

<b>Factor of research management</b>	<b>Indicator</b>	<b>IOC</b>	<b>Interpretation</b>
9. research network	9.1 Systems and protocols cooperating with other networks for research cooperation from both the public and private sectors	1.00	Pass
	9.2 Sharing the resources and cooperating with other research institutes	1.00	Pass
	9.3 A number of research networks from both public and private sectors	1.00	Pass
	9.4 Promoting the research cooperation as an interdisciplinary network	1.00	Pass
	9.5 Sharing research information among the network in both domestic and foreign institutes	1.00	Pass
	9.6 Supporting doing researches with other domestic and foreign institutes	1.00	Pass
	9.7 Arranging academic conference with other institutes continuously	1.00	Pass
	9.8 Supporting the training program and visit program among the research network	1.00	Pass
	<b>Additional Issues</b> – None		

From Table 4.17 Result of index value of the research management factor in aspect of research network, it shows that indicator 9.1-9.8 were “Pass.”

**Table 4.18** Result of index value of the research management factor in aspect of systems and supporting protocols such as motivation etc.

<b>Factor of research management</b>	<b>Indicator</b>	<b>IOC</b>	<b>Interpretation</b>
10. systems and supporting protocols such as motivation etc.	10.1 Giving opportunities for young researchers in order to earn more scholarships	1.00	Pass
	10.2 Appropriate allocation of load regarding the research influencing on research facilitation	0.86	Pass
	10.3 Special rewarding for good quality of research as a prominent one	0.71	Fail
	10.4 Selecting prominent researchers for annual best awards	1.00	Pass
	10.5 Integrating the research with meritorious working assessment with acceptable standard criteria	0.86	Pass
	10.6 Supporting the researchers in working progress and getting promotion	0.71	Fail
	10.7 Rule and regulation adjustment being as an obstacle of research flexibility and facilitation	0.86	Pass
	<b>Additional Issues</b> – None		

From Table 4.18 Result of index value of the research management factor in aspect of systems and supporting protocols such as motivation etc. it found out that indicator 10.1 - 10.7 were “Pass” except indicator 10.3 saying “Special rewarding for good quality of research as a prominent one” and indicator 10.6 “Supporting the researchers in working progress and getting promotion” were “Fail.”

### 2.3 Analysis result of the expert’s conclusion involving the indicators of each research management factor

The researcher analyzed the IOC value of the data from the indicator development in the second round. In analysis, IOC valued at 0.8 or above could be used as the third round questionnaire in order to ask the expert’s opinions towards the indicators of each research management factor. Besides, the criteria employed as a conclusion that each indicator of research management for private universities were Mean at 3.50, and Quartile Range less than 1.50. Thus, data analysis was concluded as in Table 4.19 to 4.28 below.

**Table 4.19** Analysis result of the expert’s conclusion involving the indicator of research management in aspect of policy and research plan

Factor of research management	Indicator	Mean	Quartile Range	Interpretation
1. policy and research plan	1.1 The policy and research plan corresponding with the policy and national research strategies	5	0	Pass
	1.2 The policy and research plan responding to both internal and external budget resources	5	0	Pass
	1.3 Setting policy and research plan which is clear and practicable	5	0	Pass
	1.4 Setting policy and research plan from participation among interested persons	5	0	Pass
	1.5 Creating the research plan according to the cycle of PDCA	5	0	Pass
	1.6 A research plan promoting and supporting the university visions	5	0	Pass
	1.7 A working plan corresponding with the research of the universities	5	0	Pass
	<b>Additional Issues - None</b>			

From Table 4.19, Analysis result of the expert’s conclusion involving the indicator of research management in aspect of policy and research plan, it found out that indicator 1.1 – 1.7 were “Pass.”

**Table 4.20** Analysis result of the expert's conclusion involving the indicator of research management in aspect of structure and research organization management

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
2. structure and research organization management	2.1 A structure of the organization which includes a sector taking charge of the research directly such as office of research etc.	5	0	Pass
	2.2 A clear structure of research organization management in aspect of person responsible	5	0	Pass
	2.3 A structure containing a system and protocol of research management accordant with a purpose of university research	5	0	Pass
	2.4 A structure corresponding with the context of the mission and responsibility involving researches	5	0	Pass
	2.5 A flexibles structure and an organization research management	5	0	Pass
	2.6 A structure and an organization research management with clear job descriptions	5	0	Pass
	2.7 A structure having a system and a protocol promoting and supporting researches	5	0	Pass
	<b>Additional Issues - None</b>			

From Table 4.20, Analysis result of the expert's conclusion involving the indicator of research management in aspect of structure and research organization management, it found out that indicator 2.1 – 2.7 were “Pass.”



**Table 4.21** Analysis result of the expert's conclusion involving the indicator of research management in aspect of research budgets

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
3. research budgets	3.1 Systems and protocols relating to statement of support doing researches provided	5	0	Pass
	3.2 A suitable and sufficient budget allocation of a university research	5	0	Pass
	3.3 A budget allocation for being as a research subsidy and other research activities such as training sessions etc.	5	0	Pass
	3.4 Percentage of teachers/ personnel who gain the scholarship for internal and external universities	5	1	Pass
	3.5 A number of budget for researches and parties in the institutes for teachers/ personnel of permanent contract	5	1	Pass
	3.6 A subsidy allocation for supporting the researches to various faculties with appropriateness, and entirety.	5	1	Pass
	3.7 The issue of materials of a budget involving a research each chance with convenience, rapidity and timeliness	5	0	Pass
	3.8 The issue of materials of a budget subsidy with a handbook or the instructions of step of issue of materials	5	0	Pass
	3.9) Budget subsidy of research corresponding with the research plans			

From Table 4.21, Analysis result of the expert's conclusion involving the indicator of research management in aspect of research budgets, it reveals that indicator 3.1- 3.8 were "Pass."

**Table 4.22** Analysis result of the expert’s conclusion involving the indicator of research management in aspect of research personnel

Factor of research management	Indicator	Mean	Quartile Range	Interpretation
4. research personnel	4.1 Personnel involving a research in a policy level need to have visions and abilities of research management.	5	0	Pass
	4.2 Personnel involving a research in a policy level are the characteristic of a flexible person who work flexibly.	5	1	Pass
	4.3 Personnel in a division of research in a policy level are knowledgeable and skillful in doing research.	5	0	Pass
	4.4 Personnel in a division of research are friendly.	5	0	Pass
	4.5 Personnel in a division of research work in a full time for providing service potentially.	5	1	Pass
	4.6 A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.	5	0	Pass
	4.7 A number of personnel in a division of research are suitable for work.	5	1	Pass
	4.8 Personnel involving a research need to be discipline and have morals relating doing a research well.	5	1	Pass
	4.9 Percentage of personnel involving a research have knowledge of doing researches in order to facilitate the research production.			
	4.10 A protocol and personnel development plan involving research includes the short-term, middle-term and long- term period.			
	<b>Additional Issues</b> – None			

From Table 4.22, Analysis result of the expert’s conclusion involving the indicator of research management in aspect of research personnel, it reveals that indicator 4.1- 4.8 were “Pass.”

**Table 4.23** Analysis result of the expert’s conclusion involving the indicator of research management in aspect of research materials and facilities

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
5. research materials and facilities	5.1 Sufficiency and modernity of the equipment, instruments or durable articles and laboratory	5	1	Pass
	5.2 Systems include supervisors and research clinic for assisting researchers	5	0	Pass
	5.3 Modern and efficient materials, equipment and laboratory to facilitate doing researches	5	1	Pass
	5.4 Various packages to facilitate doing researches such as data analysis programs etc.	5	1	Pass
	5.5 Information technology system for researches to easily log in and be convenient for searching	5	1	Pass
	<b>Additional Issues</b> – None			

From Table 4.23, Analysis result of the expert’s conclusion involving the indicator of research management in aspect of research materials and facilities, reveals that indicator 5.1- 5.5 were “Pass”

**Table 4.24** Analysis result of the expert’s conclusion involving the indicator of research management in aspect of production and controlling quality of research

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
6. production and controlling quality of research	6.1 Distinct and practicable systems and protocols regarding the production and quality controls of the researches	5	0	Pass
	6.2 Consideration of research proposal from the experts and specialists in each field	5	0	Pass
	6.3 Progress report of research projects provided in each period until the end of the project in order to control the quality as a plan	5	0	Pass
	6.4 A number of researches done and its quality control in each period of the procedure	5	0	Pass
	6.5 Quality controls of researches by the expert’s assessment in each field for the accuracy of the research methodology	5	0	Pass
	6.6 Announcement about the production and the research quality control	5	1	Pass
	<b>Additional Issues</b> – System and protocol to develop the research proposal or the package of research projects corresponding with policy and research plan should be integrated and responded with the needs of internal and external budget resources.			

From Table 4.24, Analysis result of the expert’s conclusion involving the indicator of research management in aspect of production and controlling quality of research, it reveals that indicator 6.1- 6.6 were “Pass” and indicators were suggested to complete in this factor.

**Table 4.25** Analysis result of the expert’s conclusion involving the indicator of research management in aspect of Follow-up and assessment

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
7. follow-up and evaluation	7.1 A system and protocol in reporting in order to follow up and assess the progress of research project	5	0	Pass
	7.2 A friendly atmosphere of follow - up and assessment	5	0	Pass
	7.3 A follow- up and assessment of research management as due- date plan	5	0	Pass
	7.4 Percentage of researches planned	5	1	Pass
	7.5 A follow- up and assessment with acceptable criteria	5	0	Pass
	7.6 Acceptable and sufficient assessment from specialists in specific fields	5	0	Pass
	7.7 Participation in assessment from interested people in researches to get the most of advantages of researches	5	0	Pass
	7.8 Giving opportunities to adjust the research results after the assessment from the assessors	5	0	Pass
	<b>Additional Issues</b> – None			

From 4.25 , Analysis result of the expert’s conclusion involving the indicator of research management in aspect of follow-up and evaluation, it shows that indicator 7.1-7.8 were “Pass.”

**Table 4.26** Analysis result of the expert’s conclusion involving the indicator of research management in aspect of research publishing, publicizing and application

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
8. research publishing, publicizing and application	8.1 Budget allocation for publishing and publicizing both domestic and foreign researches	5	0	Pass
	8.2 Systems and protocols of publicizing and driving researches to utilization	5	0	Pass
	8.3 Percentage of researches and journals published, publicized and utilized to professors in the local, national and international level	5	1	Pass
	8.4 Promoting knowledge sharing of research result to the development community and society around universities	5	0	Pass
	8.5 Supporting a patent registration or intellectual property protection	5	1	Pass
	8.6 Supporting researches in a field of commercial interests	5	1	Pass
	8.7 Supporting the journal writing skill for publishing and publicizing	5	0	Pass
	8.8 Arranging an academic conference for publishing and publicizing researches	5	0	Pass
	8.9 Publishing international standard research journals for publishing and publicizing researches	5	0	Pass
	<b>Additional Issues – None</b>			

From Table 4.26, Analysis result of the expert’s conclusion involving the indicator of research management in aspect of research publishing, publicizing and application, it shows that indicator 8.1 – 8.9 were “Pass.”

**Table 4.27** Analysis result of the expert's conclusion involving the indicator of research management in aspect of research network

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
9. research network	9.1 Systems and protocols cooperating with other networks for research cooperation from both the public and private sectors	5	0	Pass
	9.2 Sharing the resources and cooperating with other research institutes	5	1	Pass
	9.3 A number of research networks from both public and private sectors	5	1	Pass
	9.4 Promoting the research cooperation as an interdisciplinary network	5	1	Pass
	9.5 Sharing research information among the network in both domestic and foreign institutes	5	1	Pass
	9.6 Supporting doing researches with other domestic and foreign institutes	5	1	Pass
	9.7 Arranging academic conference with other institutes continuously	5	0	Pass
	9.8 Supporting the training program and visit program among the research network	5	1	Pass
	<b>Additional Issues</b> – None			

From Table 4.27, Analysis result of the expert's conclusion involving the indicator of research management in aspect of research network, it reveals that indicator 9.1 – 9.8 were "Pass."

**Table 4.28** Analysis result of the expert’s conclusion involving the indicator of research management in aspect of systems and supporting protocols such as motivation etc.

<b>Factor of research management</b>	<b>Indicator</b>	<b>Mean</b>	<b>Quartile Range</b>	<b>Interpretation</b>
10. systems and supporting protocols such as motivation etc.	10.1 Giving opportunities for young researchers in order to earn more scholarships	5	0	Pass
	10.2 Appropriate allocation of load regarding the research influencing on research facilitation	5	0	Pass
	10.3 Selecting prominent researchers for annual best awards	5	0	Pass
	10.4 Integrating the research with meritorious working assessment with acceptable standard criteria	5	0	Pass
	10.5 Rule and regulation adjustment being as an obstacle of research flexibility and facilitation	5	0	Pass
	<b>Additional Issues</b> – None			

From Table 4.28: Analysis result of the expert’s conclusion involving the indicator of research management in aspect of systems and supporting protocols such as motivation etc., it found out that indicator 10.1 – 10.5 were “Pass.”



## 2.4 Result of the propriety of criteria regard to the research management

The researcher analyzed and synthesized the documents involving the indicators and criteria of the research management assessment for 72 indicators in 10 factors. Then, the propriety of criteria was assessed by the experts regarding the research management. In conclusion, the criteria were the value of Mean above 3.50 and Quartile Range with less than 1.50. The result of the propriety of criteria assessed by the experts regarding the research management were shown in Table 4.29 to Table 4.38 below.

**Table 4.29** Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of policy and research plan

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
1.1 The policy and research plan corresponding with the policy and national research strategies	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
1.2 The policy and research plan responding to both internal and external budget resources	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass

**Table 4.29** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
1.3 Setting policy and research plan which is clear and practicable	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
1.4 Setting policy and research plan from participation among interested persons	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0.5	Pass
1.5 Creating the research plan according to the cycle of PDCA	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
1.6 A research plan promoting and supporting the university visions	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0.5	Pass

**Table 4.29** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
1.7 A research plan corresponding with the research of the universities	There is a policy or research plans can push for the development of young researchers.	There is a regulation or announcement regarding the promoting and supporting of budget for young researchers.	There is a budget allocations to promoting and supporting of budget for young researchers.	There is an activity or project to push for the development of young researchers continuously.	There is an evaluation of activity or project to push for the development of young researchers' goals.	5	0.5	Pass

From Table 4.29, Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of policy and research plan, it reveals that indicator 1.1 – 1.7 were “Pass” and it can be concluded that the criteria involving the policy and research plan are appropriate in every indicator

**Table 4.30** Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of structure and research organization management

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
2.1 A structure of the organization which includes a sector taking charge of the research directly such as office of research etc.	There is a determination of the structure of the organization directly taking charge of the research.	There is determination of feature, skill and ability in each position of the structure of the organization.	There is determination of role of the structure of the organization of the research.	There is determination of workgroup or nature of activity in the structure of the organization of the research.	There is an evaluation of structure of the organization of the research in order to complete the mission.	5	0.5	Pass
2.2 A clear structure of research organization management in aspect of a person being responsible	There is a clear determination of a structure of research organization management in specifying the position of a person responsible.	There is an appointment of committee of management in the research of the university.	There is a clear determination of role and duty to structure of research organization management in a person responsible.	There is a determination of project or activity to the research of the university.	There is an evaluation of structure of research organization management in a person responsible to restructuring operating properly.	5	1	Pass

**Table 4.30** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
2.3 A structure containing a system and protocol of research management accordant with a purpose of university research	Purposes of university research can reach the achievement at 20% form the number of researches per the number of advisers	Purposes of university research can reach the achievement at 40% form the number of researches per the number of advisers	Purposes of university research can reach the achievement at 60% form the number of researches per the number of advisers	Purposes of university research can reach the achievement at 80% form the number of researches per the number of advisers	Purposes of university research can reach the achievement at 100% form the number of researches per the number of advisers	4	1	Pass
2.4 A structure corresponding with the context of the mission and responsibility involving researches	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	4	0.5	Pass
2.5 A flexibles structure and an organization research management	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	4	1	Pass

**Table 4.30** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
2.6 A structure and an organization research management with clear job descriptions	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	4	1	Pass
2.7 A structure having a system and a protocol promoting and supporting researches	A structure has determined a system and a protocol which promote and support the researches	There is an announcement to public about the structure having a system and a protocol promoting	There is an appointment of committee who are in charge of promoting and supporting researches	There is a determination of group work who are in charge of promoting and supporting researches	There is a determination of teamwork or a person who takes charge of the activities under the structure of	5	1	Pass

**Table 4.30** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
		and supporting researches	under the structure of an organization research management	under the structure of an organization research management	an organization research management			

From Table 4.30, Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of structure and research organization management, it reveals that the indicator 2.1 – 2.7 were “Pass.” Also, it can be concluded that the propriety of criteria involving the assessment of structure and research organization management were found in every indicator.

**Table 4.31** Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of research budgets

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
3.1 Systems and protocols relating to statement of support doing researches provided	There is a regulation of subsidy used to support and promote doing the research.	There is an annual budget allocation of to support and promote doing the research correspondent with the research plan.	There is a report of budget utilization relating to budget allocation in supporting and promoting the research.	There is a step of follow-up and assessment of budget allocation in supporting the research.	There is the application of the results from a step follow-up and assessment of budget allocation in supporting and promoting the research to improve the systems and protocols of the management.	5	0.5	Pass
3.2 A suitable and sufficient budget allocation of a university research	There is a strategy of budget plan regarding the	There is a budget allocation regarding the	There is a budget allocation regarding the	There is a report of budget utilization relating to	There is a step of follow-up and assessment of budget	5	0.5	Pass



**Table 4.31** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
	researches and relating to the university strategy.	researches evidently with accountability	researches towards each faculty fairly or accordant with each quota suitably	budget allocation about the internal research continuously.	allocation in supporting the internal research			
3.3 A budget allocation for being as a research subsidy and other research activities such as training sessions etc.	There is a budget plan for being as a research subsidy and other research activities such as training sessions etc.	There is a budget allocation for being as a research subsidy and other research activities such as training sessions etc.	There is a project or activities relating a budget plan for being as a research subsidy and other research activities such as training sessions etc.	There is a step of follow-up and assessment of budget allocation in supporting the research and other research activities such as training sessions etc.	There is a report of budget allocation in supporting the research and activities to make another plan next year.	5	0	Pass

**Table 4.31** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
3.4 Percentage of teachers/ personnel who gain the scholarship for internal and external universities	Not more than 20 percent	21-30 percent	31-40 percent	41-50 percent	above 51 percent	5	0.5	Pass
3.5 A number of budget for researches and parties in the institutes for teachers/ personnel of permanent contract	Not more than 5,000 baht	5,001-10,000 baht	10,001-15,000 baht	15,001-20,000 baht	above 20,000 baht	5	0.5	Pass
3.6 The issue of materials of a budget involving a research each chance with convenience, rapidity and timeliness	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0.5	Pass

**Table 4.31** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
3.7 The issue of materials of a budget subsidy with a handbook or the instructions of step of issue of materials	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0	Pass
3.8 Budget subsidy of research corresponding with the research plans	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0	Pass

From Table 4.31, Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of research budgets, it reveals that the indicator 3.1 – 3.8 were “Pass.” Thus, it can be concluded that the propriety of criteria involving the assessment of research budgets were found in every indicator.

**Table 4.32** Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of research personnel

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
4.1 Personnel involving a research in a policy level need to have visions and abilities of research management.	The performance is in the "least" level.	The performance is in the "low" level.	The performance is in the "moderate" level.	The performance is in the "high" level.	The performance is in the "highest" level.	5	1	Pass
4.2 Personnel in a division of research are knowledgeable and skillful in doing research.	The performance is in the "least" level.	The performance is in the "low" level.	The performance is in the "moderate" level.	The performance is in the "high" level.	The performance is in the "highest" level.	4	1	Pass
4.3 Personnel in a division of research are friendly.	The performance is in the "least" level.	The performance is in the "low" level.	The performance is in the "moderate" level.	The performance is in the "high" level.	The performance is in the "highest" level.	5	1	Pass

**Table 4.32** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
4.4 A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
4.5 A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0.5	Pass
4.6 A number of personnel in a division of research are suitable for work.	One item was performed.	Three items were performed.	Five items were performed.	Five items were performed.	Nine items were performed.	5	0.5	Pass

Note: Details of researcher’s ethics: Performance for indicator 4.6 (Handbook of model uses of the assessment of the research management for private universities: Appendix B)

**Table 4.32** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
4.7 Personnel involving a research need to be discipline and have morals relating doing a research well.	Not more than 50 percent	51-60 percent	61-70 percent	71-80 percent	above 80 percent	5	1	Pass
4.8 A protocol and personnel development plan involving research includes the short-term, middle-term and long-term period.	There is a determination a protocol and personnel development plan involving research includes the short-term, middle-term and long-term period.	There is a budget allocation to support the personnel development plan involving research includes the short-term, middle-term and long-term period.	There is a person who takes charge of accomplishing the project in pushing the personnel development regarding the university researches continuously.	There is a project organized for the personnel development regarding the university researches.	There is a process of follow-up and assessment of the project planned	5	0.5	Pass

From Table 4.32: Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of research personnel, it shows that the indicator 4.1 – 4.8 were “Pass.” Thus, it can be concluded that the propriety of criteria involving the assessment of research personnel were found in every indicator.

**Table 4.33** Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of research materials and facilities

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
5.1 Sufficiency and modernity of the equipment, instruments or durable articles and laboratory	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0.5	Pass
5.2 Systems include supervisors and research clinic for assisting researchers	There is a plan and a target to assist researchers with mentoring systems or research clinics.	There is a service to assist researchers with mentoring systems or research clinics.	There are research staffs who are knowledgeable about research to assist researchers with mentoring systems or research clinics.	There is an evaluation of services to assist researchers with mentoring systems or research clinics.	There is a result of the assessment employed to improve and provide more effective mentoring systems or research clinics.	5	1	Pass

**Table 4.32** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
5.3 Modern and efficient materials, equipment and laboratory to facilitate doing researches	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
5.4 Various packages to facilitate doing researches such as data analysis programs etc.	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
5.5 Information technology system for researches to easily log in and be convenient for searching	The performance is in the “least” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass

From Table 4.33, Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of research materials and facilities, it reveals that the indicator 5.1 – 5.5 were “Pass.” Hence, it can be concluded that the propriety of criteria involving the research materials and facilities were found in every indicator.



**Table 4.34** Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of production and controlling quality of research

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
6.1 Systems and protocols of the project proposal corresponding with the policy and research plan responding to the internal and external budget resources	There is a rule, regulation, or announcement regarding the development of research proposals or research program.	There is a researcher's guide for developing research proposals or a research program corresponding with research policies and plans	There is an advisors for the development of the research proposal or a research program projects corresponding with research policies and plans	There is a team of people or coordinators to work on the development of the research proposal or a series of research projects.	There is a monitoring and evaluating the development of the research proposal or a series of research projects.	4	1	Pass
6.2 Distinct and practicable systems and protocols regarding the production and quality controls of the researches	There is a rule, regulation or announcement regarding the production and	There is a handbook outlining the processes or procedures for	There is a team of people or coordinators to supervise the production and	There is an activity that promote the production and quality control	There is a monitoring and evaluating of the production and quality controls	4	1	Pass

**Table 4.34** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
	quality controls of the researches.	producing and controlling the quality of research results being clear and practical.	quality controls of the researches.	of research results to achieve the objectives of the research as laid down.	of the researches.			
6.3 Consideration of research proposal from the experts and specialists in each field	There is a rule, regulation or announcement about the selection of experts with expertise and experience to consider the research proposal.	There is a directory of experts who have expertise and specialists in each field.	There is a recruit who have the expertise and specialists in the field to consider the research proposal.	There is an activity to consider the research proposals from experts and specialists in the field.	There is a monitoring and evaluating to consider the research proposals from specialists.	5	1	Pass

**Table 4.34** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
6.4 Progress report of research projects provided in each period until the end of the project in order to control the quality as a plan	There is a rule, regulation, or announcement regarding report of research projects provided in each period until the end of the project.	There is a researcher's handbook for progress report on research projects.	There is a team of people or coordinators oversees the progress report of research projects provided in each period until the end of the project in order to control the quality as a plan.	There is an activity to report of research projects provided in each period until the end of the project in order to control the quality as a plan.	There is an evaluation of the progress of the research in order to manage a plan.	5	1	Pass
6.5 A number of researches done and its quality control in each period of the procedure	There is a rule, regulation or announcement regarding the period of the	There is a team of people or coordinators to supervise and monitor the	There is a progress of the research project has been reported until	There is an assistance to provide and facilitate to the production of	There is an evaluation of quality control and production of research	5	0.5	Pass

**Table 4.34** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
	research to be completed as scheduled.	quality control and production of research to complete the period of time.	the end of the project to be completed as scheduled.	research results to be completed as scheduled	results is completed the period of time.			
6.6 Quality controls of researches by the expert's assessment in each field for the accuracy of the research methodology	There is a rule, regulation or announcement regarding the quality control of research results by highly qualified and experienced experts.	There is a form to submit a list of experts who have expertise and experience in the field to consider the suitability.	There is an evaluation of quality control and production of research results by highly qualified and experienced experts.	There is a report of the evaluation of quality control and production of research results by highly qualified and experienced experts returned to the researcher.	There is a validation after being assessed by the experts and adjusting accordance with their suggestions completely.	5	0.5	Pass

**Table 4.34** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
6.7 Announcement about the production and the research quality control	There is a rule, regulation, or announcement regarding the production and the quality control of the research and announcement.	There is a form regarding the production and the research quality control.	There is publicity about the production and the quality control of the research through several channels.	There is an announcement regarding the process or production process and quality control of the research and the general public.	There is an evaluation and results employed to improve the quality of research.	5	1	Pass

From Table 4.34 Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of production and controlling quality of research, it reveals that the indicator 6.1 – 6.7 were “Pass.” Consequently, it can be concluded that the propriety of criteria involving the production and controlling the quality of research were found in every indicator.

**Table 4.35** Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of follow-up and evaluation

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
7.1 A system and protocol to follow up and assess the progress of research project	There is a regulation or announcement regarding the monitoring and evaluating of the progress of the research project.	There is a designated person responsible or assigned to monitor and evaluate the progress of the research project.	There is a clear timeline for monitoring and evaluating the progress of the research project.	There is a project or activity for monitoring and evaluating the progress of the research project.	There is an evaluation of a project or an activity for monitoring and evaluating the progress of the research project.	5	0	Pass
7.2 A friendly atmosphere of follow - up and assessment	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
7.3 A follow- up and assessment of research management as due- date plan	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass

**Table 4.35** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
7.4 Percentage of researches planned	not more than 50 percent	51-60 percent	61-70 percent	71-80 percent	above 81 percent	5	0.5	Pass
7.5 A follow- up and assessment with acceptable criteria	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
7.6 Acceptable and sufficient assessment from specialists in specific fields	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass
7.7 Participation in assessment from interested people in researches to get the most of advantages of researches	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	1	Pass

**Table 4.35** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
7.8 Giving opportunities to adjust the research results after the assessment from the assessors	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0.5	Pass

Table 4.35 Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of follow-up and evaluation, it shows that the indicator 7.1 – 7.8 were “Pass.” Accordingly, it can be concluded that the propriety of criteria involving Follow-up and assessment were found in every indicator.



**Table 4.36** Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of research publishing, publicizing and application

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
8.1 Budget allocation for publishing and publicizing both domestic and foreign researches	There is a plan to promote the publishing and publicizing both domestic and foreign researches.	There is a rule, regulation or announcement regarding the promotion, publishing and publicizing both domestic and foreign researches.	There is a budget allocations for the promotion, publishing and publicizing both domestic and foreign researches.	There is an activity or project that promote the publishing and publicizing both domestic and foreign researches.	There is a monitoring and evaluating of budget allocation to promote the publishing and publicizing both domestic and foreign researches.	5	0.5	Pass
8.2 Systems and protocols of publicizing and driving researches to utilization	There is a plan and goal for publicizing and driving researches to utilization.	There is a rule, regulation or announcement regarding the publicizing and driving	There is a budget allocation to propel the systems protocols of	There is a step or process in creating the activity in publicizing and driving	There is a monitoring and evaluating a plan in publicizing and driving	5	0.5	Pass

**Table 4.36** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
		researches to utilization.	publicizing and driving researches to utilization.	researches to utilization	researches to utilization.			
8.3 Percentage of researches and journals published, publicized and utilized to professors in the local, national and international level	Not more than 50 percent.	51-60 percent.	61-70 percent.	71-80 percent.	Above 81 percent.	5	1	Pass
8.4 Promoting knowledge sharing of research result to the development community and society around universities	There is a plan to promoting knowledge sharing of research result to the development community and	There is a budget allocation to promoting to sharing of research result to the development	There is a project/ activity to promoting to sharing of research result to the development community and	There is a monitoring and evaluating of the project/ activity to promoting to sharing of research result	The results of the evaluation are revised to improve the program for the next time.	5	0.5	Pass

**Table 4.36** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
	society around universities.	community and society around universities.	society around universities.	to the development community and society around universities.				
8.5 Supporting a patent registration or intellectual property protection	There is a plan to supporting a patent registration or intellectual property protection.	There is a budget allocation to supporting a patent registration or intellectual property protection.	There is an award and honor are awarded for patented research programs for intellectual property protection.	There is a monitoring and evaluating of plans to supporting a patent registration or intellectual property protection.	The results of the evaluation are revised to improve the program for the next time.	4	1	Pass

**Table 4.36** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
8.6 Supporting researches in a field of commercial interests	There is a plan to supporting researches in a field of commercial interests.	There is a budget allocations to supporting researches in a field of commercial interests.	There is a rule, regulation, or announcement regarding to supporting researches in a field of commercial interests.	There is a clear calculation of compensation, which is a commercial advantage between the source of funds and the owner of the research.	There is a monitoring and evaluating to supporting researches in a field of commercial interests.	4	1	Pass
8.7 Supporting the journal writing skill for publishing and publicizing	There is a plan to supporting the journal writing skill for publishing and publicizing.	There is a budget allocation to supporting the journal writing skill for publishing and publicizing	There is a rule, regulation, or announcement regarding compensation or reward for those who are writing articles for	There is a project / activity for developing journal writing skill for publishing and publicizing.	There is a monitoring and evaluating of project activities / training activities for developing journal writing	4	1	Pass

**Table 4.36** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
			publishing and publicizing.		skill for publishing and publicizing.			
8.8 Arranging an academic conference for publishing and publicizing researches	There is a plan to arranging an academic conference for publishing and publicizing researches.	There is a budget allocations for arranging an academic conference for publishing and publicizing researches.	The project/activity for arranging an academic conference for publishing and publicizing researches.	There is a monitoring and evaluating in the arranging an academic conference for publishing and publicizing researches.	The results of the evaluation are revised to improve the program for the next time.	5	1	Pass
8.9 Publishing international standard research journals for publishing and publicizing researches	There is a plan to publishing international standard research journals for	There is a budget allocation to publishing international standard	There is a team of people or editors to produce an international standard research journal.	There are evaluating works of editors to produce an international standard research journal.	There is a control the timing of journals to be continuous and international standards.	5	1	Pass

**Table 4.36** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
	publishing and publicizing researches.	research journals for publishing and publicizing researches.						

From Table 4.36 Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of research publishing, publicizing and application, it reveals that the indicator 8.1 – 8.9 were “Pass.” To sum up, the propriety of criteria involving research publishing, publicizing and application were found in every indicator.

**Table 4.37** Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of research network

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
9.1 Systems and protocols cooperating with other networks for research cooperation from both the public and private sectors	There is a policy to promote cooperating with other networks for research cooperation from both the public and private sectors.	There is a plan to promote cooperating with other networks for research cooperation from both the public and private sectors.	There is a meeting to exchange ideas with other networks for research cooperation from both the public and private sectors.	There is a joint project or activity organized with other networks for research cooperation from both the public and private sectors.	There is an evaluation is cooperation with other networks for research cooperation from both the public and private sectors.	5	0.5	Pass
9.2 Sharing the resources and cooperating with other research institutes	There is a policy to promote sharing the resources and cooperating with other research institutes.	There is a plans to promote sharing the resources and cooperating with other research institutes.	There is a meeting to share ideas with other institutions and promote sharing the resources and cooperating with other research institutes.	There is a sharing of resources and cooperating with other research institutes.	There is an assessment of resource sharing and cooperating with other research institutes.	5	0.5	Pass

**Table 4.37** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
9.3 A number of research networks from both public and private sectors	1 network	2-3 networks	4-6 networks	7-9 networks	above 10 networks	5	1	Pass
9.4 Promoting the research cooperation as an interdisciplinary network	There is a policy to promote the research cooperation as an interdisciplinary network.	There is a plan to promote the research cooperation as an interdisciplinary network.	There is a meeting between the research institutes and the research network to promote interdisciplinary research.	There is a research collaboration of interdisciplinary research between research networks.	There is an evaluation of the success in interdisciplinary research collaboration between research networks.	4	1.5	Pass
9.5 Sharing research information among the network in both domestic and foreign institutes	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	4	1	Pass



**Table 4.37** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
9.6 Supporting doing researches with other domestic and foreign institutes	There is a policy to support doing researches with other domestic and foreign institutes.	There is plan to support doing researches with other domestic and foreign institutes.	There is a mutual agreement for doing researches with other domestic and foreign institutes.	There is a doing researches with other domestic and foreign institutes.	There is evaluation of the success research with doing researches with other domestic and foreign institutes.	5	1	Pass
9.7 Arranging academic conference with other institutes continuously	There is a plan to arranging academic conference with other institutes continuously.	There is a budget allocations for arranging academic conference with other institutes continuously.	There is a project / activity for arranging academic conference with other institutes continuously.	There is an evaluation in the operation of the academic conference with other institutes continuously.	The result of the evaluation is revised to improve the program for the next time.	5	1.5	Pass

**Table 4.37** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
9.8 Supporting the training program and visit program among the research network	There is a policy to support the training/ conferences/ seminars/ study visit on research in a collaborative research network.	There is a plan to support the training/ conference/ seminar/ study visit program among the research network.	There is a mutual agreement to provide training/ meetings/ seminars/ study visit on research in a collaborative research network.	There is a workshop/ meeting/ seminar/ study visit on research in a collaborative research network.	There is an evaluation of the goals of the training/ conference/ seminar/ study visit on research in a collaborative research network.	5	1	Pass

From Table 4.37, analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of research network, it reveals that the indicator 9.1 – 9.8 were “Pass.” To conclude, the propriety of criteria involving research network were found in every indicator.

**Table 4.38** Analysis result to draw conclusion from the expert's opinions involving the propriety of criteria in each indicator in term of systems and supporting protocols such as motivation etc.

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
10.1 Giving opportunities for young researchers in order to earn more scholarships	There is a policy to giving opportunities for young researchers in order to earn more scholarships.	There is a plan and target are set for young researchers in order to earn more scholarships.	There is a budget allocations for young researchers in order to earn more scholarships.	There is an activity or training programs to provide knowledge to empower young researchers.	There is an evaluating and monitoring of activities or projects to train the knowledge to empower young researchers.	5	0.5	Pass
10.2 Appropriate allocation of load regarding the research influencing on research facilitation	There is a policy to promote appropriate allocation of load regarding the research influencing on research facilitation.	There is rule, regulation or announcement regarding the appropriate allocation of load regarding the research influencing on research facilitation.	There is a team or a person being appropriately responsible for the allocation of the research loads in order to facilitate doing any researches.	There is a calculation of load regarding the research influencing on research facilitation.	There is an evaluating allocation of load regarding the research.	5	0.5	Pass

**Table 4.38** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
10.3 Selecting prominent researchers for annual best awards	There is a policy to honor the prominent researchers for annual best awards.	There is a rule, regulation or announcement regarding honor the prominent researchers for annual best awards.	There is a committee to recruiting or selecting people according to the rules or announcements of policy to honor the prominent researchers for annual best awards.	There is a recruiting or selecting people according to the rules or announcements of policy to honor the prominent researchers for annual best awards.	There is an evaluation of the activities to honor the prominent researchers for annual best awards.	5	0	Pass
10.4 Integrating the research with meritorious working assessment with acceptable standard criteria	There is a policy to integrating the research with meritorious working assessment	There is a rule, regulation, or announcement regarding Integrating the research with	There is a committee to assess the merit by Integrating the research with meritorious	There is an assessment of merit to rule or announcement regarding Integrating the	There is an evaluation of the activities to integrating the research with meritorious	5	0	Pass

**Table 4.38** (continued)

Indicator	Criteria					Mean	Quartile Range	Interpretation
	1	2	3	4	5			
		meritorious working assessment with acceptable standard criteria.	working assessment with acceptable standard criteria.	research with meritorious working assessment with acceptable standard criteria.	working assessment.			
10.5 Rule and regulation adjustment being as an obstacle of research flexibility and facilitation	The performance is in the “lowest” level.	The performance is in the “low” level.	The performance is in the “moderate” level.	The performance is in the “high” level.	The performance is in the “highest” level.	5	0	Pass

From Table 4.38, Analysis result to draw conclusion from the expert’s opinions involving the propriety of criteria in each indicator in term of systems and supporting protocols such as motivation etc., it reveals that the indicator 10.1 – 10.5 were “Pass.” Thus, it is said that the propriety of criteria involving systems and supporting protocols such as motivation etc. were found in every indicator.

### **Part 3 Result of generating and monitoring the quality of the research management assessment model for private universities**

#### **3.1 Results of the previous studies relating to the factor of assessment model**

The researcher synthesized the previous researches relating to the factor of assessment model. Also, the concept of Sirichai Kanjanawasee (2004) and Sathianpak Mookdee (2011) together with the researcher's, the factor of assessment model comprises with these following 7 factors: 1) purpose of assessment 2) subjects of assessment 3) assessor 4) assessment method 5) indicators of assessment 6) assessment criteria and 7) giving feedback.

#### **3.2 Results of generating the assessment model in research management**

The assessment model in research management for private universities contains 1) purpose of assessment 2) subjects of assessment 3) assessor 4) assessment method 5) indicators of assessment 6) assessment criteria and 7) giving feedback. The details of these factors were as follows.

##### **1. Purposes of assessment**

To assess the research management in private universities

##### **2. Subjects of assessment**

Subjects of assessment are the research management in private universities can be divided into 10 factors as follows.

- 1) Policy and research plan
- 2) Structure and research organization management
- 3) Research budgets
- 4) Research personnel
- 5) Research materials and facilities
- 6) Production and controlling quality of research
- 7) Follow-up and assessment
- 8) Research publishing, publicizing and application
- 9) Research network
- 10) Systems and supporting protocols such as motivation etc.

##### **3. Assessor**

The assessment model in research management for private universities comprises with the officials involving with the university researches which can be

divided into 3 levels: 1 ) Policy Level which comprised of the executive level Vice-Rector for Academic Affairs, Vice-Rector for research or Director of Research Division including the research committee of universities 2 ) Practitioner Level with researchers and 3 ) Coordinator Level consisting of personnel in Research division of private universities.

#### **4. Assessment method**

Assessment method could be evaluated accordant with 10 factors and 72 indicators and employed the data as to compare with the criteria. The assessors had to examine the factors, indicators and criteria as followed in a handbook.

#### **5. Indicators of assessment**

The researcher synthesized the indicators of assessment from the principles, concepts, theories, and previous studies. 72 indicators and 10 factors were as follows.

**Factor 1 Policy and research plan** comprise 7 indicators as follows.

- 1.1 The policy and research plan corresponding with the policy and national research strategies
- 1.2 The policy and research plan responding to both internal and external budget resources
- 1.3 Setting policy and research plan which is clear and practicable
- 1.4 Creating the research plan according to the cycle of PDCA
- 1.5 A research plan promoting and supporting the university visions
- 1.6 A research plan corresponding with the research of the universities
- 1.7 Research plans which can continuously drive the young researcher development

**Factor 2 Structure and research organization management** consist of 7 indicators as follows.

- 2.1 A structure of the organization which includes a sector taking charge of the research directly such as office of research etc.
- 2.2 A clear structure of research organization management in aspect of person responsible
- 2.3 A structure containing a system and protocol of research management accordant with a purpose of university research

- 2.4 A structure corresponding with the context of the mission and responsibility involving researches
- 2.5 A flexible structure and an organization research management
- 2.6 A structure and an organization research management with clear job descriptions
- 2.7 A structure having a system and a protocol promoting and supporting researches

**Factor 3 Research budgets** include 8 indicators as follows.

- 3.1 Systems and protocols relating to statement of support doing researches provided
- 3.2 A suitable budget allocation of a university research
- 3.3 A budget allocation for being as a research subsidy and other research activities such as training sessions etc.
- 3.4 Percentage of teachers/ personnel who gain the scholarship for internal and external universities
- 3.5 A number of budget for researches and parties in the institutes for teachers/ personnel of permanent contract
- 3.6 The issue of materials of a budget involving a research each chance with convenience, rapidity and timeliness
- 3.7 The issue of materials of a budget subsidy with a handbook or the instructions of step of issue of materials
- 3.8 Budget subsidy of research corresponding with the research plans

**Factor 4 Research personnel** consist of 8 indicators as follows.

- 4.1 Personnel involving a research in a policy level need to have visions and abilities of research management.
- 4.2 Personnel in a division of research are knowledgeable and skillful in doing research.
- 4.3 Personnel in a division of research are friendly.
- 4.4 A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.



4.5 A number of personnel in a division of research are suitable for work.

4.6 Personnel involving a research need to be discipline and have morals relating doing a research well.

4.7 Percentage of personnel involving a research have knowledge of doing researches in order to facilitate the research production.

4.8 A protocol and personnel development plan involving research includes the short-term, middle-term and long- term period.

**Factor 5** Research materials and facilities comprise 5 indicators as follows.

5.1 Sufficiency and modernity of the equipment, instruments or durable articles and laboratory

5.2 Systems include supervisors and research clinic for assisting researchers

5.3 Modern and efficient materials, equipment and laboratory to facilitate doing researches

5.4 Various packages to facilitate doing researches such as data analysis programs etc.

5.5 Information technology system for researches to easily log in and be convenient for searching

**Factor 6 Production and controlling quality of research** include 7 indicators as follows.

6.1 systems and protocols of the project proposal corresponding with the policy and research plan responding to the internal and external budget resources

6.2 Distinct and practicable systems and protocols regarding the production and quality controls of the researches

6.3 Consideration of research proposal from the experts and specialists in each field

6.4 Progress report of research projects provided in each period until the end of the project in order to control the quality as a plan

6.5 A number of researches done and its quality control in each period of the procedure

6.6 Quality controls of researches by the expert's assessment in each field for the accuracy of the research methodology

6.7 Announcement about the production and the research quality control

**Factor 7 Follow-up and assessment** consist of 8 indicators as follows.

7.1 A system and protocol in reporting in order to follow up and assess the progress of research project

7.2 A friendly atmosphere of follow - up and assessment

7.3 A follow- up and assessment of research management as due- date plan

7.4 Percentage of researches planned

7.5 A follow- up and assessment with acceptable criteria

7.6 Acceptable and sufficient assessment from specialists in specific fields

7.7 Participation in assessment from interested people in researches to get the most of advantages of researches

7.8 Giving opportunities to adjust the research results after the assessment from the assessors

**Factor 8 Research publishing, publicizing and utilization** include 8 indicators as follows.

8.1 Budget allocation for publishing and publicizing both domestic and foreign researches

8.2 Systems and protocols of publicizing and driving researches to utilization

8.3 Percentage of researches and journals published, publicized and utilized to professors in the local, national and international level

8.4 Promoting knowledge sharing of research results to the development community and society around universities

8.5 Supporting a patent registration or intellectual property protection

8.6 Supporting researches in a field of commercial interests

8.7 Supporting the journal writing skill for publishing and publicizing

8.8 Arranging an academic conference for publishing and publicizing researches

8.9 Publishing international standard research journals for publishing and publicizing researches

**Factor 9 Research network** comprises 8 indicators as follows.

9.1 Systems and protocols cooperating with other networks for research cooperation from both the public and private sectors

9.2 Sharing the resources and cooperating with other research institutes

9.3 A number of research networks from both public and private sectors

9.4 Promoting the research cooperation as an interdisciplinary network

9.5 Sharing research information among the network in both domestic and foreign institutes

9.6 Supporting doing researches with other domestic and foreign institutes

9.7 Arranging academic conference with other institutes continuously

9.8 Supporting the training program and visit program among the research network

**Factor 10 Systems and supporting protocols such as motivation etc.** consist of 7 indicators as follows.

10.1 Giving opportunities for young researchers in order to earn more scholarships

10.2 Appropriate allocation of load regarding the research influencing on research facilitation

10.3 Selecting prominent researchers for annual best awards

10.4 Integrating the research with meritorious working assessment with acceptable standard criteria

10.5 Rule and regulation adjustment being as an obstacle of research flexibility and facilitation

## **6. Criteria of Assessment**

The criteria of the assessment in research management, the indicators could be divided into two different types, a qualitative indicator and a quantitative indicator, as follows.

1) The criteria of the qualitative indicators could be classified into each item and the criteria were five levels which contained 1-5 scores. The evaluation would be counted a number of each item and in case that there was no need for cooperation, it would be considered as 0 score.

2) The criteria of the quantitative indicators, the percentage or mean were employed, and the performance level was in the “lowest” to the “highest” level. The criteria were arranged from 1 to 5 and in case that there was no need for cooperation, it would be considered as 0 score.

## **7. Giving feedback**

Giving feedback is reporting the result of the research management assessment by the groups of assessors announced to the universities. These groups of assessors include the people involving the research system of private universities which can be divided into 3 levels: 1) Policy Level which comprised of the executive level Vice-Rector for Academic Affairs, Vice- Rector for research and Director of Research Division, 2) Practitioner Level with researchers and 3) Coordinator Level consisting of personnel in Research division in a private university

The result of assessment could be received from the assessors in 3 levels: Policy Level, Practitioner Level and Coordinator Level and shown the result of each indicator together with the whole image of result classified by 10 factors of research management.

### **3.3 Result of examining the quality of the model and the handbook of the research management assessment**

The experts in the research management examined the quality of the model and the handbook of the research management assessment in private universities to 4 standards: 1) Utility 2) Feasibility 3) Propriety 4) Accuracy. The findings were shown in Table 4.39 to Table 4.42

**Table 4.39** Analysis result of the experts' opinions toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of utility

Standard of Utility	Mean	Standard deviation	Interpretation
1. The model of the assessment is beneficial to the overall assessment of the research management	4.67	0.58	Highest
2. The assessors are skillful in assessment and affect the result acceptable and reliable	4.00	0.00	High
3. The assessment in data collection covers the information from several resources	4.33	0.58	High
4. The criteria of assessment can be classified deliberately and clearly	4.67	0.58	Highest
5. The assessment report of the information is clear and understandable.	3.67	1.15	High
6. The assessment report can be accomplished in a due time in order to be applied subsequently.	4.33	0.58	High
7. The assessment can be applied for the information users for the working adjustment and continuous development.	4.67	0.58	Highest
<b>Total</b>	<b>4.33</b>	<b>0.44</b>	<b>High</b>

From Table 4.39, opinions from the experts toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of utility, it found out that propriety was in the “high” to “highest” level. Also, the average score was between 3.67 to 4.67 and was considered that the overall image of the propriety was at the “high.”

**Table 4.40** Analysis result of the experts' opinions toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of feasibility

Standard of Feasibility	Mean	Standard deviation	Interpretation
1. The model can be organized for real.	4.67	0.58	Highest
2. The assessment model can be cooperated by the persons interested.	4.67	0.58	Highest
3. The assessment model is valuable for the resources of assessment	4.67	0.58	Highest
<b>Total</b>	<b>4.67</b>	<b>0.58</b>	<b>Highest</b>

From Table 4.40, opinions from the experts toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of feasibility, it found out that propriety was in the “highest’ level in every indicator. Also, the average score was 4.67 in every subject and was considered that the overall image of the propriety was at the “highest.”

**Table 4.41** Analysis result of the experts' opinions toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of propriety

Standard of Propriety	Mean	Standard deviation	Interpretation
1. The assessment focuses on the organization which services the subscribers thoroughly and efficiently.	4.67	0.58	Highest
2. The agreement between an assessor and a person assessed is officially set with conditions.	4.33	1.15	High
3. The assessment can be organized by considering of the protection of a person assessed.	4.00	1.00	High
4. The assessment can be provide with the friendship under the respect of the honors and the equal human rights.	4.67	0.58	Highest
5. The assessment report shows the strengths and weakness with fairness and completeness	4.33	0.58	High
6. The assessment report can be frankly revealed for the information users.	4.67	0.58	Highest
7. The assessment can be solved the conflicts of assessment with fairness.	4.67	0.58	Highest
8. The assessment can be organized with appropriate resources and the assessment methods.	4.67	0.58	Highest
<b>Total</b>	<b>4.50</b>	<b>0.65</b>	<b>High</b>

From Table 4.41, opinions from the experts toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of propriety, it found out that propriety was in the “high” to “highest” level in every indicator. Also, the average score was between 4.00-4.67 and was considered that the overall image of the propriety was at the “high.”

**Table 4.42** Analysis result of the experts' opinions toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of accuracy

Standard of Accuracy	Mean	Standard deviation	Interpretation
1. The assessment model is compiled in a form of documents and with the clear description.	5.00	0.00	Highest
2. The assessment is studied and analyzed the subjects of assessment clearly.	4.67	0.58	Highest
3. Setting the objectives and method of assessment can be clearly identified.	4.67	0.58	Highest
4. The assessment can be clearly revealed the resources of information.	4.67	0.58	Highest
5. The assessment gives the information with its real condition.	4.67	0.58	Highest
6. The assessment includes the reliable information.	4.67	0.58	Highest
7. The assessment can be collected the information, analyzed and report systematically.	4.33	0.58	High
8. The assessment can be analyzed the quantitative analysis and affected to the accurate and efficient assessment.	4.67	0.58	Highest
9. The assessment is analyzed the qualitative data with the appropriate methodology and affected to the accurate and efficient results.	4.00	1.00	High
10. The assessment model is logically provided by the person interested.	4.67	0.58	Highest



**Table 4.42** (continued)

<b>Standard of Accuracy</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Interpretation</b>
11. The assessment report is clear and can reflect the finding out of the assessment fairly.	4.33	0.58	High
12. The assessment model can be repeatedly assessed periodically in order to reach the completeness of the assessment.	4.33	1.15	High
<b>Total</b>	<b>4.56</b>	<b>0.48</b>	<b>Highest</b>

From Table 4.42, opinions from the experts toward the propriety of the model and the handbook of the research management assessment in aspect of the standard of accuracy, it found out that propriety was in the “highest” level in every indicator. Also, the average score was between 4.00 - 5.00 and was considered that the overall image of the propriety was at the “highest.”

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## **Part 4 Result of examining the implementation of research management assessment model for private universities**

### **4.1 Result of examining the implementation of research management assessment model for private universities in University A**

Result of examining the implementation of research management assessment model for private universities in University A comprised of the implementation of research management assessment model for private universities and the result of examining the implementation of research management assessment model for private universities. The data were as follows.

#### **4.1.1 Result of examining the implementation of research management assessment model for private universities in University A**

After the implementation of research management assessment model for private universities in University A, the researcher classified the responsibility in assessment into 3 levels: Policy Level which comprised of five people in the executive level Vice-Rector for Academic Affairs, Vice-Rector for research and Director of Research Division and three representatives of research committee 2) Practitioner Level with 10 researchers 3) Coordinator Level consisting of three personnel in a research division.

From the interview after the implementation of research management assessment model, the assessors in Policy Level and Practitioner Level could do the assessment in every factor and every indicator. Also, the criteria could be feasible. Thus, the assessment should be used with the handbook, and the assessors in both levels could do all factor and all indicator. Researchers in a Practitioner Level expressed that some indicators could be completed because the researcher could not tell any information such as the information relating the policy and research plan or the structure and organization management and so on. Hence, the researcher needed to arrange the meeting in order to brainstorm the researcher's ideas for selecting which indicators the research could not put in the assessment form. The result coming from the brainstorming were

- 1) Policy and research plan evaluating the indicator 1.1, 1.2, 1.3, 1.5, 1.6 and 1.7
- 2) Structure and research organization management evaluating the indicator 2.1, 2.2 and 2.7
- 3) Research budgets evaluating the indicator 3.1, 3.6 and 3.7
- 4) Research personnel evaluating the indicator 4.1, 4.2, 4.3, 4.6 and 4.8
- 5) Research materials and facilities evaluating the indicator 5.1, 5.2, 5.4 and 5.5
- 6) Production and controlling quality of research 7 evaluating the indicator 6.1, 6.4, 6.5 and 6.6
- 7) Follow-up and assessment evaluating the indicator 7.1, 7.2, 7.3, 7.5, 7.6 and 7.8
- 8) Research publishing, publicizing and application evaluating the indicator 8.1, 8.7, 8.8 and 8.9
- 9) Research network evaluating the indicator 9.5 and 9.6
- 10) Systems and supporting protocols such as motivation etc. evaluating the indicator 10.1, 10.2, and 10.3

After selecting the indicators in a Practitioner Level which contains researchers, the researchers asked the assessors in those three levels did the research management assessment again, concluded the result and gave feedback to University A. The data of the research management report was shown as follows.

## Report of the research management assessment for University A

Results of the assessment

Factor 1 Policy and research plan

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. The policy and research plan corresponding with the policy and national research strategies	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	
2. The policy and research plan responding to both in and outsource	5.00 (Highest)	4.50 (High)	5.00 (Highest)	4.86 (Highest)	
3. Setting policy and research plan which is clear and practicable	5.00 (Highest)	4.50 (High)	5.00 (Highest)	4.86 (Highest)	
4. Creating the research plan according to the cycle of PDCA	4.67 (Highest)	-	5.00 (Highest)	4.80 (Highest)	
5. A research plan promoting and supporting the university visions	4.33 (High)	4.00 (High)	5.00 (Highest)	4.43 (High)	
6. A working plan corresponding with the research of the universities	4.67 (Highest)	4.50 (High)	5.00 (Highest)	4.71 (Highest)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
7. A research plan which drives the new researcher development continuously	4.33 (High)	3.50 (Moderate)	4.00 (High)	4.00 (High)	
<b>The overall average score of Factor 1: Policy and research plan</b>					<b>4.77 (Highest)</b>

Results of the assessment

Factor 2 Structure and research organization management

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. A structure of the organization which includes a sector taking charge of the research directly such as office of research etc.	4.67 (Highest)	4.50 (High)	5.00 (Highest)	4.71 (Highest)	
2. Clear structure of research organization management in aspect of person responsible	4.67 (Highest)	4.50 (High)	4.00 (High)	4.29 (High)	
3. A structure containing a system and protocol of research management	3.33 (Moderate)	-	4.50 (High)	3.80 (High)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
accordant with a purpose of university research					
4. A structure corresponding with the context of the mission and responsibility involving researches	3.67 (High)	-	4.50 (High)	4.00 (High)	
5. A flexibles structure and an organization research management	3.67 (High)	-	3.50 (Moderate)	3.60 (High)	
6. A structure and an organization research management with clear job descriptions	4.00 (High)	-	4.50 (High)	4.20 (High)	
7. A structure having a system and a protocol promoting and supporting researches	4.33 (High)	4.50 (High)	4.50 (High)	4.43 (High)	
<b>The overall average score of Factor 2:</b> Structure and research organization management					<b>4.17 (High)</b>

Results of the assessment

Factor 3 Research budgets

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Systems and protocols relating to statement of support doing researches provided	4.33 (High)	4.50 (High)	5.00 (Highest)	4.57 (Highest)	
2. A suitable and sufficient budget allocation of a university research	4.33 (High)	-	5.00 (Highest)	4.60 (Highest)	
3. A budget allocation for being as a research subsidy and other research activities such as training sections etc.	4.33 (High)	-	4.00 (High)	4.20 (High)	
4. Percentage of teachers/ personnel who gain the scholarship for internal and external universities	4.33 (High)	-	3.50 (Moderate)	3.40 (Moderate)	
5. A number of budget for researches and parties in the institutes for teachers/ personnel of permanent contract	4.33 (High)	-	3.50 (Moderate)	4.00 (High)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
6. A subsidy allocation for supporting the researches to various faculties with appropriateness, and entirety.	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
7. The issue of materials of a budget subsidy with a handbook or the instructions of step of issue of materials	4.00 (High)	4.00 (High)	5.00 (Highest)	4.29 (High)	
8. Budget subsidy of research corresponding with the research plans	4.33 (High)	-	4.00 (High)	4.20 (High)	
<b>The overall average score of Factor 3: Research budgets</b>					<b>4.18 (High)</b>

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Results of the assessment

Factor 4 Research personnel

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Personnel involving a research in a policy level need to have visions and abilities of research management.	4.67 (Highest)	4.00 (High)	3.50 (Moderate)	4.14 (High)	
2. Personnel in a division of research in a policy level are knowledgeable and skillful in doing research.	4.00 (High)	4.00 (High)	3.50 (Moderate)	3.86 (High)	
3. Personnel in a division of research are friendly.	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
4. A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.	4.33 (High)	-	3.50 (Moderate)	4.00 (High)	
5. A number of personnel in a division of research are suitable for work.	4.00 (High)	-	3.00 (Moderate)	3.60 (High)	
6. Personnel involving a research need to be discipline and have morals relating doing a research well.	4.33 (High)	4.00 (High)	4.00 (High)	4.14 (High)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
7. Percentage of personnel involving a research have knowledge of doing researches in order to facilitate the research production.	3.67 (High)	-	3.50 (Moderate)	3.60 (High)	
8. A protocol and personnel development plan involving research includes the short-term, middle-term and long- term period.	4.33 (High)	3.50 (Moderate )	3.00 (Moderate)	3.71 (High)	
<b>The overall average score of Factor 4: Research personnel</b>					<b>3.90 (High)</b>

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Results of the assessment

Factor 5 Research materials and facilities

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Sufficiency and modernity of the equipment, instruments or durable articles and laboratory	3.33 (Moderate)	3.50 (Moderate)	3.00 (Moderate)	3.29 (Moderate)	
2. Systems include supervisors and research clinic for assisting researchers	3.67 (High)	4.00 (High)	3.00 (Moderate)	3.57 (High)	
3. Modern and efficient materials, equipment and laboratory to facilitate doing researches	3.67 (High)	-	3.00 (Moderate)	3.40 (Moderate)	
4. Various packages to facilitate doing researches such as data analysis programs etc.	4.00 (High)	3.50 (Moderate)	3.00 (Moderate)	3.57 (High)	
5. Information technology system for researches to easily log in and be convenient for searching	3.67 (High)	3.50 (Moderate)	3.00 (Moderate)	3.43 (Moderate)	
<b>The overall average score of Factor 5: Research materials and facilities</b>					<b>3.40 (Moderate)</b>

Results of the assessment

Factor 6 Production and controlling quality of research

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. The system and protocol of project proposal or project package correspondent with the policy and research plans which responses the needs of the internal and external outsources	4.33 (high)	4.00 (high)	4.00 (high)	4.14 (high)	
2. Distinct and practicable systems and protocols regarding the production and quality controls of the researches	4.67 (highest)	-	4.00 (high)	4.40 (high)	
3. Consideration of research proposal from the experts and specialists in each field	4.33 (high)	-	4.00 (high)	4.20 (high)	
4. Progress report of research projects provided in each period until the end of the project in order to control the quality as a plan	4.33 (high)	4.00 (high)	5.00 (highest)	4.43 (high)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
5. A control of researches done and its quality in each period of the procedure	4.67 (highest)	4.00 (high)	4.00 (high)	4.29 (high)	
6. Quality controls of researches by the expert's assessment in each field	4.33 (high)	4.00 (high)	4.00 (high)	4.14 (high)	
7. Announcement about the production and the research quality control	4.00 (high)	-	4.50 (high)	4.20 (high)	
<b>The overall average score of Factor 6:</b> Production and controlling quality of research					<b>4.31</b> <b>(High)</b>

Results of the assessment

Factor 7 Follow-up and assessment

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. A system and protocol in reporting in order to follow up and assess the progress of research project	4.67 (highest)	4.00 (high)	4.50 (high)	4.43 (high)	
2. A friendly atmosphere of follow - up and assessment	4.00 (high)	4.50 (high)	5.00 (highest)	4.43 (high)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
3. A follow- up and assessment of research management as due-date plan	4.00 (high)	4.00 (high)	4.00 (high)	4.00 (high)	
4. Percentage of researches planned	4.33 (high)	-	3.50	4.00 (High)	
5. A follow- up and assessment with acceptable criteria	4.67 (highest)	4.00 (high)	4.00 (high)	4.23 (high)	
6. Acceptable and sufficient assessment from specialists in specific fields	4.33 (high)	4.00 (high)	4.00 (high)	4.14 (high)	
7. Participation in assessment from interested people in researches to get the most of advantages of researches	4.33 (high)	-	4.00 (high)	4.20 (high)	
8. Giving opportunities to adjust the research results after the assessment from the assessors	4.67 (highest)	4.00 (high)	4.50 (high)	4.43 (high)	
<b>The overall average score of Factor 7: Follow-up and assessment</b>					<b>4.30 (High)</b>

Results of the assessment

Factor 8 Research publishing, publicizing and application

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Budget allocation for publishing and publicizing both domestic and foreign researches	4.67 (highest)	4.50 (high)	4.00 (high)	4.43 (high)	
2. Systems and protocols of publicizing and driving researches to utilization	4.00 (high)	-	3.50 (Moderate)	3.80 (high)	
3. Percentage of researches and journals published, publicized and utilized to professors in the local, national and international level	3.67 (high)	-	3.50 (Moderate)	3.60 (high)	
4. Promoting knowledge sharing of research result to the development community and society around universities	4.33 (high)	-	3.00 (Moderate)	3.80 (high)	
5. Supporting a patent registration or intellectual property protection	3.33 (Moderate)	-	3.00 (Moderate)	3.20 (Moderate)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
6. Supporting researches in a field of commercial interests	3.00 (Moderate )	-	3.50 (Moderate)	3.20 (Moderate)	
7. Supporting the journal writing skill for publishing and publicizing	4.33 (high)	-	4.50 (high)	4.29 (high)	
8. Arranging an academic conference for publishing and publicizing researches	4.00 (high)	4.00 (high)	4.50 (high)	4.14 (high)	
9. Publishing international standard research journals for publishing and publicizing researches	4.33 (high)	4.00 (high)	4.00 (high)	4.20 (high)	
<b>The overall average score of Factor 8:</b> Research publishing, publicizing and application					<b>3.87</b> <b>(High)</b>

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Results of the assessment

Factor 9 Research network

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Systems and protocols cooperating with other networks for research cooperation from both the public and private sectors	4.00 (High)	-	3.50 (Moderate)	3.80 (High)	
2. Sharing the resources and cooperating with other research institutes	4.00 (High)	-	3.00 (Moderate)	3.60 (High)	
3. A number of research networks from both public and private sectors	4.00 (High)	-	3.50 (Moderate)	3.80 (High)	
4. Promoting the research cooperation as an interdisciplinary network	3.67 (High)	-	3.00 (Moderate)	3.40 (Moderate)	
5. Sharing research information among the network in both domestic and foreign institutes	3.67 (High)	3.50 (Moderate)	3.00 (Moderate)	3.43 (Moderate)	
6. Supporting doing researches with other domestic or foreign institutes	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
7. Arranging academic conference with other institutes continuously	4.00 (High)	-	3.50 (Moderate)	3.80 (High)	
8. Supporting the training program and visit program among the research network	4.00 (High)	-	3.00 (Moderate)	3.60 (High)	
<b>The overall average score of Factor 9: Research network</b>					<b>3.55 (High)</b>

Results of the assessment

Factor 10 Systems and supporting protocols such as motivation etc.

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Giving opportunities for young researchers in order to earn more scholarships	4.67 (Highest)	4.50 (High)	5.00 (Highest)	4.71 (Highest)	
2. Appropriate allocation of load regarding the research influencing on research facilitations	4.00 (High)	4.00 (High)	4.50 (High)	4.14 (High)	
3. Selecting prominent researchers in annual best awards	4.67 (Highest)	4.50 (High)	5.00 (Highest)	4.71 (Highest)	

(CONTINUED)

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
4. Integrating the research with meritorious working assessment with acceptable standard criteria	4.00 (High)	-	4.50 (High)	4.20 (High)	
5. Rule and regulation adjustment being as an obstacle of research flexibility and facilitation	4.00 (High)	-	4.50 (High)	4.20 (High)	
<b>The overall average score of Factor 10:</b> Systems and supporting protocols such as motivation etc.					<b>4.44</b> <b>(High)</b>

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**Result of the self-assessment considering to the factor of  
University A**

Factor of research management	Average Score	Performance Level
1. policy and research plan	4.77	Highest
2. structure and research organization management	4.17	High
3. research budgets	4.18	High
4. research personnel	3.90	High
5. research materials and facilities	3.40	Moderate
6. production and controlling quality of research	4.31	High
7. follow-up and assessment	4.30	High
8. research publishing, publicizing and application	3.87	High
9. research network	3.55	High
10. systems and supporting protocols such as motivation etc.	4.44	High

The criteria interpretation of the research management for private universities was as follows

Scoring Average	Meaning of the Performance Level
4.51-5.00	Opinions that the factor of the performance was in the “highest” level
3.51-4.50	Opinions that the factor of the performance was in the “high” level
2.51-3.50	Opinions that the factor of the performance was in the “moderate” level
1.51-2.50	Opinions that the factor of the performance was in the “low” level
1.00-1.50	Opinions that the factor of the performance was in the “lowest” level

#### 4.1.2 Result of the model assessment use of the research management for University A

For the result of the model assessment of the research management, two aspects related, the aspect of the task assessment theory and the assessment standard of University A were shown in Table 4.43 to 4.44

**Table 4.43** Result of the model assessment of the research management for University A in aspect of the task assessment theory

Quality of the Assessment	Lists	Mean	Standard deviation	Interpretation
1. Subjects of Assessment	1.1 The model is truly assessed corresponding with the needs in assessment.	4.18	1.13	High
	1.2 The model assessment responds the needs of the officers relating to the research management.	4.29	0.77	High
	1.3 The model has the subjects of assessment determined from the participation of people relating the research management in the private universities.	4.29	0.77	High
	<b>Total</b>	<b>4.25</b>	<b>0.68</b>	<b>High</b>
2. Assessment method	2.1 The method of assessment in the model can respond the purpose of the assessment	4.29	0.77	High
	2.2 The model with the method of assessment can be evaluated the subject of assessment correctly and appropriately.	4.00	0.71	High
	2.3 The model with the method of assessment corresponds with the context of research management in universities.	4.18	0.53	High

**Table 4.43** (continued)

<b>Quality of the Assessment</b>	<b>Lists</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Interpretation</b>
	2.4 The assessment model is understandable and acceptable for the people involving the research management in a university.	4.00	0.79	High
	<b>Total</b>	<b>4.12</b>	<b>0.58</b>	<b>High</b>
3. Results of assessment	3.1 The model of the assessment is beneficial to people involving.	4.06	0.66	High
	3.2 The assessment model helps to get the results fair for to the subject in assessment	4.00	0.61	High
	3.3 The assessment model affects the result of the assessment by using the logical and acceptable criteria.	4.06	0.83	High
	3.4 The assessment model brings the reliable results which can be revealed to the value of the subjects.	4.00	0.71	High
	<b>Total</b>	<b>4.03</b>	<b>0.61</b>	<b>High</b>

From Table 4.43, result of the model assessment of the research management for University A in aspect of the task assessment theory, the quality of the assessment regarding the subjects of assessment, it reveals that the propriety was found in the “high” level in every subject. Also, the overall image was at the “high.”

When considering the assessment quality regarding the assessment method, it found out that the propriety was found in the “high” level in every subject and the overall image was at the “high.”

Besides, when considering the assessment quality regarding the results of assessment, it found out that the propriety was found in the “high” level in every subject and the overall image was also at the “high.”

**Table 4.44** Result of the model assessment of the research management for University A in aspect of the standard of assessment

Quality of the Assessment	Lists	Mean	Standard deviation	Interpretation
1. Utility	1.1 The model of the assessment is beneficial to the overall assessment of the research management.	4.59	0.62	Highest
	1.2 The assessment in data collection covers the information from several resources.	4.12	1.11	High
	1.3 The criteria of assessment can be classified deliberately and clearly.	4.00	0.87	High
	1.4 The assessment report of the information is clear and understandable.	4.00	0.71	High
	1.5 The assessment can be applied for the information users for the working adjustment and continuous development.	4.06	0.75	High
	<b>Total</b>		<b>4.15</b>	<b>0.65</b>
2. Feasibility	2.1 The model can be organized for real condition.	4.12	0.78	High
	2.2 The assessment model can be cooperated by the persons interested.	4.41	0.62	High
	2.3 The assessment model is valuable for the resources of assessment.	4.24	0.66	High
	<b>Total</b>		<b>4.25</b>	<b>0.57</b>

**Table 4.44** (continued)

<b>Quality of the Assessment</b>	<b>Lists</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Interpretation</b>
<b>3. Propriety</b>	3.1 The assessment can be provide with the friendship under the respect of the honors and the equal human rights.	4.59	0.51	Highest
	3.2 The assessment report shows the strengths and weakness to be an adjustment and development.	4.12	1.05	High
	3.3 The assessment report can be frankly revealed for the information users.	4.35	0.70	High
	3.4 The model includes the fair and clear assessment.	4.24	0.75	High
	3.5 The assessment model is valuable for the resources of assessment.	4.12	0.60	High
	<b>Total</b>	<b>4.28</b>	<b>0.56</b>	High
<b>4. Accuracy</b>	4.1 The assessment model is compiled in a form of documents and with the clear description.	4.24	0.90	High
	4.2 The objectives and method of assessment model is clearly identified.	4.35	0.79	High
	4.3 The assessment gives the factual information.	4.06	0.83	High
	4.4 The assessment report is clear and can reflects the finding out of the assessment fairly.	4.00	0.87	High



**Table 4.44** (continued)

<b>Quality of the Assessment</b>	<b>Lists</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Interpretation</b>
	4.5 The assessment model can be periodically repeatedly to be a completeness of the assessment.	4.12	0.86	High
	4.6 The assessment is analyzed the qualitative data with the appropriate methodology and affected to the accurate and efficient results.	4.00	0.79	High
	<b>Total</b>	<b>4.13</b>	<b>0.70</b>	<b>High</b>

From Table 4 .4 4, result of the model assessment uses of the research management from the assessors in University A in aspect of the assessment standard regarding the utility, it reveals that the propriety was found in the “high” to “highest” level in every subject. Also, the overall image was at the “high.”

When considering the assessment quality regarding the standard of feasibility, it found out that the propriety was found in the “high” level in every subject and the overall image was at the “high.”

Addition, when considering the assessment quality regarding the standard of propriety, it found out that the propriety was found in the “high” to “highest” level in every subject and the overall image was at the “high.”

Also, when considering the assessment quality regarding the standard of accuracy, the level of propriety was found at the “high” in every subject and the overall image was at the “high.”

## **4.2 Result of examining the implementation of research management assessment model for private universities in University B**

Result of examining the implementation of research management assessment model for private universities in University B comprised of the result of implementation of research management assessment model for private universities and the result of examining the implementation of research management assessment model for private universities. The data were as follows.

### **4 . 2. 1 Result of examining the implementation of research management assessment model for private universities in University B**

According to the implementation of research management assessment model for University B, the person being responsible in assessment were classified into 3 levels: 1) Policy Level which comprised of one person: Vice-Rector for Academic Affairs, 2) Practitioner Level with one researcher and 3) Coordinator Level consisting of one person in a research division.

From the interview after the implementation of research management assessment model, the assessors in Policy Level and Practitioner Level could do the assessment in every factor and every indicator. Also, the criteria could be feasible. Thus, the assessment should be used with the handbook, and the assessors in both levels could do all factor and all indicator.

Researchers in a Policy Level suggested that the research management assessment could be assessed by three groups: researchers, institutes and communities in order that these three groups could complete the research management assessment.

For the assessors in Coordinator Level suggested that

1) Indicator 2.3, a structure containing a system and protocol of research management accordant with a purpose of university research, the criteria should be adjusted because the criteria starting with 20% of purposes of university research was determined. In other words, in some universities, the purposes can be reached less than 20%. Thus, the criteria should be adjusted with less than 20% as well.

2) Indicator 8 . 4 , promoting knowledge sharing of research result to the development community and society around universities, the phrase “around universities” should be cut off since there might be the community and society

development in some universities. However, the community and society needed to be developed was not in the university area.

3) Indicator 8.9, publishing international standard research journals for publishing and publicizing researches, due to the main library in University B being responsible in publishing the research journal, the indicator of the assessment could be evaluated. Also, the group of assessors should be informed.

4) Indicator 9.6, supporting doing researches with other domestic and foreign institutes, the word “and” was suggested to be changed to “or” because the Far Eastern University cooperate with doing researches with other institutes especially in a country. If the word “and” is changed to “or,” this indicator can be done.

5) Indicator 10.5, rule and regulation adjustment being as an obstacle of research flexibility and facilitation, it was suggested that there is no need to be adjusted in some years if the rules and regulations are still useful. In that case, the report should inform the result that there is no evaluation in this indicator and give the reason why there is no reason for assessment.

Besides, the researchers in a Practitioner Level expressed that some indicators could be completed and the propriety was found in some indicators owing to the lack of information regarding the policy and research plan or the structure and organization management and so on.

The researchers had the assessors in three levels do the research management assessment, conclude the result of the assessment and give feedback to report the assessment to University B. The reports of results were:

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## Report of the research management assessment for University B

Results of the assessment

Factor 1 Policy and research plan

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. The policy and research plan corresponding with the policy and national research strategies	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	
2. The policy and research plan responding to both in and outsource	5.00 (Highest)	4.00 (High)	5.00 (Highest)	4.67 (Highest)	
3. Setting policy and research plan which is clear and practicable	5.00 (Highest)	4.00 High	5.00 (Highest)	4.67 (Highest)	
4. Creating the research plan according to the cycle of PDCA	5.00 (Highest)	-	5.00 (Highest)	5.00 (Highest)	
5. A research plan promoting and supporting the university visions	5.00 (Highest)	4.00 (High)	5.00 (Highest)	4.67 (Highest)	
6. A working plan corresponding with the research of the universities	4.00 (High)	4.00 (High)	4.00 (Highest)	4.00 (High)	
7. Research plans can continuously drive the young researcher's development.	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
<b>The overall average score of Factor 1: Policy and research plan</b>					<b>4.43 (High)</b>

## Results of the assessment

### Factor 2 Structure and research organization management

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. A structure of the organization which includes a sector taking charge of the research directly such as office of research etc.	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	
2. Clear structure of research organization management in aspect of person responsible	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
3. A structure containing a system and protocol of research management accordant with a purpose of university research	3.00 (Moderate)	-	4.00 (High)	3.50 (Moderate)	
4. A structure corresponding with the context of the mission and responsibility involving researches	4.00 (High)	-	4.00 (High)	4.00 (High)	
5. A flexibles structure and an organization research management	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
6. A structure and an organization research management with clear job descriptions	4.00 (High)	-	4.00 (High)	4.00 (High)	
7. A structure having a system and a protocol promoting and supporting researches	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
<b>The overall average score of Factor 2: Structure and research organization management</b>					<b>3.79 (High)</b>

Results of the assessment

Factor 3 Research budgets

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Systems and protocols relating to statement of support doing researches provided	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
2. A suitable and sufficient budget allocation of a university research	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
3. A suitable and sufficient budget allocation of a university research	4.00 (High)	-	3.00 (Moderate)	3.50 (Moderate)	
4. Percentage of teachers/ personnel who gain the scholarship for internal and external universities	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
5. A number of budget for researches and parties in the institutes for teachers/ personnel of permanent contract	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
6. A subsidy allocation for supporting the researches to various faculties with appropriateness, and entirety.	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
7. The issue of materials of a budget subsidy with a handbook or the instructions of step of issue of materials	4.00 (High)	3.00 (Moderate)	4.00 (High)	3.67 (High)	

**(CONTINUED)**

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
8. Budget subsidy of research corresponding with the research plans	4.00 (High)	-	4.00 (High)	4.00 (High)	
<b>The overall average score of Factor 3: Research budgets</b>					<b>4.18 (High)</b>

## Results of the assessment

## Factor 4 Research personnel

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Personnel involving a research in a policy level need to have visions and abilities of research management.	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
2. Personnel in a division of research in a policy level are knowledgeable and skillful in doing research.	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
3. Personnel in a division of research are friendly.	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
4. A division of research contains the experts of supervision regarding the researches to support and guide for the researchers efficiently.	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	

**(CONTINUED)**

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
5. A number of personnel in a division of research are suitable for work.	2.00 (Low)	-	2.00 (Low)	2.00 (Low)	
6. Personnel involving a research need to be discipline and have morals relating doing a research well.	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
7. Percentage of personnel involving a research have knowledge of doing researches in order to facilitate the research production.	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
8. A protocol and personnel development plan involving research includes the short-term, middle-term and long-term period.	2.00 (Low)	2.00 (Low)	2.00 (Low)	2.00 (Low)	
<b>The overall average score of Factor 4: Research personnel</b>					<b>3.00 (Moderate)</b>

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Results of the assessment

Factor 5 Research materials and facilities

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Sufficiency and modernity of the equipment, instruments or durable articles and laboratory	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
2. Systems include supervisors and research clinic for assisting researchers	2.00 (Low)	2.00 (Low)	2.00 (Low)	2.00 (Low)	
3. Modern and efficient materials, equipment and laboratory to facilitate doing researches	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
4. Various packages to facilitate doing researches such as data analysis programs etc.	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
5. Information technology system for researches to easily log in and be convenient for searching	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
<b>The overall average score of Factor 5: Research materials and facilities</b>					<b>2.80 (Moderate)</b>

Results of the assessment

Factor 6 Production and controlling quality of research

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. The system and protocol of the development of the project or project package correspondent with the policy and the research plan which response the needs from both internal and external outsource.	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
2. Distinct and practicable systems and protocols regarding the production and quality controls of the researches	4.00 (High)	-	4.00 (High)	4.00 (High)	
3. Consideration of research proposal from the experts and specialists in each field	4.00 (High)	-	4.00 (High)	4.00 (High)	
4. Progress report of research projects provided in each period until the end of the project in order to control the quality as a plan	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
5. A number of researches done and its quality control in each period of the procedure	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	

**(CONTINUED)**

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
6. Quality controls of researches by the expert's assessment in each field for the accuracy of the research methodology	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
7. Announcement about the production and the research quality control	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
<b>The overall average score of Factor 6: Production and controlling quality of research</b>					<b>3.71 (High)</b>

## Results of the assessment

## Factor 7 Follow-up and assessment

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. A system and protocol in reporting in order to follow up and assess the progress of research project	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
2. A friendly atmosphere of follow - up and assessment	4.00 (High)	4.00 (High)	5.00 (Highest)	4.33 (High)	
3. A follow- up and assessment of research management as due- date plan	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
4. Percentage of researches planned	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	

**(CONTINUED)**

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
5. A follow- up and assessment with acceptable criteria	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
6. Acceptable and sufficient assessment from specialists in specific fields	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
7. Participation in assessment from interested people in researches to get the most of advantages of researches	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
8. Giving opportunities to adjust the research results after the assessment from the assessors	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
<b>The overall average score of Factor 7: Follow-up and assessment</b>					<b>3.67 (High)</b>

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Results of the assessment

Factor 8 Research publishing, publicizing and application

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Budget allocation for publishing and publicizing both domestic and foreign researches	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
2. Systems and protocols of publicizing and driving researches to utilization	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
3. Percentage of researches and journals published, publicized and utilized to professors in the local, national and international level	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
4. Promoting knowledge sharing of research result to the development community and society around universities	2.00 (Low)	-	2.00 (Low)	2.00 (Low)	
5. Supporting a patent registration or intellectual property protection	2.00 (Low)	-	2.00 (Low)	2.00 (Low)	
6. Supporting researches in a field of commercial interests	2.00 (Low)	-	2.00 (Low)	2.00 (Low)	
7. Supporting the journal writing skill for publishing and publicizing	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	

**(CONTINUED)**

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
8. Arranging an academic conference for publishing and publicizing researches	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
9. Publishing international standard research journals for publishing and publicizing researches	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	5.00 (Highest)	
<b>The overall average score of Factor 8:</b> Research publishing, publicizing and application					<b>3.00</b> <b>(Moderate)</b>

## Results of the assessment

## Factor 9 Research network

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Systems and protocols cooperating with other networks for research cooperation from both the public and private sectors	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
2. Sharing the resources and cooperating with other research institutes	2.00 (Low)	-	2.00 (Low)	2.00 (Low)	
3. A number of research networks from both public and private sectors	1.00 (Lowest)	-	1.00 (Lowest)	1.00 (Lowest)	

**(CONTINUED)**

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
4. Promoting the research cooperation as an interdisciplinary network	2.00 (Low)	-	2.00 (Low)	2.00 (Low)	
5. Sharing research information among the network in both domestic and foreign institutes	2.00 (Low)	2.00 (Low)	2.00 (Low)	2.00 (Low)	
6. Supporting doing researches with other domestic and foreign institutes	2.00 (Low)	2.00 (Low)	2.00 (Low)	2.00 (Low)	
7. Arranging academic conference with other institutes continuously	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
8. Supporting the training program and visit program among the research network	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
<b>The overall average score of Factor 9: Research network</b>					<b>2.25 (Low)</b>

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Results of the assessment

Factor 10 Systems and supporting protocols such as motivation etc.

Indicator	Average score from assessor in each level			Average Score of each indicator	Average Score of all indicator
	Policy	Practitioner	Coordinator		
1. Giving opportunities for young researchers in order to earn more scholarships	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
2. Appropriate allocation of load regarding the research influencing on research facilitations	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	3.00 (Moderate)	
3. Selecting prominent researchers in annual best awards	4.00 (High)	4.00 (High)	4.00 (High)	4.00 (High)	
4. Integrating the research with meritorious working assessment with acceptable standard criteria	2.00 (High)	-	2.00 (High)	2.00 (High)	
5. Rule and regulation adjustment being as an obstacle of research flexibility and facilitation	3.00 (Moderate)	-	3.00 (Moderate)	3.00 (Moderate)	
<b>The overall average score of Factor 10:</b> Systems and supporting protocols such as motivation etc.					<b>3.20</b> <b>(Moderate)</b>



### Result of the self-assessment considering to the factor of University B

Factor of research management	Average Score	Performance Level
1. policy and research plan	4.43	High
2. structure and research organization management	3.79	High
3. research budgets	4.18	High
4. research personnel	3.00	Moderate
5. research materials and facilities	2.80	Moderate
6. production and controlling quality of research	3.71	High
7. follow-up and assessment	3.67	High
8. research publishing, publicizing and application	3.00	Moderate
9. research network	2.25	Low
10. systems and supporting protocols such as motivation etc.	3.20	Moderate

The criteria interpretation of the research management for private universities was as follows

Average Score	Meaning of the Performance Level
4.51-5.00	Opinions that the factor of the performance was in the “highest” level
3.51-4.50	Opinions that the factor of the performance was in the “high” level
2.51-3.50	Opinions that the factor of the performance was in the “moderate” level
1.51-2.50	Opinions that the factor of the performance was in the “low” level
1.00-1.50	Opinions that the factor of the performance was in the “lowest” level

#### 4.2.2 Result of the model assessment use of the research management for University B

Result of the model assessment of the research management comprising two aspects related, the aspect of the task assessment theory and the assessment standard of University B were shown in Table 4.45 to 4.46

**Table 4.45** Result of the model assessment use of the research management for University B the aspect of the task assessment theory

Quality of the Assessment	Lists	Mean	Standard deviation	Interpretation
1. Subjects of Assessment	1.1 The model is truly assessed corresponding with the needs in assessment.	4.67	0.58	Highest
	1.2 The model assessment responds the needs of the officers relating to the research management.	4.33	0.58	High
	1.3 The model has the subjects of assessment determined from the participation of people relating the research management in the private universities.	4.33	0.58	High
	<b>Total</b>	<b>4.44</b>	<b>0.51</b>	<b>High</b>
2. Assessment method	2.1 The method of assessment in the model can respond the purpose of the assessment	4.00	1.00	High
	2.2 The model with the method of assessment can be evaluated the subject of assessment correctly and appropriately.	4.33	0.58	High
	2.3 The model with the method of assessment corresponds with the context of research management in universities.	4.00	0.00	High

**Table 4.45** (continued)

<b>Quality of the Assessment</b>	<b>Lists</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Interpretation</b>
	2.4 The assessment model is understandable and acceptable for the people involving the research management in a university.	4.33	0.58	High
	<b>Total</b>	<b>4.17</b>	<b>0.38</b>	<b>High</b>
3. Results of assessment	3.1 The model of the assessment is beneficial to people involving.	4.33	0.58	High
	3.2 The assessment model helps to get the results fair for to the subject in assessment	4.00	1.00	High
	3.3 The assessment model affects the result of the assessment by using the logical and acceptable criteria.	4.67	0.58	Highest
	3.4 The assessment model brings the reliable results which can be revealed to the value of the subjects.	4.33	0.58	High
	<b>Total</b>	<b>4.33</b>	<b>0.52</b>	<b>High</b>

From table 4.45, in aspect of the task assessment theory, the quality of the assessment regarding the subjects of assessment, it reveals that the propriety was found in the “high” level in every subject except 1.1. The assessment model contained the subjects responding to the real needs. The propriety was found in the “highest” level and the overall image was at the “highest.”

When considering the assessment quality regarding the assessment method, it found out that the propriety was found in the “high” level in every subject and the overall image was at the “high.”

Also, when considering the assessment quality regarding the results of assessment, it found out that the propriety was found in the “high” level in every subject except the indicator 3.3. Thus, this assessment model with the reasonable and acceptable result. The propriety was found in the “highest” level and the overall image was also at the “highest.”

**Table 4.46** Result of the model assessment use of the research management from the assessors in University B in aspect of the assessment standard

Quality of the Assessment	Lists	Mean	Standard deviation	Interpretation
1. Utility	1.1 The model of the assessment is beneficial to the overall assessment of the research management	4.67	0.58	Highest
	1.2 The assessment model in data collection covers the information from several resources	4.67	0.58	Highest
	1.3 The criteria of assessment model can be classified deliberately and clearly	4.33	0.58	High
	1.4 The assessment report of the information is clear and understandable.	4.33	0.58	High
	1.5 The assessment model can be applied for the information users for the working adjustment and continuous development.	4.33	1.15	High
	<b>Total</b>		<b>4.47</b>	<b>0.61</b>
2. Feasibility	2.1 The model can be organized for real condition.	4.33	0.58	High
	2.2 The assessment model focuses on the organization which services the subscribers thoroughly and efficiently.	4.00	1.00	High
	2.3 The assessment model is valuable for the resources of assessment	4.00	0.00	High
	<b>Total</b>		<b>4.11</b>	<b>0.51</b>

**Table 4.46** (continued)

<b>Quality of the Assessment</b>	<b>Lists</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Interpretation</b>
3. Propriety	3.1 The assessment can be provide with the friendship under the respect of the honors and the equal human rights.	4.33	0.58	High
	3.2 The assessment report shows the strengths and weakness with fairness and completeness	4.67	0.58	Highest
	3.3 The assessment report can be frankly revealed for the information users.	4.33	0.58	High
	3.4 The assessment can be solved the conflicts of assessment with fairness.	4.33	0.58	High
	3.5 The assessment can be organized with appropriate resources and the assessment methods.	4.33	0.58	High
	<b>Total</b>	<b>4.40</b>	<b>0.53</b>	<b>High</b>
4. Accuracy	4.1 The assessment model is compiled in a form of documents and with the clear description.	4.00	1.00	High
	4.2 Setting the objectives and method of assessment can be clearly identified.	4.67	0.58	Highest
	4.3 The assessment gives the information with its real condition.	4.67	0.58	Highest
	4.4 The assessment report is clear and can reflects the finding out of the assessment fairly.	4.33	0.58	High
	4.5 The assessment model can be periodically repeatedly to be a completeness of the assessment.	4.67	0.58	Highest

**Table 4.46** (continued)

<b>Quality of the Assessment</b>	<b>Lists</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Interpretation</b>
	4.6 The assessment is analyzed the qualitative and quantitative data to get the accurate and efficient results of assessment.	4.67	0.58	Highest
	<b>Total</b>	<b>4.50</b>	<b>0.60</b>	<b>High</b>

From Table 4 . 4 6 , result of the model assessment uses of the research management from the assessors in University B in aspect of the assessment standard regarding the utility, it reveals that the propriety was found in the “high” to “highest” level in every subject. Also, the overall image was at the “highest.”

When considering the assessment quality regarding the standard of feasibility, it found out that the propriety was found in the “high” level in every subject and the overall image was at the “high.”

Addition, when considering the assessment quality regarding the standard of propriety, it found out that the propriety was found in the “high” to “highest” level in every subject and the overall image was at the “high.”

Also, when considering the assessment quality regarding the standard of accuracy, the level of propriety was found at the “high” to “highest” in every subject and the overall image was at the “high.”

When considering the assessment quality regarding the results of assessment, it found out that the propriety was found in the “high” level in every subject except the indicator 3.3 Thus, this assessment model with the reasonable and acceptable result. The propriety was found in the “highest” level and the overall image was also at the “highest.”