



# Improving Quality in Higher Education through Internal Benchmarking (IBM)



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# **Aims of the project**

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**This project aims to:**

- **evaluate academic and administrative aspects & processes among IU accredited programs through (IBM)**
- **develop improvement plans that enhance performance**
- **establish good practices, determine strengths and weaknesses, and implement best practices**



## **Phases of the project**

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- **Phase one aims at establishing and aggregating Key Performance Indicators (KPIs)**
- **Phase two aims to pilot, standardize, and implement the KPIs internally at IU to improve quality of its programs**



# What is Benchmarking?

- **BM is “an ongoing, systematic process for measuring and comparing the work processes of one institution to those of another, by bringing an external focus to internal activities, functions, or operations” (Kempner, 1993)**
- **BM is a “systematic study and comparison of KPIs with those of competitors and others considered best-in-class in a specific function” (Dervitsiotis 2000)**
- **BM is “a systematic way of learning from others, changing what you do, and imitating successful behavior” (Epper, 1999)**



## Purpose of conducting BM

**BM is an important strategy for:**

- **improving administrative processes and instructional models at colleges and universities by examining processes and models at other schools and adapting their techniques and approaches,**
- **measuring and comparing the work processes of one institution to those of another,**
- **bringing an external focus to internal activities, functions, or operations**



## Types of BM

- **Internal** can be conducted at large, decentralized institutions,
- **Competitive** analyzes processes with peer competing institutions,
- **Functional** deals with larger and more broadly defined competitors, and
- **Generic or best-in-class** collects data about the best operations practices available
- **Strategic, Performance or Competitive, Process, Functional and Generic, External, Internal, International, and Commonsense BM (Wyld, 2010)**



# Internal Benchmarking (IBM)

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- IBM is “an exercise carried out within the same organization albeit involving business units with distinct functions and in various locations” (Maire et al. 2005).
- It provides a controlled ground for starting to carefully and rigorously identify barriers to BM implementation, as these settings are devoid of some of the complexity of external BM initiatives (Southard & Parente, 2007; Maire et al., 2005).
- IBM may have high data availability, standard definitions, full access to best practice leaders, and reduced environmental differences.



## **Barriers, challenges and limitations for conducting IBM**

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**Organizational, Management, Data, and Time barriers include:**

- **people's resistance and unwillingness to change**
- **lack of a comprehensive quality culture,**
- **insufficient/inadequate employee skills and understanding of the organizational processes,**
- **difficulty to access/ compare data (Amaral et al, 2009).**





## Research Methodology and Procedures

IU IBM project has adopted the following steps:

- Identify the teaching, learning and curriculum areas
- Identify programs ( (CS),(CE), (BIS), (ELT), and (EL&T)
- Identify the Accreditation Standards (CAA)
- Identify BM measures, practices and targets
- Benchmark the programs & Implement new & improved practices
- Benchmark academic & postpone administrative aspects
- **Specify the tools: CTE (Course and Teaching Evaluation), Exit survey, CFR (Course File Report), Academic Advising Survey, Alumni Survey, Employers Survey, Training Evaluation, and Graduation Projects.**
- **Academic aspects : students learning, faculty teaching, curriculum, research & training, community service,& resources.**



# Improving Quality in Higher Education through Internal Benchmarking (IBM)

## KPIs for Student Learning

Goal	Indicators	Measurement/Tools	Targets
<b>Student's Success and Educational Effectiveness: Embrace a culture of excellence and performance as the hallmarks of learning and student success and to provide a solid foundation for their careers.</b>	<ul style="list-style-type: none"> <li>▪ <b># of newly enrolled students (nationality, gender)</b></li> <li>▪ <b>retention rate</b></li> <li>▪ <b>enrolled with 80% above</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ % new enrolment to total RAK leavers</li> <li>▪ % graduating students rate</li> <li>▪ % per nationality</li> <li>▪ % per gender</li> <li>▪ % HS leavers enrolled with 80% +</li> <li>▪ % CGPA of 3.0 and above</li> </ul>	<ul style="list-style-type: none"> <li>▪ 15%</li> <li>▪ 80%</li> <li>▪ 50%</li> <li>▪ 50%</li> <li>▪ 30%</li> <li>▪ 20%</li> </ul>
	<ul style="list-style-type: none"> <li>▪ <b>students' satisfaction rate</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ CTE (Course Evaluation domains)</li> <li>▪ Exit (Advising, curriculum, POs)</li> <li>▪ CFR (students written remarks)</li> <li>▪ Academic Advising Survey</li> <li>▪ Alumni Survey (POs)</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4 out of 5</li> <li>▪ 4 out of 5</li> <li>▪ 4 out of 5</li> <li>▪ 4 out of 5</li> <li>▪ 4 out of 5</li> </ul>
	<ul style="list-style-type: none"> <li>▪ <b>students' training and research</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Training Evaluation by Student Survey</li> <li>▪ Graduation Project (BIS, EL&amp;T, CS,CE)</li> <li>▪ TPI 1 and 2 Portfolios</li> <li>▪ Trainee Performance Reports</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4 out of 5</li> <li>▪ 80%</li> <li>▪ 80%</li> <li>▪ 80%</li> </ul>
	<ul style="list-style-type: none"> <li>▪ <b>students' academic and social performance progress</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Academic warning (students at risk)</li> <li>▪ Semester GPA</li> <li>▪ Scholarships 4 categories:               <ul style="list-style-type: none"> <li>○ 20% 80-89 HS Av</li> <li>○ 50% 90+</li> <li>○ Full Top 10 (UAE, RAK)</li> <li>○ 20% Top 10 in each program</li> <li>○ Financial Aid (social:4-12%, brothers)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ 5%</li> <li>▪ 75%</li> <li>▪ 40%</li> <li>▪ 10%</li> <li>▪ 3</li> <li>▪ 15%</li> <li>▪ 10%</li> </ul>



# Improving Quality in Higher Education through Internal Benchmarking (IBM)

## KPIs for Faculty Teaching

Goal	Indicators	Measurement/Tools	Targets
<b>Faculty and Staff: Providing an inspiring work environment for faculty and staff</b>	<b>Faculty Professional development activities</b>	▪ % of faculty participating in Prof Dev.	▪ 60% of the total
		▪ # publications, seminars, conferences, workshops	▪ At least once a year per faculty
		▪ # thesis & disserts supervised/examined	▪ At least once a year per faculty
		▪ # Consultations & Reviews	▪ At least once a year in each program
	<b>Faculty turnover rate</b>	▪ No. of Faculty leaving IU annually (probation)	▪ No more than 20% of the total faculty
		▪ No. of Faculty leaving IU within 3 years (contract)	▪ Reduce by 5% annually
	<b>IU prospective students choice of courses</b>	▪ # of students registered with faculty	▪ At least 80% of students in compulsory courses



# Improving Quality in Higher Education through Internal Benchmarking (IBM)

## Indicator #1 of Student Learning Domain

- This indicates that IU has attracted high quality students.
- overall average of GPA needs to be assessed and analyzed carefully to account for its reasons and find ways to improve and upgrade it
- the percentage of very good students has achieved the target.

Indicator #1	Measurement/Tools	2007-2008	2008-2009	2009-2010	Overall average
<ul style="list-style-type: none"> <li>• # of newly enrolled students (nationality, gender)</li> <li>• retention rate</li> </ul>	New Enrolment	26.2	29.6	24.8	<b>26.87</b>
	Total Registered Students	97.2	110.8	109.2	<b>105.73</b>
	% graduating students rate				
	<ul style="list-style-type: none"> <li>■ National</li> <li>■ no national</li> <li>■ Female</li> <li>■ Male</li> </ul>	3.8	8.6	8	<b>6.8</b>
		5.2	7	7.2	<b>6.47</b>
<ul style="list-style-type: none"> <li>• enrolled with 80% above</li> </ul>	New Enrolment with 80% above	10.4	13.8	11.6	<b>11.93</b>
	Average Sem. GPA	2.758	2.664	2.516	<b>2.65</b>
	Achieved CGPA 3.0 above	28	27.2	30.8	<b>28.67</b>



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### Indicator #2

The average of student satisfaction with curricula in the CTE (4.3). This indicates that 86.2% of students are satisfied with the courses offered. This percentage is almost 80%+ among students in all programs.

#### Average (out of 5) of Course Evaluation

Program	2007-2008	2008-2009	2009-2010	3-year Av
CS & CE	4.23	4.28	4.35	4.29
BIS	4.02	4.31	4.21	4.18
ELT	4.41	4.23	4.45	4.36
EL&T	4.47	4.37	4.39	4.41
<b>IU Average</b>	<b>4.28</b>	<b>4.30</b>	<b>4.35</b>	<b>4.31</b>



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The average of student satisfaction with teaching is (4.4). This indicates that 88% of students are satisfied with the teaching process. This percentage is almost 82%+ among students in all programs.

### Average of Teaching Evaluation

<b>Program</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>3-year Av</b>
<b>CS &amp;CE</b>	4.23	4.38	4.35	4.32
<b>BIS</b>	4.02	4.43	4.26	4.23
<b>ELT</b>	4.41	4.34	4.53	4.43
<b>EL&amp;T</b>	4.47	4.39	4.96	4.60
<b>IU Average</b>	<b>4.28</b>	<b>4.38</b>	<b>4.52</b>	<b>4.40</b>



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- ❑ students are positively satisfied with the faculty members 85%
- ❑ On the other hand, students have shown highly negative attitudes toward curriculum and methodology, exams, and other general issues (75%, 90%, and 86% respectively).
- ❑ 72% of the students comments are positive and 28% are negative.
- ❑ **IU leadership on the program level and the deanship level have to consider students' comments and work on finding mechanisms to improve the negative aspects in the areas of exams, curricula and teaching methods.**

## CFR Students' Written Remarks

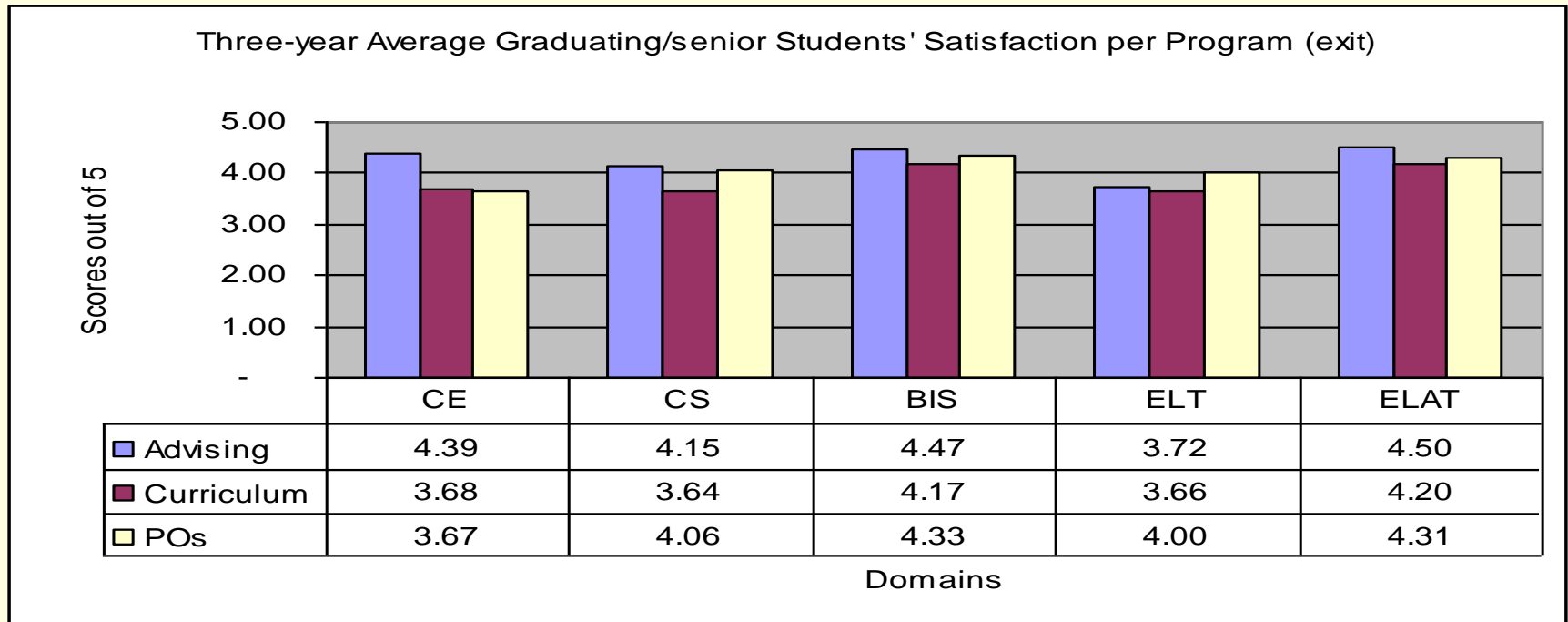
Category	2007-2008		2008-2009		2009-2010		Average to Total	
	<i>For</i> <sup>+</sup>	<i>For</i> <sup>-</sup>	<i>For</i> <sup>+</sup>	<i>For</i> <sup>-</sup>	<i>For</i> <sup>+</sup>	<i>For</i> <sup>-</sup>	<i>For</i> <sup>+</sup>	<i>For</i> <sup>-</sup>
Faculty members	249(86.5%)	36(13.5%)	141(87%)	18 (13%)	242 (81%)	56(19%)	68.7%	10.2%
Curriculum & methodology	5 (13.16)	28 (86.84)	7 (15.4%)	49(84.6%)	23 (74 %)	29(26%)	3.24%	12.3%
Exams	2 (18.2%)	15(81.8%)	0	2 (100%)	1 (8.4%)	11(91.6%)	0.28%	5.2%
General	1(16.7%)	13(83.3%)	2 (13%)	13 (87%)	4 (31%)	19 (69%)		
Total Average							<b>72.3%</b>	<b>27.7%</b>



## Improving Quality in Higher Education through Internal Benchmarking (IBM)

The averages of student satisfaction with Advising, Curriculum, and POs in the Exit Survey in all programs are (4.25, 3.87, and 4.07 respectively). The average of the three items is 4.06 or 81.2% among students in all programs. **This achieves the target.**

Students' Satisfaction (Exit Survey)



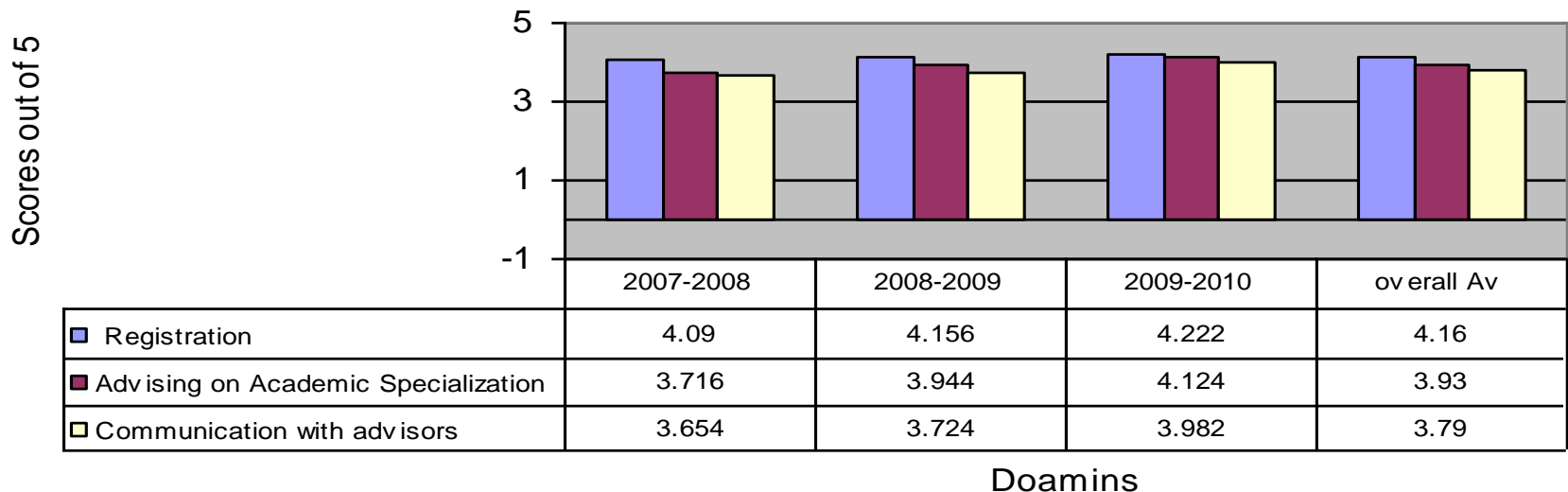




## Improving Quality in Higher Education through Internal Benchmarking (IBM)

- ❑ The students are satisfied with the registration (83%), but less satisfied with advising on academic specialization (78%), and communication with advisor (76%).
- ❑ Overall average shows that communication with faculty and staff in the advising survey (79%) is satisfactory and so close to the target

Overall (all Programs) Average Graduating/Senior Students' Satisfaction (advising)





# Improving Quality in Higher Education through Internal Benchmarking (IBM)

## Indicator #3

This indicator deals with the Students' Training and Research represented in the Training Evaluation by Student Survey and final grades, Graduation Project (BIS, EL&T, CS, and CE), TPI 1 and 2 Portfolios, and the Trainee Performance Reports.

- 1) The overall Grade average is 3.72 or (93%) and student rating (85.4%),
- 2) All programs exceeded the target percentage (80%), and
- 3) The BIS program is rated first (97.7%) followed by CE, EL&T, CS. The ELT is rated last (88%).

Program	Students' Rating out of 5				
	2007-2008	2008-2009	2009-2010	3-Year Av.	3-Year Grade Av.
CE	4	4.42	4.33	4.25	3.91
CS	4	4.42	4.33	4.25	3.56
BIS	4.46	3.95	4.57	4.33	3.92
ELT	0	0	0	0	3.52
EL&T	4.25	4.19	4.45	4.30	3.68
<b>Year Average</b>	<b>4.18</b>	<b>4.25</b>	<b>4.42</b>	<b>4.28</b>	<b>3.72</b>



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- overall average of graduation projects is 3.3 or (82.5%) which is higher than the target grade.
- the majority have learned and benefited from the programs.
- All programs exceeded the target percentage (80%), and
- CE program is rated first (87.25%) followed by EL&T, BIS, and CS
- ELT program is not included because it does not have any graduation project.

Program	2007-2008	2008-2009	2009-2010	3-Year AV
<b>CE (Av SPI,SPII)</b>	<b>2.83</b>	<b>4</b>	<b>3.64</b>	<b>3.49</b>
<b>CS(Av SPI,SPII)</b>	<b>3.38</b>	<b>3.05</b>	<b>2.79</b>	<b>3.07</b>
<b>BIS</b>	<b>3.08</b>	<b>3.55</b>	<b>3</b>	<b>3.21</b>
<b>EL&amp;T</b>	<b>3.32</b>	<b>3.79</b>	<b>3.2</b>	<b>3.44</b>
<b>Year Average</b>	<b>3.15</b>	<b>3.60</b>	<b>3.16</b>	<b>3.30</b>



# Improving Quality in Higher Education through Internal Benchmarking (IBM)

## Indicator #4

- ❑ The average Academic warning in the university is almost 2% in the three years.
- ❑ Scholarship for students with 90% score in high school is 2.3%.
- ❑ Overall scholarship is 10%, financial aids 20% of the total registered students.
- ❑ Students' academic progress was high compared to Academic warning
- ❑ The 2.65 SGPA is a good indicator on the students' academic progress.

		2007-2008	2008-2009	2009-2010	Overall average
<b>Students' academic and social performance progress</b>	<b>Academic Warning</b>	<b>9.8</b>	<b>14</b>	<b>11.2</b>	<b>11.67</b>
	<b>Average Sem. GPA</b>	<b>2.758</b>	<b>2.664</b>	<b>2.516</b>	<b>2.65</b>
	<b>Full Scholarship</b>	<b>1.4</b>	<b>1.4</b>	<b>3</b>	<b>1.93</b>
	<b>Scholarship <math>\geq</math> 90</b>	<b>9.8</b>	<b>11.8</b>	<b>15</b>	<b>12.2</b>
	<b>Scholarship <math>\geq</math> 90 %</b>	<b>0</b>	<b>8.4</b>	<b>18.2</b>	<b>8.87</b>
	<b>Scholarship <math>\geq</math> 80 % &amp; &lt; 90 %</b>	<b>7.6</b>	<b>5.2</b>	<b>5.8</b>	<b>6.2</b>
	<b>Financial Aids</b>	<b>33.4</b>	<b>24.6</b>	<b>19.6</b>	<b>25.87</b>



# Improving Quality in Higher Education through Internal Benchmarking (IBM)

## II. Faculty Teaching Domain

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The indicators include Faculty Professional development, activities, Faculty turnover rate, and IU prospective- student choice of courses. Three major domains have been analyzed to indicate students' satisfaction and reflect their assessment of the Faculty Teaching Domain. These include:

- Advising (Registration, Advising on Academic Specialization, Communication with advisors),
  - Exit Surveys (Advising, Curriculum, Pos), and
  - Training Surveys.
- **There is a high percentage of student satisfaction with the faculty teaching.**
  - **Positive actions need to be taken to promote Faculty development .**



# Improving Quality in Higher Education through Internal Benchmarking (IBM)

Goal	Indicators	Measurement/Tools	Targets
<b>Faculty and Staff:</b>  <b>Providing an inspiring work environment for faculty and staff</b>	Faculty Professional development activities	<ul style="list-style-type: none"> <li>• % faculty participating in Prof Dev.</li> </ul>	60% of the total
		<ul style="list-style-type: none"> <li>• # publications, seminars, conferences, workshops</li> </ul>	At least once a year per faculty
		<ul style="list-style-type: none"> <li>• # thesis &amp; disserts supervised/examined</li> </ul>	At least once a year per faculty
		<ul style="list-style-type: none"> <li>• # Consultations &amp; Reviews</li> </ul>	At least once a year in each program
	Faculty turnover rate	<ul style="list-style-type: none"> <li>• # Faculty leaving IU annually (probation)</li> </ul>	# more than 20% of the total faculty
		<ul style="list-style-type: none"> <li>• # Faculty leaving IU within 3 years (contract)</li> </ul>	Reduce by 5% annually
	IU prospective students choice of courses	<ul style="list-style-type: none"> <li>• # of students registered with faculty</li> </ul>	At least 80% of students in compulsory courses



## Indicator #1

- ❑ It indicates that faculty publications and participation in conferences, seminars, and workshops have been within the targeted percentages (60%).
- ❑ It also shows that two faculty members instead of one have had access to at least a criterion of development.
- ❑ faculty participation in specialized consultations and reviews has been within the targeted percentages (80%).
- ❑ It also shows that 1.2 faculty members instead of one have participated. Overall this criterion indicates that IU has very good reputation and cares for faculty development.

<b>Professional Development</b>	07-08	08-09	09-10	3-Year AV	%
<b>Publications/ Conferences/ Seminars/ Workshops</b>	6	12	12	10 (2 Fac/Progr)	60%
<b>Thesis &amp; Dissertations</b>		1	1	6 (.12 Fac/Progr)	NA
<b>Reviews &amp; Consultations</b>	6	3	3	4 (.8 Fac/Progr)	80%



## Indicator #2

It indicates that faculty retention rate is high and the percentage of those leaving IU after the probation year is only 5%, and the percentage of those who leave IU after 3-year contracts is 25%.

This means that IU attracts faculty and keeps them until they end their terms of contracts.

Professional Development	07-08	08-09	09-10	3-Year AV	%
No. of Faculty leaving IU annually (probation)	0	0	1	.33	5%
No. of Faculty leaving IU within 3 years (contract)	4	4	4	4	25%





## Indicator #3

- ❑ The average percentage is 84.6% which is considered high and indicates that faculty teaching is highly appreciated by students.
- ❑ This percentage is almost the same as that indicated above in the written comments of students concerning their opinions of faculty (86%).

Professional Development	07-08	08-09	09-10	3-Year AV
# of students registered with faculty	82.1%	85.7%	86.6%	84.8%



## Discussion

- ❑ IU has to **convert benchmark findings**, and operational principles based on them, **to specific actions to be taken.**
- ❑ Put in place a periodic measurement and assessment of achievement.
- ❑ Use the creative talents of the people who actually perform work tasks to determine how the findings can be incorporated into the work processes.
- ❑ **Best practices have to be incorporated in all academic and administrative processes** at IU in order to achieve maturity and thus ensuring superiority.
- ❑ Maturity also is achieved when BM becomes an ongoing, essential and self-initiated aspect of the management process.
- ❑ **BM should become institutionalized and need not be done by specialists only but at all appropriate levels of the institution, not by specialists.**



# Conclusion and Recommendations

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## A. Commendations

1. IU has utilized different tools and surveys that provided the corpus of data that enables IBM project to be conducted. These included CTE, Exit survey, CFR; Academic advising; Alumni, Employers; Training; and Graduation projects.
2. Program Directors and deans of colleges have provided detailed annual reports in the learning and teaching domains. There is a comprehensive database that can be retrieved at any time by any researcher.
3. The BIS program and the Quality Assurance Office have provided highly professional statistical software programs and measurement surveys and instruments that can be replicated and adopted by other HEIs in collecting and analyzing data for BM.
4. The ongoing institutional research and publications on quality assurance in the past five years are models to follow.
5. Annual reports and amendments of programs are highly valuable.



# Conclusion and Recommendations

## B. Recommendations

It is recommended that IU:

1. reinforce its existing programs through upgrading the teaching systems that suit the career market requirements.
2. improve its registration and advising systems
3. coordinate between the different majors and programs offered. (student movement from one major to another and the decrease of the number of some programs are indicators for those programs)
4. carry out needs analysis of the market requirements in order to consolidate and reinforce/ or merge its programs and/or open new programs/concentrations.
5. conduct an annual SWOT analysis that can be reported in the University Annual Report and can be used for strategic planning in the university.
6. develop KPIs and measurement tools that help faculty and students (self-assess their performance).
7. disseminate quality culture among all stakeholders.



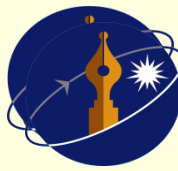
# Conclusion and Recommendations

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## C. Suggestions

It is suggested that IU:

- A) considers adopting the concentration system within programs to give alternatives to its students to choose a major that suits their interests.
- B) constitutes a Quality Assurance Board nominating its members and conducting workshops and seminars that can assist both Faculty and Staff perform better.
- C) enhances the Faculty Professional Development procedures in order to enhance Faculty's professional and academic performance.
- D) considers initiating graduate studies and provide the required resources including full professors to enhance faculty professional development.
- E) opens gates with the community and exchange expertise and consultation.



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