5 Establishing a Centre of Excellence -KPIs as per College goals

5.1 Chapter Introduction
This chapter examines the third goal of the college- i.e establishing a center of excellence. Existing literature on ‘Center of Excellence’ is referred to study the practice of establishing center of excellence. Further, standards/ benchmarking practices are examined relating to establishing a center of excellence.

5.2 Center of Excellence
One of the college goals is establishing a center of excellence. According to Wikipedia,” A center of excellence refers to a team, a shared facility or an entity that provides leadership, evangelization, best practices, research, support and/or training for a focus area. The focus area in this case might be a technology (e.g. Java), a business concept, a skill (e.g. negotiation) or a broad area of study (e.g. women's health). A center of excellence may also be aimed at revitalizing stalled initiatives.”

Discussions were held with all the associate deans of the college to find out what if there is any specific focus area that should be the key area in which the college is interested in establishing a center of excellence.

The college management is keen to establish a center of excellence as per its strategic plan. However, identification of focus area needed discussion with the Government agencies, particularly with the Research council (TRC) of Oman.

After several discussions two themes were identified:

1. Renewable sources of energy, and,
2. Waste to energy

After several consultations with the TRC, the college management decided to focus on Waste to Energy and work towards making the college a center of excellence in this region. As per the report ('Why is a center of excellence different from an Institute', 2011), there is no particular
definition or characteristics to earmark a center of excellence. The report goes on to suggest that mostly hospitals acquire a name and reputation in a particular field and commonly accepted as a center of excellence. Further to quote this report, “More commonly, however, hospitals self-designate services as “centers of excellence” with varying rigor of standards. Some self-branded COEs offer well-organized infrastructure and services, shared facility space for participating providers, extra emphasis on quality, or above average outcomes, but many COEs are little more than marketing strategies with no dedicated infrastructure or administrative support beyond a webpage”.

There is also the view that the term “Center of Excellence” is simply a self-designated marketing tool to attract publicity. Consumers who see the term may readily conclude that the “Center” has subjected itself to, and successfully “passed,” a certification protocol conducted by an official and independent screening entity (Hamilton).

The reference is particularly important for the view that the self-branding of COE by a few hospitals.

Taking this further on lines, considering, the COE for application in medicine, it is found that AIMIS (American Institute for Minimum Invasive Surgery) do certify hospitals in USA as centers of excellence based on certain criteria.

However, a report prepared by Carnegie Mellon University on COE (sponsored by Ministry of Defense, USA) clearly defines their criteria for recognition as center of excellence (Craig, W. Fisher, M., Garcia, S. Kaylor, C. Porter, J. & Reed, L, 2009).

According to this report the COE is certified based on certain performance measurement criteria. These performance criteria are based on BSC classifications (BSC was discussed earlier in our chapter 4). The structure of criteria from the report is given below, in Figure 5-1.
There appears to be no international standard or recognized certification agency for establishing a COE especially for research or educational institutes. Several private organizations in USA and Europe advertise offering an audit and certificate of excellence in medical field. There are a few websites promoting certification in establishing call centers.

Rochester Institute of Technology, while promoting a training program on lean management, calls itself as a Center of Excellence in offering such a training program. There, however, appears no authentication for the title of COE (Center for integrated manufacturing studies).

While scanning the search for center of excellence relating to academic institutions, is publication put out for review by USAID (Frazie, M. ESI center, 2009). This report lists certain criteria for establishing center of excellence in ICT. A Brief of these characteristic requirements is given below.

![Diagram of Criteria for Center of Excellence](image-url)
1. Listing the objectives of the COE.

2. Identifying and obtaining commitment from key stakeholders.

3. Organizing awareness seminars.

4. Initiating and launching a pilot project.

5. Organizing annual conference.

6. Developing infrastructure in terms of labs and facilities.

7. Preparation of 3 year strategic and one year operational plan.

8. Developing presentation materials, and,

9. Forming international alliances with organizations involved in manufacturing/consultancy in the relevant fields.

There are no norms or standards for establishing a center of excellence and the excellence in terms of results should manifest itself as an image in the public’s mind as a source of excellence in its activities.

5.3 Excellence in performance

Center of excellence is a reflection of performance excellence. To measure performance excellence, a way forward can be based on the well-known Baldrige criteria. The Baldrige program was established by Ex US President Reagan in 1987. Today, it is said, that the Baldrige Criteria for Performance Excellence are being used by organizations across every sector of the U.S. economy and around the world as an assessment and improvement tool.

As per the criteria for award of excellence in education (2013–2014 Baldrige Education Criteria for Performance Excellence, 2013). The seven point criteria are given below.

1. Leadership

2. Strategic Planning

3. Customer Focus
4. Measurement, Analysis, and Knowledge Management

5. Workforce Focus

6. Operations Focus, and,

7. Results

The report also gives a schematic lay out of the seven criteria listed as in Figure 5-2.

![Figure 5-2 Criteria for Excellence as per Baldrige](http://www.nist.gov/baldrige/publications/upload/2011_2012_Business_Nonprofit_Criteria.pdf)

The requirements from each of the seven criteria are tabulated below in Table 5-1.
<table>
<thead>
<tr>
<th>S.No</th>
<th>Criteria</th>
<th>Guidelines / requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leadership</td>
<td>leaders’ responsibilities, with the aim of creating a sustainable organization. Governance system, including the improvement of leadership</td>
</tr>
<tr>
<td>2</td>
<td>Strategic Planning</td>
<td>Methodology of developing strategies and action plans, and implementation and monitoring of plan implementation</td>
</tr>
<tr>
<td>3</td>
<td>Customer Focus</td>
<td>Listening to the voice of the customer, building customer relationships, and using customer information to improve and to identify opportunities for innovation. Involvement of Other customers- parents, local businesses, the next school to receive your students, and future employers of your students</td>
</tr>
<tr>
<td>4</td>
<td>Measurement, Analysis, and Knowledge Management</td>
<td>Effective method and usage of performance measurement system – Includes, data collection, analysis, review and planning. Methods of Knowledge management, ensuring quality and availability of data, information, software, and hardware</td>
</tr>
<tr>
<td>5</td>
<td>Workforce Focus</td>
<td>Workforce capability and capacity needs, meeting those needs to accomplish the institute’s work, and ensuring a supportive work climate.</td>
</tr>
<tr>
<td>6</td>
<td>Operations Focus</td>
<td>Management of key educational programs and services and work processes, with the aim of creating value for students and other customers and achieving organizational success and sustainability.</td>
</tr>
<tr>
<td>7</td>
<td>Results</td>
<td>Systems focus that encompasses all results necessary to sustaining an education organization</td>
</tr>
</tbody>
</table>

Table 5-1 Criteria of requirement

It is seen from the Baldridge program of evaluation for excellence, the focus is on the areas that are being developed as a KPI. These KPIs are also dependent on customer, internal business process, learning and learning and growth –described as core areas in BSC( Chapter 4). There is also a similarity in structure and composition, when compared with the report prepared by Carnegie Mellon University on COE.

The selection of appropriate KPIs for center of excellence for the college should also take in to account the theme the college has selected.
5.4 Waste to energy

The theme was selected after extensive discussions and consultations with TRC- The research council of Oman-The report published by TRC mentions that it has established a national research strategy which will guide local institutions to develop proposals for hosting research chairs in themes related to the national strategy. Further, The Research Council shall receive research chair proposals only on themes identified by the national research strategy. (Research chair Grant Program).

This goes to substantiate the selection of the theme by the college to be one of the needs and priorities of the Sultanate of Oman to nurture and develop the knowledge and skills in the selected theme.

The college has prepared a report on this research theme – Waste to Energy (A proposal for Waste to energy center). The mission and vision statements of the center that would have the focus on the theme, are as follows:

Vision-Be a leading research Centre in waste to energy sector in the region by using sustainable philosophy and to develop professional expertise.

Mission- Promote resource efficient and cleaner practices in order to improve competitiveness and environmental excellence through waste management and alternate energy.

Based on the proposal and the mission and vision statements the KPIs can be developed for the waste to energy center to become a center of excellence.

5.5 KPIs for developing a center of excellence

KPIs for developing a center of excellence from a student perspective: From the students’ view point the terms in the mission and vision statements that would have impact are the following.

1. A leading research center – that would offer scope for employment for the students, after graduation.

2. Developing professional expertise – The College would offer training programs / courses for the students. Table 5-2 cover these two aspects.
<table>
<thead>
<tr>
<th>No</th>
<th>Indicator / KPI Code</th>
<th>KPI Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employment in the research centre</td>
<td>St.15 - Number of students employed in the research centre.</td>
</tr>
<tr>
<td>2</td>
<td>Training courses / programs</td>
<td>St.16 - Number of students attending the training courses/programs of the Research Centre</td>
</tr>
</tbody>
</table>

_Table 5-2  KPI Center of excellence (student)_

KPIs for developing a center of excellence from staff perspective: In a COE environment, the excellence is borne out of the caliber of staff employed in the research center. (Refer table 5-3).

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator / KPI Code</th>
<th>KPI Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Research excellence</td>
<td>Staff.8 - Number of research staff employed in the centre.</td>
</tr>
<tr>
<td>2</td>
<td>Research publications</td>
<td>Staff.9 - Number of research publications on the theme waste to energy.</td>
</tr>
<tr>
<td>3</td>
<td>Progress of work</td>
<td>Staff.10 - Number of progress report submitted by the centre in terms of Milestones achieved.</td>
</tr>
<tr>
<td>4</td>
<td>International staff interaction</td>
<td>Staff.11 - Number of international visiting staff to the centre/college.</td>
</tr>
<tr>
<td>5</td>
<td>Patents/ Results</td>
<td>Staff.12 - Number of patents obtained/ annum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff.13 - Waste(Kg) to energy(KW) achieved in appropriate units by technologies/methods proposed. (lab scale/ real terms)</td>
</tr>
</tbody>
</table>

_Table 5-3  KPI Center of excellence (Staff)_

KPIs for developing a center of excellence from Management perspective: The COE environment, the seeding of the concept and facilitating the research ambiance all these factors stem from the responsibility of the management.

It is the responsibility of the management to bring in International experts on the theme of the research and this aspect is considered to be one of the prime needs of a research institute wanting to become a COE (Centers of excellence, 2013).

Long-term cooperation with affiliates who can positively contribute to promote the center of excellence is again from the resources of the management. These are reflected in Table 5-4.
Considering these aspects, the following KPIs are framed.

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator / KPI Code</th>
<th>KPI Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lab facilities</td>
<td>M.12-Equipment’s/machines installed in the lab in terms of Value.</td>
</tr>
<tr>
<td>2</td>
<td>Conferences/Seminars/Awareness programs</td>
<td>M.13-Number of conferences /Seminars /Awareness programs organised.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.14-Number of participants for the conference Seminars.</td>
</tr>
<tr>
<td>3</td>
<td>Affiliations /Associations</td>
<td>M.15-Number of international affiliates/ associates.</td>
</tr>
<tr>
<td>4</td>
<td>Student courses/ programs</td>
<td>M.16-Number of student courses/programs organised.</td>
</tr>
</tbody>
</table>

Table 5-4  KPI Center of excellence(Management)

5.6 Arranging KPIs as per BSC

As per BSC (Balanced Score Card, the classification of KPIs can be organized under four categories, namely, learning and Growth, Internal business process, customer focus and Financial. The 13 KPIs identified in this chapter can be grouped in the relevant categories.

Figure 5-3 provides the KPIs listed as per BSC classification.

- **Learning and growth**
  - All the KPIs listed contribute towards the learning and growth of the Institution. The KPIs listed under Students perspective would also come under Customers perspective.
  - More importantly the KPIs listed under the Management perspective work as a catalyst in transforming the institute in to a center of excellence.

- **Internal business process**
  - The key to the internal business process is held by the staff – and the KPIs relating to this group serve as a critical factor to markedly improve the Learning & Growth and internal business process.
  - The number of research papers prepared by the staff should also form the basis for working out a process for achieving the goals of the center.

- **Customer Focus**
  - The center of excellence customers includes the students, the government and the society. The results/output from the COE should be disseminated to the society at large through the appropriate government/private agencies.

Figure 5-3  KPI as per BSC( Center of Excellence)
The financial aspects are related to the return on investment and are not focused on this thesis – that would involve numbers that need no translation in terms of KPI.

## 5.7 KPI Map links

The KPI links indicate preparatory step that indicates action to be taken by the concerned staff or management for effective implementation of the action and for monitoring and measuring the KPIs. KPI Mapping Link from students’ perspective is given in Figure 5-4.

### KPI Mapping Links from Staffs’ Perspective

KPI Mapping Links from Staffs’ Perspective is given in Figure 5-5.
Staff Perspectives (Continued) as shown in Figure 5-6

Staff.11 - Number of International staff visiting the Center of Excellence

Staff.12 - Number of Patents obtained per annum.

Staff.13 - Waste (Kg) to energy (KW) achieved in appropriate units by technologies/methods proposed. (lab scale/real terms)

Collaborations / Affiliations / Standing Invitations in place

Lab facilities available

International Staff Interactions/ patents/ Results

KPIs

KPI Measurement

KPI First Links

Figure 5-6 KPI Link Center of Excellence (Staff2)
Chapter summary

It is clear from the foregoing work that there are no clear and international standards for an institute to be called a center of excellence—especially in the arena of academics and research. COE has some prominence in the medical establishments.

However, as the college has goals/sub goals to establish a center that could rise to prominence to a degree to establish itself with the reputation and image as the center of excellence, then the performance criteria pans out and impacts the three important stakeholders – that is the students, staff and the management.

The gist of recommendations is as follows:
1. Creation of an awareness program among all stakeholders.

2. Establishing lab facilities that would provide the infrastructure needed for this kind of work.

3. Inclusion of international experts/affiliates

4. Starting programs and courses relating to the theme- Waste to energy

5. Arranging conferences and seminars relating to the theme.

6. System to monitor and to measure the actual conversion of waste (Kg) to energy (KW) in appropriate units and with the specification of time frame.

It is possible, as mentioned, to convert all these qualitative parameters into KPIs that gives an indication of progress. If the goals are also established, then the KPIs give a feeling of actual performance realized against such goals. On this basis, the KPIs have been developed for the College.

In the next chapter, KPIs will be developed considering the next goal of the college, that is, Progressing the Green Agenda.