

الهيئة الوطنية
للمؤهلات وضمان جودة التعليم والتدريب
National Authority for Qualifications &
Quality Assurance of Education & Training



Directorate of Higher Education Reviews

Programmes-within-College Reviews Report

**Bachelor of Information and Communications
Technology**

Faculty of Engineering, Design and ICT

Bahrain Polytechnic

Kingdom of Bahrain

Date Reviewed: 5-8 October 2015

HC069-C2-R069

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Acronyms

APR	Annual Program Review
AQAC	Academic Quality Assurance Committee
BICT	Bachelor of Information Communication Technology
BPQF	Bahrain Polytechnic Qualifications Framework
BP	Bahrain Polytechnic
CAC	Curriculum Advisory Committee
CAP	Certificate in Academic Preparation
CILO	Course Intended Learning Outcome
CLP	Cooperative Learning Project
CSB	Civil Service Bureau
CTTL	Certificate in Tertiary Teaching and Learning
DHR	Directorate of Higher Education Reviews
EDICT	Faculty of Engineering, Design and ICT
HEC	Higher Education Council of the Ministry of Education, Kingdom of Bahrain
ILO	Intended Learning Outcome
MIS	Management Information Systems
NQF	National Qualifications Framework
PAD	Programme Approval Document
PBL	problem based learning approach
PILO	Programme Intended Learning Outcome

QMAP	Quality, Management and Analysis Unit
QQA	National Authority for Qualifications & Quality Assurance of Education & Training
SER	Self-Evaluation Report

The Programmes-within-College Reviews Process

A. The Programmes-within-College Reviews Framework

To meet the need to have a robust external quality assurance system in the Kingdom of Bahrain, the Directorate of Higher Education Reviews (DHR) of the National Authority for Qualifications & Quality Assurance of Education & Training (QQA) has developed and is implementing two external quality review processes, namely: Institutional Reviews and Programmes-within-College Reviews which together will give confidence in Bahrain's higher education system nationally, regionally and internationally.

Programmes-within-College Reviews have three main objectives:

- to provide decision-makers (in the higher education institutions, the QQA, the Higher Education Council (HEC), students and their families, prospective employers of graduates and other stakeholders) with evidence-based judgements on the quality of learning programmes
- to support the development of internal quality assurance processes with information on emerging good practices and challenges, evaluative comments and continuing improvement
- to enhance the reputation of Bahrain's higher education regionally and internationally.

The *four* indicators that are used to measure whether or not a programme meets international standards are as follows:

Indicator 1: The Learning Programme

The programme demonstrates fitness for purpose in terms of mission, relevance, curriculum, pedagogy, intended learning outcomes and assessment.

Indicator 2: Efficiency of the Programme

The programme is efficient in terms of the admitted students, the use of available resources - staffing, infrastructure and student support.

Indicator 3: Academic Standards of the Graduates

The graduates of the programme meet academic standards compatible with equivalent programmes in Bahrain, regionally and internationally.

Indicator 4: Effectiveness of Quality Management and Assurance

The arrangements in place for managing the programme, including quality assurance, give confidence in the programme.

The Review Panel (hereinafter referred to as ‘the Panel’) states in the Review Report whether the programme satisfies each Indicator. If the programme satisfies all four Indicators, the concluding statement will say that there is ‘confidence’ in the programme.

If two or three Indicators are satisfied, including Indicator 1, the programme will receive a ‘limited confidence’ judgement. If one or no Indicator is satisfied, or Indicator 1 is not satisfied, the judgement will be ‘no confidence’, as shown in Table 1 below.

Table 1: Criteria for Judgements

Criteria	Judgement
All four Indicators satisfied	Confidence
Two or three Indicators satisfied, including Indicator 1	Limited Confidence
One or no Indicator satisfied	No Confidence
All cases where Indicator 1 is not satisfied	

B. The Programmes-within-College Reviews Process at the Bahrain Polytechnic

A Programmes-within-College review of the Bahrain Polytechnic was conducted by the DHR of the QQA in terms of its mandate to review the quality of higher education in Bahrain. The site visit took place on 5-8 October 2015 for the academic programmes offered by the faculty, these are: Bachelor of Engineering Technology; Bachelor of Information and Communications Technology; Bachelor of Web Media and Bachelor of Visual Design.

This report provides an account of the review process and the findings of the Panel for the Bachelor of Information and Communications Technology based on the Self-Evaluation Report (SER) and appendices submitted by the Bahrain Polytechnic (BP), the supplementary documentation made available during the site visit, as well as interviews and observations made during the review site visit.

BP was notified by the DHR/QQA in 16 April 2015 that it would be subject to a Programmes-within-College reviews of its Faculty of Engineering, Design and ICT with the site visit taking place in 5-8 October 2015. In preparation for the review, BP conducted its faculty self-evaluation of all its programmes and submitted the SER with appendices on the agreed date in 15 June 2015.

The DHR constituted a panel consisting of experts in the academic field of Bachelor of Information and Communications Technology and in higher education who have

experience of external programme quality reviews. The Panel comprised nine external reviewers.

This Report records the evidence-based conclusions reached by the Panel based on:

- (i) analysis of the Self-Evaluation Report and supporting materials submitted by the institution prior to the external peer-review visit
- (ii) analysis derived from discussions with various stakeholders (faculty members, students, graduates and employers)
- (iii) analysis based on additional documentation requested and presented to the Panel during the site visit.

It is expected that the BP will use the findings presented in this report to strengthen its the Bachelor of Information and Communications Technology programme. The DHR recognises that quality assurance is the responsibility of the higher education institution itself. Hence it is the right of BP to decide how it will address the recommendations contained in the Review Report. Nevertheless, three months after the publication of this Report, BP is required to submit to the DHR an improvement plan in response to the recommendations.

The DHR would like to extend its thanks to BP for the co-operative manner in which it has participated in the Programmes-within-College review process. It also wishes to express its appreciation for the open discussions held in the course of the review and the professional conduct of the faculty in the BP.

C. Overview of the Faculty of Engineering, Design and ICT

Bahrain Polytechnic was established by Royal Decree No. 65 for the year 2008 to address the need for a skilled Bahraini labour force, with the aim of supporting economic growth and diversification. Labour market surveys lead to recommendations for programmes to be offered by the new Bahrain Polytechnic, being a provider of applied higher education. The faculty of Engineering, Design and ICT was established to develop professional and enterprising graduates in the domains of engineering, technology and creative communication who have the necessary skills to transform those industries and fill the needs of the current Bahraini and GCC markets. The Faculty of Engineering, Design and ICT offers four programmes and comprises of three schools being; Engineering, ICT & Web Academy and Visual Design. The School of Engineering offers the Bachelor of Engineering Technology with majors in Electronics and Mechanical Engineering. The School of ICT & Web Academy offers the Bachelor of Information and Communication Technology with majors in Programming, Management Information Systems, Networking and Database Systems, as well as the Bachelor of Web Media. The School of Visual Design offers the Bachelor of Visual Design. At the time of the site visit the Faculty of

Engineering, Design and ICT had 57 full-time and one part-time academic staff with 12 full-time administrative staff. The total number of students in the Faculty was 616 students. The great majority of registered students were Bahrainis with a few students being from neighbouring countries.

D. Overview of the Bachelor of Information and Communications Technology

The Bachelor of Information and Communications Technology Programme (BICT) offered by the School of ICT & Web Academy at Bahrain Polytechnic is currently running four Majors, which are in Programming, Management Information Systems, Networking and Database Systems. This programme was originally created in order to develop work-ready graduates who are skilled in the ICT field and are aware of the legal, ethical and professional standards required to work in Bahrain and internationally. Since its start, six years ago, the BICT Programme has undergone several development and improvement phases after consultations from the local industries in Bahrain (through the Curriculum Advisory Committee) and after evaluation from international experts both from Industry and Academia. The programme was offered without interruption since the start in 2009. The programme had its first intake in 2009, where 96 students were registered in both first and second semesters. The programme graduated 27 students in its first batch who graduated at the end of the 2012-2013, with ten graduates from the Programming major, six graduates from the Management Information Systems and database majors, and five graduates from the Networking major. At the time of the site visit, the total number of graduates were 114, the programme had 221 registered students and there were 21 faculty members contributing to this specific programme.

E. Summary of Review Judgements

Table 2: Summary of Review Judgements for the Bachelor of Information and Communications Technology

Indicator	Judgement
1: The Learning Programme	Satisfies
2: Efficiency of the Programme	Satisfies
3: Academic Standards of the Graduates	Satisfies
4: Effectiveness of Quality Management and Assurance	Satisfies
Overall Judgement	Confidence

1. Indicator 1: The Learning Programme

The programme demonstrates fitness for purpose in terms of mission, relevance, curriculum, pedagogy, intended learning outcomes and assessment.

- 1.1 Bahrain Polytechnic has vision and mission statements that have been derived from Bahrain's Economic Vision 2030, whereas the mission of the institution is to 'produce professional and enterprising graduates with the 21st Century skills necessary for the community locally, regionally and internationally'. The strategic goals of BP have been recently revised and the goals for 2015-2019 period include sustainability, graduate reputation, assurance of learning, engagement for impact and Incubating entrepreneurship and research, which are also reflected in the strategic plan of the Faculty. Moreover, the BICT Programme Approval Document (PAD) for each of the four majors demonstrates a clear academic planning framework and implementation for the BICT programme. According to the PAD, 'The programme aims to develop work-ready, skilled ICT graduates who are aware of the legal, ethical and professional standards required to work in Bahrain and internationally'. The Panel notes that the programme aims are appropriate for a Bachelors level programme in ICT. Furthermore, the aims of the programme lean towards the practical side, in keeping with the mission of BP and the strategic plan of the Faculty, which include a detailed consideration of producing work-ready graduates with the necessary ICT skills. During the site visit, the Panel noted that the programme team is well aware of the programme aims and their role in accomplishing the institution's mission and strategic goals. The Panel appreciates the detailed approach that BP has taken with respect to academic planning for the BICT programme and that there are clear programme aims which contribute to the accomplishment of the institution's mission and the strategic plan of the Faculty.
- 1.2 The BICT programme is offered in four different majors, being: Programming, Networking, Databases and Management Information Systems. To complete the programme, 480 credits (each credit equates to 10 nominal hours) have to be completed over four years, 255 of which are compulsory that include a Co-operative Learning Project or an Information Technology Research Project, 165 credits are fixed sets per major and 60 elective credits are to be taken from general studies elective courses and courses that are national requirements. The Panel studied the curriculum and notes that it provides an appropriate balance between theory and practice as indicated by the different elements of courses. Moreover, the Panel appreciates the emphasis on extensive problem-based and project-based learning approaches, with a leaning towards the practical side in keeping with BP's overall philosophy and the needs of industry.

- 1.3 The programme is structured such that core courses are included in Years 1 and 2, with most electives and options for the different majors being included in Year 3 and the entire final year of the curriculum is project based with two significant projects, one in-house and one normally with the student working on an internship programme, or optionally a more research-oriented project. In addition, there is an appropriate progression between courses within majors. For example, in the Programming Degree the courses 'ITB5008 Computer Programming 1', 'ITB6008 Computer Programming 2', and 'ITB7118 Advanced Programming', are well placed within the levels, and at the same time offer an efficiently continuous learning experience for students in terms of topics and programming language. The same is true for the Networking major where the design of the curriculum is sufficiently balanced between core computing courses such as 'ITB5004 Unix Systems' and the current trends of mobile related technologies such as 'ITB7213 Data Centre Management' as well as 'ITB7313 Wireless Communication'. This is supported by prerequisite requirements indicated in the course specification. In the absence of a national qualifications framework at the time of its establishment, BP developed its own Bahrain Polytechnic Qualifications Framework (BPQF) where courses on the BICT programme appropriately progress on the BPQF. Nonetheless, the Panel was informed during the site visit that the institution is currently in the process of mapping its programme to the NQF. The typical student workload is '60 credits per semester (equating to 600 nominal hours over 15 weeks), divided between contact hours and self-directed hours'. However, a student can register up to a maximum of 75 credits per semester and no less than 50 credits. The Panel appreciates that the credits, prerequisites, and student workload are appropriate and that the programme provides year on year academic progression.
- 1.4 There is a Programme approval Document (PAD) for each major of the BICT programme that specifies the programme requirement, including references to the individual course descriptors, which are listed in the qualification structure templates. During interviews with faculty members, the Panel was informed that every course in the programme has a course descriptor, an excel document available on 'Sharepoint' for the staff, which includes different aspects of the course, such as; the course description, learning outcomes, topics, assessment, learning and teaching strategies, textbooks and a semester schedule. The Panel notes that there are appropriate course documents covering all the major components that are to be expected such as Intended Learning Outcomes (ILOs), assessment methods, ILO mappings, weekly topics, and suggested books. Although there are recommended textbooks, the Panel was informed during the visit that in practice courses are not reliant on these. They are more suggested rather than essential reading, with e-books being more popular than physical books. The Panel studied the provided syllabus and notes that an appropriate balance of selected topics in legal, ethical, social and professional issues are not included explicitly in the syllabus. Currently these aspects are partly covered in the programme, such as in 'ITB6301 Ethical Hacking' and 'ITB7212 Cloud Computing'

course, which include an overview of ethical hacking as well as ethical and legal concerns of cloud computing. The Panel recommends that the aforementioned topics should be formally introduced to the curriculum, either with a separate course or by a more systematic and comprehensive embedding of the topics within existing courses, in order to be in line with the generic Program Learning Outcomes. The BICT programme was originally acquired by BP from Monash University in Australia. However, there has been some contextualisation of the syllabus in order to make it more practical in nature by forming industrial alliances in the ICT sector, such as Microsoft, Oracle and SAP, in utilising their training material for use on some of the BICT programme courses. During the contextualisation, inputs have been considered from informal international comparison of the programme and the BICT Curriculum Advisory Committee. The programme was also peer reviewed in 2011 by an international monitor and comments for improvement were implemented. Furthermore, the programme was assessed by an international academic and local industrial review panel in January 2015. Nonetheless, the Panel was not provided with sufficient evidence to indicate contextualising the syllabus to the local needs. The Panel recommends that there should be continued contextualisation of the curriculum to the needs of local industry with respect to local practice.

- 1.5 Programme ILOs are documented as Programme Learning Outcomes/Graduate Profiles in the PAD. There are individual PAD documents for each of the programme majors. The Programme ILOs are classified into theoretical understanding, subject specific skills and employability skills and the ILOs for the employability skills are listed under generic programme learning outcomes. The Panel studied the programme ILOs and noted that these are appropriately written and measurable, covering skills and knowledge achievements and are suitable for each major requirements. Moreover, the PILOs are mapped to the programme aims in an appropriate manner, emphasising extensive problem-based and project-based learning approaches, with a leaning towards the practical side in keeping with BP's overall philosophy. The PILOs are available on 'Sharepoint' and 'Moodle' for both staff and student's use, and during interviews, the Panel noted that both staff and students are aware of these outcomes. The Panel appreciates that the PILOs are mapped appropriately to the programme aims, well written, measurable and suitable for each programme major requirements.
- 1.6 Every course of the BICT programme has an approved course descriptor which specifies the Course Intended Learning Outcomes (CILOs) and is subject to thorough checking and approval from the BICT Programme Committee, the Faculty Board and the Academic Quality Assurance Committee (AQAC). The checks and approval processes on the course descriptors are conducted prior to each semester, in order to make sure that the delivery of the course is directly aligned with the programme aims and links to the PILOs. The PAD for each programme major specifies a standard matrix mapping the PILOs to the individual programme courses. The CILOs specified

in the course descriptors are also linked to the PILOs. The Panel studied the course descriptors and notes that the CILOs are in general appropriate to the level of the corresponding course and its content, and they are covered in three categories, including; generic transferable skills, knowledge and understanding and applied knowledge and understanding. During interview sessions, the Panel was informed that BP conducts workshops on writing learning outcomes and provides guidance for course development to the programme staff to ensure that learning outcomes are appropriately written. Although, as mentioned previously, BP uses its own Bahrain Polytechnic Qualifications Framework, the Panel acknowledges that there is also awareness of the Bahrain national qualifications framework. During interviews, staff and students were aware of the course descriptors and understood the purpose and meaning of the learning outcomes. Overall, the Panel appreciates that there are appropriate CILOs with well defined mappings to the BICT PILOs.

- 1.7 According to the SER, the 'Cooperative Learning Project (CLP) ITB7x99', at the end of Year 4 provides a semester-long on-job experience to students with placement in local industry and organisations, combined with a project forming a significant part of the learning process. The course is credit-bearing (60 credits or 600 nominal hours). Prerequisites include the in-house 'ITB6099 IT Project' and a minimum of 15 credits in the relevant major. Although not compulsory, the vast majority of students undertake the CLP course due to its practical nature. The alternative option is the 'ITB7098 Research Project' for more theoretically oriented students. The two courses are mapped to the PILOS appropriately covering the practical application of knowledge. There are appropriate CILOs to apply specialist skills in the major concerned and demonstrate employability skills suitable for a graduate in both courses, as well as using appropriate research methodologies in the latter. These are appropriate at this late stage of the programme and address the practical aspects of programme. Staff and students are well aware of the two alternative courses since these represent a significant culminating part of the programme. The Panel notes that there is a generic Assessment and Moderation policy and a general Offsite and Workplace Activities Policy. However, a formal assessment policy for the CLP course is lacking and the Panel recommends that one should be introduced, covering particular issues for the BICT programme. In particular, the Panel was informed that input from the employer is typically indirect *via* the supervisor. Overall, the Panel appreciates that the BICT programme includes good industrial work-based learning component that contributes to the achievement of learning outcomes in which students undertake real IT-based work with employers.
- 1.8 In line with its mission, BP provides student-centred education using a problem based learning approach (PBL), which is implemented in the delivery of its programmes, including the BICT programme. The BICT PAD for each major describes the teaching and learning philosophy, which is divided into two stages; 'stage1: Learning core

technical skills through BPL' and 'stage2: acquiring real-world experience and specialised knowledge'. The programme is delivered using a student-centred approach, utilising a problem-based learning philosophy through a mixture of lectures, tutorials, laboratory work, supervised projects and workplace experience. Furthermore, guidelines have been developed for completing course specifications to meet BPL requirements, which to be implemented in all courses starting from the second semester 2014-2015. The Panel encourages BP to expedite the implementation of these guidelines. Teaching methods are included in course specifications under 'Course Details' as 'Learning and Teaching strategies'. Although teaching and learning strategies are specified and set appropriately for each course, they are not specifically mapped to the CILOs or the course content in the weekly breakdown of the course descriptors, and the Panel suggests that they could be mapped. During interview session, the Panel was informed that e-learning is used to the extent that all courses are available on 'Moodle' and some courses have e-books associated with them, which was confirmed by the interviewed students. All tutors are required to complete the Certificate in Tertiary Teaching and Learning programme (CTTL) which is an in-house tutor training programme for student-centred approach. The Panel was informed by students that the teaching approach is effective and the students are highly satisfied with the variety of teaching and learning methods used, and the student-centred approach that helps in developing independent learning skills. The Panel was also informed during employers' interviews that the graduates of BP possess appropriate practical and self-learning abilities. The Panel appreciates the teaching and learning methods used in the delivery of the programme which support the attainment of the programme intended learning outcomes.

- 1.9 BP has an institution-wide Assessment and Moderation Policy, which covers; assessment code of practice, procedures and guidelines, as well as moderation procedures and guidelines. Both summative and formative assessments are included in the Assessment and Moderation Policy. Whilst the policy expect tutors to provide students with timely feedback on their assessment outcome, the nature of this feedback (e.g., written or verbal) is less well covered. The policy is available on the BP website and accessible by students, and the Panel confirmed during the site visit that both staff and students are aware of the relevant policies. The Panel notes that dissemination of these policies is more than adequate. Each semester, the BICT Programme Committee approves an assessment plan for each course, which is reflected in the course gradebook that is made available to the students. The Panel studied samples of the gradebooks and notes with appreciation that mark distribution is made course dependent and is adjusted according to the nature of the course by increasing the weight of the marks on the practical aspect of the courses in the latter years. Plagiarism, cheating, or other dishonest practices as well as student appeals are covered in 'Regulations Governing Probation, Suspension And Cancellation/Refusal Of Enrolments' policy. Interviewed students, showed full awareness of the Student

Academic Appeal Policy along with its procedure. Procedures for managing academic misconduct for both staff and students are stated in 'Procedures for Dealing with Academic Integrity and Honesty' policy. During the site visit, the Panel established that 'Turnitin' software is used to detect plagiarism, where suitable evidence was provided. The Panel appreciates that there are well-structured assessment mechanisms that are flexible to cater for course requirements in meeting the programme aims and are well known by faculty and students.

1.10 In coming to its conclusion regarding The Learning Programme, the Panel notes, *with appreciation*, the following:

- There are clear programme aims which contribute to the accomplishment of the institution's mission and strategic goals.
- The curriculum provides appropriate credits, prerequisites, student workload, year on year academic progression and a balance between theory and practice, including extensive problem-based and project-based learning approaches.
- The programme learning outcomes are mapped appropriately to the programme aims, well written, measurable and suitable for each programme major requirements.
- There are appropriate course intended learning outcomes, which are well mapped to the programme intended learning outcomes.
- There is good industrial work-based learning component that contributes to the achievement of learning outcomes.
- Teaching and learning methods used in the delivery of the programme support the attainment of the programme intended learning outcomes.
- There are well-structured assessment mechanisms that are flexible to cater for course requirements in meeting the programme aims and are well known by faculty and students.

1.11 In terms of improvement the Panel **recommends** that the Faculty should:

- ensure that an appropriate balance of selected topics in legal, ethical, social and professional issues are included explicitly in the syllabus
- develop a formal mechanism with proper local input to ensure that the contextualisation of the curriculum is continuous and systematic in order to meet the needs of the local market
- introduce a formal assessment policy for the CLP course covering particular issues for the BICT programme.

1.12 **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **The Learning Programme**.

2. Indicator 2: Efficiency of the Programme

The programme is efficient in terms of the admitted students, the use of available resources - staffing, infrastructure and student support.

- 2.1 BP has well documented admission policy and procedures for all students seeking admission to its programmes. To admit a student to the first year at BP, the applicant must have a high-school certificate with a minimum score of 70%, where the specialisation/stream is not specified. For the BICT programme, there is an additional entrance examination in the form of a mathematics (Password Maths Test) and English-language proficiency test (Oxford English test). The Panel acknowledges that both of these tests are internationally recognised, secure and at an appropriate level for this type of programme. Moreover, if an applicant does not meet these requirements, he/she will be enrolled in BP foundation programme. The admission policy is regularly reviewed in accordance with the Policy on Creating Policies which specifically outlines timeframes for policy review. During interviews with staff, the Panel was informed that the Dean of each Faculty makes the decision on the adjustment of any entry criteria based on the performance of current and past cohorts as well as the current number of staff and students in the programme. The specific admission requirements for the BICT programme (in terms of specific maths and English scores) are also adjusted annually through an internal memorandum system. Interviewed students and staff, showed clear understanding of the admission policy and the Panel confirmed that it is available on 'Sharepoint', BP's website and Student Handbook. The Panel appreciates that there are well documented admission policy and procedures, which are suitable for the programme needs and the details of the requirements are reviewed annually.
- 2.2 The BICT programme accepts students from both government and private schools where the average high school score of students entering the programme is approximately 86%, ranging between 70% to 99% from 2012 to 2015, indicating a high calibre students' profile. Most of the admitted students are Bahrainis and enrol full-time. Evidence provided to the Panel showed high pass and retention rates, further demonstrating that the programme is attracting an appropriate level and type of student. As stated earlier, students enter the BICT programme either through direct entry or after completing a Certificate in Academic Preparation (CAP), depending on the results of their entry tests. Most of the students interviewed by the Panel had entered the BICT programme after completing the CAP and generally viewed the CAP programme as being adequate to prepare them for the needs of the BICT Programme. Some students remarked that they felt the level of mathematics taught in the CAP programme was quite low, but that the courses on academic writing helped substantially in preparing them for the BICT programme. The Panel recommends that the Faculty evaluate the contents and level of the mathematics courses in the CAP

programme to ensure its effectiveness in line with the entrance examination cut-off requirement. Notwithstanding the above, the Panel acknowledges that the profile of admitted students to the BICT programme is appropriate for the level of the programme as indicated in students' pass rates.

- 2.3 The duties and responsibilities of BP's management and operational teams are clearly delineated in the submitted organisational chart in the SER. At the management level, the Dean has overall responsibility for the Faculty of Engineering, Design and ICT (EDICT), and is assisted by a Faculty Operations Manager and an Academic Quality Manager. Each of Faculty's three schools is headed by a Head of School (Engineering, ICT & Web Academy, Visual Design) who reports to the Dean. Reporting to the Head of School are the four Programme Managers for each of the four majors of the BICT programme who act as the line managers for the academic staff members. The respective job descriptions of the aforementioned positions are stipulated in the Job Descriptions document. Moreover, the Panel noted during interviews, that there are provisions within the School for the appointment of managers with cross-faculty responsibilities, i.e., the Programme Manager for Work Integrated Learning, the Programme Manager for Short Courses, and the Programme Manager for Flexible Delivery. These positions were still vacant in the School of ICT & Web Academy at the time of this review and the Panel recommends expediting the recruitment process to fill the vacant positions of the three Programme Managers with cross-faculty responsibilities. The BICT Programme Committee, a sub-committee of the EDICT Faculty Board with its own terms of reference, undertakes operational oversight of the programme. Regular meetings are conducted amongst these entities and results are communicated to the Programme Manager after the bi-monthly management meetings. Interviewed staff and students showed a strong knowledge and understanding of the hierarchy of the Faculty. The Panel appreciates the clear lines of accountability with regard to the management of the BICT programme, which is well-established.
- 2.4 There are 20 faculty members (four PhD, 12 Masters, two Postgraduate Diploma, and two Bachelors) with a range of experience in both academic and industrial environments who contribute to the delivery of the programme. During the site visit, the Panel reviewed the CVs of the faculty members teaching in the programme and confirmed that there is an appropriate range of credentials for teaching in the BICT programme. Furthermore, all staff members have taken the Polytechnic Certificate of Tertiary Training and Learning (CTTL). The staff workload is administered through the application of the Academic Workload Policy. On average in 2014-2015, staff had 10 to 16 contact hours per week, which included hours of additional overtime, and the Panel considers it to be within international standards. Whilst the Panel views the number of teaching staff being adequate, there is a clear and definite need to employ more technicians, where only one technician is involved in the delivery of the BICT

programme which operates eight laboratories. Interviewed students reported that staff were easily accessible and their availability can be checked through 'Moodle'. At the time of the site visit, the ratio of students to staff was 10.66 and the average number of students in the classes was 14.5, with the maximum capped at 20. The Panel is of the view that this is an appropriate for PBL, being resource intensive and requiring extensive interaction by tutors. Research at Bahrain Polytechnic is limited due to lack of motivation for staff to get engaged in research, which is influenced by limited resources and lack of incentives (e.g., promotion) to publish. However, research is still an important part of industry engagement and the Panel was pleased to observe that despite the challenges a few staff were still conducting research and publishing regularly. During interviews, several staff reported that despite the limitations they are still satisfied that BP did have an adequate framework for conducting research and that the institution was 'doing its best' to support them. Nonetheless, the Panel recommends that the Faculty introduce measures to support applied research amongst the teaching staff in their relevant technical fields.

- 2.5 BP has very clear, well-documented policies for the recruitment of new staff. BP is required to liaise with the Civil Service Bureau (CSB) (and its associated policies and guidelines) for staff recruitment. According to interview sessions with staff, BP communicates its recruitment requirements to the CSB, which then sub-contracts the sourcing of candidates to an external consultancy to perform an initial filtering. The Panel expressed concerns over this two-step process, which in the view of the Panel is rather a lengthy process especially if BP aims at retaining and hiring high-quality staff members. Interviewed staff appeared to have had an almost identical recruitment process indicating consistency of recruitment in BP. Nonetheless, they expressed some concern over the length of time between initially applying for a position at BP and being sent an offer. Meanwhile, once physically on campus, staff unanimously reported a very high level of satisfaction with the orientation process. They reported receiving training on the teaching systems (e.g., 'Moodle' and 'Banner') as well as general lectures on different topics such as quality assurance policies and procedures, safety, and library resources. Furthermore, all staff members at BP are required to enrol on the Certificate of Tertiary Teaching and Learning (CTTL) course, which by all accounts is working well and highly appreciated by staff. The Panel appreciates that BP has a well established effective orientation programme for its new faculty. Moreover, staff indicated that they receive guidance and mentorship from colleagues but the process is not administered in a formal manner, and that staff conducting the mentoring do not receive any incentive for this work. The Panel encourages BP to formalise the mentoring process. BP has a formal process for faculty appraisal. Faculty meet yearly with their direct line managers to discuss performance. Interviewed faculty reported a high level of satisfaction with this process and were satisfied that they were given opportunities to raise concerns, request funding for professional development activities, and engage in other developmental tasks. One major concern

identified by the Panel was the lack of a Promotion Policy at BP and the complete lack of academic promotion opportunities available to staff members. As discussed previously, BP is required to follow CSB guidelines in this regard, and the concept of academic rank is not recognised. As such, new teaching staff members are hired as tutors regardless of qualifications and experience, which undermines their career development opportunities, such as academic promotion. This obviously impacts faculty's motivations to perform at a higher level. During interviews, it was clarified that BP is currently negotiating with the CSB for a custom promotion policy, and the Panel recommends that this be expedited to ensure that faculty will perform at the highest quality possible. The vast majority of academic staff currently contributing to the programme are expatriates (90%) and BP follows CSB guidelines where expatriate staff members' are granted fixed-term contracts with a maximum length of two years. In this regard, the Panel notices that BP has not developed a formal policy for staff retention and the Panel recommends that BP introduce and implement a formal policy for staff retention and promotion to ensure that qualified academics are available to deliver the programme.

- 2.6 BP uses two Management Information Systems (MIS), which are 'Banner' and 'SharePoint', to ensure sound decision-making processes. Staff, in general, and registrar, in particular, use 'Banner' for registration and storage of student records including official grades. 'Banner' is capable of automatically generating reports (e.g., flagging at-risk students). During the site visit, this capability was demonstrated to the Panel. Additionally, 'Banner' can generate statistics and graphs as well as academic transcripts. This capability allows staff to make informed decisions on students' academic progress based on their current and past performance. Staff use 'Sharepoint', but the implementation appears to be limited as a 'file sharing' platform, only. The Panel suggests improving the utilisation of 'Sharepoint's' powerful report generation, database, and other analysis tools to better understand the data contained within the system. During interviews, the Panel was informed that BP also plans to implement a new reporting tool, Argos, so that customised data and reports will be available. However, the Panel was not given any exact date on when Argos will be effective. Moreover, the Panel is concerned that without fully utilising the current reporting resources available to staff members and programme team, adding new reporting tool might not solve the problem. Hence, the Panel recommends that BP develop a comprehensive training programme on 'Sharepoint' to enhance its utilisation and enrich decision making.
- 2.7 There are three main policies to ensure accuracy of students' records namely Assessment and Moderation, Results and Reporting, and Student Academic Appeal. According to the SER, and as was confirmed during interviews, prior to entering students' grades into 'Banner', they are signed off by course coordinators and then approved by the Academic Board. Moreover, BP has a detailed and well-documented

business continuity plan that discusses, amongst other things, procedures for ensuring data backup. Whilst it is impossible to verify the efficiency of any disaster recovery plan prior to a disaster occurring, in general the BP policy appears to be comprehensive and well thought out, where daily backups of all student and staff data are kept on site and monthly backups off campus. During the site visit, the Panel confirmed that the IT services at BP are supported with adequate equipment and operated by knowledgeable staff and that all of the involved parties have different levels of access with unique user names and passwords. Touring the facilities, the Panel observed that physical students' records were housed in filing cabinets behind staff in the Registration Office. Although the Panel understands that these records are effectively backed up and that usually digital versions of the records would be used for day-to-day operations, there are still some concerns about record storage. In this regard, the Panel did not observe any physical barrier, in the form of a glass window or steel wires, between the lobby and the filing cabinets. This offers a very real possibility for records to be stolen, destroyed, or physically altered. The Panel advises that BP include further measures for augmenting the security and protection of student records whilst still allowing Registry staff to access these records.

- 2.8 During the site visit, the Panel toured some classrooms, laboratories, and other facilities that included eight laboratories for the BICT programme, being; Apple Macintosh, Networking, Server/Networking, ICT innovation, Infrastructure, Hardware, Programming and Database, as well as utilising other laboratories within the campus. The Panel notes that the number of classrooms and laboratories is adequate for current student numbers, but will need to be carefully monitored if student numbers increase. The laboratories are modern and well laid out and the equipment is well maintained and capable of demonstrating the concepts to students, but the amount of equipment is slightly low to cater for the number of students. The Panel is pleased with the BICT Innovation laboratory and the fact that BP has licensed software for off-campus use. This is important for PBL-based learning, which requires students to develop their knowledge and skills in their own time. The Panel also is pleased with the specialist networking laboratory equipment. However, IT equipment in general is coming to the end of its useful life, which has been extended by upgrading of memory, etc. The Panel notes that some IT equipment and the network access speed was slow during the visit. The Panel recommends that BP implement a strict policy on the replacement of IT computer and networking equipment, with explicit acceptable limits on the age of such equipment. During the tour, the Panel viewed the available resources in the library and has concerns about the number and type of books available for the BICT programme in the library, which are extremely low. According to the SER, 'there is a limited relevant book stock' for the BICT programme and the number of library checkouts made by the BICT students was only 178 items during 2013-2014. During students interviews, the Panel was informed that many of the relevant books for the BICT programme were not available and that the Ebrary mainly provides

material for the business specialisation. Another major limitation is the library's operation hours (weekdays between 8am and 6pm with no weekend access). In practice, the campus closes at 5pm further limiting availability. The Panel recommends that BP review the library resources available to BICT programme and further investigate ways to extend the opening hours of both the library and the campus in general. On the other hand, IT general facilities appeared to be adequate and students expressed their satisfaction in this regard. The Panel notes that there are sufficient numbers of computers, ready access to e-mail and electronic resources, and Wi-Fi coverage appears to be good throughout the campus. Furthermore, BP offers a large number of informal study areas across the campus, including the library. There is also a large auditorium used for events and expositions. Students have access to an on-campus subsidised gymnasium and recreational facilities, which are modern and well-maintained. There is also an on-campus modern, well-equipped health centre that is staffed by a registered nurse. The Panel notes with appreciation the general facilities available to students.

- 2.9 BP uses different information systems to track the usage of its resources including 'Banner' as a student information system, Celcat as a timetabling system, Millenium as a Library Management System, 'Moodle' as a virtual learning environment, and 'Sharepoint' as a document management system. The library's tracking system of digital resources usage is used to justify the continual renewal of licences for some products. Laboratories and classrooms are electronically scheduled and usage is tracked by Celcat. The usage of laboratories by students is not tracked electronically but logged manually while the use of the Internet is tracked and monitored by the IT Department. Interviewed staff confirmed how these reports, which are provided by the various systems, are utilised to inform decision making. During interviews, the Panel learnt that BP plans to use access cards for all campus laboratories in order to reinforce equipment security and allow better tracking of their use. The Panel suggests that BP enhance the current tracking system to comprehensively track the usage of the laboratories and further support decision making.
- 2.10 BP provides varied types of support for the students such as the Writing Centre, located in the library, which provides support for students concerning general writing skills as well as basic mathematics and academic skills. Furthermore, the Career and Employment Centre provides a comprehensive service to meet the students' initial career decision making and development needs. Students interviewed by the Panel showed good knowledge and enthusiasm for both Centres and many indicated that they benefited substantially from using these services. BP has also implemented a system where high achieving students provide peer support to other students upon the recommendations of their tutors. This allows those students to gain experience mentoring other students in need of academic support and build their knowledge and confidence of the subject, while at the same time helping peers. The system is well

advertised and students interviewed by the Panel demonstrated awareness of it. Moreover, the Panel notes that students are appreciative of the level of support they received from their academic advisors as well as the support given by staff in various centres, such as the library. In addition, BP has a Student Council consisting of 12 high-CGPA students who are elected by the student body. A major limitation of this council however is that there is no requirement for members to be from different BP Faculties or achievement level not be restricted. As such, students from EDICT interviewed by the Panel felt the current council was of little-to-no value to them and generally did not vote in elections. The Panel suggests that BP Student Council considers developing a constitution outlining membership, procedures for nominations and to review its mandates to include students from different Faculties and levels. Nonetheless, the Panel appreciates the amount and type of support available to students at BP.

- 2.11 BP conducts annual orientation for newly admitted and transferred students to its programmes. It is comprehensive and organised at the beginning of semester one of each academic year. The orientation programme covers key areas of information (e.g., policies, procedures, and attendance rules) that students reasonably require in order to succeed in their studies. Students are introduced to the programme team and tour BP's facilities. They also receive a copy of the Student Handbook. Staff interviewed by the Panel demonstrated no hesitation in helping students to gain whatever knowledge they need. Interviewed students whom had attended the orientation programme expressed their satisfaction with its organisation. The Panel appreciates the comprehensive orientation programme offered to new and transferred students. Notwithstanding the above, the Panel notes that no provision is given to students who miss the orientation programme, where these students are left with the responsibility of gaining the knowledge presented during the orientation programme independently. The Panel encourages BP to introduce an alternative arrangement for students who miss the orientation programme to ensure that they are well informed about the institution policies, procedures, facilities and resources.
- 2.12 BP has a rigorous and robust policy for identifying at-risk students. The Students at Risk Policy is comprehensive and exemplifies the different types of at-risk cases like academic progress, personal and psychological issues, health/safety related issues, financial issues, and social/behavioural issues. The Panel views the information provided in the document as good practice as it specifically guides faculty members on how to identify at-risk students, which also details some examples and types of support that could be offered (depending on the circumstances) and then sets out the entire process by means of a flow diagram. In conjunction with using 'Banner' to identify at-risk students for the reasons of low attendance, faculty members are also expected to be pro-active by following up with students who are absent, where the limit is set at 20%. Moreover, at-risk students are discussed at the monthly Programme Committee meetings where at-risk students are a standing agenda item. Once a

student is identified as being at-risk of academic failure an extensive tracking and support system is available in terms of the Library Learning Centre, the Writing Centre and PASS System and faculty intervention, as noted previously. Furthermore, students who could not obtain the required grades are identified as 'on probation' and such students are given reduced workloads until they succeed in lifting the probation. During interviews, students confirmed that at-risk students are required to attend weekly sessions with their academic advisor for one to one tutoring and may also have to attend peer tutoring. Faculty members are made aware of at-risk students *via* a summarised staff information document detailing reasons for a student being at risk such as lack of academic progress and irregular class attendance. During interviews, staff confirmed that they receive information on how to identify at-risk students and how to refer them to the correct support providers. The Panel appreciates the current arrangement for identifying students at risk that provides support in a timely manner.

2.13 BP provides varied opportunities for informal learning to the student of the BICT programme. Several seminars are organised by the Career and Employment Centre to enrich students' knowledge. Invitations to attend guest lectures on-and off-campus are always communicated to students. Furthermore, interviewed students confirmed the easy access to staff on-and off-campus and praised their positive response to their requests or queries even if these queries were not directly related to the curriculum. The Panel notes that this form of informal learning motivates students to be self-learners. Opportunities for engaging in extra-curricular activities like summer work in the ICT sector and special projects or industrial visits are also made available to students. Other facilities supporting informal learning and enriching students' experiences include the Writing Centre, Career and Employment Centre, and Students' clubs (as mentioned earlier). Interviewed students expressed their satisfaction with the extracurricular opportunities provided by BP and further stated that the Health and Wellness Centre, Writing Centre and the Career and Employment Centre conduct regular awareness seminars. The Panel appreciates the learning environment provided to the students of the BICT programme is conducive to expanding the student experiences and knowledge through informal learning.

2.14 In coming to its conclusion regarding the Efficiency of the Programme, the Panel notes, *with appreciation*, the following:

- There are well documented admission policy and procedures, which are suitable for the programme needs and the details of the requirements are reviewed annually.
- The well-established clear lines of accountability with regard to the management of the BICT programme.
- The well established effective orientation programme for its new faculty.
- The general facilities available to students.
- The availability of various types of student support.

- The comprehensive orientation programme offered to new and transferred students
- The implemented measures for identifying at-risk students, which provide appropriate support in a timely manner.
- The learning environment is conducive to expanding the student experiences and knowledge through informal learning.

2.15 In terms of improvement, the Panel **recommends** that the Faculty should:

- evaluate the contents and level of the mathematics courses in the Certificate in Academic Preparation programme to ensure its effectiveness in line with the entrance examination cut-off requirement
- expedite the recruitment process to fill the vacant positions of the three Programme Managers with cross-faculty responsibilities
- introduce measures to support applied research amongst the teaching staff in their relevant technical fields
- introduce and implement a formal policy for staff promotion and retention, to ensure that qualified academics are available to deliver the programmes
- develop a comprehensive training programme on 'Sharepoint' to enhance its utilisation and enrich decision making
- implement a strict policy on the replacement of IT computer and networking equipment, with explicit acceptable limits on the age of such equipment.

2.16 **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **Efficiency of the Programme**.

3. Indicator 3: Academic Standards of the Graduates

The graduates of the programme meet academic standards compatible with equivalent programmes in Bahrain, regionally and internationally.

- 3.1 According to the SER, BP uses the Graduate Profile terminology interchangeably with Graduate Attributes and Programme Intended Learning Outcomes, which are stated in the Programme Approval Document (PAD). For each major, the PAD includes clear statements of the graduate attributes which are described under three categories, being: knowledge and theoretical understanding; knowledge of practical application in the specified discipline and employability skills. These graduate attributes ensure that graduates are work ready, are skilled and conversant in the latest ICT techniques, flexible in the workplace and can present their ideas to a range of audiences. A table for mapping the PILOs with the individual courses is available in the PAD and course specification documents link each course learning outcome and the designated assessment for the covered topic with the PILOs, enabling the achievement of the graduate attributes. The Panel appreciates that the mechanism for specifying graduates attributes and linking it to a robust assessment structure is in place.
- 3.2 The BICT programme is based on a programme acquired by BP from Monash University in Australia, providing initial international benchmarking of the programme. During interviews with the programme team, they clarified that an external monitor review in 2011 provided some recommendations, where the main purpose of the external monitor was to assist the institution in maintaining and enhancing the quality of its qualifications. Feedback from an academic BICT External Monitor, provided by an Institute of Technology based in the Republic of Ireland and an international review panel, has confirmed the standard of the BICT programme. Moreover, the Panel was informed that the University of Greenwich (UK) is due to undertake external review of the BICT programme, but this has yet to be approved. The Panel acknowledges that BP has made a number of benchmarking efforts with respect to the BICT Programme. However, the Panel did not see evidence of an overall policy/procedure on this aspect. The Panel recommends that the Faculty develop and implement a formal benchmarking policy to benchmark all aspects of the programme against programmes offered locally, regionally and internationally.
- 3.3 There is a formal BP-wide Assessment and Moderation Policy that is implemented and monitored by the Programme Committee and Faculty Board. The Programme Committee also oversees changes to course descriptors, which include revision of assessment methods and their implementation. Moreover, there is a clear Assessment and Moderation Guidelines that is communicated to academic staff and students as well as a policy for managing the assessment of multi-section courses. The Panel acknowledges that there are appropriate implementation mechanisms and there is

evidence that assessment and moderation procedures are well known by faculty and in widespread use for the BICT programme. Assessment Policies are made available to students in the Student Handbook, on the institution's website and on 'Moodle'. Furthermore, the Panel noted from course files that cover pages of the assessment papers include appropriate information, such as the mark distribution per task, a matrix indicating the assessed learning outcomes and relevant instructions. During interviews, the Panel confirmed that students are informed of changes to the assessment procedures through the online 'Moodle' system, which also includes general assessment information, as well as periodic emails. The Panel appreciates that the assessment methods and procedures are transparent, monitored and subjected to regular reviews.

- 3.4 An Assessment and Moderation policy and Results and Reporting policy are in place. While the prior focuses on the alignment of assessments to and their coverage of the course learning outcomes, the purpose of the latter is to ensure that student results are managed effectively and in a timely manner. In each course 'Gradebook' on the 'Banner' system, each of the assessment tasks are linked to the learning outcomes. Furthermore, the Panel notes from viewed course files that the pre-moderation process is implemented which checks that learning outcomes are covered. Staff interviews confirmed that all new academic staff enrol in the Certificate of Tertiary Teaching and Learning programme as well as receive mentorship from experienced staff to inform them on assessment policies and procedures and how to ensure their alignment and coverage of learning outcomes. The Panel was also informed that the BICT Programme Committee checks and approves the assessment plan, including coverage of the learning outcomes. The Panel was informed by academics that verification of the alignment of assessment with outcomes by external moderators is currently pending but approval by the Academic Board has been granted for the appointment of external moderators. The Panel appreciates that the mechanisms for ensuring the alignment of assessment with outcomes are appropriate.
- 3.5 The Assessment and Moderation policy, mentioned earlier, specifies the responsibilities of various entities involved in the moderation process. Internal course moderation procedure specifies that new and revised assessment tasks and instruments are moderated before use, as well as carrying out post-assessment moderation of students' assessments. The EDICT Standard Operating Procedure provides guidelines and a 'Moderation Tracking Sheet' form for the moderation of courses, which are maintained on the 'Sharepoint' system. The Panel notes that the moderation processes for the BICT programme have been reviewed by Monash University to ensure their effectiveness and involve the use of pre- and post-assessment moderation forms. According to the SER, internal moderators are nominated to be different than the assessment writers, a process that is ensured by the use of a moderation tracking sheet, who are then approved by the EDICT Faculty

Board and Academic Board. The Panel studied the samples of internal moderation documents provided and notes that the majority of the internal moderations are primarily limited to box ticking without specific comments and advice. While the Panel acknowledges the mechanisms implemented for internal moderation, there is a lack of evidence of course improvement and as a result, recommends more focus on the evaluation of the effectiveness of the internal moderation process in the BICT programme.

- 3.6 According to the SER, the Assessment and Moderation policy requires external moderation of courses at least once every five years for each academic programme offered by BP. Moreover, a general moderation plan is in place at BP for 2013–2018. The Panel encourages the Faculty to increase the frequency of the external moderation of the programme courses. During interview sessions, the Panel was informed that Monash University provided external moderation at the start of the programme. However, according to the SER and confirmation by interviewed staff, no regular formal external moderation of the BICT programme is currently implemented. The Panel acknowledges that plans are in place for the implementation of external moderation process in the near future. Nonetheless, the Panel recommends that BP expedite the implementation of external moderation of the programme, since this extra level of checking will provide additional assurance that the assessment process is effective.
- 3.7 The Panel viewed BICT programme course files during the site visit, both physical versions and more recent versions of the course files that were provided online, at different levels of the programme (Years 1 to 4). In summary, the Panel acknowledges that the student work viewed is adequate compared to what is expected in such programmes in general. Moreover, the Panel inspected a number of project reports, both course projects and final projects, during the visit and found the quality of these to be variable, where the poor ones suffering from significant language problems, but the better ones demonstrating good achievement. Moreover, the Panel noted that in some reports referencing was not to an acceptable level for a bachelor programme. The Panel encourages the Faculty to ensure that student work include proper citations, especially by Year four of the programme. The Panel also noted that the 'ITB6099 IT Project' has among its LOs: 'Independently develop an ICT solution according to a design'. However, the Panel notes that some student reports are over-reliant on gathering ideas and solutions from the web and other public resources, without comments from markers. The Panel suggests that students should be encouraged to produce more independent work, which is appropriate at this level of the programme. The Panel acknowledges that the level of achievement in student work is adequate for the programme compared to other programmes locally, regionally and internationally.

- 3.8 Currently, the BICT programme has graduated four cohorts, where 90 students have graduated from all the intakes starting in 2009. BP sets the qualification completion requirements, given in the PAD, as the measure for meeting its graduate profile such that a student has to meet all the learning outcomes in every course whereas the implementation of the Assessment and Moderation Policy is the mechanism used to ensure that learning outcomes are met. Furthermore, final grades are checked by the course coordinator and then by the Programme Manager, utilising course Provisional Grades Forms and course summaries. A filled template for the course summary is then presented to the Academic Board for final confirmation. The Panel viewed the GPAs of graduated students between 2012 to 2014 and notes that the average GPA ranges from 3.08 to 3.32, the minimum ranges from 2.60 to 2.94 and the maximum GPA ranges from 3.6 to 3.81. Furthermore, out of the 88 students who graduated in this period, 35% of them graduated with a GPA of 3.5 or higher. The Panel notes that the GPA's of the graduating students being positively skewed which could be attributed to the selective intake available. During interviews, the Panel was informed that stakeholders are satisfied with the level of achievement of the BICT graduates and that the double-project in the last year of the programme is a feature that improves employability of the BICT graduates. The Panel acknowledges that graduate achievements are in practice satisfactory overall, as confirmed by the stakeholders during the visit and the viewed data. However, the Panel did not see evidence for the overall evaluation of the actual achievement of the PILOs. The Panel recommends that BP closes the loop on graduate attributes and implement a mechanism to assess the achievement of the overall graduate attributes.
- 3.9 BP maintains retention and completion data for the programme in its Annual Programme Review (APR) report which contains some analysis and comments on various issues observed within the courses. The statistics provided in the BP's Profile indicate that 27 students graduated in semester two of 2012, 45 students in 2013 and 16 students in semester one of 2014. Furthermore, the Panel notes high retention and passing rates, for example, the percentage of retention for 2013-2014 is 99.6% in both first semester and second semesters, with an average pass rate for the same period of 85.4% in the first semester and 92% in the second semester. Moreover, the out of the total number of students who joined the program in 2009, being 371 students, 90 students have graduated and 73% completed the programme within eight semesters. The Panel is of the view that figures compare comparably with other programmes locally and regionally. The first destination of the graduates table indicates that out of the first cohort 77% of the graduates found employment. The other two subsequent cohorts showing 54% and 57% being employed. Out of 34 survey respondents from the second and third cohorts, 12 students pursued further study. The Panel is satisfied with students' progress in the programme and the programme graduates are perusing appropriate careers.

- 3.10 The BICT programme provided two options for work-based learning, a Cooperative Learning Project (CLP) and the Research Project, and BP has general Assessment and Moderation Policy, that covers those. The 'ITB7x99 Cooperative Learning Project' provides a work-based learning experience for the majority of BICT programme students, in line with the major that they have chosen, with the 'ITB7098 Research project' made available for students who are more interested in a research-oriented project. The Industry Project Course Guideline provides the details of the requirements for the work placement of the CLP, which includes information for the student and the workplace mentor. The Panel viewed the evidence provided and notes that students provide comprehensive documentation of their experience, a formal project proposal, a project document with reflection, and a completed Employability Skills questionnaire. Furthermore, students can propose their own projects. During interview sessions, students and workplace mentors expressed their high satisfaction with the project. The Panel appreciates that existing policies and procedures for work-based learning are effectively implemented and that the arrangements in place are appropriate for a practical based programme such as the BICT.
- 3.11 In the final year of the BICT programme, students register for the CLP according to their major where a comprehensive project report has to be submitted. As noted earlier, the CLP is a work-based industry project that is organised by the BICT staff and the Industrial Liaison Manager in which students undertake a sizable project. BP has a general but appropriate Assessment and Moderation Policy and Offsite and Workplace Activities Policy, covering general responsibilities of the student, supervisor, and workplace mentor. There is also specific supervisor information for the CLP course of the BICT programme, 'ITB7x99'. Furthermore, a Memorandum of Agreement document, which is signed by the industry mentor and academic supervisor, specifies the mentor's duties. According to the course descriptor document, weekly contact with supervisor *via* 'Moodle', e-mail and telephone is established with the student, which is assigned 30% of the final marks for the course, and another 10% are assigned for the final reflection by the supervisor. The project report is assigned 20%, which includes the student's project proposal, requirements and implementation schedule. The project demonstration is assigned 40% of the total marks and the student has to present the completed industry project in front of a panel of peers. During interviews, the Panel was informed that students and supervisors are content with the final CLP project. The Panel appreciates that there are clear policy and procedures for supervising and evaluation students' project, which is implemented systematically. Nonetheless, the Panel found a number of final year projects without proper markings to indicate an appropriate feedback for the students concerned. Furthermore, the Panel noted that workplace mentors have little formal input into the evaluation of the student's performance due to the unreliability of the evaluation process in practice. As such, the Panel recommends that a more formal

mechanism to be implemented that takes into account the views of the workplace mentor, even if moderated by the advisor.

- 3.12 A specific BICT Curriculum Advisory Committee (CAC) with a wide range of industrial experience has been established and a 'terms of reference' document exists. The Panel notes from the CAC membership list and their CVs that the composition of the committee is appropriate with good industrial representation. Furthermore, there is evidence that regular meetings is held and feedback is provided to the BICT programme. However, the Panel notes that attendance by industrial members is low in practice. During interviews with the CAC, the Panel was informed that the Committee is still relatively new and the attendance by the members is not good. Furthermore, not all members of the CAC received the terms of reference and hence the Panel suggests that awareness of the terms of reference could be improved for members of the CAC.
- 3.13 The BICT programme is still relatively young and only a few students have completed the programme. An Alumni Survey has been formulated but is awaiting approval by the Board of Trustees and has not yet been used in practice. Nonetheless, interviewed alumni expressed their high satisfaction with the programme and indicated that it prepared them for the requirements of the job market. During interviews, the Panel was informed that employers are satisfied with the graduates of the BICT programme and that employers favour the programme graduates for their IT skills and being work ready. Furthermore, the Panel appreciates that there is statistical evidence of good rates of graduate employment and further training after the programme has been completed, and that interviewed alumni and employers expressed satisfaction with the programme and the level of graduates. However, employer satisfaction is so far anecdotal where BP is still formulating an employer survey, and the Panel is of the view that BP should systematically evaluate the level of employer satisfaction. This is discussed in more details in paragraph 4.8.
- 3.14 In coming to its conclusion regarding the Academic Standards of the Graduates, the Panel notes, *with appreciation*, the following:
- The mechanism for specifying graduates attributes and linking it to a robust assessment structure is in place.
 - Assessment methods and procedures are transparent, monitored and subjected to regular reviews.
 - The mechanisms for ensuring the alignment of assessment with outcomes are appropriate.
 - The existing policies and procedures for work-based learning are effectively implemented.
 - There are clear policy and procedures for supervising and evaluation students' project, which is implemented systematically.

- There is statistical evidence of good rates of graduate employment or further training after the programme has been completed.

3.15 In terms of improvement, the Panel **recommends** that the Faculty should:

- develop and implement a formal benchmarking policy to benchmark all aspects of the programme against programmes offered locally, regionally and internationally
- further focus on mechanisms for the evaluation of the effectiveness of the internal moderation process in the programme
- expedite the implementation of external moderation of the programme
- close the loop on graduate attributes and implement a mechanism to assess the achievement of the overall graduate attributes
- implement a formal mechanism that takes into account the views of the workplace mentor which are provided during the evaluation of the students' performance.

3.16 **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **Academic Standards of the Graduates**.

4. Indicator 4: Effectiveness of Quality Management and Assurance

The arrangements in place for managing the programme, including quality assurance and continuous improvement, contribute to giving confidence in the programme.

- 4.1 There are general policies and procedures pertaining to the management of the programme where the Quality, Measurement, and Analysis Directorate at BP has the overall responsibility for monitoring the implementation of these policies and procedures across all academic programmes. On-site interviews with the Faculty administrative and academic personnel confirm the existence of policies and procedures that provide necessary support for maintaining academic standards and operation of the BICT programme. The Panel had access to several policies and procedures related to teaching and learning such as Assessment and Moderation, Students at Risk, Student Academic Appeal, Evaluation and Review, AQAC Review Process Approval, and Creating Policies. Moreover, the Panel was provided with evidence of the quality-assurance management process that ensures the effectiveness of each policy. From the submitted documents and interviews with administrative, academic, and quality assurance staff, the Panel noted that BP implements policies effectively with the participation of all appropriate stakeholders. The Panel also notes that all policies related to students and staff are available on 'Moodle' and 'SharePoint', respectively. Interviewed students expressed their satisfaction with the availability and implementation of these policies. The Panel appreciates that BP has an effective quality management system that ensures the implementation of all policies across the institution.
- 4.2 The BICT is managed at different levels starting from the institutional level to the course co-ordinator level. Interviews with staff indicated that the Head of School supported by the Programme Manager, one for each of the four majors in the BICT programme, and Course Coordinators leads the delivery of the BICT programme, while the Programme Manager focuses on day-to-day matters including students and staff teaching BICT courses. Academic decisions are taken by the Programme Committee and endorsed by the Head of School, which are submitted to the Faculty Board for final approval. The Panel appreciates that the BICT programme has effective leadership to ensure the quality of its delivery.
- 4.3 The quality assurance system at BP is divided amongst several bodies; Quality Management System (QMS) and AQAC. The former is responsible to manage all the policies and procedures while the latter ensures consistency in the implementation of these policies across all programmes. At the Faculty level, the manager of the Quality Measurement and Planning Directorate is responsible to maintain the standards of the quality assurance across all EDICT programmes. The BICT Programme Committee

plays a vital role in monitoring and evaluating the implementation of all the policies. During interviews, academic and administrative staff show clear understanding and involvement in all quality assurance processes at institutional and programme level. The Panel was provided with evidence showing an action list of measures for implementation as part of the improvement plan for the BICT programme. The Panel appreciates that BP has a comprehensive quality assurance system that is applied, monitored, and evaluated.

- 4.4 BP spreads quality assurance culture amongst its staff through training programmes and regular meetings or seminars. For example, all faculty members have to sign up in the Certificate in Tertiary Teaching and Learning programme, which is BP's in-house tutor training program that lasts 150 hours, to strengthen their understanding of how to integrate quality assurance requirement in teaching. The Panel acknowledges that such a policy effectively helps the academic staff to establish sufficient understanding of the quality assurance issues within their teaching practice. During interviews, the Panel was informed that new staff are expected to attend an induction programme to strengthen their understanding of the teaching requirements, including Problem-Based Learning (PBL) and quality assurance practices. In addition, staff are provided with the Quality Manual, which defines BP's quality assurance model, as well as the Standard Operating Procedures manual for the EDICT Faculty, which is intended as a guide for tutors on aspects of moderation, class delivery and assessments. Moreover, interviewed staff confirmed that all courses undergo internal moderation and they are involved in the process. Furthermore, academics and support staff confirmed their participation in several workshops organised by the Teaching and Learning Unit on the aforementioned aspects and they highlighted that quality assurance issues are always discussed during meetings and any updates or changes in the policies are communicated to them *via* email for possible comments and feedback. The Panel appreciates that BP staff are fully aware of the quality assurance requirements and take part in enhancing the ones related to their duties.
- 4.5 There are formal policies and procedures in place for the development of a new programme where essential factors are taken into account. Their objective being to ensure that new programmes are in line with BP's vision and mission. These factors include labour market needs, feedback from stakeholders, learning outcome alignment, and internal and external validations as per the QQA institutional listing standards. Interviewed staff clarified the process of introducing a new programme. This process is demonstrated in the SER mentioning all parties involved such as Faculty Board, AQAC, Academic Board, and Board of Trustees. Nonetheless, during interviews, the Panel was informed that until now no new programmes have been introduced by the EDICT. The Panel is satisfied with the existence of policies and procedures to introduce new programmes whenever needed.

- 4.6 There is a formal policy for the annual internal review of the programme which is conducted by the Curriculum Unit and AQAC, during which academic tutors and programme managers meet to discuss employers and Academic Advisory Committee's feedback so that suitable actions are taken. The process starts by evaluating each course in details and concludes with a list of actions to be taken which is translated into a new action plan and areas for improvements. The BICT programme committee and Faculty Board monitor the process throughout the year. Interviewed staff indicated their participation in reviewing each course and developing the action plan. The Panel notes that although the process is clear and followed; yet evidence of actions taken after the revision was not sufficient to provide further enhancement and improvement to the programme. The Panel recommends that the Faculty of Engineering, Design and ICT further utilise the generated data from the annual programme review to improve its quality assurance system and strengthen the delivery of the programme.
- 4.7 Periodic programme review at BP is grounded by policies including Programme Approval, Assessment and Moderation, and Evaluation and Review. According to the Programmes Approval Policy, programmes are reviewed every four years where academic staff members and program managers consider: student progression, moderation procedures, learning outcomes, feedback from employers, and staff needs for professional development. Upon the completion of the review, recommendations are produced in order to improve the quality assurance management. During interview sessions, the Panel was informed that the BICT programme was reviewed in 2012 by a review Panel that included academics and industry representatives from the region, locally and internationally. Furthermore, the outcome of the review was put before international reviewers and was subsequently implemented in 2015 curriculum. The Panel is satisfied with the efforts of the EDICT Faculty to conduct periodic reviews for its programmes every four years.
- 4.8 BP acquires feedback *via* its Institutional Quality Survey Framework, which includes surveys on tutors, courses, student experience, student services, and alumni. Analysis of these surveys is used to enhance the quality of the programme and its delivery and feedback is usually provided to stakeholders. From interviews, the Panel was informed that alumni and employers' surveys have been drafted but not approved yet by senior management. Students surveys are analysed by the Quality, Measurement and Analysis Unit (QMAP) and results are forwarded to the Dean, Head of School, and teaching staff. Interviewed staff expressed their satisfaction with the results of the surveys as these results led into enhancing their professional development plans and improving the quality of the programme delivery. The Panel recommends BP to expedite the implementation of the alumni and employers' surveys to strengthen the programme and ensure that it caters for the market needs.

- 4.9 Efficient and effective procedures are in place to ensure the effectiveness of staff professional development. This is characterised by the identification of staff needs in a bottom-up manner; running a series of in-house training sessions, providing opportunities for external training and conference attendance, and completing the Certificate in Tertiary Teaching and Learning (CTTL), which is a 150-hour training programme offered in-house for new members of staff to improve their teaching skills. Moreover, a hierarchical management system across faculty members, Human Resources, and various academic boards/committees provides ample opportunities to create a culture of engagement and learning. During interviews, staff expressed their satisfaction with the arrangements in place for professional development of staff and clarified that an evaluation form for each training session is circulated to collect feedback on these trainings. The Panel appreciates the current arrangements in place for staff professional development. Notwithstanding the above, the Panel notices that the component of research is absent from the staff's activities, which was highlighted during interviews. Staff indicated that they keep their materials updated regularly to inform students about the latest trends in the ICT field. Although the Panel acknowledges their efforts, yet staff ought to be encouraged to conduct applied research.
- 4.10 According to the SER the Curriculum Advisory Committee (CAC) members provide the industry's feedback to BP in order to fulfil its mission. Furthermore, employers and industry supervisors of the internship and CLP courses confirmed that they provide informal feedback. Interviewed employers expressed their satisfaction with the BICT graduates and praised their attitude to learning at the workplace and their IT knowledge. Furthermore, members of the CAC acknowledge that their feedback is taken into consideration for keeping the programme up to date and are satisfied with the graduates of the programme. Currently, EDICT is in the process of utilising the findings of the ICT Specific Council of Bahrain commissioned report on the ICT Sector Training in the Kingdom of Bahrain, delivered in May 2014, for programme improvement. The Panel acknowledges that there are prompt and effective interactions between the quality assurance management and the programme to ensure that it is updated in accordance with inputs from advisory board on labour market needs. Nevertheless, the Panel concludes that no evidence was seen on a formal process for scoping the labour market. Hence, the Panel recommends that the Faculty introduce a formal mechanism for the continuous scoping of the labour market needs to ensure that the programme is appropriately contextualised and up-to-date with Bahrain's market needs.
- 4.11 In coming to its conclusion regarding the Effectiveness of Quality Management and Assurance, the Panel notes, *with appreciation*, the following:
- The effective quality management system that ensures the implementation of all policies across the institution.

- The effective leadership that ensures the quality of the programme delivery.
- A comprehensive quality assurance system is implemented, monitored, and evaluated.
- Staff members are fully aware of the quality assurance requirements and take part in enhancing the ones related to their duties.
- There are effective arrangements in place for providing staff professional development.

4.12 In terms of improvement, the Panel **recommends** that the Faculty should:

- further utilise the generated data from the annual programme review to improve the quality assurance system and strengthen the delivery of the programme.
- expedite the implementation of the alumni and employers' surveys to strengthen the programme and ensure that it caters for the market needs.
- introduce a formal mechanism for the continuous scoping of the labour market needs.

4.13 Judgement

On balance, the Panel concludes that the programme **satisfies** the Indicator on **Effectiveness of Quality Management and Assurance**.

5. Conclusion

Taking into account the institution's own self-evaluation report, the evidence gathered from the interviews and documentation made available during the site visit, the Panel draws the following conclusion in accordance with the *DHR/QQA Programmes-within-College Reviews Handbook, 2014*:

There is confidence in the Bachelor of Information and Communications Technology of Faculty of Engineering, Design and ICT offered by the Bahrain Polytechnic.