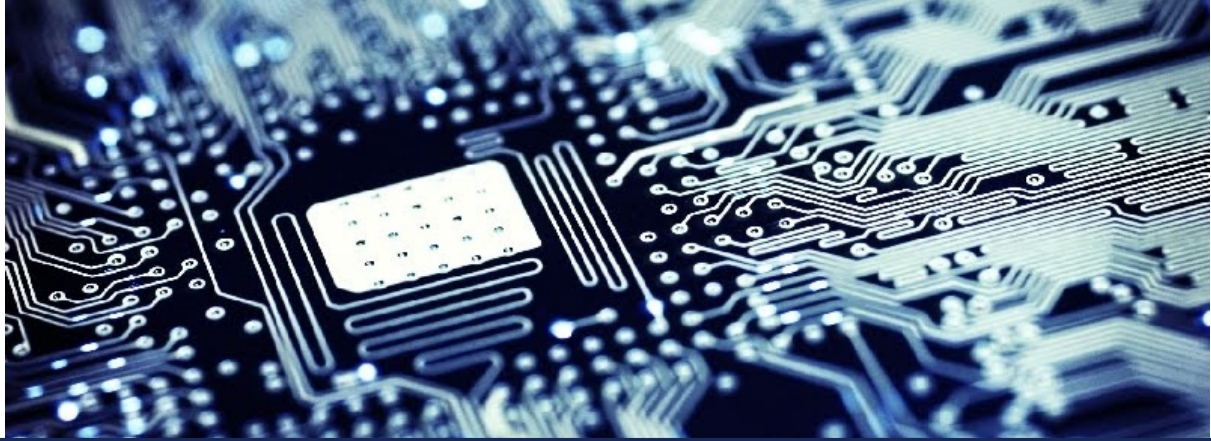




مجلس التعليم العالي
Higher Education Council



2014 - 2024

National Higher Education Strategy

Putting Higher Education at the Heart of the Nation

2030
البحرين
BAHRAIN



**HIS ROYAL HIGHNESS
PRINCE KHALIFA
BIN SALMAN AL KHALIFA**
THE PRIME MINISTER
OF THE KINGDOM OF BAHRAIN



**HIS MAJESTY
KING HAMAD
BIN ISA AL KHALIFA**
THE KING
OF THE KINGDOM OF BAHRAIN



**HIS ROYAL HIGHNESS
PRINCE SALMAN
BIN HAMAD AL KHALIFA**
THE CROWN PRINCE,
DEPUTY SUPREME COMMANDER
AND FIRST DEPUTY PRIME MINISTER

TABLE OF CONTENTS

1. FOREWORD FROM THE MINISTER	7
2. INTRODUCTION BY THE SECRETARY GENERAL	9
3. EXECUTIVE SUMMARY	10
4. A VISION FOR HIGHER EDUCATION	11
5. OBJECTIVES FOR HIGHER EDUCATION	12
6. GOALS FOR HIGHER EDUCATION	13
7. CONTEXT AND CHALLENGES.....	14
8. INTRODUCTION TO KEY THEMES.....	17
8.1 QUALITY FOR IMPACT	18
8.2 SKILLS FOR THE FUTURE	21
8.3 STRATEGIC ACCESS.....	23
8.4 BAHRAIN AS A REGIONAL EDUCATION HUB.....	25
8.5 EDUCATION TECHNOLOGY	28
8.6 START UP BAHRAIN	31
9. IMPLEMENTATION.....	35
10. EXPECTED KEY OUTCOMES	37
11. ACKNOWLEDGEMENTS.....	39

Ministerial Foreword

Welcome to the first ten-year higher education strategy for the Kingdom of Bahrain.

The higher education sector is central to the future development of the economy, public services and nation. The sector must perform a critical role in terms of addressing the skills needs of the workforce of tomorrow and developing our knowledge economy through improving overall quality, skills, entrepreneurship and technology.



This strategy, in combination with the new national research strategy approved by the Higher Education Council, provides an integrated approach to providing skills, supporting students and contributing to the creation of jobs through enterprise and innovation .

Our strategy comes at a time of increased regional competition and increased skills demands from employers. Our universities must rise to the challenge. The strategy provides a strong strategic focus and a framework for developing excellence in a vibrant sector within the GCC.

I would encourage the higher education sector to work in partnership with all stakeholders, including business and industry, to meet the ambitions of this strategy.

I would like to thank all those who participated in the development of this strategy, as the knowledge and insight gained has proved invaluable.

Dr. Majid bin Ali Al-Nuaimi
Minister for Education
Chairman of the Higher Education Council

Introduction



On behalf of the Higher Education Council, I am pleased to submit our national strategy for higher education and skills.

In preparing this strategy, our partners, PwC Middle East, engaged in a consultation process across education, industry, government, students and wider stakeholders with over 100 people and organizations. The range and quality of the consultation is testimony to the relevance of higher education to the country and its people. This is recognition that higher education is critically important to the delivery of the human and economic capital that is the key to future growth of Bahrain.

At the Higher Education Council, we strongly believe that higher education is central to future economic and public services development. The capacity of the sector will almost double in the next 10 years as a result of numerous factors such as population growth, lifelong learning, increased postgraduate activity and overseas students, particularly from the GCC. Increased capacity will be welcomed in Bahrain, though it will also bring challenges. We need to focus on these now, with the main challenge being to raise the quality of the sector to match or exceed international standards.

This strategy has been developed in alignment with the national priorities for the next three years, as well as with the 2030 vision of a knowledge economy, or the SMART economy. The shift for this sector is clear: the focus is now on achieving positive outcomes for students as being the measure of success for institutions.

I would like to thank the Higher Education Council for its support in developing the strategy and all those who have participated in giving their time, energy and expertise. I am pleased to say that we have arrived at a broad consensus on the direction of the strategy and the future outcomes.

I am also delighted that we have expanded our team at the Higher Education Council with more experts with international experience to help implement the strategy.

I look forward to seeing the higher education sector in Bahrain realize its potential and provide the platform for the country to grow through providing not just qualifications, but providing necessary and relevant skills,. The challenge is significant but not impossible. Fortunately, the work is already underway.

Prof. Riyad Y. Hamzah
Secretary General
of the Higher Education Council

EXECUTIVE SUMMARY

Vision

Higher education in Bahrain has a central role to play in economic growth, investment and innovation. This important sector requires a strategic vision in order face the challenges of the future.

‘The vision is to position Bahrain as a regional hub for quality higher education, producing graduates with the skills, knowledge and behaviors required to succeed in the global knowledge economy while contributing to the sustainable and competitive growth of Bahrain’.

This document sets out the direction for higher education in Bahrain. The Higher Education Council will work in co-operation with higher education institutes, industry, employers, government departments and agencies and other stakeholders to turn the vision into a reality.

The strategy’s main guiding themes are ‘quality enhancement’, ‘skills for the future’, ‘strategic access’, ‘becoming a regional hub for higher education’, ‘technology in education’ and ‘entrepreneurship’.

High Level Objectives

The following high-level system objectives will underpin the realization of this vision:

- Bahrain will have a higher education ecosystem that will uniquely cater to the education and cultural lifestyle needs of a wide range of students from the GCC and beyond.
- Students will experience an education that is relevant and responsive to the demands of industry and business and are equipped with 21st century skills (problem solving, critical thinking, communication and teamworking) and attributes needed for success in the world of work.
- Through competition and a regulatory system that continuously drives quality, higher education institutions in Bahrain will be incentivised to maintain high quality minimum standards, align to the changing needs of the national and regional economies, recruit, develop and retain high quality staff.
- Integrative participation in higher education should be promoted and incentivised for all key stakeholders including industry, community and other academic institutions in order to achieve an innovation -driven knowledge economy.
- Strategic engagement in higher education internationalization is critical for Bahrain in leveraging strong global partnerships to assist in advancing the quality and diversity of education at a faster pace.
- Bahrain's higher education sector is strategically diversified to meet the needs of different levels of student achievement and interests, as well as the needs of the local and regional economy.

National Aspirations for Higher Education

The success of the implementation of the strategy will depend on the realization of desired results. The Higher Education Council, by working with key partners, will be collecting data regularly to assess and monitor progress.

In order to achieve national objectives, the HEC will work towards the following goals:

- Increase enrollment and graduation rates in the following key priority areas:
 - Different pathways of post-secondary education
 - STEM (science, technology, engineering and mathematics)-related fields of study
 - Foreign students
 - Graduate programmes
- Increase the number of professionally certified teaching staff at HEIs.
- Graduate more students that have the knowledge and attributes to become entrepreneurs.
- Increase non-traditional participation in higher education.
- Promote the effective use of technology in higher education.

Context and Challenges

The National View

Bahrain needs to address challenges in the higher education sector within the broader local, regional and global setting. From a national perspective, there is a continuous drive to diversify the economy and broaden the base for future economic growth and development. This will require further investment in the educational infrastructure to increase capacity, provide quality education, and graduate Bahraini women and men able to access the job market, especially in the private sector. The regulatory and legal context also needs to provide the right ecosystem and a strong drive for operational excellence in order to re-establish the brand of Bahrain higher education and be able to attract and retain students from the region and beyond.

The context for a national strategy for higher education in the Kingdom of Bahrain

Higher education is key to economic growth both in the short term and longer-term. The economy of the country will increasingly depend on knowledge and the application of that knowledge. In years ahead, we will have to be knowledge creators ourselves in order to stay competitive as a nation.

The road ahead is clear: educational standards need to be improved and achieved by students; the country requires graduates with skills not just qualifications. People require new educational opportunities that are in tune with the new economy and national priorities. New challenges, new technologies, new employment patterns and new ways of working- these will all change what is expected from the higher education sector in terms of academic and skills development; the sector must respond to these challenges.

Higher education and national economic growth

Higher education contributes to economic development and to improving the overall development of the national economy. The expansion of high quality education is critical in generating a supply of skilled graduates that will move the nation towards economic prosperity, through promoting knowledge transfer and innovation.

The economic climate in which higher education operates in 2014 is very different to previous years and highlights, more than ever, the need to develop the necessary skills and competencies in the workforce, stressing the value of higher education for national development. International investors and multinational companies pay due consideration to the quality of graduates that higher education systems produce in different countries. Expectations of employers, students and the public from higher education are now significant and as a result, more emphasis is placed on university rankings than previously.

Regional challenges

Strong competition exists within the GCC for universities to constantly improve and innovate to attract and produce the best skilled graduates. The economic fortunes for countries in the region are increasingly determined by the quality of their higher education sector. Higher education's most significant contribution to business development is through the provision of high quality human capital, which results in knowledge transfer from higher education to industry and business. A transformation in the relationship between higher education and the business sector can position Bahrain at the forefront in the competitive regional environment.

There is increasing competition for developing talent within the GCC and for attracting talented students, academics and researchers, particularly within KSA, Qatar and the UAE. The higher education sector in Bahrain must respond to these challenges and in particular must consider the use of technology to enable collaboration and innovation.

Why we need better skilled graduates

As the knowledge economy develops, the quality of Bahrain's workforce will increasingly depend on the excellence, relevance and agility of our higher education sector. Graduates are required to:

- Provide a workforce capable of dealing with the increasingly complex demands of the global economy
- Attract high value investment and create jobs through fostering entrepreneurial activity
- Increase the research base in the sector which will lead to the innovation of new products and services
- Ultimately impact positively on GDP with improvements in living standards as an outcome

New challenges require new solutions

Through teaching, learning, research and innovation, the higher education sector must evolve and respond to immediate and future needs and ensure that it is equipped to face regional challenges. New solutions are required, as we are moving into a new era of higher education through this national strategy. Rethinking and remodeling our higher education sector will require addressing the challenges of up-skilling students, capacity building throughout institutions, improving outcomes through innovative curricula and teaching methods, whilst creating an entrepreneurial environment for all.

NATIONAL HIGHER EDUCATION STRATEGY 2014 – 2024 THEMES AND OBJECTIVES

Introduction to the themes

In order to advance Bahrain’s higher education sector over the next ten years, six strategic themes were defined as the key transformational drivers for change:

- Quality for impact
- Skills for the future
- Strategic access
- Bahrain, first choice education destination
- Ed-tech Bahrain
- Start- up Bahrain

The strategic themes were chosen based on current strengths and weaknesses of the education system and aligned to the national priorities of Bahrain:

National Priorities 2015-2018	Higher Education Themes					
	Quality for Impact	Skills for the Future	Strategic Access	Bahrain, First Choice Education Destination	Ed-Tech Bahrain	Start-Up Bahrain
A society of genuine well-being	✓	✓	✓			
Ensuring equality of opportunity			✓			
Maximizing the human capital advantage		✓	✓			✓
Quality growth toward genuine diversification	✓	✓				
An entrepreneurial knowledge-based economy driven by the private sector	✓	✓				✓
A regional hub built on a tradition of openness				✓		
Excellence in regulation and infrastructure					✓	
Smart and efficient government in service of citizens					✓	
Sustainable management of strategic resources	✓	✓				
Funding the future while ensuring fiscal sustainability	✓	✓				

Theme 1: Quality for impact

Enhance the overall quality of Higher Education in Bahrain to graduate well-rounded students academically, professionally and personally and to enable them to fulfil their potential, contribute to the nation and to Bahrain's future prosperity.

Current Status

Delivering quality education will address key gaps and weaknesses, in terms of students' performance and achievements, teaching and learning standards and delivery, and the overall quality of HE institutions. In 2015, the HEC is commencing international accreditation of its institutions; however, the institutions are yet to respond effectively to various improvement recommendations and requirements from previous reports of the National Authority of Qualifications and Quality Assurance for Education and Training.

The benefits of improving higher education quality:

The enhancement of the overall quality of higher education in Bahrain is crucial in order to graduate well-rounded students, academically, professionally and personally and to enable them to fulfil their potential and contribute to society.

The effects of improving quality cannot be underestimated and are far reaching. Improving quality will improve the brand of higher education in Bahrain, and within the region, which will attract more overseas students. The sector will also produce well-rounded and skilled graduates that will improve employer satisfaction rates, while an improved higher education sector will act as the catalyst for leveraging research for economic growth.

Upgrading Bahrain's higher education quality is critical to improving the employment and economic competitiveness of Bahrain.

Working to achieve this will increase research-driven innovation; enrolment, graduation and completion ratios of students, education attainment; and investment in human capital.

Figure 1: Quality Indicators to measure the Quality of the Higher Education in the Kingdom of Bahrain



The strategy proposes focusing on three priority areas for this Theme:

1. Student engagement and performance
2. Quality of academics, teaching and learning
3. Quality of higher education institutes and continuous improvement

Priority Area	Strategic Priorities	Policy/Regulatory Recommendations
Student Engagement & Performance	<p><i>Graduate well-rounded students capable of contributing to society</i></p> <ol style="list-style-type: none"> 1. Enhance the quality of entrants into higher education 2. Increase adoption of new assessment tools to measure various aspects of student experience at various point of the HE journey 3. Promote student engagement impacting retention, completion, progression rates 4. Ensure the workforce readiness skills and technical skills of graduate are aligned with baseline requirements of employers 	<ul style="list-style-type: none"> ▪ Mandate college entrance examination above and beyond high-school examinations ▪ Mandate a workforce readiness examination post college testing basic skills required by employers ▪ Mandate professional boards examinations for certain degrees (e.g. engineering, law, medicine, accounting, etc.) ▪ Develop a new more flexible option for an academic calendar to enable completion
Academic and Teaching & Learning	<p><i>Raise the quality of academics & teaching & learning as a key backbone for meaningful impact</i></p> <ol style="list-style-type: none"> 1. Prioritize teaching and learning as a critical area to improve HE quality 2. Align academic standards with global benchmarks 	<ul style="list-style-type: none"> ▪ Review and update academic standards and faculty requirements
Quality of HEIs & continuous improvement	<p><i>Improve the overall quality of higher education institutions and embed a culture of continuous improvement</i></p> <ol style="list-style-type: none"> 1. Enhance institutional and system effectiveness and efficiency 2. Improve the operational capacity of higher education institutions 3. Improve the learning environment in higher education 4. Grow leadership capacity at HEIs 	<ul style="list-style-type: none"> ▪ Enhance the overall licensing and quality assurance system ▪ Mobilize & incentivise international accreditation opportunities for universities in Bahrain

Measuring Impact: The following indicators will be used:

Theme 1 – Quality for Impact	
1	Number of faculty who complete the Professional Development Framework
2	Number of accredited universities
3	Number of programs accredited locally or internationally
4	Increase in the rankings of Bahrain's HEIs regionally and internationally
5	Number of university qualifications in the Bahrain Qualifications Framework

Theme 2: Skills for the Future

Align Bahrain's higher education sector to meet current & future regional and national priorities.

Current Status

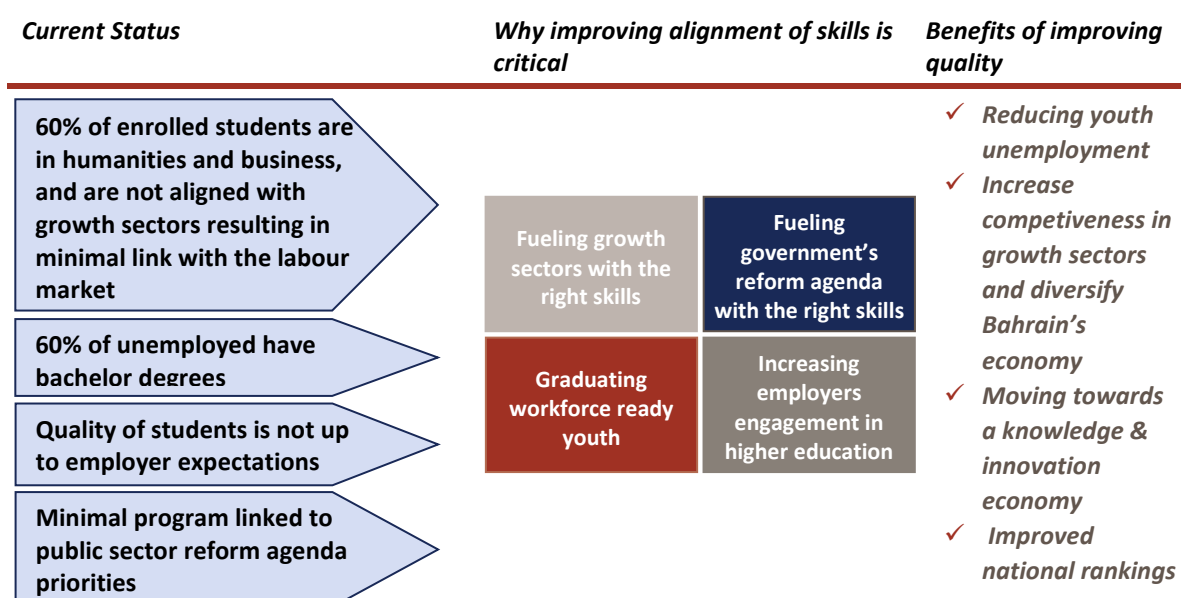
Focusing on the skills for the future will help address the mismatch between higher education and the labour market, which is aggravating youth unemployment. Employers frequently cite recent graduate’s lack of 21st century skills. This is particularly important in transforming the education sector into delivering degree-holders with key skills to enter and thrive in the job market.

The benefits of aligning skills to the future needs of Bahrain’s economy:

Higher education must be responsive to the needs of the economy, with an emphasis on meeting the skills needs of business and industry, maximizing the potential of innovation and promoting knowledge generation and transfer. With the world of work changing far more rapidly and unpredictably than education provision, the issue the sector faces is that most jobs will be created in the private sector where markets constantly change.

A supply of high quality graduates is vital for economic success. In light of this, the strategy promotes graduate employability and skills. The higher education council supports the offer of relevant programmes, professional qualifications and closer collaboration between higher education and business sectors.

Figure 2: focusing on skills for the future will help to improve Quality of the Higher Education



The strategy proposes focusing on five priority areas for this Theme:

1. Employer Engagement
2. Tiering for alignment
3. Program Alignment
4. Career Guidance
5. Workforce Readiness / 21st Century Skills

Priority Area	Strategic Priorities	Policy/Regulatory Recommendations
Employer’s Engagement	<ol style="list-style-type: none"> 1. Enhance and promote employer’s engagement in the education sector at all levels, areas, and through different approaches 	<ul style="list-style-type: none"> ▪ Regulations for employer participation in QAA system ▪ Regulations to include employers in higher education sector governance ▪ Regulations for universities to include employers at various levels
Tiering for alignment	<ol style="list-style-type: none"> 1. Align the attrition percentages between tiers with labour market needs to ensure maximize impact 2. Align and enhance graduates skill levels with the relevant professions skills linked to the job market 	<ul style="list-style-type: none"> ▪ Regulations for HEI tiering system
Program Alignment	<ol style="list-style-type: none"> 1. Align higher education programs to growth sectors 2. Create specialized public policy programs in-line with national reform needs and priorities 	<ul style="list-style-type: none"> ▪ Gearing licensing, accreditation and funding for target programs of national priority
Career Guidance	<ol style="list-style-type: none"> 1. Ensure the career guidance is infused across the higher education sector and integrated with academic counselling 	<ul style="list-style-type: none"> ▪ Career guidance requirements for all HEIs
Workforce Readiness/21st Century Skills	<ol style="list-style-type: none"> 1. Integrate workforce readiness skills/21st century skills into the higher education curriculum and student learning experience 	<ul style="list-style-type: none"> ▪ Mandating employer endorsed national career readiness certification for minimum skills required by employers

Measuring Impact through the following indicators:

Theme 2 – Skills for the Future	
1	Satisfaction rate of employers on new graduates
2	The employment rate of graduates
3	Number of students who gained professional certificates along with their degree
4	Number of universities offering work-based degrees

Theme 3: Strategic Access

Improve the linkages between higher education, vocational and continuing education to provide equitable and strategic access.

Current Status

Providing strategic access to young Bahrainis to university will help address key challenges of enrolment capacity and affordability. There is a major gap in the tertiary enrolment ratio for males. Public institutions have limited capacity in taking more of the increase in demand, and there are limited funding schemes.

Enrollment in STEM-related fields is around 10% only, while enrollment of students studying a business related programme is nearly at 60%, in addition to only 1% of students currently engaged on a PhD. Thus, diversifying the offering into more vocational and advanced academic in needed subjects will help fulfill the vision for the future.

The benefits of improving strategic access to higher education:

A higher education system must not just ensure equitable access to all who have the ability, but it must also respond to changes in human capital needs. The Higher Education Council encourages the sector to rebalance its current academic profile, with a greater emphasis on STEM and economically relevant programmes.

Encouraging STEM students is in the national interest and potentially a key driver for economic growth. Globally, higher education institutes are attracting more STEM students to their institutions; for example, students from KSA travelling to the USA to study a STEM subject grew by 143 percent from 2010 to 2013. Graduates in STEM are seen to be particularly entrepreneurial: in 2011, some 30-40% of start-ups in Bangalore and Beijing were set up by STEM graduates.

In addition, the Higher Education Council supports a widening participation strategy through lifelong learning which can be achieved through a tiered higher education sector. This will create a sector with an improved allocation of resources and a sector better aligned with national priorities.

Once strategic access is improved, its benefits will be as follows:

- Managed flow of students across educational pathways
- Aligned program offering with key national priorities and key economic growth sectors
- Better allocation of resources
- Integration of post-secondary pathways
- Sustainable institutional operating model

The strategy proposes focusing on three priority areas for this Theme:

1. Planning and coordination
2. Consolidation, tiering, diversification and mobility
3. Affordability

Priority Area	Strategic Priorities	Policy/Regulatory Recommendations
Planning and coordination	<p><i>Ensure long-term planning and coordination across all levels</i></p> <ol style="list-style-type: none"> 1. Plan for long-term demand for all levels by producing regular data and projections 2. Improve human capital development through better coordination and governance of the education, training and labour sector (Ministry of Labour, Ministry of Finance, Central Informatics Organization, Secondary Education, etc.) 	<ul style="list-style-type: none"> ▪ Mandate performance metrics and surveys to be provided by each HEI and through external audits on a periodic basis for performance measurement and labour market alignment ▪ Mandate national coordination effort to be established to fully integrate human capital development strategy linking education to the labour market
Consolidation, tiering, diversification and mobility	<p><i>Re-organize post-secondary education to ensure effective and efficient delivery</i></p> <ol style="list-style-type: none"> 1. Explore consolidation & diversification and tiering options for better delivery of public and private HE 2. Roll-out new admissions standards across tiers and levels and programs 3. Develop full pathways across education levels for students, and the wider community for continuing education and promote awareness of multiple access options and opportunities 4. Ensure successful coordination of the rolling out of the Bahrain Qualification Framework to increase standardization, recognition and mobility 	<ul style="list-style-type: none"> ▪ Issuing a new law governing post-secondary education ▪ Re-structuring public delivery of post-secondary education ▪ Adopt new admissions standards linked to HEI tiering system ▪ Adopt a framework to encourage private HEIs to consolidate
Affordability	<p><i>Ensure all Bahrainis have equal access to post-secondary education</i></p> <ol style="list-style-type: none"> 1. Develop schemes such as merit-based and need-based funding opportunities for Bahrainis 	

Measuring Impact through the following indicators:

Theme 3 – Strategic Access	
1	Number of students enrolled in lifelong learning
2	Increase in the number of students in STEM
3	Increase in the number of PhD students
4	Increase in the number of PhD programs offered
5	Increase in the number of accredited blended/online programs
6	Number of international branch universities

Theme 4: Bahrain, First Choice Education Destination for GCC Students

Become a regional hub for quality private higher education institutions with a strong quality brand.

Current Status

Bahrain has lost some important streams of flow of regional students, mainly Saudis and Kuwaitis, due to concerns over the quality of private HEIs. Although the authorities and regulatory bodies are actively addressing this by introducing new quality assurance and accreditation mechanisms, it remains important to actively recruit students and build on a strong legacy to make the country a hub for regional education.

Benefits to improving Bahrain’s higher education competitiveness:

Bahrain has outstanding potential to attract students from the region; even now, Bahrain attracts students from as far as Canada and USA. As an attractive place to live for many people from overseas, the country has to take advantage of its strategic position and quality of life to entice students from neighboring GCC countries. The benefits of making Bahrain an attractive place to study creates positive outcomes, such as greater revenues to the country, increased competition to attract students and a dynamic knowledge exchange with a diverse student body.

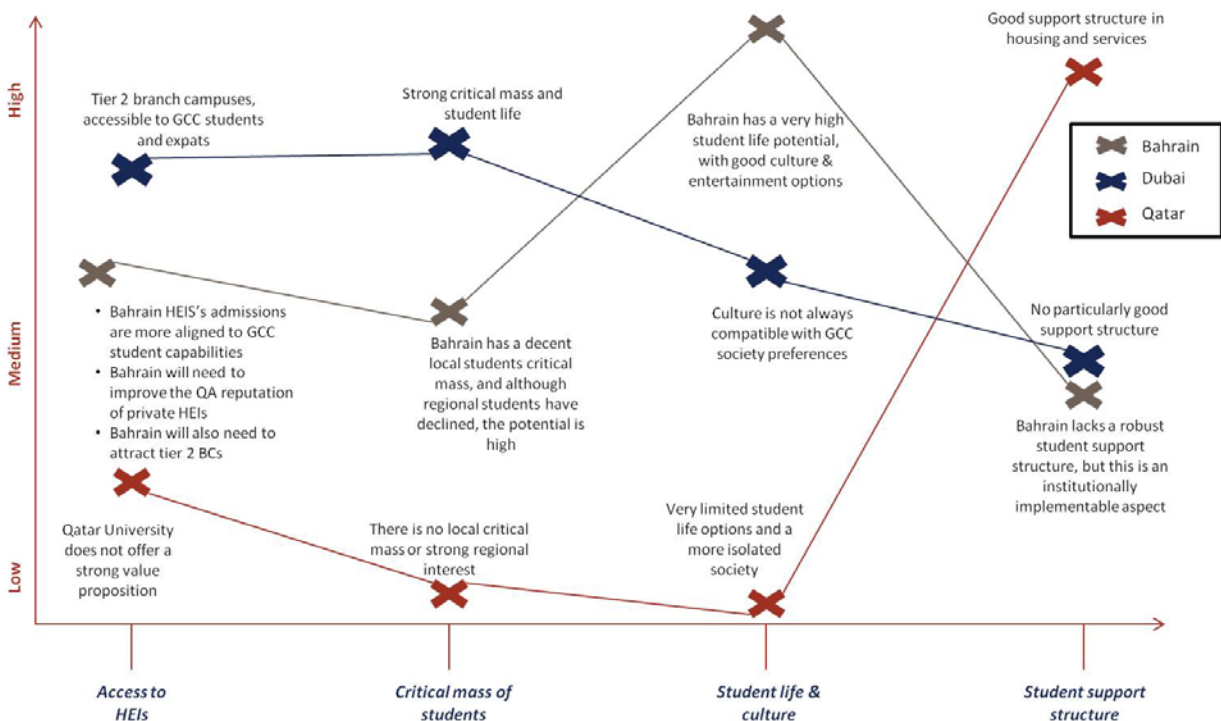
Through the development of the strategy, extensive benchmarking has been conducted against other GCC countries to assess the opportunity to attract regional students. It is clear that Bahrain can create its niche as the foremost student- friendly, quality-focused higher education destination of the GCC.

Although Bahrain has traditionally been a popular higher education destination for regional students, the recent loss of confidence in the quality of education requires proactive and conscious efforts to attract students back. The benefits for the sector are as follows:

Greater revenues	Improve cost/benefit	Diversity of student body
A critical mass for less popular programs- opportunity for interested Bahrainis	Dynamic knowledge exchange and intellectually charged community	Stronger regional impact by graduating more students
Socially more attractive to students	Student extracurricular life	Sufficient faculty and staff for quality research
	A “college town” feel for prospective students	

Bahrain has a number of the elements that make up a real, organic “college town”, setting it apart from the countries aiming to attract students through top-down heavy “education hub” approaches.

Figure 3: Bahrain vs. other GCC “college town” aspirants



The strategy proposes focusing on three priority areas for this Theme:

1. Enhancing & attracting HEIs
2. Enhancing support structures
3. Attracting students

Priority Area	Strategic Priorities	Policy/Regulatory Recommendations
Enhancing & attracting HEIs	<ol style="list-style-type: none"> 1. Improved Quality Assurance and regulation of private institutions 2. Quality visibility to students and parents via HE dashboard 3. Targeted attraction of new partnerships (e.g. feasibility studies for target programs) 	<ul style="list-style-type: none"> ▪ Revise existing Quality Assurance policies and mechanisms ▪ Introduce accreditation ▪ Include incentives for private HEIs to partner with international universities on a university or program levels or to launch BCs
Enhancing Support Structure	<ol style="list-style-type: none"> 1. Dedicated, serviced student housing accessible across HEIs 2. Student discounts (e.g. airlines, transportation, entertainment & recreation) 3. Electronic & streamlined admissions 	<ul style="list-style-type: none"> ▪ Incentives for private investment for HEIs (not-for-profit and for-profit) ▪ Special registration regulations for HEIs
Attracting Students	<ol style="list-style-type: none"> 1. Integrate Quality Assurance efforts with regional communications (ensure Bahraini HEIs are on regional scholarship lists) 2. Implement web-based tools for prospective students, promoting Bahrain as an HE destination 3. Implement international student quotas at public HEIs, and support-tied targets for private HEIs, shifting some of the student attraction burden to the HEIs 4. Implement robust student life initiatives in housing, athletics, entertainment and recreation 	<ul style="list-style-type: none"> ▪ International student quotas

Measuring Impact through the following indicators:

Theme 4 – Bahrain, First Choice Education Destination for GCC Students	
1	Regional and international accreditation of Bahrain's HEIs
2	International partnership with local HEIs
3	Number of international and regional students at the undergraduate and graduate level

Theme 5: Ed-tech Bahrain

Leveraging the newest trends in education technology to leapfrog Bahrain’s higher education sector.

Current Status

While global education technology is rapidly changing the k-12 and higher education landscape at an exponential rate, Bahrain has yet to leverage these newest trends and technologies that can advance the reform process. Global innovations in higher education are advancing massive access to quality higher education, and improved delivery approaches, whilst maintaining quality-learning outcomes.

Benefits of leveraging education technology for advancement:

‘Innovation is your only hope, and the only new game in town is technology’ (Bill Gates).

With an increasing demand for higher education within the GCC, coupled with the need for more effective employability skills, technology can bring more cost-effective and innovative solutions to help move the sector to the future knowledge economy.

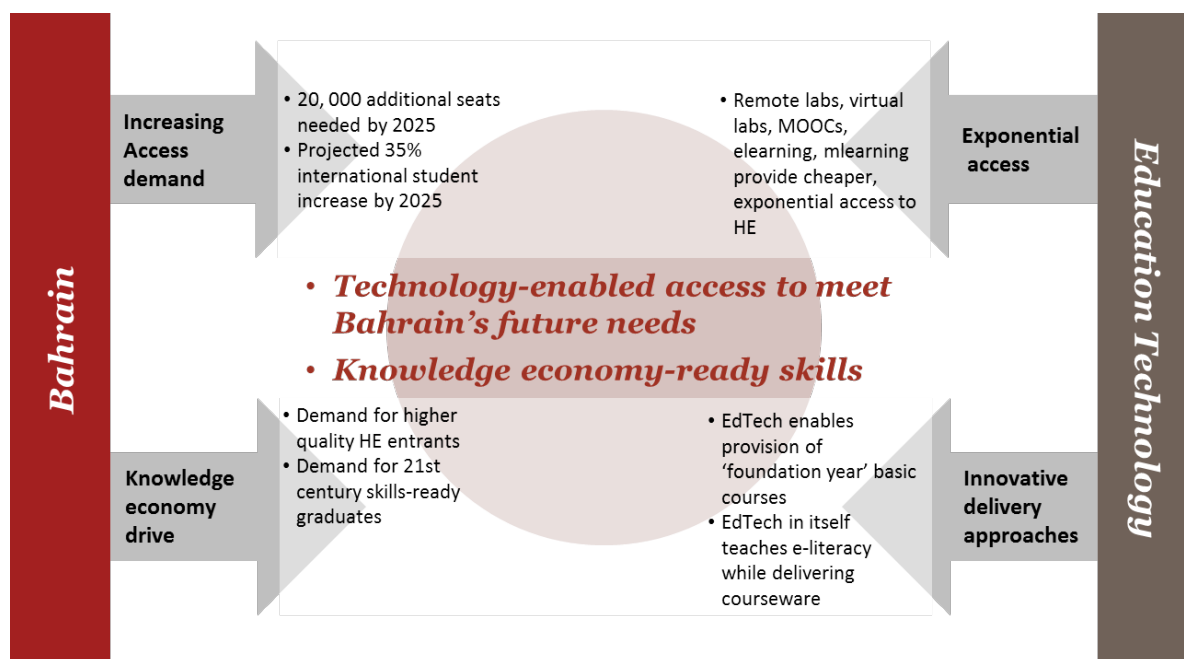
Effective technology is now vital in improving education by making learners more effective and engaged. Technology can help tailor the learning experience for individual students, facilitate student-teacher collaboration and help improve teaching performance and skills.

Using technology will naturally create regulatory considerations for the Higher Education Council, however the sector will need to focus on four priority areas to introduce value-add technology solutions to the higher education sector:

- Technology infrastructure
- Higher education entry support
- Learning analytics
- Capacity building

With Bahrain’s increasing demand for access to higher education, coupled with the need for more effective 21st century-oriented skills, EdTech initiatives can provide more cost-efficient and innovative alternatives to driving the future knowledge economy.

Figure 4: Education Technology illustration



The strategy proposes focusing on four priority areas for this Theme:

1. PPP (Public and Private Partnership) model shared EdTech infrastructure Higher education entry support
2. Learning analytics and HE dashboard
3. Capacity building

Priority Area	Strategic Priorities	Policy/Regulatory Recommendations
PPP model shared EdTech infrastructure	<ol style="list-style-type: none"> 1. Develop a PPP, potentially outsourced, national EdTech portal and cloud infrastructure for public HEIs 2. Fee-based access to private HEIs at competitive prices due to shared service streamlining 3. This allows standardization and upgrade of IT infrastructure across the board, and countless channels for elearning and cloud computing, all feeding into an integrated system 4. Includes a National Admissions portal for both public & private HEI admissions 	<ul style="list-style-type: none"> ▪ N/A
Higher education entry support	<ol style="list-style-type: none"> 1. Provide elearning channels preparing HE entrants for admissions or entry exams 2. An online foundation year mandatory for candidates below standards but with potential (English, math, and IT concentration) 	<ul style="list-style-type: none"> ▪ N/A
Learning analytics and HE dashboard	<ol style="list-style-type: none"> 1. Potentially integrated via the shared infrastructure, collect learning data across Bahraini HEIs, allowing effective data sources for future strategy formulation and analytics 2. Allows benchmarking , formative assessment, and custom intervention, increasing retention rates 3. Collect HEI-level performance data on student performance, institutional performance, and employer satisfaction, feeding into a public dashboard 	<ul style="list-style-type: none"> ▪ IP and data privacy regulations will have to be in place for learning data across HEIs ▪ Mandate HEIs to submit key performance indicators
Capacity building	<ol style="list-style-type: none"> 1. Leverage international best practices and develop Bahrain-specific standard EdTech competencies 2. Provide all HE teachers with mandatory EdTech training leveraging integrated, online-based solutions 3. Develop an online-based teacher community to share best practices in EdTech-based teaching 	<ul style="list-style-type: none"> ▪ Teacher EdTech and e-literacy regulations

Measuring Impact through the following indicators:

Theme 5 – Ed-tech Bahrain	
1	Students satisfaction on IT infrastructure
2	Faculty satisfaction on IT infrastructure
3	Access to online resource centres

Theme 6: Start - Up Bahrain

Create an entrepreneurship ecosystem for students in Bahrain.

Current Status

Currently entrepreneurship education is still at its basic level, offered in an uncoordinated manner and lacking strong support and integration across levels and curriculum. Though the entrepreneurship ecosystem is by no means related strictly to higher education, the latter can play a pivotal role in guiding young Bahrainis into new businesses and activities.

Benefits of increased entrepreneurial activity:

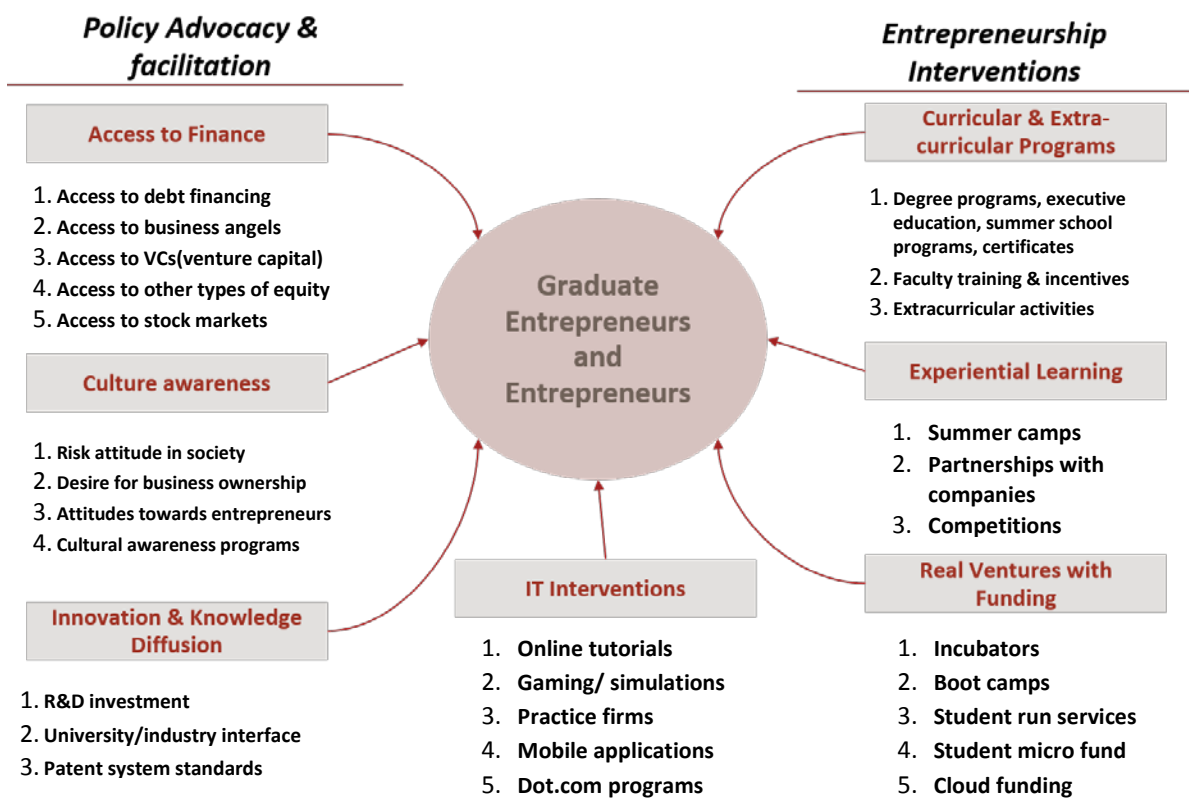
The development of the entrepreneurial mindset is becoming embedded globally; previous research has shown the essential role that education plays in the development of such mindsets and the role that universities play in this process. One of the major outcomes of higher education is the preparation of graduates to participate in the world of work. Consequently, the higher education sector needs to align itself with national priorities and take onboard the significance of entrepreneurship and value creation to the Kingdom of Bahrain.

Entrepreneurship refers to an individual's ability to turn ideas into action and the development of entrepreneurship competence is not simply a case of knowledge acquisition. Entrepreneur education is about the ability to act in an entrepreneurial manner; attitude and behaviors are just as important as knowledge in how to run a business. Entrepreneurship education in particular focuses on giving students awareness, an entrepreneurial mindset and capability, all of which are prerequisites for entrepreneurial effectiveness.

Universities globally are increasingly challenged by governments to expand entrepreneurship education across the whole institution; effectively to become an entrepreneurial organization. Challenges remain particularly around creating awareness, developing capacity and infrastructure to support students and graduates. However, with seventy percent of the MENA region currently under the age of thirty, entrepreneurship will become the key driver in creating jobs in Bahrain and the wider region.

Integrating entrepreneurship in higher education requires a multi-faceted approach, which includes access to finance, awareness, knowledge diffusion, IT interventions.

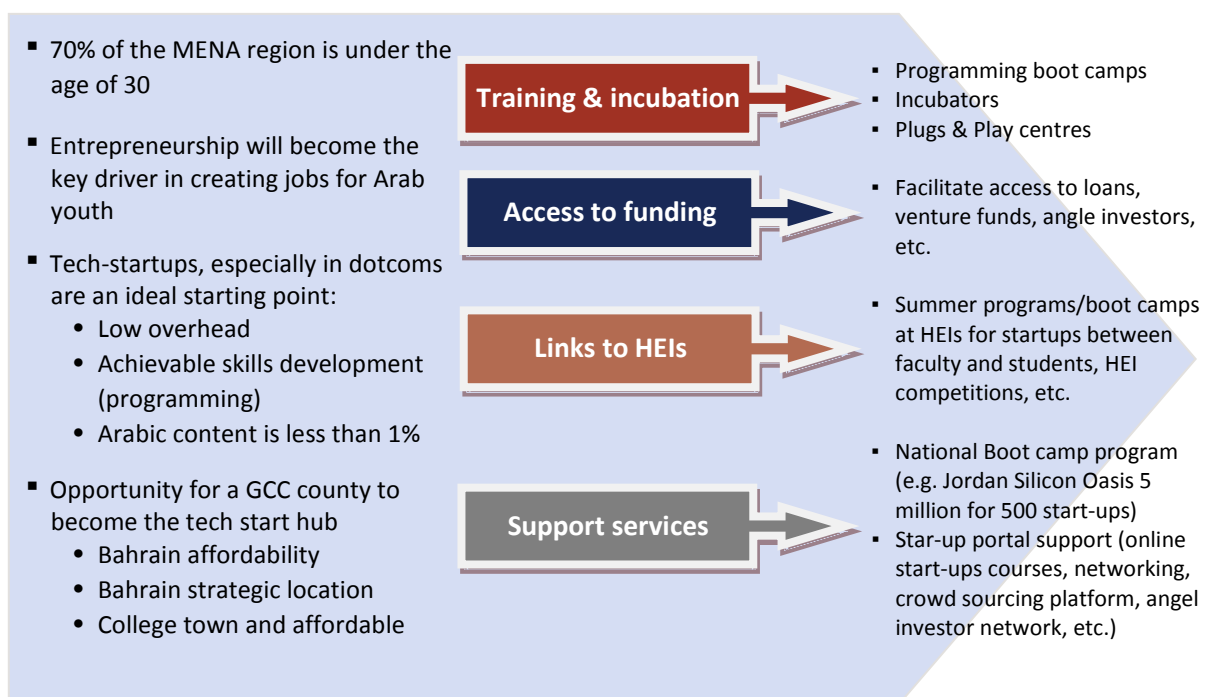
Figure 5: Integrating entrepreneurship in higher education



As a starting point, Bahrain can aim to become the dotcom entrepreneurship hub for the GCC by focusing on the following:

GCC Tech-Startup Hub Drivers:

Development Dimensions:



The strategy proposes focusing on four priority areas for this Theme:

1. Entrepreneurship programs at HEI level
2. Entrepreneurship national initiatives
3. Facilitate access to funding
4. Cultural awareness programs

Priority Area	Strategic Priorities	Policy/Regulatory Recommendations
Entrep. Programs at HEI Level	1. Launch entrepreneurship skill development programs across all HEIs	<ul style="list-style-type: none"> Mandate certain number of credit hours required for graduation
Entrep. National Initiatives	1. Drive the design and launch of national entrepreneurship programs through partnerships that are open to all higher education students (e.g. incubators, boot camps, accelerators, national entrepreneurship portal, science & tech parks, etc.)	<ul style="list-style-type: none"> Incentivise universities and corporations to host entrepreneurship boot camps
Facilitate access to funding	1. Through partnership ensure and facilitate access to funding for entrepreneurs coming out of the HEI sector	<ul style="list-style-type: none"> N/A
Cultural Awareness programs	1. Launch awareness programs to celebrate and bring awareness to the benefits of becoming an entrepreneur (national competitions, etc.)	<ul style="list-style-type: none"> N/A

Measuring Impact through the following indicators:

Theme 6 – Start-up Bahrain	
1	Number of universities offering entrepreneurship training programs
2	Number of students going through entrepreneurship training programs
3	Percentage of students starting their business during university
4	Percentage of students starting their business post- university
5	Number of technology incubators / start-ups by graduates in Bahrain

IMPLEMENTATION

Delivering the vision

The implementation of the strategy will ensure that the Bahrain higher education system is enabled to make a significant contribution to the challenges of improving the quality of life for Bahrainis and to tackling the regional skills and knowledge gaps.

The sample projects listed below are the focus for implementation for the next 3-5 years and will be overseen by the HEC and in many cases; the projects will be delivered with key strategic partners.

- Academic accreditation
- Review of HEC resolutions
- Development of E-learning standards
- HEC portal
- Development of a module in entrepreneurship for higher education
- Professional development framework roll out for faculty
- Curriculum benchmarking and development
- Sector led skills requirements and graduate requirements
- Development of student skills portfolios
- National university sports league
- Professional certification for students
- National internship programme
- National science and technology initiative
- Student advice and guidance portal
- Review of university student assessment

EXPECTED KEY OUTCOMES

Expected key outcomes

The six outcomes are the Higher Education Council's ambitions that by 2024, graduates from higher education in Bahrain will be:

- Global citizens and work-ready
- Skilled, flexible and innovative
- Able to contribute to the labor market, civil society and community development within Bahrain
- Lifelong learners
- Entrepreneurial thinkers
- Able to communicate and collaborate effectively

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- Ministry of Labour
- Ministry of Health
- Tamkeen
- Central Informatics Organization
- National Authority of Qualifications and Quality Assurance for Education and Training
- E-Government Authority
- Civil Service Bureau
- General Organization for Youth and Sports
- Bahrain Chamber of Commerce and Industry
- Institute of Public Administration (BIPA)
- Specific Council for Vocational Training
- Bahrain Quality Society
- Abduljabbar Al Kooheji Group
- University Of Bahrain
- Bahrain Polytechnic
- Arabian Gulf University
- The Kingdom University
- Royal College of Surgeons Ireland- Medical University of Bahrain
- Royal University of Women
- AMA International University
- University College of Bahrain
- Arab Open University
- Applied Science University
- Ahlia University
- Gulf University
- Talal Abu-Ghazaleh University College of Business
- Bahrain Institute of Banking & Finance



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