THE ROLE OF EDUCATION
IN
THE KNOWLEDGE-BASED SOCIETY

FROM ACCESS TO INNOVATION

Dr. Haifa Reda Jamal Allail
Effat University
Jeddah, Saudi Arabia
“We are entering a new age, an age of knowledge, in which the key strategic resource necessary for prosperity has become knowledge itself – educated people, their ideas and innovation, and their entrepreneurial spirit.”

(Bloch, 1988)
Agenda

1. Pillars of Knowledge Society
2. The Kingdom of Saudi Arabia: (World Position)
3. The Role of Higher Education
Pillars of Knowledge Society

Four Pillars of a Knowledge Economy (KE): World Bank framework:

- **Economic institutional government**: An economic incentive and institutional government that provides good economic policies and institutions which permits efficient mobilization and allocation of resources and thereby stimulating creativity and incentives for the efficient creation, dissemination and use of existing knowledge.

- **Education and human resources development system**: Educated and skilled workers who can continuously upgrade and adapt their skills to efficiently create and use knowledge.

- **R&D and innovation system**: An effective innovation system of firms, research centers, universities, consultants and other organizations that can keep up with knowledge revolutions and tap into the growing stock of global knowledge and assimilate and adapt it to local needs.

- **Information infrastructure**: A modern and adequate information infrastructure that can facilitate the effective communication, dissemination and processing of information and knowledge.
Saudi Arabia enjoys many religious, geographic, and economic distinctions
It is favored with the existence of the two holy mosques in the holy cities of Makkah and Al-Medinah, which makes it a leading country in the Arab and Islamic worlds.
It has more than one fourth of the world’s reserve petroleum.

It is also the largest free economy in the Arab world.

The admission of the Kingdom as a member of the club of most influential 20 countries in the world economy marks a radical change in its international role.
The Future Saudi knowledge Society depends for its growth on the combination of four independent factors:

- production of knowledge
- transmissions of knowledge
- dissemination of knowledge
- use of knowledge in technological innovation

Education system especially universities play an important role in these areas.
As education play a major role in the strategy of knowledge based economy, the **Ministry of Education & Ministry of Higher Education** have to meet the great challenges imposed by the Kingdom’s world position.
The Role of Higher Education
Higher Education

The Ministry of Higher Education has launched several scientific and technological initiatives to foster innovation potentials and create an environment that allows the Saudi economy to be highly competitive in the twenty first century.

The Ministry of Higher Education has launched several initiatives to develop human resources and encourage pioneering discoveries and inventions in science and technology. According to recent international reports – such as:

The Global Competiveness Index (GCI)
World International Property Organization (WIPO)
The Global Information Technology Report (GITR)
The report of cultural development in the Arab World
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

1. The Learning Environment

Expansion in Establishing New Public and Private Universities and Colleges:

In the past five years, the Ministry of Higher Education founded twelve new public universities and 154 colleges in public Universities, in which all the colleges are applied ones. The total number of public universities in the Kingdom is now 25.

They teach various fields, such as the various branches of medical science (medicine, dentistry, pharmacology, applied medical science, and nursing), as well as engineering, computer science, and business technologies.

The establishment of King Abdullah University for Science.

The number of private higher education institutions has grown to 8 universities and 40 colleges.
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

II. The Learning Process:

- **The updating of plans and programs**, which means following the most recent international trends, and considering the requirements of development and the labor market to make a revision of all plans and curricula, which, in other words, means the introduction of outcome-based learning.

- **The restructuring of colleges**, which includes the cancelation of some departments, merging others, turning certain programs into separate departments, and turning some departments into colleges.

- **Expansion of postgraduate programs in science and technology.** The number of these is now 482 programs.

- The introduction of multi-major programs, such as those of nanotechnology, bio-technology, petro-chemistry, biological data, and others.

- Making 655 scientific databases accessible at university libraries to increase research sources for postgraduate students.
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

III. Faculty Members

Implementation of the Creativity and Merit Program for University Faculty Members motivated by its conviction of the important role faculty members play in improving the level of quality at Saudi universities, in collaboration of international universities and outstanding expertise houses.

The Council of Higher Education has ratified a number of additional benefits, rewards, allowances, and incentives for Saudi university faculty members in order to establish an advanced concept of increments that are actively and directly related to the quality and level of performance, thus guaranteeing a good career and income return.

The creation of Deanships for Skill and Academic Development.

Recruitment of Distinguished Professors and Scientists.

Recruitment of Distinguished non-Saudi professors.

The Recruitment of Researchers and Graduate Students.
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

III. Students: Programs That Bolster Student Skill Development:

• Two tracks are followed to achieve the quality of higher education outputs achieve this purpose.
  1- A specialized academic track.
  2- A skill and practical track, which concentrates on the communication, technological, and personal skills.

• The Entrepreneurship Program: The program activities revolve around five main areas, namely, education, training, consultation, research, and communication.

• Sponsor Outstanding Students Program.

• Student Guidance Services Programs at Saudi Universities.
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

V. Research

• Diversification of Research
  The diversification of funding sources by building strategic relations with the business world in the Kingdom or by building industries and towers in the technology valleys.
  • Establishment of Research Excellence Centers at Universities: Approval has been obtained to support seven centers of research excellence as the first stage, with a total budget of 450 million Saudi riyals.
  • Cooperative Research Centers.
  • The Nanotechnology Program.
  • Science Parks and Technology Incubators.
  • The Research Chair Program.
  • Encouragement of Distinguished Research.
  • Establishment for Indicators of Research Measurement and Evaluation:
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

VI. Investment in Quality:
   - The National Commission for Assessment and Academic Accreditation.
   - The National Center for Assessment in Higher Education.

VII. Internationalization and Global Partnerships:
   - King Abdulla Scholarship Program.
   - International Partnerships and Alliances.
   - International Consultative Boards.
   - Translation of Books on Higher Education:
   - Scholarly Societies.

VIII. Information Technology: Technological Preparedness:
The Kingdom has improved its position in the area of technological preparedness. It ranked 39th in the availability of latest technological innovations, 9th in the transfer of technology, 58th in using the internet, and 66th in the number of PCs to every 100 people.
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The Creation of the National Center for E-learning and Distance Education
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

IX. The Ability to Innovate:

Global Intellectual Property Indicators for 2010

Innovation Outcome
Initiatives by the Ministry of Higher Education to Build a Knowledge Society

X. Industrial Collaboration with universities:

Involvement of the university community within industrial based research projects are increasing.

Attitudes in favor of basic research shifted toward the applied research and technology development leading to innovation.

More researchers started to establish a spin off companies.

Entrepreneurs and researchers and Incubators are playing NEW role models for the students.

Universities are offering more programs, courses and certificates on entrepreneurship.

Curricula should be modified in accordance with the requirements of the companies.
FUTURE PERSPECTIVES
FUTURE PERSPECTIVES (Teaching & Learning)

- Create public awareness on the importance of life-long learning. Training and re-training should be part of the budget of every organization (government and private) to ensure job security of future virtual work place.

- A flexible education structure where individual assessment and progress at their own pace is really needed.

- Virtual, blended and on-line education are needed.

- Higher Education should be competency based.

- Higher Education shouldn’t be homogenized. It should guarantee large percentage of heterogeneity to value humanistic, cultural education, survival of languages and diversity of art forms.
FUTURE PERSPECTIVES
(Educational Technology)

- Universities and Colleges should enhance their teaching and learning by the application of different technology products.
- Interactive IT and network resources should play a major role in teaching-learning and management processes.
- Technology should enable schools to draw on a variety of external resources.
- Universities and Colleges should create technology-driven curriculum where meaningful change.
FUTURE PERSPECTIVES (Governance)

- Greater participation of stakeholders in the decision-making process of higher education to drive the implementation, monitor and support technology.
- Universities and Colleges need more autonomy.
- Hierarchy of centralized governance system should be modified with communication technology.
FUTURE PERSPECTIVES
(Innovation & Entrepreneurship)

Higher education must support the development of innovation culture by adopting liberal Arts education, STEM education, entrepreneurship, international study programs (Semester abroad) and provide incentives that encourage creativity thinking. Encourage creative thinking in schools.

- Embedding ICT usage into curricula at all levels
- Allocate seed financing and provide incentives for risk capital and angel financing companies
FUTURE PERSPECTIVES (Internationalization)

- International experiences offer a variety of expertise and know-how in order to develop more international perspectives.

- International, regional, and National collaboration are necessary ingredients to enhance innovative cooperation and to create synergy between Saudi Arabia, the region, and the world.
FUTURE PERSPECTIVES
(Quality of Higher Education)

- Establishing a unified assessment measures (KPI) for all institutions of higher education.

- Benchmarking continuously with national, regional and international institutions are very important to ensure the attendance to quality and competitiveness.

- Saudi National Ranking System for higher education is needed more than ever to assess institutions of higher education in Saudi Arabia before these institutions apply for the regional or world ranking.
Thank you