Innovations through Patent Applications and Grant of Patent at Patent Office, Pakistan
A Statistical Analysis

Dr. Fahim Ashraf Qureshi
General Manager
Office of Research, Innovation and Commercialization
COMSATS Institute of Information Technology
Islamabad, Pakistan

What is innovation

Innovation is a new idea, device, or method.

- application of ***better*** solutions to meet
    a) new requirements,
    b) unarticulated needs, or
    c) existing market needs.

Wikipedia

What does Innovation Require?

Requirements for innovation

a) identifying customer needs (market intelligence)

b) macro and meso trends (Economics)

c) developing competences (Technician Training)

d) finding financial support (Money)

Joseph Frederick Engelberger, Columbia University

What is Knowledge – Economy

use of knowledge to generate tangible and intangible values.

Technology and in particular knowledge technology help to transform a part of human knowledge to machines.

used by decision support systems in various fields and generate economic value.

Role of Statistics

Statistics study of

1) collection,
2) analysis,
3) interpretation,
4) presentation, and
5) organization of data.

Innovation and Knowledge Economy

consist of the flows and relationships among

industry,

government, and

academia

in the development of science and technology

Quantification of Knowledge Economy

Employment in the knowledge-based economy is characterized by increased demand skilled workers

Science system, essentially *public research laboratories and institutes of higher education*, carries out key functions in the knowledge-based economy, including knowledge production, transmission and transfer of generated knowledge

Small and Medium Enterprise (SME) hold the key to knowledge economy

Intellectual Property

Intellectual property (IP) refers to intellectual creations:

1. mind, such as inventions; (Patents)
2. literary and artistic works; (Copyrights) ©
3. designs; (Design Patents) and
4. symbols, names and images used in commerce (Trademark) ™

What constitutes a patent:

A patent is an exclusive right granted for an invention within geographical boundaries.

A patent provides the right to decide how - or whether - the invention can be used by others.

In exchange, the patent owner makes technical information about the invention publicly available.

University Research

Generation of Intellectual Property: Patents, Trademark and Copyrights

Technology Transfer, Licensing, and Royalties

Fees

Fees

Fees

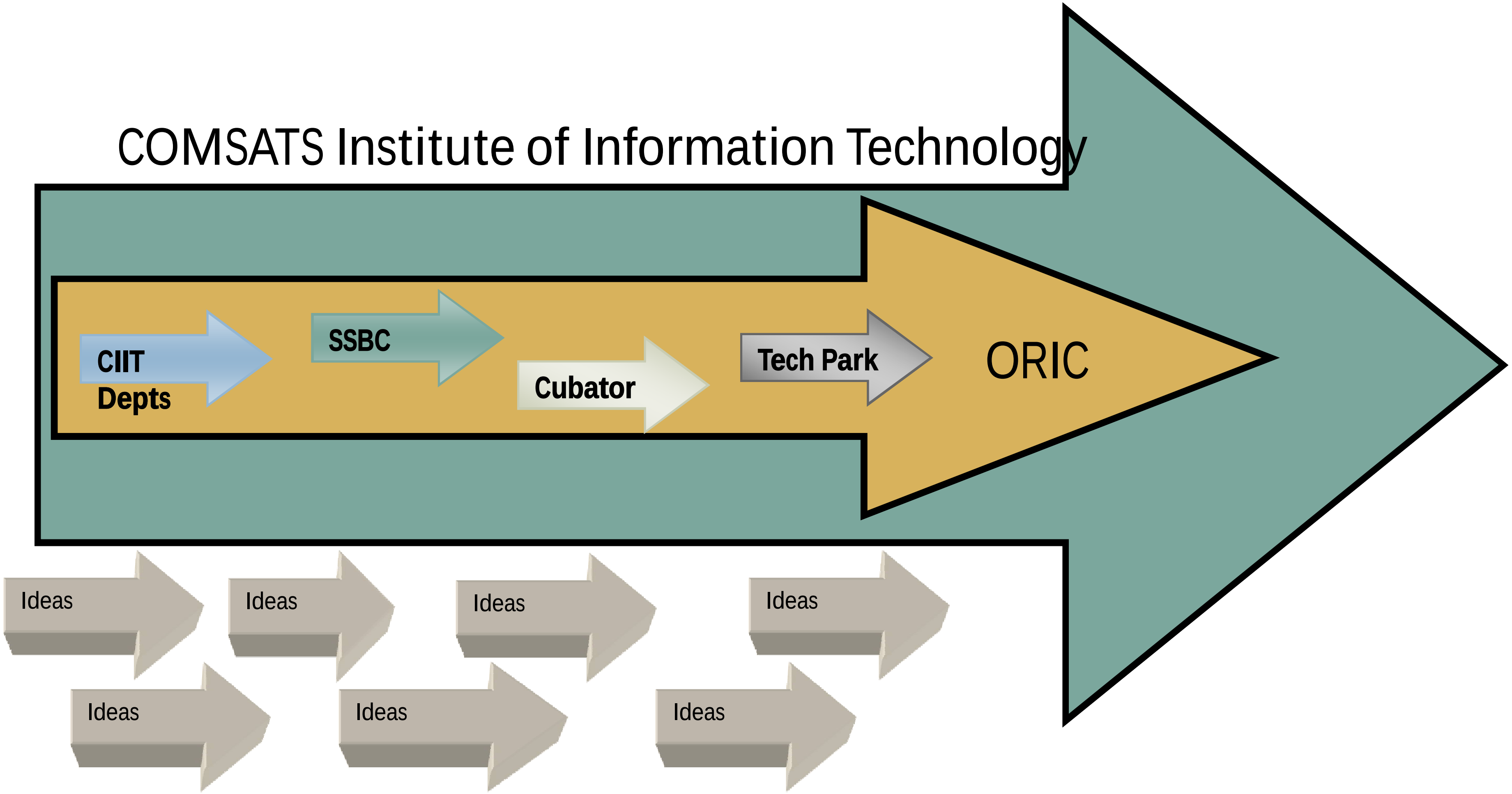
Patents at CIIT

27 Patents filed at USPTO and Patent Office, Karachi

- 4 US Patents granted
- 1 Pakistan Patent granted
- Over 250 patent applications in preparation stages

IP Statistics of Pakistan

	Foreign	Local	Total	Foreign	Local	Total	
New Applications	776	146	922	783	151	934	
Granted	13	172	185	19	263	282	



Student Startup Business Centre
CIIT

SSBC Model

COMSATS Departments

- Research
- Ideas
- Final Year Projects
- Entrepreneurship courses & events

SSBC

- Ideas Vaiblity
- Seed Grants
- Mentoring
- Team Formation
- Market Validation
- Minimum Viable Product
- Elevator pitch
- Smart Business Plan

Incubation

- Commercialization
- Clustering
- Investors and VC Funds
- Business Development
- Human Resource Development
- Internships

Graduation

Market

OR

Technology/Software Park

Screening Balanced Scorecard

FINANCES

1. Bootstrapping (1- low, 3-high)
2. Growth and job potential (1- low, 3-high)
3. Defined customer/market understanding (1-No, 3-Yes)
4. Revenue Generation (1-low, 3-high)
5. Capital investment required (1-high, 3-low)

MANAGEMENT CAPABILITIES ASSESSMENT

1. Founders/co-founders/teams trustable? with coherent thought process (1- low, 3-high)
2. Skills to deliver (1- low, 3-high)
3. Manageable deliverable in 6 months(1- challenging, 3-achievable)
4. Willingness to take advice (1- low, 3-high)
5. Willingness to share information (1- low, 3-high)

Technical Assessment (DO ABILITY)

1. Time to prototype (1-upto six months, 3-prototype is ready)
2. Incremental technology or radically innovative (incremental:3, radical:1)
3. Previously tested/implemented elsewhere in the world (1-No, 3-Yes)
4. Department assessment (1-low, 6-High)

MARKET /STRATEGIC FIT

1. Fit with ORIC, CIIT mission and goals (1- low, 3-high)
2. Relevance to market (1-low, 3-high)
3. Demand/ requirements fit with CIIT resources. (1- low, 3-high)
4. Possibility of improving diversity. (1- low, 3-high)
5. Properly use access to CIIT resources/facilities (1- No, 3-Yes)

Order: Purple, Green, Blue, Yellow

Scoring: Score each question on a scale of 1 – 3 (except question 4 – Technical Assessment which is scored on a scale of 1-6) where

1 = low

2 = medium

3 = high

Total all the marks, this will give a score out of 60.

6 Month Cycle

July 2016
- Team Development
- Business Plan Development
- Ground Floor Pitch

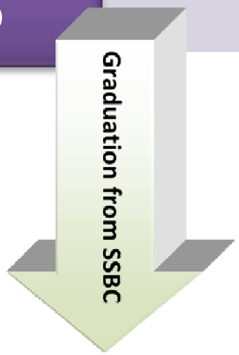
August 2016
- Business Plan Development *Contd.*
- Product Prototype

September 2016
- Product validation/Alpha Launch **Award of Grants**
- Business Plan Finalization

October 2016
- Company Registration
- Market Testing
- Beta launch

November 2016
- Go to Market Strategy
- Investor Pitch

December 2016
- Market Entry & Graduation



- **Validated Products**
- **Projects Transformed into Business Plans**
- **Teams/groups transformed into companies**

SSBC Potential Impact

* In steady state, at least 30 startups every year
- Measured in terms of socio-economic impact

Example:

- After two years a start up employs five people, generates a revenue of PKR 3.0 million with rate of growth at 30% per annum. At steady state:
  - –SSBC graduates will add 150 knowledge based jobs and PKR 90.0 million revenue every year.
  - –After 10 years, SSBC graduates would have added PKR 5800 million and almost 10,000 knowledge jobs