

Triple Helix Chapter South Asia Pakistan



Head quartered at [University of Management and Technology Lahore](http://www.umt.edu.pk) Pakistan

www.triplehelixsouthasia.pk

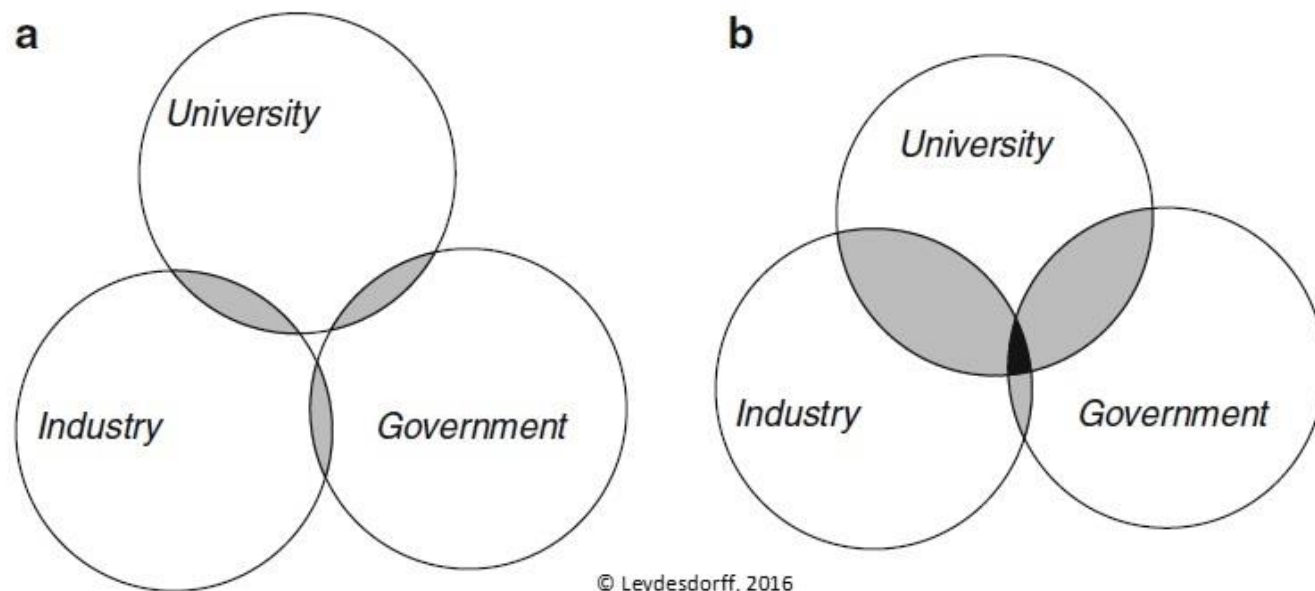
Leading Business Transformation in Pakistan





Classical Triple Helix Model

Triple Helix of University-Industry-Government Relations, Fig. 1 A triple helix configuration with negative and positive overlap among the three subsystems



Global Competitiveness Index	122
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Global Innovation Index	119
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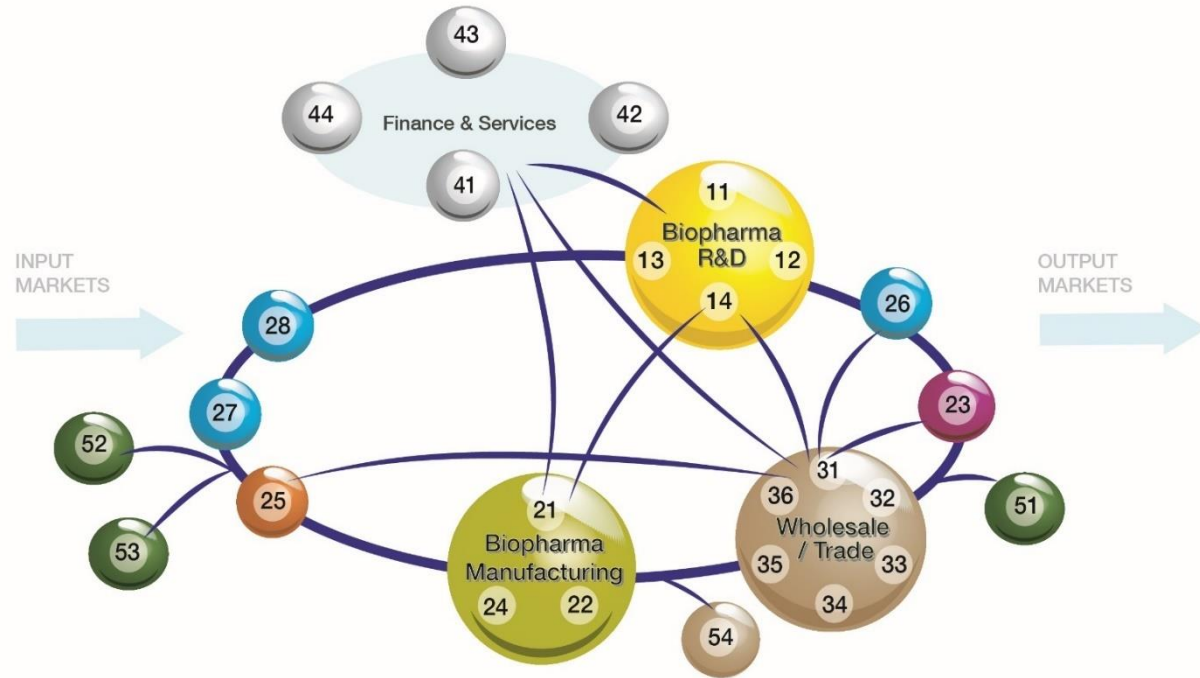
Innovation input	123
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Innovation output	108
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Etzkowitz, H. and Leydesdorff, L. (2000). 'The dynamics of innovation: from National Systems and "Mode 2" to a Triple Helix of university-industry-government relations', *Research Policy*, Vol 29, pp 109-123.

Biopharma

Global Value Chain Flows – Mapping ownership and supply relationships of the top 20508 firms that participate in the Biopharma GVC



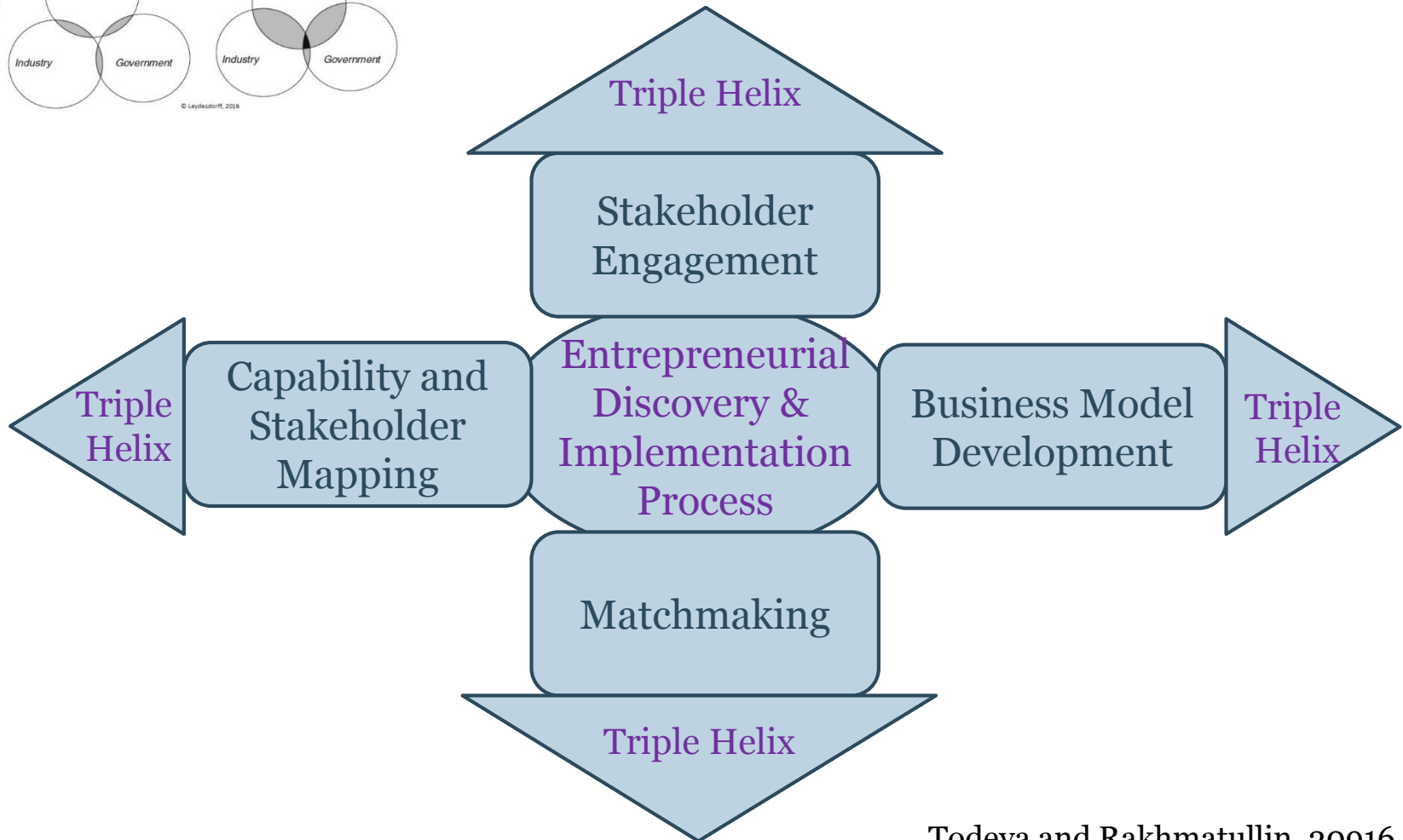
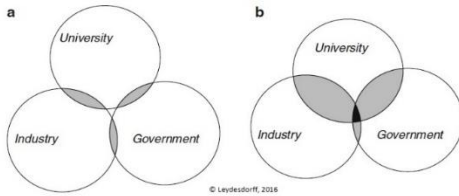
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- Biopharma is the fastest growing sector in Europe, attracting the largest proportion of investment, with 77 multinational firms and 6505 operating establishments
- The average R&D investment by the parents is over €53 mln (2013) with average profits of €49 mln (2013) and revenue from sales over €512 mln (2013)
- Biopharma GVC is entangled in finance, business and management services, and wholesale, retail, trade services that secure financing of the R&D and the manufacturing operations
- There is simultaneously increasing specialization within firms, and new emergent diversification portfolios
- The GVC is pulled by the output markets, including pharma wholesale and retail (31, 32), cosmetics (23), medical instruments, dental, hospital and electro-therapeutic manufacturing (26) and agro-food, drinks and bio-products (51)
- Innovation from all other sectors is integrated in the biopharma GVC, including chemicals, plastics, eco-bio products, miscellaneous products, miscellaneous services, medical and hospital services

Number	Cluster
11	Biopharma R&D
12	Biopharma R&D & manufacturing
13	Biopharma R&D & services diversified
14	Clinical research & human health activities
21	Bio-pharma manufacturing
22	Biopharma manufacturing and wholesale
23	Perfumes and cosmetics manufacturing
24	Biopharma manufacturing multi-diversified
25	Chemical & biopharma manufacturing diversified
26	Medical instruments, dental & electrotherapeutic manufacturing
27	Manufactured goods, electronics and instruments
28	Special purpose machinery and equipment
31	Specialised biopharma wholesale
32	Biopharma retail
33	Biopharma & cosmetics wholesale
34	Pharma wholesale trade & services diversified
35	Chemical & biopharma wholesale
36	Medical & hospital equipment wholesale & supplies
41	Holding, financial & administrative head office services
42	Other business and management services
43	Finance & insurance services
44	Miscellaneous services
51	Agriculture, food processing & drinks of bio products
52	Manufactured miscellaneous goods
53	Electricity, gas and water supply & services
54	Other miscellaneous wholesale

From Knowledge to Practice

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The international Triple Helix Summit - Nairobi

Location: University of Nairobi Towers

Date: 20th - 22nd FEBRUARY 2017

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