

Knowledge Parks: Hype or Hope for the Developing World?



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It is a pleasure to be virtually present at this important conference and I thank Sarah Pervez for the opportunity to address such a distinguished audience. My topic today is ‘Knowledge Parks: Hype or Hope for the Developing World?’

I will first look at the evolution of the three generations of Knowledge Parks, and then briefly examine the question of whether the hope matches the hype. I will conclude with four possible directions that might be considered when we develop Knowledge Parks.

But first, the evolution.

Around the middle of the previous century, some of the large universities struck upon an innovative idea. They invited to their large campuses, major industries looking for fertile fields to incubate promising ideas. Traditionally, knowledge generation was the function of universities. With large numbers of universities across the globe facing a resource crunch and cuts in research funding, it became necessary for multiple agencies to come together with innovative initiatives to respond to this situation.

What resulted were the ‘Science Parks’ of the early fifties when the Stanford Research Park (1951) was established in the United States.

Or the Science Park in Cambridge, UK.

The Science Parks evolved into Knowledge Parks. These second generation parks ensured that academic institutions could continue to engage in leading edge research as well as to promote technology applications as an entrepreneurial venture to support their operations. This laid the foundation for the creation of the legendary Silicon Valley.

The ICT revolution of the closing decades of the twentieth century gave rise to a third generation of Knowledge Parks, the “Virtual Knowledge Parks” marking a shift from a glittering physical entity to a dispersed virtual reality. The University of Leeds’ Virtual Knowledge Park attracted 1500 users in the

initial phase. Some of the services provided include: i) expertise matcher, ii) document search and management iii) processing and maintaining the relationship among individuals and/or groups, iv) collaborative tools such as discussion boards, emails and calendar, and [v] real-time conferencing.

Features of a Knowledge Park then include a focus on:

- linkages with higher education and research institutions.
- the design and development of knowledge-based enterprise
- technology transfer, and
- capacity building and services for the onsite companies

In the past decades, we have seen the emergence of Knowledge Parks in developing countries such as Pakistan, China, India.

Parks in the developing world are based mostly on the second generation models, and seem to have emerged in response to a growing need for developing countries to a) situate themselves as emerging players in the global knowledge economy; b) attract foreign capital and technology and c) promote and support substantial R&D initiatives.

In which ways can developing countries learn from the experience of the developed world and create a new paradigm of Knowledge Parks to suit their context and reality?

Let us now consider whether the Hype matches the Hope?

In general, Knowledge Parks are expected to provide a) increased employment,

b) better support to new small firms; c) closer links between academic institutions and industry and d) a seed-bed for innovation. What does the research indicate?

One, do parks increase employment? Massey et al studied employment figures in UK parks and found a 71% increase in four years. However, only a third of the total jobs were held by women and most of the local populations outside the parks were employed in low-level service positions, such as construction workers, janitors etc. In order to address this inequality, Digiport, a Knowledge Park in Jamaica, offers programmes to help local people to develop skills so that they are ultimately qualified to apply for park jobs.

Two, do parks provide better support to new firms? Massey et al also point out that parks have only been moderately successful in supporting new firms as two thirds of the firms had been previously located elsewhere and were not really new. This has been addressed by the Kerala Technopark in India, which matches young local businesses with larger corporate partners and finds this approach successful. Since young firms do not have the required seed capital, the ICICI Knowledge Park in India has set up an innovation fund to support them.

Three, do parks promote better links between academy and industry? Research also shows that only a small percentage of enterprises in the parks were started by academics. But the proximity of the university and the park did encourage informal links between the two communities.

Finally, are the parks seed-beds for innovation? Massey et al found that parks tend to be ‘small innovators rather than involved in major innovative breakthroughs’[1].

How can Knowledge Parks become inclusive engines of innovation and growth in the developing world?

Knowledge Parks seem to be constructed on the intersection of several ‘divides’. There is the digital divide, and then the development divide which places world class premises in an environment lacking basic infrastructure and reflecting abject poverty. There are clear divisions between the elite professionals on the campus and the rest of the outside world.

The Knowledge Parks are set up ‘to create and commercialize ideas within the confines of closed entities’[2] Developments in new ICTs enable us to break out of these confines and to create global ‘ideagoras’ or virtual spaces in which innovation thrives through collaboration on a scale never before imagined.

Does innovation conflict with our concern for inclusive growth? The answer must be “no.” On the contrary, innovation can promote inclusion. In recent times issues of access and equity have dominated the agenda in education. Developments in distance learning, online educational provision, Open Education Resources (OER) now give us the tools to promote inclusiveness in education. The pursuit of excellence has traditionally been an individual enterprise based on competition. But today the open education movement is shifting the focus away from competition to collaboration based on the conviction that excellence can be achieved collectively.

How can Knowledge Parks absorb the recent compelling phenomenon of mass participation and collaboration? How can the rewards and profits of innovation be brought to the four billion people at the ‘bottom of the world economic pyramid’?[3]

In conclusion, where do we go from here?

Without doubt there are individual success stories which document the significant contributions made by Knowledge Parks. However, as yet there is no clear evidence to suggest that the establishment of Knowledge Parks is the best means to promote innovation, create networks, foster cooperation and generate professional engagement in productive pursuits. How can Knowledge Parks move from the margins to the centre of the global knowledge economy? In short, how can we trade hype for the few with hope for the many? I propose four possible directions.

First, there is need for advocacy and support for national science, technology and innovation policies. Knowledge Parks do not function in a vacuum. The cultural and social contexts influence the pace at which innovation and change are embraced. Isolated oases of science, technology and innovation alone

cannot generate national or regional development. National policies that promote science technology and innovation can convert schools and colleges into incubators for innovation and excellence.

Second, as we have seen there is very little available research on the impact of Knowledge Parks on national economies. There is need for further research into i) the role of national governments in supporting Knowledge Parks as a development strategy; ii) identification of the critical success factors for setting up effective Knowledge Parks; and iii) the regional and cultural characteristics that contribute to the growth of Knowledge Parks in specific geographic contexts.

Third, Knowledge Parks can facilitate south-south collaboration. Most of the foreign investors in the existing Knowledge Parks are from the global ‘north’. The business and academic establishments from China, India or Brazil have yet to register their presence. As new economies emerge, it is important to forge productive linkages and partnerships amongst them.

Finally, efforts should be made to build an ideologically sound framework for establishing, refining and enlarging the concept of the Knowledge Park. This framework would be predicated on the principles of: a) collaboration and cross-fertilisation of ideas, b) gender inclusion; c) sharing of infrastructure and resources for the good of all; and d) the renewal of higher education institutions to accelerate national development.

As we approach the deadline of 2015 that the world set for achieving the Millennium Development Goals, a collective discussion on the role of technological innovation in general and Knowledge Parks in particular would help us to promote development for all.

With that, let me thank you for your kind attention.

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[1] Doreen Massey, Paul Quintas, & David Wield, 1992, *High Tech Fantasies: Science Parks in Society, Science and Space*. New York: Routledge, reprinted 2003.

[2] Don Tapscott and Anthony D Williams, 2002, *Wikinomics: How Mass Collaboration Changes Everything*, Portfolio, p. 101.

[3] C. K. Prahalad and Stuart Hart, 2002. The Fortune at the Bottom of the Pyramid, *Strategy+ Business*, Issue 26.