Infrastructural Necessity in Private Technical Educational Institutions

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Abstract:

For any technical and professional educational institutions the most likely and vital deciding factor is its wide infrastructure and its carefully architectured design. Most of the institution suffers with poor public image because of its inadequate and unimpressive body outline. The reason for bad fame when surveyed un-doubtably emerges as its weak facilities such as buildings, hostels, parking area, sufficient and properly located washrooms, spacious staffrooms as well as classrooms, telecommunication and internet facilities etc. There are sufficient funds invested to meet the expenses of augmenting the infrastructure. In this paper I have tried to clear the misconceptions on what actually is meaning of infrastructure which is often misunderstood with the means of roads and construction.

Key words: Educational Institutions, Infrastructure, Nation's growth, Facilities, architectural design.

Introduction

If any technical institute has adequate number of lecture halls, Digital library or area for reading, technology and science lab,

programming and computer lab, language lab, indoor games room, office room board room auditorium director's chamber, well equipped staff rooms, canteen, hostels and playground then it is most likely to be a hit amongst the admission seekers. In addition to these facilities if there is a central open theatre for cultural and public meeting activities, sufficient space to hold different activities like exhibitions from time to time and high capacity parking areas for the staff and the students then it adds to the timeline. If the technical education institute allows the frequent occurrence and conveyance of National and international conferences to register and overspread the advancements in the new technologies being a venue for meetings with guest speakers and special guests then nothing has to be spoken about its consistency and popularity. Apart from these factors if sufficient green area is maintained throughout the extending boundaries of the institution then it not only adds to the beauty but also brings positive vibes from all directions. I got motivated by the thought that my studies in a little adjustment and improvement in the infrastructure of private technical education system may lead to important advantages in well being of those vulnerable students who grow in the boundaries of underdeveloped educational institutes.

For the economic growth and development of any nation Infrastructure is the backbone of a nation's economic growth and development. The Planning Commission of India has stressed upon the necessity of infrastructural development in the country through a number of policies and initiatives for economic growth. Infrastructure spending has been and will remain a high priority for the government. The initial projections for infrastructure development in the 12th Five Year Plan (FY13-17) at US $1 trillion indicate the huge investment potential in this sector. Translating this in terms of careers & employment opportunities, the scope is going to get bigger and wider. By a research carried out in educational firms it was found that there is large impact and sensitivity on the students

who study in well designed infrastructure than those of unprivileged ones [Katrien Cuyvers,2011]

Infrastructure Sector: Misconceptions

It has been observed that there are several misconceptions regarding the sector of infrastructure. Many of us have very specific and narrow picture of what lies under one name viz infrastructure and its importance in every level starting from a room to an institution or organization and at the end to whole nation.

We often are misled by the thought that 'Infrastructure' only means roads and construction (Prof Anand Wadadekar, 2013, Careers in infrastructure sector). On contrary it is a fact that Infrastructure is a dynamic sector which encompasses roads, railways, power, water supply, airways, telecommunications, oil & gas, and much more.

Another common misunderstanding is that the infrastructure sector has the opportunities for people from engineering background only because it just has to deal with the buildings, roads and other constructional features. This is absolutely wrong perception; the fact is that non-engineering students also have a chance to make a career in functions like Finance, HR, Marketing, etc. where a technical background is not required. With the view of broad and vast spectrum presented in this paper it can be stated that the Infrastructure jobs do not necessarily mean site jobs where a person has to work with labor, contractors, etc. Moreover since the field is so broad hence the infrastructure sector can yield many jobs for the young and ambitious candidates possessing good managerial skills and foresights.

It is worth mentioning here that Project Finance, Project Sales & Marketing, Bidding, Tendering, Project Planning & Monitoring, Project Management, SCM, Logistics, and Project Maintenance are some of the areas which are found nowhere

else than the sector of Infrastructure. (Prof Anand Wadadekar, 2013, Careers in infrastructure sector)

General Norms for Accreditation with Respect to Infrastructure:

For any private technical institution to be accredited or recognized from many government and state bodies they are supposed to meet some fundamental requirements some of which are enlisted as under:

1. Adequate Campus area in acres/sq.mts
2. Availability with the university the facility of satellite (Edusat/Vsat facility) in campus
3. Location of the University which could be Urban, Semi-urban, Rural, Tribal, Hilly Area etc
4. Capacity and quality of library in terms of Books, Textbooks, Reference books, Book titles, Magazines, Current journals, Indian journals, Foreign journals
5. Institutional networking through Optical Fiber connectivity, Wi-Fi connectivity etc.
6. Health centre, First aid facility.
7. Residential accommodation for faculty and non – teaching staff.
8. Hostels for students
9. Provision for Sports fields ,Gymnasium, indoor games room and outdoor games support area
10. Transport facility for both students and staff and their connectivity from remote areas to the institute
11. Canteen/Cafeteria, Students center, Media center, Telephone facility, Generator / Electricity Backup.
12. Provision for Indoor sports facilities
13. Communication cell for various interaction forums between faculty and students or between industry and institutes.
14. Spacious parking areas for students and staff.

15. Technology labs , language labs
16. Modern teaching aids such as overhead projectors, digital projectors, white boards,
17. Women's/rest rooms, Gent's/rest rooms hygiene
18. Water cooler and purified water supply
19. Central air-conditioning

Medical Factors Related To Infrastructure

It is often left out from nearly all definitions of a high quality institution, that the condition of institution facilities — despite increasing evidence of its importance to teaching and learning, as well as the vitality of the community. Some of the key factors medically proven are:

- Natural light
- Indoor air quality
- Temperature
- Cleanliness
- Acoustics and classroom size can positively or negatively affect learning and productivity.

Poor ventilation, dust, and web in ceilings of old constructed ceilings and walls are some of the alarming situations found in many older institution buildings and portables which can lead to respiratory infections, headaches, sleepiness, and absenteeism.

Vitality of Infrastructure for Physically Impaired Masses.

When it is concerned with education and academics everyone has got "right to education" and "right to equal services" in the same guidelines many renowned institutes and universities are so designed in terms of infrastructure and physical design so as to smoothly facilitate the values of education to those candidates who have physical impairments. This encompasses

provision of accessibility to those who have impairments with mobility, visual, hearing, speaking, intellectual disabilities. The authorities of Greece have made a remarkable change in the number of students with disabilities by the implementation of the 3794/2009 law. According to this law, students with disabilities can get admission in the University schools in a percentage of 5% without taking the normal accession exams. By this help the essentiality of education in each human beings life is encouraged. [Naniopoulos 2012]

The International Classification of Functioning, Disability and Health [ICF 2001] indicates how important is the responsibility of a society and the ministry to take care and enforce appropriate measures for establishing physically challenged people for overall growth of country. They define the disability as "the outcome or result of a complex relationship between an individual's health condition and personal factors, and of the external factors that represent the circumstances in which the individual lives".

Following the statistics given by the Greek Ministry of Environment, Land Planning, and Public Works [MELPPW, 2003], around 48% of the total population is of the people with mobility constraints. This puts an immediate responsibility on the shoulders of every human being that for any designing process there should be facilities provided to ease these disable people.

The impact of this was so high that it led to the creation of structured checklists for accessibility evaluation of both the infrastructure and the educational procedure. The checklists were created so that the auditor would not have to be specialized in accessibility. [Tsalis & Naniopoulos 2008]

The key elements which could really affect the whole geometry are as under:

- Pedestrian walkways and side walkways
- Zebra crossing at entrance and exit
- Separate parking spaces

- Rest areas and open spaces
- Various constructional bodies acting as obstacles- Stairs, bridging of levels, lamp posts, sign boards, sidewalks and pedestrian walks
- Organization and design of service and education areas such as central library, washrooms, cafeteria
- Commutation such as vertical as well as horizontal displacement in accessing the active service areas.
- First aid and hospitality
- Emergency cases (emergency exits, alarms and alert systems, evacuation)

Design Issues to Improve Infrastructure of Technical Educational Institution.

A few important points if followed strictly could definitely return good designing and quality infrastructure are discussed below:

1. Ramps

In most of the cases the ramps at the sidewalks may be occupied by illegally parked vehicles. This can lead to the boarding of obstacles that creates problems to the unhindered movement of people visiting the institute, faculty staff and students as well. If there are any old constructed ramps without adopting the latest design guidelines then those should be removed or renovat4ed. Furthermore, all the height and level differences should be bridged properly. There should be permitted slope of the ramps followed strictly by designers

2. Movement corridors

Footways should be constructed with promptly installed signage so as to allow pedestrians to fruitfully and efficiently utilize the safe path for commuting to different parts of the institute for different lecture and labs schedule according to the time tables.

3. Obstacles

The most common temporary obstacles which may be found in private educational institutions are cars parked on the pavement. At several places movement on the pavement is impossible for people mobility. Other obstructions, such as wrongly placed garbage bins, flower pots also constitute obstacles.

4. Signage

Poor designing and improper location of different technical labs, classrooms, library, restrooms, director's room, auditorium, seminar halls, staff rooms etc can lead to confusion among the visitors , students and faculties which may lead to difficulty in orientation. To improve this informative sign boards should be installed at the distinct areas to help the people to reach these places at time. In general, sufficient signing for clear information is to be provided to cover large areas for various disciplines in private technical educational institutions. [Oglou et al. 2010]

5. Facilities in buildings

A number of facilities should be provided to the visitors, faculty, staff, studens etc for smooth functioning of the institute some of them comprising:

• Entrances,
• External ramps,
• Internal ramps,
• Elevators, suitable for both by people with disability and others etc
• Staircases,
• Toilets
• Spacious corridors
• Sufficient number of windows and entries to classrooms, staffrooms etc
• Exhaust passages
• First aid and emergency issues being covered for natural calamity etc

• Common rooms.
• Sports room, game room, activity room etc.

6. Parking spaces

Spacious and sufficient areas for parking of two wheeler and four wheeler vehicles must be provided for both visitors and institute personnel, students, faculties etc

7. Approaching the buildings

It should be kept in mind of designers engineers and architects that the distance or route between the parking or entrance of institute to the entrances of various departmental building should not be too long. Moreover the route should be free from obstacles.

8. Entrances

There should be sufficient number of wide doors for enabling everyone to enter without hussel.Doors should maintain a colour contrast with surrounding for differentienating them with walls etc.Doorknobs should be easy to use and efficient. Door stoppers should be provided for careful handling. Automatic doors should be adopted for executive entries.

9. Horizontal movement

Quick access to elevators / platform lifts or staircases may be provided for minimum crowding in the floors. Various permanent and temporary obstacles should be avoided, including plants, fire extinguishers, benches etc., which may become dangerous to people in hurry.

10. Vertical movement.

Accessible elevators or staircases may be installed at distinct and prominent places of buildings.

11. Services

Appropriate number of toilets should be available to the general public meeting the accessibility and hygiene criteria. There should be an information desk at all the assessed buildings.

12. Signage

An adequate number of signage should be mounted wherever necessary to clear information to everyone to help orientation.

13. Emergency cases

At all buildings there should be fire safety studies which include plans for evacuation in-case of an emergency. These plans should take into account the needs of people with disability also. Emergency exits of the buildings should be distinct and accessible. There must be some sort of audible and visual alarms available. Sufficient drills must be provided to staffs, faculties and students

14. Acoustics, illumination

Acoustics must be satisfactory at all the buildings. The level of noise obviously depends on the number of students present. Illumination should be considered for every area including staffroom, classroom, corridors, toilets etc. [Tsalis et al. 2009]

A Few Institutes Offering Courses Infrastructure Business/Management:

With the current progress and awareness about the diversity of infrastructure it has itself emerged as a specific trade amongst many professional vocational streams. Some of the institutes offering such courses are mentioned below:

1. SAMVIT School of Infrastructure Business, Pune, offers two-year full-time Post Graduate Programme in Infrastructure Business (PGPIB). The course content is equivalent to MBA. The School also offers short duration certification courses in infrastructure, construction, etc.

2. National Institute of Construction Management and Research (NICMAR), Pune, offers two- year full-time courses in construction management, project engineering, real estate, etc.

3. Adani Institute of Infrastructure Management, Ahmedabad, offers one-year full-time Post Graduate Programme in Infrastructure Management (PGPIM).

Conclusion

Excellence in educational institution is one of the most important features which contribute to social vitality and overall county growth. Due to growth and quality relevance of infrastructure any institute or educational body cannot accomplish its evaluation leaving the factors affecting infrastructure.

It is therefore concluded that for recognition and acknowledgement any institute should have to follow infrastructural norms such covered campus area, location, services (restrooms, first aid room etc), networking, accommodation and hostel facilities etc. The institutions lacking in these basic resources could not raise their standards and hence their popularity.

The key features which could be paid emphasis are ramp heights and location, corridors movement, removing the temporary and permanent obstacles from pathways or other crowed areas, providing proper signage for confusion free orientation around the campus, sports room, common room, toilets, emergency exits, provision of fire extinguishers, entrances, location of staircases, exhaust passages, networking through optical fibers or wi-fi, parking spaces provided to students , faculties as well as the visitors to the institute, no. of lighting tubes or bulbs in a classroom, air-conditioning for regions of extreme climatic temperatures, safety measures etc

Many of the points discussed in this paper could be beneficial to the stakeholders for recognizing and seeking to actual definition so as to what makes a "good institution" and a "quality education."

BIBLIOGRAPHY:

Cuyvers, Katrien, Gio De Weerd, Sanne Dupont, Sophie Mols and Chantal Nuytten. 2011. "Well-being at school: does

infrastructure matter?" *CELE Exchange* 2011/10, OECD 2011.

Naniopoulos, Aristotelis. 2012. "An approach for the evaluation of the accessibility of the physical infrastructure and the educational process in universities. The case of the Aristotle University of Thessaloniki." Transend.

Oglou, Ismail A. and Koutsidou, C. 2010. *Accessibility of open spaces of AUTh for people with disabilities and creation of a GIS system.* Graduate Thesis, AUTh Civil Engineering Department.

Tsalis, P. and Naniopoulos, A. 2008. "D2: Methodology for the assessment of accessibility offered by academic institutions." ACTUS project deliverable, Thessaloniki, AUTh.

Tsalis, P. et al. 2009. "D4: Evaluation of the Universities' infrastructure." ACTUS project deliverable, Thessaloniki, AUTh.

Wadadekar, Anand. 2013. "Careers in infrastructure sector."